The vital link in SH 1

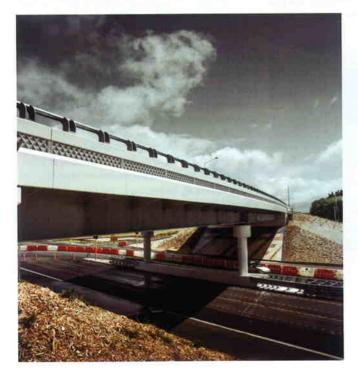
Hamilton is one of New Zealand's fastest-growing cities, making it an important hub for freight, and attracting a growing number of commuters number of commuters from Auckland. The partly finished Waikato Expressway is one of the reasons the drive between the two cities is already smoother and more reliable.

Deemed to be one of the seven roading projects identified under the Roads of National Significance programme - one of New Zealand's biggest ever infrastructure investments - the Waikato Expressway will provide for two lanes of traffic in each direction for the 102km section from the Bombay Hills in the north to south of Cambridge.

The finished Expressway is aimed at improving economic growth and productivity for Auckland, Waikato and the Bay of Plenty by making it smoother and safer for freight and people to move between the main cities in those areas.

The Expressway is expected to take another seven years to finish and is being built in eight sections, including the Te Rapa section, which is expected to ease congestion through the Te Rapa area on the outskirts of Hamilton.

Opus is part of a competitive procurement alliance charged with completing construction of the new 7.3km stretch of road. One of several different procurement models being used by the New Zealand Transport Agency (NZTA) for large infrastructure projects, the alliance comprises Opus as designer, Fulton Hogan as contractor and NZTA as funder.



The alliance tendered a price to design and construct the project and, unlike a conventional contract, if the project comes in under this amount the partners share the savings, but if it finishes over budget then they must also bear the extra cost.

'Under a normal construction contract it can become quite adversarial but within an alliance we look for who's best placed to solve each issue. It works.'

> Despite this extra risk, Opus' Warwick McWha says working as part of an alliance has created a collaborative

> "Under a normal construction contract it can become quite adversarial but within an alliance we look for who's best placed to solve each issue. It works."

He adds that Opus and Fulton Hogan have forged a strong relationship through the alliance.

"The two teams made a decision at the bidding stage to co-locate and the team members are still in the same site office today."

Opus' role is underpinned by their familiarity with and understanding of the project,

"We have been involved right from the initial investigations," McWha says. "And being local means we take ownership of the highway and take pride in what we are creating."

Te Rapa is now home to the country's largest shopping centre, the Base, which has drawn a larger volume of traffic through the area, something the Te Rapa section is aimed at alleviating. McWha says eventually he expects Te Rapa Road will revert to being a local road and the new Te Rapa section will be the State Highway into the western

The project posed a number of challenges, necessitating a range of innovative solutions. One of these was the positioning of an important, but reasonably old, sewer line right under what would become an embankment.

The Hamilton City Council was concerned the line may fail under the increased load.

"It means that part of the highway at the southern end of the project is made entirely of polystyrene blocks and then sealed to stop it degrading or disintegrating in the case of an oil spill," McWha says.

Work on this section is now complete and is open to traffic. 36

Value of transport infrastructure:

investing in a road to somewhere

Andrew Maughan, senior consultant, MWH Global goes back to the foundations of infrastructure investment.

The need to do more with less is a challenge for all infrastructure owners. Efficiency gains will only help you save so much; what if you can't afford to maintain the assets you have? While it's important to be efficient, with every process as tight as it needs to be, you still need to focus on why you have the infrastructure in the first place. What does it do for the people who use it? How do you need that infrastructure to perform?

In theory, this is where efficiency investigations should start in the first place. By linking investment directly to outcomes, infrastructure investors are able to better match investment to needs. This delivers value to their communities, as well as significant savings.

MWH has helped a South Island council model the outcomes of their network in a review of existing transport infrastructure. This has identified significant opportunities to realign road investment with affordable community outcomes. It has shown that economic and social needs can be met with a significant reduction in investment, and without a commensurate increase in risk.

Council now compares the flow of export value across its network with the whole-of-life cost of owning the assets. This has helped them identify an investment efficiency gain of up to 30 percent in their maintenance and renewals expenditure. They have a significant pavement renewals requirement to meet current levels of service over the next 30 years. Using data on historic investment patterns, we found that maintaining the existing level of service would mean an increase in homeowner rates of 7 to 8 percent annually, or take on debt that the council would have to service at 40 percent of its operational expenditure. They can now give their community a rational choice: do we change levels of service to reduce investment to an affordable level? Or do we increase investment? This choice and its impacts are shared with stakeholders using supporting maps and images across the existing network.

