THE PROCUREMENT OF PROFESSIONAL PLANNING SERVICES FOR ROADING PROJECTS UNDER A COMPETITIVE PRICING REGIME

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ABSTRACT

The introduction of the Transit New Zealand Act changed the provisions for purchasing professional services for the development of roading projects. This change was consistent with the wider shift of the public sector towards greater transparency and accountability, and the separation of the roles of the funder, purchaser and provider of government services. The Act states that all professional services contracts for the development of roading projects are to be contracted out to the private sector by tender, with the selection of consultant determined by a Competitive Pricing Procedure (CPP).

This study has been undertaken as a preliminary assessment of the factors that influence the implementation of competitive tendering for professional services and its impact on planning practice in New Zealand.

The study is based on a literature review and original research. Surveys were undertaken with representatives from both the consultants and tendering authorities with experience in CPP, to obtain their views on different aspects of the tendering procedures adopted by Transfund New Zealand. Follow up interviews were also carried out with key representatives involved in the market to identify their responses to the survey results.

It is concluded that there are significant differences in perception of the effectiveness of the implementation of the CPP between suppliers and purchasers, particularly with the planning services associated with roading projects. Consultants consider that they must put in the most competitive price in order to win a contract. This, they believe, compromises the quality of planning services by limiting the number of interested and affected parties that can be consulted, by favouring the simplest method of evaluation of environmental effects, and by discouraging the use of the best people for the job.

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CHAPTER ONE
INTRODUCTION

Environmental planning in New Zealand has undergone radical changes in the last decade. The current regime for planning and managing resources in New Zealand is the product of local government and resource management law reform, preceded by the restructuring of the public sector (Dixon et al, 1997). The restructuring of the public sector in the mid 1980s was comprehensive in scope and in broad conformity with the ideas, principles and practices of managerialism (Boston, 1995). The Labour government's decision, as part of the reforms, to discontinue the role of the state as developer has had a significant impact on the direction of environmental reform.

The reforms of local government and resource management law were guided by similar principles to those adopted for the reform of central government, and intended to provide for a more flexible, devolved and integrated approach to resource management (Dixon et al, 1997). Resource law reform led to the enactment of the Resource Management Act 1991 (RMA), which promoted effects-based planning, and introduced a mandatory requirement for the submission of an Assessment of Environmental Effects (AEE) with resource consent applications.

Central and local government reform, and the introduction of the RMA had a significant impact on the practice of planning, especially in the private sector. They shifted the emphasis from prescribing land and resource use, to promoting sustainable management through the consideration of the environmental effects of resource use decisions. The focus of planning shifted to meeting environmental standards determined through a combination of local consultation and analysis, rather than the application of predetermined rules and regulations.

The move towards privatisation and corporatisation of public sector services, and the separation of funding and service delivery favours the contracting out the provision of some public services and subjecting their supply to competitive bids (Boston, 1995). Public agencies were encouraged, or required by legislation, to contract many of their service delivery functions to private firms, in a move intended to increased efficiency,

transparency, accountability and quality. This was particularly so in the transportation sector in New Zealand.

As part of the reforms of central government, a new crown entity, Transit New Zealand (TNZ) was created under the Transit New Zealand Act 1989 (TNZ Act)[1]. One of the functions of TNZ was the allocation of resources for the safe and efficient operation of the roading system. This function was subsequently transferred to another crown entity, Transfund New Zealand (Transfund), in a 1995 amendment to the TNZ Act. The TNZ Act requires all professional service contracts for the development of roading projects funded by Transfund to be contracted out to private firms by tender, with the selection of provider determined by a competitive pricing procedure.

All professional services contracts for roading projects are currently performed by private firms, selected on the basis of competitive procedures. In the majority of cases, these services include the requirement to complete an AEE, as required by the RMA. Hence, the demand for planners in the private sector to provide these services has increased. The planners role is therefore to deliver the services which are determined and funded by a client who is promoting a particular development. This is in contrast to the traditional role of the planner in the public sector whose role is to protect the public interest.

This thesis explores the impact of the changing emphasis in planning practice by examining the experience of tendering out professional planning services for roading projects in New Zealand.

The changes in resource planning in New Zealand since 1984 are outlined below, as the wider context within which the experience pertaining to the case study can be assessed. The case study is then introduced and the research objectives of the thesis outlined.

