



23rd Australasian Transport Research Forum
Perth, Western Australia. 29 September – 1 October 1999

Future of Network Consultants as Owners Agents on New Zealand State Highways

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Abstract

Efforts to increase efficiency in the delivery of road maintenance in New Zealand have been initially achieved by the separation of owners, designers and builders. Designers and builders operate in a competitive environment. Over time, the designers and builders have exhibited significant areas of overlap which are being eliminated by new procurement and contract types. The future looks bleak for the ongoing separation of designers and builders. The purpose of this paper is to trace these developments, describe the current issues and speculate on the future.

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Introduction

Efforts to increase efficiency in the delivery of road maintenance in New Zealand have been initially achieved by the separation of owners, designers and builders. Designers and builders operate in a competitive environment. Over time, the designers and builders have exhibited significant areas of overlap which are being eliminated by new procurement and contract types. The future looks bleak for the ongoing separation of designers and builders. The purpose of this paper is to trace these developments, describe the current issues and speculate on the future

Privatisation

Three separate entities have evolved from a government department disbanded in 1991 where there existed an organisational framework of administrators, designers, supervisors and workers. Administrators became clients; designers and supervisors became network consultants and workers became network contractors. The entities are:

1. Transit New Zealand (Transit), the client, responsible for the stewardship of State Highways. Principle roles of Transit are:
 - (a) programme development; and
 - (b) programme implementation via management of network consultants (designers) and network contractors (builders)
2. Network Consultants who are responsible for providing services in maintaining the State highway asset.

Principle roles are:

- (a) Preparation of ten year forward works programme;
 - (b) Surveillance of network contractors; and
 - (c) State highway control functions including access protection, customer services and other miscellaneous services
3. Network Contractors who are responsible for the physical works to maintain State highway assets.

Over time Transit developed and let contracts in a more prescriptive format for both network consultants and network contractors clearly defining the demarcation line between these suppliers. General conditions of contracts used at the time clearly stated the role of the Engineer and their representatives and the role of the contractor and their representative.

The demarcation line was characterised by the network contractor having the plant and resources to undertake the physical works which was supervised by the network consultant

Quality Assurance

The development and introduction of quality assurance requirements for physical works developed a new tension between network consultants and network contractors. Network contractors moved toward self-managing teams who undertook aspects of supervision previously the domain of network consultants.

Network contractors were required to develop a systems approach to maintenance operations. Work procedures were developed for each type of work and monitoring procedures documented to check compliance of the work with the contract specifications.

Network consultants on the other hand were tasked with surveillance, a combination of auditing of systems and observation of works. The ideology was fine but in practice the habits of the past were hard to overcome and in general supervision still prevailed. This resulted in duplicated systems.

The network contractors took records and so did the network consultant. However, as contractors got used to the consultants' record keeping they let their own systems lapse. Instead of consultants putting the obligation on contractors to correct their monitoring regime they argued the poor performance of contractors justified increased surveillance which with time, clearly appeared to be the supervision of old.

Performance Initiatives

The first performance specifications arrived on the scene in 1994. Resealing contractors exerted the initial pressure for change and were rewarded with a first coat performance based contract

Whereas in the past network consultants were responsible for treatment selection and seal design followed by contractors working to a method specification this new specification handed the seal design and 1 year of maintenance to contractors.

In practice the transfer of the design function developed tension between the network consultant and the network contractor. Network consultants treatment selections were subject to challenge by contractors and where agreement could not be reached, the specification required those treatments to revert back to the old method specification. In this situation the network consultants input was preserved and the network contractors were relieved of the design function intended for them in the first place.

This lack of responsibility for the design exaggerated the debate of who was best suited to undertake the design and be accountable for the performance of the selected treatment.

Longer duration, holistic performance contracts seemed to be the answer for the continuation of tension between network consultants and network contractors. Such contracts bring the separate entities of network consultant and network contractor together in one entity.

Performance Specified Maintenance Contracts (PSMC)

PSMC is a long term, lump sum contract between the client and a single supplier for the achievement of defined service levels.

The development of performance specified maintenance contracts, in 1998, solved the historical conflict between network managers and network contractors. Instead of arguing and positioning on roles of design and surveillance, PSMC requires both parties to work together removing the overlapping functions and creating common alignment of intent.

Using PSMC principles Transit has let hybrid performance contracts in place of the old regime of separate contracts for network consultant and network contractor. Each party has been challenged by contract incentives to work together removing overlapping functions in the best interest of high quality cost-effective maintenance. Each party's performance is tied to the other's performance and as good performance is rewarded with contract extension further impetus is given to co-operation.

To date, our experience has been that previous overlapping functions have been removed. Early estimates suggest the value of these overlapping functions might be as high as 15% of the network consultant's workload. There is however the remaining role of audit of quality systems to demonstrate compliance with the contract documents. While not fundamentally required long term, an audit role is required until self-monitoring systems become a part of ever day life.

The Issues

The following issues have emerged:

1. Who undertakes the auditing role and is it ultimately required?
2. Where does the design function most suitably lie?
3. Who is responsible for long term planning and condition monitoring?
4. What about the remaining roles of the network consultant?

