

# VALUE FOR MONEY ACHIEVEMENT IN THE AUCKLAND MOTORWAY ALLIANCE

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## ABSTRACT RÉSUMÉ

The Auckland motorway network serves a population of 1.5 million people, and carries over 900,000 trips per day. It is the most complex and heavily trafficked road network in New Zealand.

The Auckland Motorway Alliance (the Alliance) was established in October 2008, for a period of ten years. It is essentially a virtual company comprising the New Zealand Transport Agency (NZTA), a contractor and consultants bound by a commercial and performance mechanism to achieve significant advances in delivery of motorway maintenance and operations.

The paper covers the reasons an alliance model was chosen, the commercial and contractual arrangements between the parties, and how the Alliance was established. The paper then discusses how the non-cost performance targets were developed, and how they are used to align behaviours within the alliance with the commercial drivers of the Alliance participants. The paper discusses how and why the Alliance manages risks and opportunities in the best interests of the NZTA as owner. The development of five Key Result Areas and associated measures is explained, and how “value for money” is assessed.

The paper then sets out lessons learned in the first three years of the Alliance.

## 1 INTRODUCTION

The Auckland motorway network comprises 218 centreline kilometres of carriageway and associated structures, interchanges, ramps. The network includes an eight kilometre long dual carriageway toll road with two tunnels. The network is currently undergoing major development to an extent that the area of pavement is expected to increase by 40% over the ten years to 2018, including addition of a further seven kilometres of road tunnel. The network serves a population of 1.4 million people, and carries over 900,000 trips per day. It is the most complex and heavily trafficked road network in New Zealand.

In 2008 the New Zealand Transport Agency (NZTA) adopted an Alliance delivery mechanism to maintain and operate the Auckland motorway network. While Alliance delivery models have become relatively common for delivery of construction projects, particularly in Australasia, their use in delivery of the maintenance and operation of complex public assets is relatively rare. The Auckland Motorway Alliance (the Alliance) was established in October 2008, for a period of ten years. It is essentially a virtual company comprising NZTA, Fulton Hogan Ltd as the contractor and three consultant companies (Opus International, Beca and Resolve Group) bound by a commercial and performance mechanism to achieve significant advances in delivery of motorway maintenance and operations. The Alliance is also required to achieve improvements in the

future operation of the motorway by influencing the design and commissioning of new capital projects delivered by others.

The scope of the work undertaken by the Alliance includes all activities required to operate and maintain all assets within the motorway corridor. The scope includes all pavements, surfacing, structures, (with the sole exception of the Auckland Harbour Bridge) tunnels, signs, corridor assets (such as vegetation), drainage and storm water features, intelligent transportation systems (including communications networks), and street lighting. Services provided include development of all asset management strategies, monitoring of network performance (both physical condition and operational traffic performance), incident response and development of strategies to minimise congestion. Operation of the regional Traffic Management Centre (TMC) is retained by NZTA, with a service level agreement defining the performance expectations between the Alliance and the TMC.

The paper covers the following:

- Why an alliance model was chosen, and how the Alliance was established;
- The commercial and contractual arrangements between the parties;
- Development of the non-cost performance targets and how these are used to drive behaviour of the Alliance, and align with the resultant commercial outcomes for the Alliance participants;
- How Value for Money is assessed;
- Some of the lessons learned in the first three years of the Alliance; and
- Concluding comments.

## **2 SELECTION OF AN ALLIANCE DELIVERY APPROACH**

Prior to establishment of the Alliance, NZTA used competitive tendering procedures to separately procure the physical works and professional services required to maintain and operate the Auckland motorway network. Such arrangements had been in place since 1991 and had resulted in a relatively mature supplier market for the various services required. It was considered that significant value had been extracted from this model, with work packages arranged for tendering in such a way to encourage significant competition and price tension amongst the tenderers. This approach often resulted in a number of smaller work packages (e.g. several annual work packages for surfacing, and a separate contract for the maintenance of street lighting). There were essentially two triggers which activated a fundamental rethink on how services should be procured on the Auckland motorway network.

The first was a growing realisation that there could be further gains in efficiency if providers of both professional services and physical works could manage their activities more efficiently across different assets and services to achieve better utilisation of their resources. It had also become apparent that considerable time and energy was being spent by NZTA and its professional advisers managing the interfaces between the various physical works packages. While the work packages were generally well specified, NZTA always carried a risk exposure in the event of having to change work priorities, overall budget levels or project specifications.

The second trigger which caused re-evaluation of the procurement strategy was the start of a significant investment strategy to redevelop and add to the existing motorway asset. This would result in additional sections of highway being added progressively over the next

six year period, and significant lengths of motorway being removed from the responsibility of the network maintenance contractor, to be maintained, modified then handed back under separate capital works contracts.

From the realisation above, a number of key drivers which would need to be addressed in any new procurement mechanism were identified. These are summarised below:

- Value for Money – ensuring that innovation is encouraged and delivered where appropriate for the benefit of the network. Ensuring that all funds are spent effectively;
- Holistic view of Asset Management – recognising the need to get the best out of the available infrastructure. This requires the identification and mitigation of constraints and the use of such to select the best asset management practices;
- Enhanced Customer and Stakeholder relationships - including the recognition that customer satisfaction should influence significantly the identification and provision of optimal levels of service against budget;
- Desire to leave a lasting positive legacy - while this includes assets, its particular focus was on capturing the intellectual property, knowledge and processes which could be developed and delivered under an innovative procurement mechanism;
- Sustainable business model is required. This arose due to the very buoyant supplier market present in 2008, which had resulted in a resource constrained market. If the business model chosen was not attractive, suppliers could exit, or choose not to enter the motorway environment and achieve better returns elsewhere.
- Optimal Asset Management and “whole of life” solutions within the available fiscal envelope; and
- Retention of flexibility to respond to significant additions to the network, changing priorities, and the effects on the network during the construction of a number of capital projects.