1 The TNZ Act refers to the Transit New Zealand Act 1989 and all subsequent amendments, including the Transit New Zealand Amendment Act 1995 which came into force on 1 July 1996, and which created Transfund New Zealand.

1.1 RESTRUCTURING OF THE STATE

1.1.1 Town and Country Planning Era

Planning practice in New Zealand has traditionally followed the British town and country approach. Memon and Gleeson (1995) claim that this approach may be viewed as an historical form of state regulation which was embedded in the wider political economy of the welfare state. According to Buhrs and Bartlett (1993) the New Zealand State, prior to 1984, was directly responsible for much environmental degradation, by its promotion of economic development through direct involvement in the ownership, allocation and management of resources. The government was heavily interventionist, taking an active part in the economy in an attempt to stimulate growth, and encouraging large scale developments, often with adverse environmental outcomes.

During the 1970s the government made amendments to environmental legislation in response to increasing dissatisfaction with the way the environment was being managed. Environmental Protection and Enhancement Procedures (EPEP) were introduced in 1974 to assess the environmental impacts of government funded projects. These procedures were not mandatory and recommendations made were not necessarily implemented.

The Town and Country Planning Act 1977 (TCPA) was the statute which governed the preparation, implementation and administration of regional and district plans. The TCPA required planning approval for developments, involving public submissions and hearings. In 1979 however, the government became frustrated by delays created by interest groups in gaining necessary approvals for large projects, and introduced the National Development Act. This statute streamlined the application process for major government development projects.

One of the major roles of local planners prior to the reforms in the mid 1980s was the facilitation of the development agenda of central government. While the responsibility for plan preparation lay with local authorities, government departments such as the

Ministry of Works and Development held both environmental and development responsibilities. This dual mandate was criticised by environmentalists (Buhrs and Bartlett, 1993) as having a major influence on planning practice. McDermott (1998) asserts that it is therefore hardly surprising that:

> 'the town and country planning legislation could be interpreted as facilitating a central development mandate, rather than providing a basis for the protection and development of community, economy, heritage and environment' (McDermott, 1998, page 639).

Planning practice increasingly became the target of public dissatisfaction in the late 1970s, due, among other things, to the perceived inflexibility of the process, and unwarranted intervention in the market place (Memon and Gleeson, 1995). However, since 1984, the role of the State in the management of resources has been dramatically redefined, which, according to Buhrs and Bartlett (1993) is largely attributable to the 'New Right' philosophy embraced by successive governments.

1.1.2 Period of Reform 1984-1991

Since 1984, the public sector of New Zealand has undergone a radical restructuring (Grundy, 1994), which, as stated by Memon and Gleeson (1994) left a once highly protected economy open to deregulated market forces and external competition.

Those behind the restructuring of the public sector in New Zealand placed a strong emphasis on the devolution of management responsibilities, the privatisation of commercial state assets, the commercialisation of many departmental functions, the institutional separation of public service funding and provision, and the separation of the functions of policy advice, regulation and service delivery (Boston, 1995).

Franklin (1991) claims that the primary motivation of the Labour government who instigated the reforms was to increase the international competitiveness of the economy. Other influences on these fundamental changes in policy direction have been identified by Holland et al, (1990) and include the dominance of the ideology of the market place, a search for efficiency in the use of resources, and the influence of senior neoliberal

Treasury officials.

The decision of the Labour government to discontinue the historically important role of the state as a developer, to reduce spending and to increase transparency, accountability and efficiency in the delivery of services had a significant impact on the direction of environmental reform (Memon, 1993).

The restructuring of central government provided the overall contextual environment for the review of the environmental planning and local government legislation (Holland et al, 1990). The introduction of the Environment Act in 1986 established two new agencies in the place of the Commission for the Environment: the Ministry for the Environment (MfE) and the Parliamentary Commissioner for the Environment (PCfE). Buhrs and Bartlett (1993) state that the:

> 'Retrenchment of government involvement in construction and development activities, reflected in the abolition in April 1988 of the once powerful Ministry of Works and Development, and the incorporation of its remaining commercial activities in the Works and Development Corporation. The responsibilities of the Ministry for Town and Country Planning were transitionally transferred to the Ministry for the Environment' (Buhrs and Bartlett, 1993, page 119).