On point 1 Transit sees itself in the role of auditor. Transit has begun this work on the recent PSMC let. Ultimately, this role may be forgone in favour of the contractors self-monitoring system however it is believed an overview of some form will still be necessary.

Point 2 can only be answered in terms of the respective capabilities. In the New Zealand situation there are very good designers working for both the network consultants and the network contractors. Clearly the answer lies in combining these two resources together to get the best possible solution. PSMC and other performance type contracts achieve this and therefore must be favoured.

Point 3 is debatable. PSMC clearly hands a significant component of this function over to the contractor although the client sets the condition requirements. Can a client walk away from these functions? It is in the client's interest to preserve ultimate control over asset condition in-house as total programme performance is achieved by the overall perspective rather than the aggregation of each individual segment. An approach whereby this element is varied in each of the new contracts let will enable the client to reach a view on this progressively. As an example, the hybrid performance contracts of shorter duration enables a tripartite approach to maintenance management where the client still has a hands on role.

On point 4, if the design and monitoring are passed to the contractor and the client retains the long term planning and auditing what functions remain unassigned. In New Zealand the remaining functions are customer relations and access protection. There is a strong argument for highway owners to develop improved customer focus. Whereas most agencies are focussed on value for money of road products they underachieve on issues such as road information, road availability, customer response etc. Clearly the public sector has something to learn from the private sector especially utility giants such as Telecom and Electricorp. Customer focus is destined to be an improved client role. Access Protection is the remaining component of work. Where should it be targeted? There seems little point in retaining a network management consultant to undertake this work and since it is highly aligned with client functions, this is where it should be tasked.

Full Circle

On reflection has Transit just come full circle from 1991? On the face of it you might say yes but the answer is no. The decision to break the existing government agency into separate functions of administration, design and physical works was an important step in creating efficiencies and eliminating mixed up incentives proven by a 17% programme saving over the period. As the market has matured tensions between the network manager and network contractor have developed and these have been exaggerated by the introduction of QA and more recently by performance specifications.

The efforts now, to remove these overlapping functions, are simply an evolving process of the western world's focus on cost efficiencies for the same level of service or better. And evolution is not complete in NZ as proposed Road Reforms cut across entrenched organisational structures and behaviours.

The Future

This Author believes within 5 years time there will be only two forces in road maintenance in New Zealand, as follows:

- (a) the client, and
- (b) the supplier - a single entity, consortium of companies or joint venture.

The clients in this case, Transit New Zealand will need to increase their asset management skills become customer focussed, particularly in the provision of road information, and have a robust expert monitoring system. While customer focus and monitoring are easily understood the former is not so straightforward. Asset Management is a catchall name for the things an organisation intuitively does but now has to document. In New Zealand asset management is all about obtaining finance to maintain the asset to a stated service level. Financing now has a distinctive accountancy feel about it, which is supplemented by sound forward work programming. These are skills Transit will need to develop

The final interest is in service levels. An immediately simple to understand issue but a concept difficult to apply to roads. Recent experience with PSMC has improved Transit's understanding of service levels significantly. The client has prepared the platform for further development in this area. Some of these functions are currently undertaken by the network consultant and will need to be shed and assumed by the owner.

The Term "Supplier" is used in the singular because it will be with one entity whether joint venture or single company. This supplier will plan, programme and undertake the works in an outcome, incentivised environment. Whether the client contracts with such suppliers for 3, 5 or 10 years is unknown but recent initiatives suggest longer timeframes provided the national market can turn over sufficient contracts to maintain competition amongst maintenance suppliers.

In the current "one client to one network consultant to many network contractors" environment the industry has a long way to go to get to the "one client to one supplier" environment. So long as sufficient time is taken and clear signals are given, suppliers will be able to make plans to adjust. Whether such suppliers continue with sub-contract agreements or the mega companies begin to form is unknown.

Transit is not the only client. Local Authorities administer 90% of the road assets in New Zealand. Local Authorities utilise the "one to one to many" contract system although the network consultant role is performed by internalised business units in some cases. If local authorities continue with the "one to one to many" relationship varied company arrangements will be common including companies preferring no change from the status quo.

Local Authorities

Local Authorities are, on balance at a different stage to Transit in their separation of client, design and physical work functions. This can present two models. The first model is for Local Authorities to continue to move to separately outsource the functions of the designer and the builder which when compared to Transit's developments will ultimately confuse or require suppliers to dedicate corporate strategy to one model or the other. Suppliers will respond with demands to see consistency in operations as one model will probably be more viable than the other model.

The second model encourages Local Authorities to set up for the future model postulated here before divesting key staff to network consultants. Such a move would circumvent the lessons of the past five years and set up highly flexible contract possibilities to take Local Authorities into the next decade of road maintenance change.

The Final Word

It is predicted the "one to one to many" contracts arrangements used today in NZ will be replaced by "one to one" contracts with a number of large well organised suppliers. This change will occur because the new models are more cost effective than the old through improved alignment of objectives. The challenge for Transit is to clearly define the roles of each party and therefore the demarcation line between the contracted parties. While progress has been made on such definition more experience with varying models is required to determine the most appropriate way forward.