During the 2007 period, NZTA had been involved in several successful project alliances, and were initiating further project alliances to design and deliver large capital projects on the motorway network. A conceptual model (Figure 1) was developed to assist in the consideration of the various procurement options.

Given the complexity of the overall motorway network operation, and the key drivers described above, it became apparent that an alliance mechanism had significant potential. There are a number of complex interfaces with both neighbouring road operators, and with other agencies with interest in the operation of the motorway network. In addition, there are a large number of stakeholders, often with complex requirements which would change over time. The flexibility of an Alliance delivery model was considered to respond well to these issues.

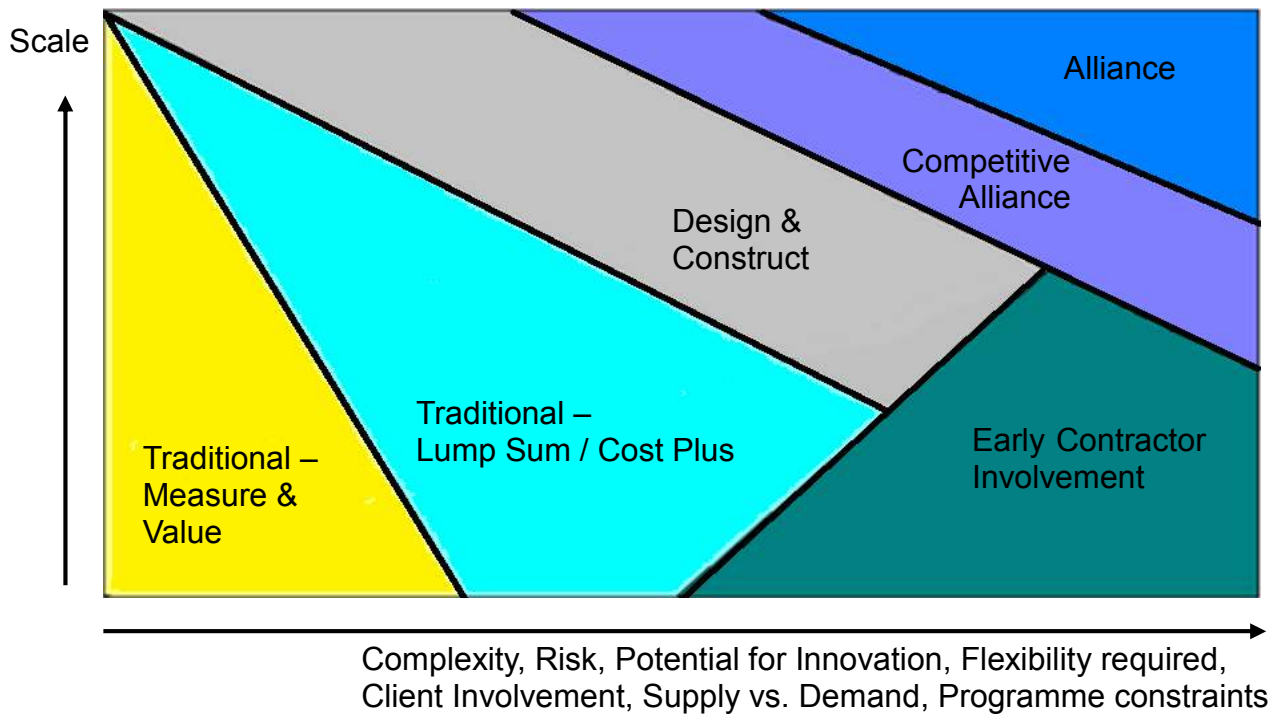


Figure 1 - Delivery Selection Mechanism: Conceptual Model

The NZTA resolved to utilise the competitive alliance process for two primary reasons:

- To create explicit price tension in the selection process, and
- Maintain some flexibility in selection of the Alliance participants. (Under a normal Alliance selection process, NZTA selects a consortium of contractors and consultants who have already resolved to work together).

The latter aspect was particularly important for maintenance and operations alliance as particular areas of expertise and experience had developed within the various individual suppliers which could potentially be lost.

The detailed process for the selection and initial formation of a project alliance has been well documented elsewhere, and has been the subject to a number of industry conferences in recent years. It is, therefore, not detailed in this paper.

### 3 ARRANGEMENTS BETWEEN THE ALLIANCE PARTICIPANTS

The selection process, and the broad principles governing the commercial and contractual arrangements between project alliance participants, has been refined over a number of project alliances. However, the application of these processes to a maintenance and operations alliance responsible for maintaining a complex collection of public infrastructure with a myriad of stakeholder interests was less well understood. Project alliances are typically driven by objectives of fast, cost-effective delivery, while managing a wide range of risks and uncertainties.