Dixon (1993) claims that it was these changes that drove the major reforms of local government and resource use legislation:

> 'These reforms were integrally linked with resource management functions to be carried out by newly reorganised units of local and regional government. Along with reform of resource law, a major reorganisation of local government has put in place new spatial arrangements and functions for reformed city, district and regional councils' (Dixon, 1993, page 241-242).

Most of the New Right principles that guided central government reform were also applied to local government reform. These included the separation of regulatory from service functions, accountability and transparency, more business like approaches and the decentralisation of responsibility for environmental decision making (McDermott et al, 1996). Buhrs and Bartlett (1993) argue that the rationale behind the local government reform was to allow local authorities to perform their functions effectively and efficiently in an unregulated and competitive economic market.

In 1991 the RMA was introduced, and became the governing piece of legislation for almost all resource use in New Zealand. The purpose of the Act is to promote the sustainable management of natural and physical resources. Memon and Gleeson (1994) state that the RMA recognises the important role that the government has in planning, and defines a three-tier planning structure of central government, regional councils and territorial councils. This hierarchy is 'based on the assumption that decisions should be made as close as possible to the appropriate level of community of interest where the effects and benefits accrue' (Memon and Gleeson, 1994, page 448).

The introduction of the RMA signalled a new approach, focused on effects based planning. It brought with it new processes and responsibilities, including a requirement that all resource consent applications be accompanied by an Assessment of Effects on the Environment (AEE)[2]. Dixon (1993) argues that the assessment of environmental effects in the context of sustainable management forms the cornerstone of the RMA.

1.1.3 Theoretical Underpinnings of Reform

The aims of the new model of public management were to improve efficiency, enhance the effectiveness of government programmes, improve the accountability of public sector institutions, reduce the level of government expenditure and the size of the core public sector, improve the quality of goods and services produced by public agencies, and make public services more accessible and responsive to consumers (Boston et al, 1996). While the political desire for reform was strong, one of the most striking features of the reforms was the impact of certain bodies of economic and administrative theory, such as agency theory, transaction-cost economics and managerialism.

Boston (1995) claims that the majority of changes made conform to the principles and practices of managerialism, due to the emphasis placed on the devolution of management responsibilities:

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2 Section 88(6) requires that an application for Resource Consent shall be prepared in accordance with the Fourth Schedule. The Fourth Schedule of the RMA identifies the matters that should be included in an assessment of effects on the environment.

> 'These changes have not only brought about a radical reshaping of the bureaucratic landscape, but also contributed to a dramatic downsizing of the core public sector and the development of a new managerial ethos' (Boston, 1995, page x).

There are a number of key features associated with this concept, including a belief that the differences between the public and private sectors are not significant, a shift in emphasis from process accountability to accountability for results, the devolution of management control, a preference for private ownership, contestable provision and the contracting out of most publicly funded services and an emphasis on cost-cutting and efficiency (Boston et al, 1996).

One particular feature of the new model of public management that has emerged is the increasing use of competitive tendering and the contracting out of publicly funded services. This has occurred both at central and local government levels and reflects the principle that:

> 'Wherever possible, publicly funded services, including the purchasing of policy advice, should be made contestable and subject to competitive tendering; the quality, quantity and cost of publicly funded services should be determined by the purchasers requirements rather than the producers preferences (Boston et al, 1996, page 5).

As a consequence of the reforms, many government departments and crown entities divested service delivery functions to private firms or consultants. While government reliance on the private sector for the provision of goods and services is not new, what is new, is the growing number of services which were previously provided solely by public organisations which are now being considered for external contracting:

> 'Whereas contracting out was once limited to the more peripheral or secondary functions of the state and those activities which can be readily quantified and measured, such as garbage collection, it is increasingly being used to supply goods and services which lie at the core of the states responsibilities such as policy advice....and planning' (Boston, 1995, page 83).

Boston (1995) identifies a number of issues arising from the trend towards contracting out public services, in relation to 'risk management, institutional learning, the contract management skills of public agencies, political accountability and responsible

government' (Boston, 1995, page x).

Boston et al (1996) also raises important questions about contracting out, specifically determining the relevant criteria for assessing the quality of advice, the best institutional arrangements for generating and delivering good advice, and from whom advice should be sourced.