Another adopter of the approach has the opposite problem. They are experiencing significant growth, and they need to know where to invest efficiently to meet that growth need. Service levels are set to protect infrastructure's primary purpose, whatever that might be. This approach helps build a more robust business case for transport infrastructure investment that can be explained clearly to the community, users and funders. It also demonstrates that investment in community connectivity, safety, recreation and the environment is ongoing.

We all interact with infrastructure every day. Arguably the most visible is that used for transport. Road, rail, and ports are typically the conduit for a region's economic and social activity; they are also the lifelines of many communities. What happens if you re-prioritise your transport infrastructure investment while considering the following big questions:



What is the primary purpose of a railway line?

• What is the primary purpose of a port?

• Are some community outcomes a higher priority than

In most cases, the primary outcome of transport infrastructure is economic return, and from that comes the case for investment. Take, for example, our rural regions (where the majority of our biggest transport infrastructure investment exists in the form of roads). Rural New Zealand is focused heavily on tourism and

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Ruapehu District Council (RDC) situated in the North Island's King Country is the territorial authority responsible for one of New Zealand's largest and most remote districts.

This means managing a road network of over 1400km - of which two thirds is unsealed including 344 bridges spanning 4.4km - that

covers some of the most challenging terrain in the country.

For the rural communities in Ruapehu's remote river valleys land transport is seen as the most critical activity in ensuring their viability and sustainability and determines in a substantial

way how they view their relationship with council. Put

more directly, the quality of the road means everything to these people.

RDC Team Leader Land Transport, Warren Furner says that Ruapehu rural communities had been expressing a number of frustrations with the management of the rural road network.

'The programme provides a focus on doing the right repair at the right time to the right quality, rather than budget constraints encouraging short-term solutions with greater long-term costs and lower performance.'

"Their concerns included; work priorities, where money

was being spent, the inability of some roads to handle larger trucks, adding to farm costs and decreasing productivity, and issues around increasing tourism traffic.

"In addition a drop in government funding saw RDC's Land Transport activity facing a \$380,000 hit last financial year alone equivalent to a decrease in capital expenditure of \$3.9 million over ten years."

Furner realised a new approach was required that would address community concerns and assist to deliver efficiencies in the order of 6 to 8% to avoid the need for increased rates or a significant reduction in levels of service.

"A significant part of the answer has been provided by bringing rural communities in as a partner at the front of the decision-making process," he says.

Value of transport infrastructure

continued from page 9

primary industries such as dairy, pastoral farming, horticulture, forestry, fishing and mining. You would struggle to find a rural community in New Zealand that does not depend on a few of these activities for its economic survival and they are therefore critical to sustaining its wellbeing. So, if you were to prioritise the outcomes sought by a rural community, then top of the list would be supporting economic activity generated from the land or sea. Once the economic wellbeing of a community is supported, the ability to support social, cultural and environmental needs is greatly enhanced.

It is no different when shifting the perspective between a local community, a regional economic zone or the national economic objectives (articulated quite simply by many as 'NZ Inc'). Economic outcomes are likely to be a priority regardless of where in New Zealand you look. We need the means to pay our bills.

Focusing on economic outcomes as the primary purpose, in practice, doesn't mean you forget about other outcomes. Make sure infrastructure is sufficient to sustainably meet economic goals, and then make informed decisions about investment in social, environmental and cultural goals.

The appeal of this approach is the transparency.

Modern geospatial tools enable roading choices to be presented in maps, and different strategies presented to decision makers and the community at large.

As a result, the community can realign their

investment to better match their needs; in the council example above, more for less. Substantial savings across the country can be made.

This approach is now being taken to a regional level and into urban environments. At a regional level, the outcomes focus enables a view on regional transport infrastructure that is critical to achieving regional outcomes. A range of important questions can be addressed:

- Is investment in rail likely to return a greater level of benefit than an investment in roads?
- Will better use of existing capacity in the wider system enable more efficient movement of goods?
- Will the establishment of high productivity motor vehicle routes better use existing network capacity?
- Can we reduce the need for increased capital investment in the regional transport network?
 By focusing on outcomes as the driver for investment and prioritising economic outcomes, public infrastructure owners are able to make clear, evidence-based choices that result in better value for money.
 Now, that has to appeal when it comes to addressing a tight budget.