The alliance model has cost reimbursement at "business as usual" margins as its basis. Each alliance participant agrees to the client undertaking a detailed financial audit of its business to establish its true direct costs, corporate and other overheads, and normal profit margin undertaking similar work. These audits typically cover the last three to five years prior to the project alliance. Costs are grouped into two categories:

- Limb 1 are the direct costs of undertaking the project, and includes all direct costs including plant, labour and materials, subcontractors plus any allowance required for on-site overheads.
- Limb 2 includes an allowance for off-site or corporate overheads and normal profit.

In addition, to recognise that there are a number of non-cost aspects of project delivery which the client values, a further amount (Limb 3) is normally established. Limb 3 can be positive or negative reflecting performance either exceeding or falling below an agreed level of achievement of a set of Key Result Areas (KRA). The business rules and relative values of Limb 3 vary considerably between alliances. However, it is usual for the maximum loss the alliance participants could suffer in the event of very poor performance in the KRA is the loss of corporate overheads and normal profit margins. This would result in the Alliance undertaking the project at cost. The arrangements for project alliances as described above are set out diagrammatically in Figure 2 [1].

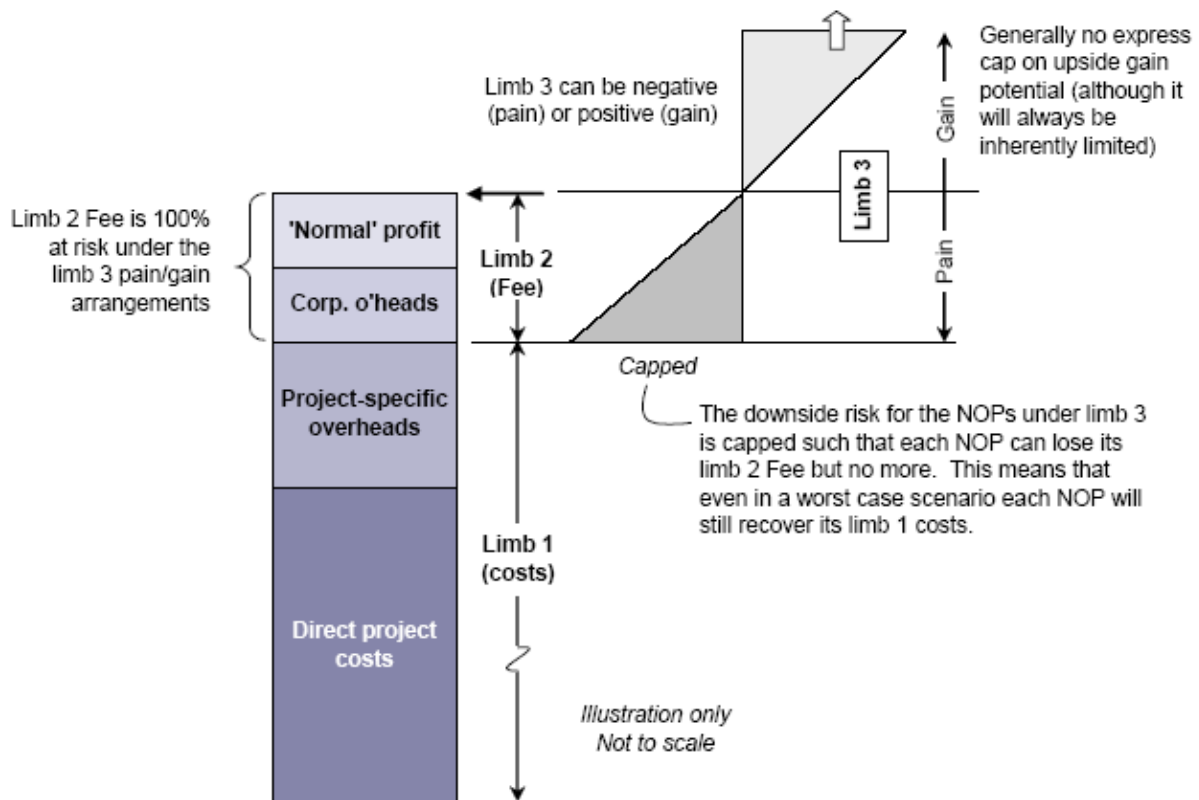


Figure 2 – Commercial Arrangements for Project Alliances [1]

The commercial model for the Auckland maintenance and operations Alliance is similar in its treatment of Limb 1 and Limb 2 costs. However, assessment of non-cost performance under limb 3 is more difficult due to the wide spread of activities and varying definition of

success. The Alliance's risks are spread across a wide range of assets and activities. A maintenance and operations alliance is driven more by the following aspects:

- Stronger focus on achieving a programme of work across a wide geography;
- Opportunity for gain arises predominantly from productivity improvements (assuming that the correct controls are in place to ensure that minimum quantities of work are undertaken);
- Improvements are likely to be incremental;
- Higher risk elements are present due to longer period of the Alliance, including the impact and uncertainty of future traffic loadings;
- Significant risks are focussed on a few items, although the total portfolio of risks are spread across a large number of items and activities;
- Provision for cost escalation requires specific analysis as its impact over a longer duration is more significant;
- Proactive and timely response to customer stakeholder issues is important as virtually all work is undertaken under direct public scrutiny; and
- Superior whole-of-life asset maintenance approaches are encouraged.