1.1.4 Impact of Reform on Planning Practice in New Zealand

The reforms of central and local government, and the introduction of the RMA have had a great influence on planning practice in New Zealand. Local government reform has encouraged the compartmentalisation of planning functions, the most obvious being the separation of policy and regulation, resulting in planners becoming specialised in different areas. There has also been a move towards contracting out various service delivery functions of planners, as has already occurred in central government.

Montz and Dixon (1993) claim that the introduction of the RMA, which included provisions for the mandatory assessment of environment effects, reflects the following major shifts in traditional planning practice:

1. Greater emphasis on the evaluation of environmental effects of activities rather than the regulation of land use activities, as provided for under the TCPA;
2. A shift from concern with planning as a process to planning as a means of achieving outcomes;
3. A shift from site-specific and discipline specific decision making towards a more integrated and less discipline specific practice (Dixon and Montz, 1993, page 89).

The RMA requires those who exercise powers under it to focus on the effects of resource use on the environment. The Minister for the Environment, Simon Upton (1995), stated that under the RMA, people are assumed to be able to make their own choices about the use of resources. The role of the planner is to ensure that the effects of those choices are consistent with the philosophy of sustainable management.

The Minister for the Environment's view of the new role of the planner, can be

compared to Forester's (1989) progressive planner, who is concerned with informing and empowering local citizens in the planning process. McClendon (1991) develops the notion of empowerment as one of customer service.

Within the new managerial context planning practice has been forced to become more directly responsive to the marketplace. With the increasing trend towards the contracting out of publicly funded services, together with the new requirements for all applications for resource consent to be accompanied by an AEE, the demand for planners in the private sector to provide these services has increased.

Under the new market orientated approach, which requires public agencies to provide services in the most cost efficient manner, services are determined and funded by the clients, not the planners (McClendon, 1991). It is the role of the client to:

> 'determine the form of the service, how and when it is to be delivered and under what conditions it will be made available to them. It involves a conscious movement from production orientation to customer orientation...it means using technical knowledge and specialised expertise to create and deliver new customer satisfying services' (McClendon, 1991, page 673).

McClendon (1991) claims that it is the role of the planner today to meet a growing demand for new, highly customised planning services with greater economy, efficiency and effectiveness.

The consultant planner is therefore required to deliver the services required by the client, constrained by what they want, and what they are willing to pay for it. While planners are required to act in the interest of their client, they must do so while maintaining obligations to the public, their profession and themselves. Hence the reductionism implied in limiting practice to the interest of the individual client challenges the notion of planning for the public good, and may be forcing the planner to compromise traditional values of professional integrity and responsibility to the public good.

Moore (1986) recognises this change in practice, stating that in the bidding situation it

becomes necessary for consultants to change their thinking and actions from that of trusted and knowledgeable professional advisors, to that of competitive merchants of technical services. He argues that the client in effect issues a challenge to the consultants to devise ways by which they can use their superior technical knowledge to beat the competition by naming a minimum price which will give the client exactly what is specified.

In summary, the purpose of statutory planning in New Zealand has shifted towards a more flexible approach to protecting the environment, and facilitating solutions developed by the community through the district planning process, and resource users through resource consent procedures. In parallel, management practices and principles have changed, changing the relationship between the planner and the public and the planner and the client. Practice has therefore been under pressure from two sources: a new community or locality-centred environmental mandate that is intrinsically more uncertain than under the TCPA, and a managerial code that makes clients more accountable.

The focus of this research is the impact of one aspect of the reforms, the competitive tendering of public services to the private sector, as being practiced in the transportation sector, by Transfund New Zealand, on planning practice.

1.2 IMPACT OF REFORM ON THE TRANSPORTATION SECTOR

The process of corporatisation, which included major changes to the way functions in central and local governments were performed, saw the creation of a new crown entity, Transit New Zealand (TNZ), to perform the combined functions of the former National Roads Board and the Urban Transportation Council. In 1995 another crown entity, Transfund New Zealand (Transfund) was created. Transfund is constituted by, and functions under the TNZ Act, and has the objective to 'allocate resources to achieve a safe and efficient roading system' (TNZ Act, 1989, section 3b).

The TNZ Act, changed the provision of professional services for the development of

roading projects, consistent with the wider shift of the public sector towards transparency and accountability, and the separation of the roles of the funder, purchaser and provider of government services.