For more information, please contact MWH Business Development Leader, Andrew Atkinson on +64 (0)9 580 4571 or on andrew.c.atkinson@nz.mwhglobal.com

"Ruapehu's approach has been termed the 'River Valley Model' in recognition of the unique communities of interest who live and work in Ruapehu's remote rural river valleys."

Furner notes that using the local communities to identify and prioritise where work needs to be done is helping to ensure the most cost-effective and efficient use of available funds.

"The programme provides a focus on doing the right repair at the right time to the right quality, rather than budget constraints encouraging short-term solutions with greater long-term costs and lower performance," he says.

Furner adds that the River Valley Model is enhanced by having procurement policies that aim to ensure that wherever possible local rates are spent locally.

"This procurement strategy develops capability and resilience in rural communities as it adds to the viability of local farms and enhances local skills and capabilities, creating able farmers who are also capable contractors."

The approach delivers improved outcomes for all Ruapehu communities and supports both council's strategic objectives and those of the government's Road Maintenance Task Force and Better Local Government reforms for building a more productive, competitive NZ Inc.

The River Valley Model has been well received by Ruapehu's rural communities who understand the long term benefits along with influential organisations such as the Society of Local Government Managers (SOLGM) who awarded the River Valley Model as the winner of the 'Council-Community Relationships' category at the 2012 SOLGM GHD Local Government Excellence Awards.

For more information on the Ruapehu River Valley Model contact Warren Furner on 07 895 8188 or warrenf@ruapehudc.govt.nz



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Downer and Wanganui in a working alliance

Collaborative decisions that are "best for network and community" are a feature of the Wanganui road corridor maintenance alliance.

The Wanganui Alliance contract is one of the first Pure Alliance Maintenance Contracts in New Zealand, with a fully integrated single delivery team dedicated to better delivery outcomes for the roading network and community.

The Wanganui District has 578km of sealed and 288km of unsealed roads. The Alliance scope includes routine maintenance and periodic treatments including: pavement reconstruction and resurfacing; emergency works; vegetation control; and pedestrian and cycle amenity maintenance.

The Alliance delivers physical works through holistic asset management by applying the 'EFQM 2010 Excellence model' to road maintenance and the LEAN principles of removing waste and workflow

The focus is on cost transparency,

value for money target outcomes and a commitment to providing efficiency gains in network management costs, productivities and treatment optimisation across the Wanganui roading network.

The traditional contracting model

focusing on better outcomes for the network and community.

The key feature of the Wanganui Alliance is its ability to work in a collaborative environment, making "best for network and community" decisions.

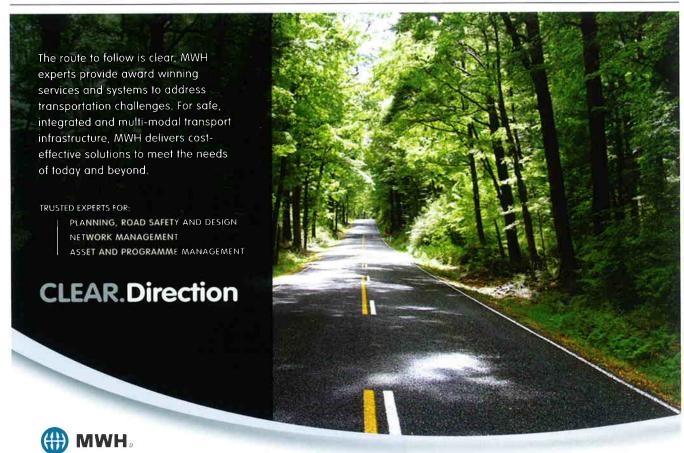
'From a governance perspective the Alliance has delivered an efficient and effective model that has produced more for less in a time where finances are at their most difficult. From a senior management assessment the Alliance has brought Council closer to the operations and given us an extremely flexible arrangement that is free from contractual complications and concentrates on value for money strategies'

Kevin Ross, CEO Wanganui District Council

of client/consultant/contractor has been replaced by a single integrated performance team cohabitating at a specific location. This team incorporates asset management, delivery and performance teams

The benefits include:

 Performance focus - under the guidance of the Alliance Governance Team, the entire group is aligned under one culture. The team concentrates



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