The Alliance adopted a commercial model for Limb 3 which is based on its performance against a set of 12 Key Result Areas (KRA). The development of these KRA is set out in the following section. However the commercial effect of Limb 3 is two-fold. It is shown in Figure 3, and explained below.

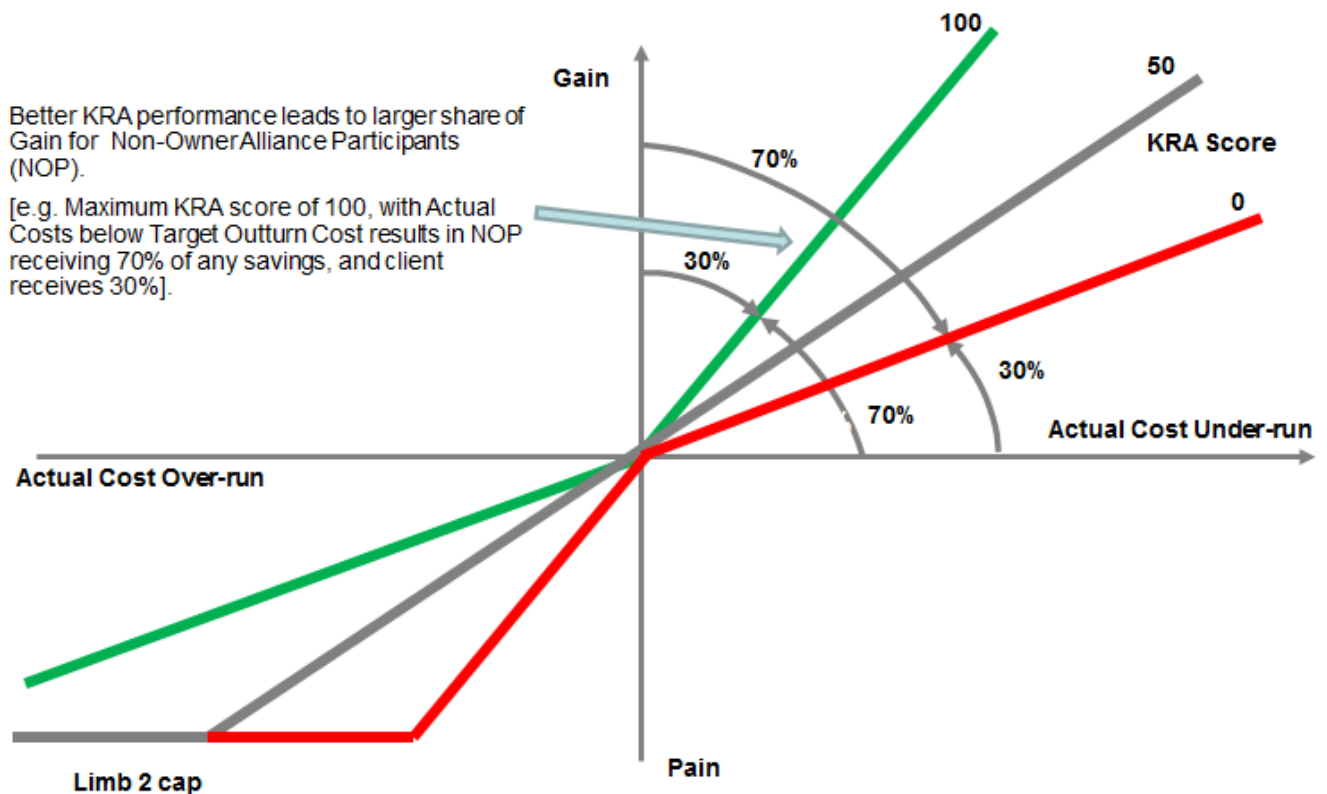


Figure 3 – Effect of the KRA's on the return to Alliance Non-Owner Participants

A small sum of money, comprising approximately 1% of the expected value of the Alliance, was established by the client. This sum is distributed progressively during the Alliance in IP575-Rendall-E

proportion to the KRA score. KRA's are aggregated such that they score between zero (failure) and 100 (breakthrough performance). The midpoint of 50 is set at a relatively high threshold, considered to be industry best practice at the time of establishing the KRA's.

The second, but more major effect on the Limb 3 commercial mechanism is the effect of the Actual Outturn Cost (AOC) of the services provided compared with the Target Outturn Cost (TOC) established at the time of commencement of the Alliance. The TOC represents the target cost to achieve the various levels of service and quantities of work required to be delivered by the Alliance. The Limb 3 mechanism provides strong incentives for the Alliance to generate savings in its activities through productivity gains or other innovations. The model provides for savings to be distributed in the ratio of 50% to NZTA, and 50% shared between the non-owner participants, when the total KRA score is 50%. However, if the Alliance is able to generate savings, and its performance is at a level such that the total KRA score is above 50%, then increasingly higher proportions of these savings are made available to the Non-Owner Participants (NOPs). NOP's can receive up to 70% of the savings if they were to achieve a KRA score of 100 (which is considered virtually unachievable). Conversely, in the case of poor KRA performance resulting in a score of zero (which represents total failure) only 30% of any savings would be distributed to the NOPs. Similar principles are also applied in the case where the cost of delivering the Alliance services (AOC) is above the TOC. In this case, the degree of abatement in payment of Limb 2 to costs is mitigated where the KRA Score is above 50%, or increased with the KRA scores are below 50% advanced.