1.2.1 Procurement of Professional Services

Section 27 of the TNZ Act requires all professional services contracts, for the development of roading projects funded by Transfund, to be contracted out to private firms by tender, with the price determined by a competitive pricing procedure.

TNZ produced a comprehensive Competitive Pricing Procedures Manual (CPP Manual) covering the engagement of both professional services and physical works, approved in June 1990. The manual was developed in conjunction with KPMG Peat Marwick and Works Corporation (previously Ministry of Works and Development), after extensive consultation and research on overseas practices.

While many overseas government agencies select consultants on the basis of professional qualification and competence alone, a procedure advocated by the Association of Consulting Engineers of New Zealand (ACENZ)[3], TNZ decided that price should also be taken into account when engaging professional services for roading projects. TNZ considered competition to be a effective and low cost mechanism through which to secure quality roading services at low prices (Transfund New Zealand, 1997).

As a result of the TNZ Amendment Act 1995, the CPP Manual prepared by TNZ was approved and adopted by Transfund New Zealand in 1996, without any substantive amendments, in order to meet its requirements under Section 26 and 27 of the TNZ Act.

3 The Association of Consulting Engineers is a professional body representing the Consulting Engineering Profession within New Zealand. It acts as an administrative body representing the interests of its constituent members, who provide professional services to all types of clients.

The Transfund CPP Manual requires tendering authorities[4] to prepare a Request for Tender (RFT) document which specifies the nature of the professional services required and the information to be supplied by the consultant in the tender. Consultants then use the RFT, which includes various engineering specifications and guidelines, to prepare their tender bid for the contract.

The most commonly used procedure for preparing a professional services tender is to: (i) select an appropriately skilled and balanced multi-disciplinary team (based on the specifications in the RFT); (ii) prepare a statement of how the professional services will be provided if the tender is successful, and the deliverables and outcomes the roading authority can expect; and (iii) provide the cost of the professional services (allowing for risks, contingencies and profit).

1.2.2 Role of Planning within the Competitive Pricing Regime

The development and operation of the roading system, including the construction of new roads, have the potential to generate adverse effects on the environment. All roading development projects undertaken by roading authorities[5] are therefore required to comply with the provisions in the RMA to ensure that any adverse effects on the environment are 'avoided, remedied or mitigated' (Section 5, RMA). For the majority of projects, this will involve completing an AEE.

The professional services for new roading projects are therefore likely to include planning inputs to meet such legislative requirements. Planning inputs refer to the services undertaken by the consultant in order to obtain the necessary resource consents from the relevant local authority[6]. These services typically include consultation with interested and affected parties, the preparation of the AEE, and the application for resource consents.

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4 Tendering Authority is defined by Transfund New Zealand (1997) as including Transit New Zealand and any local authority within the meaning of the Local Government Act 1974, or road controlling authority which prepares tender documents, invites tenders, lets contracts and/or carries out any other function associated with payments for physical works or professional services (Transfund, 1997).

5 Roading Authorities include TNZ who manage the state highway network and Local authorities, who manage the local roading network within their territorial boundary.

6 Local authority means any regional council or territorial authority within the meaning of the Local Government Act 1974.

1.2.3 Pricing the Professional Planning Services

The rationale behind the contracting out of professional services is to accentuate competition in the market so that competing parties are forced to make the most attractive offer possible to the client. In relation to roading projects, KPMG Peat Marwick (1990) state that competition is particularly good at increasing the likelihood that the roading authorities will be offered quality services at low prices.

Estimating the engineering design work in terms of costs and time involved in the contract is assisted by specific and well established roading design guidelines and specifications that have been developed and practised over decades, by organisations such as the Ministry of Works and Development. Consultants are required to have regard to a number of guidelines included in the RFT for the engineering services (Appendix A).

Consequently, it would appear that the engineering design works are relatively easy to price, and tender prices for these services would be expected to be similar between competing bidders. However, estimating the amount of planning services required to satisfy the requirements of the RMA, in order to obtain the necessary resource consents, is made difficult for the planner by:

- the relatively new requirements to provide planning services in accordance with the effects based approach of the RMA;
- the fact that the exact nature of environmental issues and the required amount of consultation are not often known at the time of tender preparation;
- the preference of tendering authorities for consultants to bid lump sums (Transfund New Zealand, 1997); and
- the lack of specific guidelines or code of practice for planning methodology.

Such factors are made even more difficult by the desire of the planning consultant to bid competitively in order to win the contract. Therefore the requirement to cost the planning services required within the CPP framework may be forcing consultants to make optimistic estimates of time and resources required for public consultation and preparation of the AEE, omission or underestimation of disbursements, such as the

employment of external experts, and the limiting of the use of sophisticated evaluation methods which might increase the labour costs of the consultants.

From a roading authority perspective, it is desirable that the consultant carries out the work in a way that is likely to obtain the required consents without the time delays and expense associated with public notification and hearings. This is only possible where the planners at the local authority are satisfied that all interested and affected parties will consent to the project, and where the proposal complies with provisions of both the RMA and relevant planning documents.

1.3 THESIS AIM AND RESEARCH OBJECTIVES

This thesis aims to examine the extent to which planning practice may be affected by the competitive tendering for the supply of planning services. The procedures implemented by Transfund New Zealand for the procurement of professional services for roading projects are examined as a case study, within which the impact of this facet of managerialism on one area of practice can be assessed.

The following research objectives seek to achieve the aim of the thesis:

1. Identify and assess the different procedures available for the procurement of professional services for roading projects, and those practiced by different organisations overseas.
2. Identify and assess the procedures used by tendering authorities in New Zealand for the procurement of professional services contracts
3. Identify the influence of the Resource Management Act on the development of roading projects in New Zealand.
4. Assess and evaluate the extent to which the procedures used by tendering authorities in New Zealand for the procurement of professional services for roading projects impact on planning practice.

1.4 CHAPTER OUTLINE

Figure 1-1 shows the Chapter outline for this thesis. Chapters Two, Three and Four provide an overview and background to the research.

Chapter Two explores the notion of competitive tendering, and identifies and analyses the different procedures available for the procurement of professional roading services, and those practiced by different organisations overseas. The procedures used by tendering authorities in New Zealand are then identified in Chapter Three.

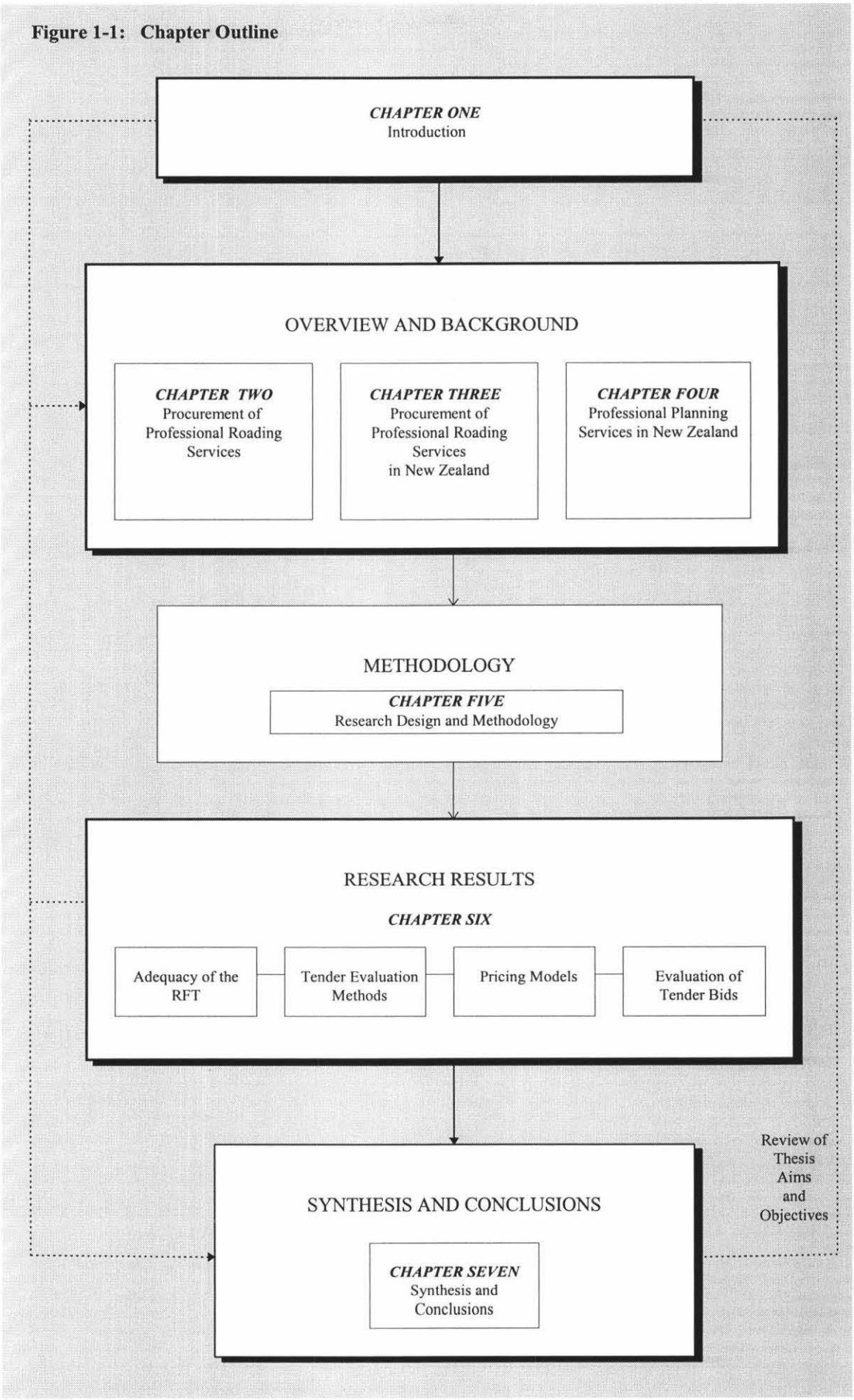
The current planning framework in New Zealand, and the requirements included in the RMA related to the development of roading projects is included in Chapter Four. This chapter also identifies the potential impact of these provisions on roading projects, and the response of TNZ to the provisions.