#### **4 DEVELOPMENT OF THE NON-COST PERFORMANCE TARGETS**

The preceding section has set out the commercial importance of the non-cost performance targets. The section now describes what these KRA are, how they were developed, and how they are measured. As well as being commercially important to the Alliance participants, the KRA reinforce the desired Alliance behaviours and provide a benchmark for how Alliance achievement in the non-cost areas is assessed. It is this alignment, created between the desired behaviours and commercial outcomes, that particularly defines the alliance method of delivery.

The NZTA had defined the primary objectives that they wished the Alliance to deliver in early tendering documentation. Their overarching vision for the Alliance was:

“To operate and maintain a connected network for all stakeholders, where customers feel informed, and are confident that they will get to their destinations comfortably, safely and reliably at all times”.

While this vision requires delivery of a large number of services, the challenge was to reduce these to a meaningful number of measures that would capture all of the important non-cost aspects of the service to be delivered, while still sufficiently covering the breadth of activity and remaining meaningful to Alliance participants. Over 200 potential performance indicators were identified, including those which had historically been measured, and a number of other indicators related to the recently increased focus on customer information, satisfaction and travel time reliability. These were progressively

grouped, refined, and reviewed until the final set of KRA, and supporting Key Performance Indicators (KPI) were selected. In a number of cases, these KPI required new measurement processes to be established. Where possible, use of existing measurement processes and tools were utilised. Where possible, KPI measures were developed that could be compared with other road agencies, both within New Zealand and beyond.

Due to the comprehensive nature of the services provided, the development of five Key Result Areas (KRA) and associated KPI measures raised significant challenges for the parties to resolve. It was decided that five KRA's, and their supporting KPI, would best define the performance objectives of the Alliance both quantitatively and qualitatively at the highest level. The top-level KRA's are:

- Maximise network efficiency (safety, congestion and trip reliability);
- Customer satisfaction;
- Delivering a positive legacy (improvements in asset durability, quality or other performance areas which will benefit NZTA beyond the end of the Alliance in 2018);
- Delivery of enhanced value for money; and
- Healthy organisation.

While a number of the KRA and their supporting KPI's are only partly within the direct control of the Alliance, the model encourages the Alliance to manage the risks and opportunities in the best interests of the NZTA as owner.

Below the KPI there are a number of management measures used to monitor the activities of the Alliance. A number of these measures track on-going compliance with specified levels of service, progress through the required schedule of work (e.g. routine maintenance and asset renewals) and ensuring that the NZTA assets are being maintained above the minimum acceptable condition. These measures are particularly important from the owner's perspective as they safeguard the asset from deterioration. However, they do not themselves drive the behaviour of a high performance Alliance team.

While the KRA and supporting KPI have an important contractual purpose, it is also important that they are fully understood and supported within the Alliance team. To achieve this, workshops are held so that each of the 140 staff working for the Alliance understands how their individual work contributes to achievement of the KRA's. To assist with this, each of the KRA's are also given simple names which assist in linking them with the various work activities. This provides the necessary connection between workers from the lowest level in the Alliance, the required behaviour, and the highest level Alliance objectives. The Alliance KPIs adopted under each of the 5 KRA's and their descriptions are set out in Table 1.

It is expected that the KPI's will change over the ten-year duration of the Alliance. The levels of performance required against each KPI were deliberately set to be challenging - achieving a score of 50% is equivalent to delivery at what was then "industry best practice". Some of the KPI's were selected to encourage the Alliance to find new ways to deliver improved performance in a particular area. Once a high level of performance against a KPI has been established and maintained, it is anticipated that the KPI will be replaced by one reflecting a new challenge for the Alliance to address. In practice, this means that ever increasing levels of performance are required as challenges are set, met, and then replaced with new challenges. It is also expected that some KPI will be removed as they do not adequately define the direction or behaviours which were desired when they were initiated.



Table 1 – Alliance Key Performance Indicators (KPI)

Key Result Area	Key Performance Indicator (Proportion of total score)	Common Name	Description of Measure
Maximising Network Efficiency	Safe Travel (10%)	Fatalities	Number of fatal and serious injuries on the network
	Reliability (8%)	On-time	% of trips in congested conditions compared with 2007/8 baseline
	Optimised Throughput (16%)	Courier Run	Proportion of daytime trips in congested conditions (5am to 8pm, weekdays)
		Bread Run	Proportion of night-time trips in congested conditions (8pm to 5am weekdays)
Customer Satisfaction	Customers are Engaged and understood by us (5%)	Super City	Percentage of “Super City” stakeholders engaged as per engagement plan
		Ghostbusters	Percentage of stakeholders who know to call NZTA / Alliance for repairs and matters related to travel to the Motorway
	Customers are Satisfied and Informed (13%)	Satisfied	Overall annual satisfaction survey result
		Call Back	Percentage of satisfaction from a dedicated follow up survey of stakeholders contacting the Alliance.
		Get Back	Percentage of feedback to stakeholders logged in CRM provided within the service level limits
		React	Percentage of resolutions logged in the Customer service database within the service level limits
Positive Legacy	Asset Condition (15%)	Pavement/ Surfacing	Asset Availability
		Flooding	Incidence of Flooding on the network
		Traffic Systems	Equipment availability
		Bridge Strikes	Number per period
		Pests	Reported instances of pest plants
		Graffiti	Proportion removed within response times
	Network contribution (8%)	Consents	Compliance with environmental and other consents
		Landfill	Tonnes of waste to landfill
Value for Money	Value for Money (VfM) Initiatives (9%)	Think Tank	Number of breakthrough Workshops held
		Opportunities	Opportunities (ideas log)
		Proof	VfM proof stories approved by Alliance Management Board.
	VfM Equation (8%)	Value for Money	Annual VfM rating using VfM equation
Healthy Organisation	Alliance Safety (0%)	Zero Harm	Number of injury free days
	Wellness (8%)	Happy People	Performance Index from “Best Places to Work” independent annual survey.

There was significant debate on the weighting to be assigned to Alliance safety (see Healthy Organisation KRA in Table 1). While acknowledging that safety of Alliance staff is of the highest importance, the Alliance was not comfortable about making the implicit trade-off with other KPI by assigning it a weighting in the overall KRA score. If a weighting were to be assigned, a high weighting would be required, and this would have the effect of diluting the relative importance of all other KPI. In the end, it was resolved to assign the Alliance safety KPI a weighting of 0%, and set a target of “zero harm”. This excludes it from the KPI, and resultant commercial trade-offs that could occur. On-going focus by senior management effectively makes the pursuit of “zero harm” paramount, and not negotiable.

## **5 VALUE FOR MONEY ASSESSMENT**

During its establishment in 2008, the Alliance developed the concept of a "Value for Money Proposition". The proposition covered five specific areas that were particularly relevant to how the Alliance would deliver the required services, and manage its own performance and risks. These are described below:

- Target Outturn Cost (TOC) - This is the total cost of all the services to be delivered by the Alliance for the first TOC period of 3.75 years. It included a relatively small allowance for risk. Cost escalation was not included within the TOC. The reason for this was primarily due to significant cost escalation occurring during 2008, resulting in significant uncertainty for all Alliance participants. An alternative mechanism outside of the TOC was adopted which meets the fiscal requirements of the client, without undue allocation of risk to one party or the other.
- Forward Works Programme (FWP) - This was a detailed schedule of all works to be undertaken for an initial TOC period. The detailed schedule provided an agreed level of service that would be provided, (with some exceptions), and the minimum quantities of renewals across all asset classes that would be delivered by the Alliance. This means that the Alliance cannot gain from not doing work within the FWP. The period of 3.75 years was selected as all parties recognised that the application of an Alliance model to the maintenance and operation of a complex asset represented a quantum leap in procurement. (The Alliance provides for two further periods of three years each, with new TOC's to be negotiated and agreed). The FWP was developed, initially, using optimal asset management principles. It integrated maintenance of the assets with a forward work programme of renewals, while ensuring alignment of asset life between different asset classes to minimise waste and disruption to users of the network. This approach was further optimised to recognise the fiscal constraint required by the client, to better match the level of service to customer requirements, and to optimise the outcomes against the KRA framework.
- A Key Result Area framework (as described in section 4) was developed, although not finalised prior to establishment of the Alliance. The KRA framework established the concept of a baseline being equivalent to current industry best practice. It represented an agreed statement of non-cost and behavioural objectives for the Alliance.

- Value for Money was quantified and reported to NZTA. This is an important component of the justification for confirming final establishment of the Alliance. The Value for Money report captured the value for money which NZTA had already realised up to that point through the procurement process, the commitments made by the Alliance participants to deliver further value, and an assessment of the on-going year by year value which could be expected through the Alliance delivery mechanism.
- Detailed risk registers were developed. The risk registers identified all known and potential risks and identified who would bear the outcome of each risk, should it occur. Consistent with normal alliancing principles, the Alliance accepts all risks unless specifically excluded. Those risks excluded are typically those which are very clearly with the client, such as legislative change. Risks generally fell into two categories: “unscheduled” and “programme” risk:
  - Unscheduled risks are those risks which may or may not occur during the tenure of the Alliance. In a number of cases, such as the amount of damage to the motorway assets due to crashes, the consideration is focussed more on the likely frequency and extent of each incident, and how these may be reduced, rather than whether or not it will occur. The Alliance carries all such unscheduled risks.
  - Programme risks are those that events that will almost certainly occur, but their timing is uncertain. The largest of these risks are sections of pavement which are deteriorating, where it is known that they will need to be renewed in the near future. The Alliance manages these risks through prudent pavement management strategies, and attempts to deal with premature pavement failure by renewing the pavement, and deferring other renewals beyond the first TOC period. Nonetheless, the Alliance is responsible for maintaining overall asset condition. In the event that significant additional renewal is required, negotiation with the client will occur. This will result in either additional funding from the client to undertake the required premature pavement renewal, re-prioritising funding from other asset classes to fund the pavement renewal, or agreement to reduce the minimum level of service for the pavement. In practice, this means that the FWP is continuously optimised against the KRA’s to ensure optimal benefits are delivered.

This Value for Money proposition described above forms the basis for how “Value for Money” is interpreted and analysed by the Alliance. From its commencement in 2008, the Alliance delivered reductions of 10% on the previous costs to maintain the motorway network. This was reflected in the Target Outturn Cost (TOC) being approximately 90% of the previous expenditure level for motorway maintenance and renewals. Many more benefits, and further savings have been generated since commencement. Value for Money achievement for Auckland Motorway Alliance is defined using the five components from the original value for money proposition arranged as in Figure 4.

The value for money relationship is not a mathematical equation. Some areas clearly overlap, and other areas may emerge and should be added when appropriate. However, the equation does give a fair, detailed, and structured assessment of whether NZTA is receiving good value for its investment in the Alliance.

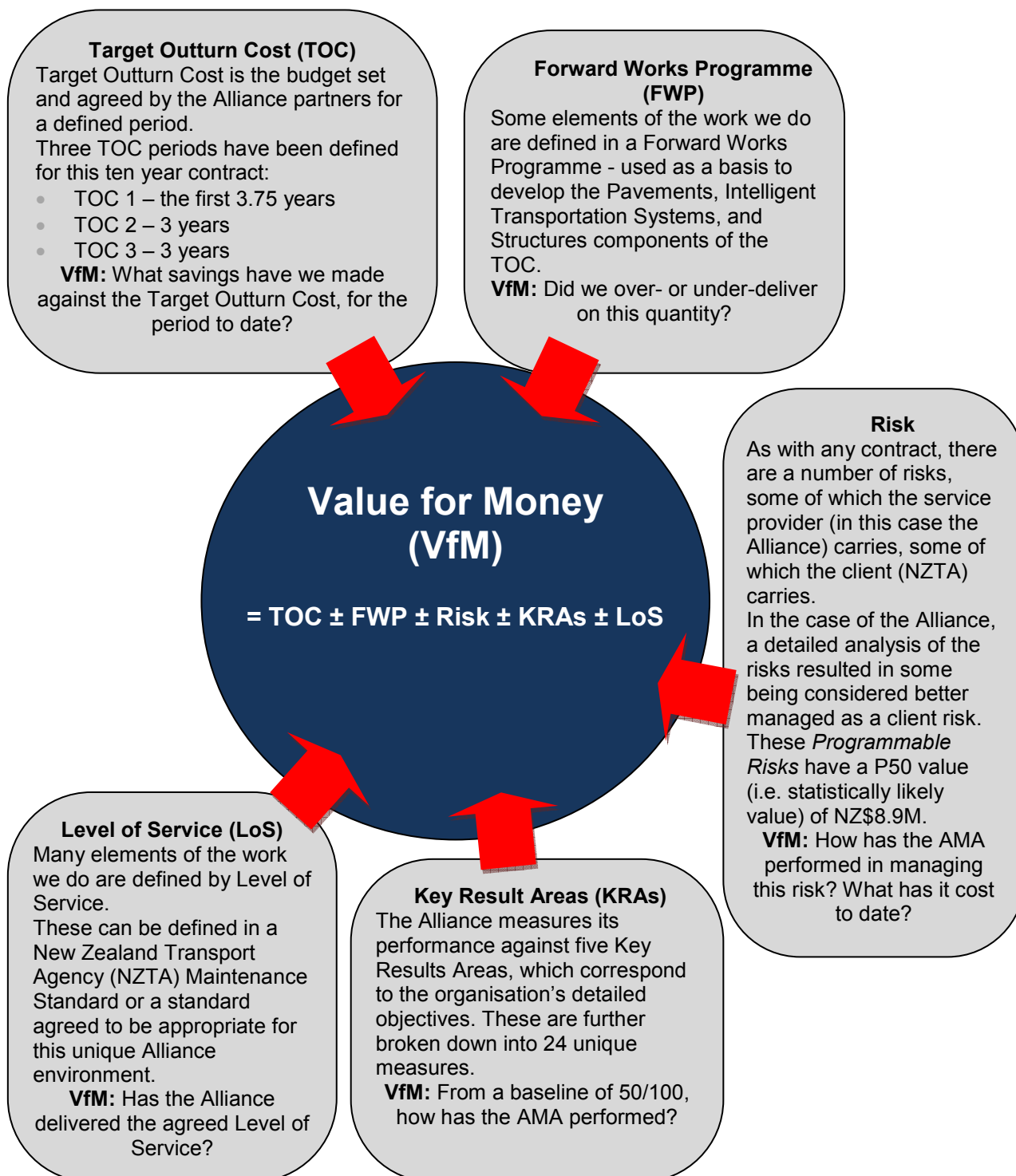



Figure 4 – The Value for Money Equation

As the five elements of the equation are interdependent, it also provides a useful framework to consider how the money invested in maintaining the motorways network should be optimised. The Alliance can demonstrate value for money in each of these areas, by quantifying savings in each of the component areas of the Value for Money equation. Table 2 shows a simplified “Value for Money” evaluation.

Table 2 - Simplified example of a Value for Money “proof story”.

<p><b>Opportunity:</b> On average one person dies on our network every two years due to a wrong way motorist who accessed the motorway driving the wrong way along an off-ramp. Some off-ramps have monthly occurrences of wrong way driving. The only current measures to notify drivers they are travelling the wrong way are small static signs.</p> <p><b>Solution:</b> Using video detection we identify a wrong way movement and trigger a device to notify drivers of their mistake. We have created a new, larger static “wrong-way” sign, with LED lights attached top and bottom. Upon trigger, the lights flash and the driver is alerted to the sign and the message. The Traffic Management Centre is also advised by alarm, and is able to observe using CCTV, and initiate mitigation action.</p> <p><b>Estimated Results:</b></p> <ul style="list-style-type: none"> <li>• We expect at least a 50% reduction in wrong way accidents associated with an off-ramp, at each ramp where this device is installed.</li> <li>• The reduction in fatal and serious-harm accidents will increase our Safety KRA score.</li> <li>• Cost is NZ\$16,000 per off ramp.</li> </ul>	 <table border="1" data-bbox="906 573 1437 1079"> <thead> <tr> <th>KRA</th> <th>Increase</th> </tr> </thead> <tbody> <tr> <td>Maximise Efficiency</td> <td>Yes</td> </tr> <tr> <td>Customer focus</td> <td>Yes</td> </tr> <tr> <td>Positive Legacy</td> <td>Yes</td> </tr> <tr> <td>Value for Money</td> <td>Yes</td> </tr> <tr> <td>Healthy Organisation</td> <td>No</td> </tr> </tbody> </table>	KRA	Increase	Maximise Efficiency	Yes	Customer focus	Yes	Positive Legacy	Yes	Value for Money	Yes	Healthy Organisation	No
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Value for Money	Yes												
Healthy Organisation	No												

## 6 LESSONS LEARNED

There were a number of lessons learned by the different participants who now form the Alliance. In discussing some of these below, it is apparent that many of the lessons will have gone unnoticed, simply because that aspect of the Alliance has gone well. Any list of "lessons learned" also reflects the experience and practices which existed prior to the establishment of the Alliance. Therefore, those lessons below are simply observations from one who was involved during the tendering, establishment and operation of the Alliance to the present day.

A clear understanding of critical success factors at a very early stage is essential. The strategic planning process is required to establish an initial KRA framework to guide optimisation of the forward work program and development of the Target Outturn Cost. Associated with these critical success factors, is the ability to understand and articulate the strategy to wider audiences. It is impossible to secure good alignment with a mix of client, contractor and consultant staff without a sound strategy basis.

The client has two distinct roles and responsibilities during the establishment phase of the Alliance -- firstly to be creative and contribute as part of the Alliance team, and secondly the more traditional client role with a focus on reporting and approvals. It is necessary to fully engage the client, and in particular subject matter experts. During this phase, allocation of client personnel adds considerably to formation of the team. If the Alliance Director is also a client employee, they must have Alliance leadership attributes.

Regardless, of whether it is the establishment phase, or once Alliance has been formed, the focus must always be on ensuring the "best value achievable" is delivered.

Engagement with the client organisation during establishment of the Alliance is critical. Without proper engagement the Alliance can be seen as elite and possibly a threat compared to other procurement methodologies. It may be difficult for institutionalised clients to release power, and this may result in the Alliance being undermined. It is, therefore, critical to ensure full and frequent engagement between the Alliance and client staff.

The Alliance was formed by NZTA (client) a contractor and three consultant companies. The contractor and consultant companies were procured through separate competitive processes. The client requires a very good understanding of the supply market dynamics to ensure that its procurement mechanism will provide the required price tension and mix of suppliers to achieve the client's objectives. Multiple consultants within an alliance can provide good coverage of staff to ensure that good quality staff are available for secondment into the Alliance. However it can also result in duplication of effort during the set-up phase, and competition to fill key roles which may detract from "best for network selection".

Alliances are expensive to establish. They require considerable on-going senior governance commitment from the client agency as well as consultant and contractor tenderers. The establishment processes require the client to challenge the status quo and develop clarity on the quality and quantity of services that are really required.

Unlike project alliances which seldom have a life of greater than four years, a prudent and well considered approach to the issue of cost escalation is important. While risks associated with cost escalation can easily be assigned, they will seldom result in optimal allocation of cost and risk - either the client will win and the suppliers will lose, or vice versa. The mechanism for dealing with this will depend on how the client internally funds escalation, and what relationship this has to any commercial alternatives for the Alliance.

In the case of a competitive Alliance, either with a contractor and consultant team procured together or separately, priced tenders can be driven by focus on only some of the items required across the full range of services. As any final alliance agreement is "open book", remaining items can easily be priced utilising similar principles, with an appropriate audit regime to confirm the approach to pricing is consistent with the initial pricing schedule.

The development of appropriate (but not too many) Key Performance Indicators is essential to provide focus on achieving what is really important. Well-developed KPI improvement plans can provide both technical direction and management focus for improving performance.

## **7 CONCLUSION**

The Auckland Motorway Alliance is now in its third year. The decision to move from traditional client/consultant/contractor delivery to a single virtual company created utilising an alliance mechanism caused a fundamental review of how success is defined for delivery of maintenance and operations for a large complex public asset. The discipline required to establish appropriate and measurable KPIs beyond those traditionally used for measurement of asset condition, has created a focus which has resulted in new ways of

approaching old issues. Alignment of these non-cost measures with the required behaviours and commercial outcomes of the Alliance participants has resulted in greater value for money than traditional contract mechanisms. The ability to reset challenges provides flexibility for the client to focus on newly important activities and achieve breakthrough performance.

Commercially, the Alliance delivered savings upon commencement estimated at 10%, with further savings and performance beyond previous best practice being consistently delivered.

The integration of client, consultant and contractor staff working towards a common purpose has resulted in significant innovation and efficiency which will leave an on-going positive legacy for the client.

Complex and/or large maintenance and operations services are capable of being successfully delivered using alliance principles. Establishment of such alliances is not difficult, but will raise a number of challenges which need to be overcome. Energy, the right environment and creative people can meet these challenges.

## **ACKNOWLEDGEMENT**

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