Chapter Five outlines the Research Design and Methodology of the thesis.

Chapter Six presents the research findings, documenting the results of the questionnaires and interviews. The findings are grouped into four different aspects of the procurement process: (1) the adequacy of the RFT, (2) tender evaluation methods, (3) price models and (4) tender evaluation teams.

Chapter Seven integrates the key findings from the literature review and the survey, summarises the main conclusions of the thesis, reviews whether the aims and objectives have been met and identifies areas for further research.

Figure 1-1: Chapter Outline



CHAPTER TWO
PROCUREMENT OF PROFESSIONAL ROADING SERVICES

Professional services for roading projects are defined by Transfund (1997) as the planning, investigation, design and supervision of the maintenance, rehabilitation and construction of land transport infrastructure. It is the process involved in the contracting out of such professional roading services, and in particular planning services that is the primary focus of this research. Professional services for roading projects can be obtained by authorities in three ways: (1) from in-house professional staff; (2) contracted from external third parties such as private consultants; or (3) a combination of the two (Hughes, 1995).

The purpose of this chapter is to identify the different procedures available for the procurement of professional services, with particular reference to competitive procurement procedures. The potential impacts of the different procedures on the quality of services provided will also be identified based on a review of the literature on the topic. The procurement procedures recommended by different overseas organisations, including Federation Internationale des Ingenieurs-Conseils (FIDIC)[7], the World Bank[8] and the Asian Development Bank (ADB)[9] will also be identified, along with the practices of tendering authorities in Australia, the United Kingdom and United States of America.

2.1 PROCEDURES FOR THE PROCUREMENT OF PROFESSIONAL ROADING SERVICES

The procurement of professional services for roading projects involves the selection of a consultant or firm to provide the services required by the tendering authority.

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7 Federation Internationale des Ingenieurs-Conseils (FIDIC) is an international advisory body to the consulting engineering sector, providing procedural and contract information for the provision of engineering services, and for the interaction of client and lending organisation s for professional and construction services (FIDIC, 1989). The procedures recommended by FIDIC are generally used by government agencies, larger international companies, and organisations such as the World Bank to procure professional services.

8 The World Bank is located in Washington, USA and is responsible for the financing of the United Nations Development Programme. Contracts are made between the consultant and the borrower, but are selected using the procedures adopted by the bank (KPMG Peat Marwick, 1990).

9 The Asian Development Bank (ADB) is a financing and lending institution, which has financed major roading projects in many countries. It uses consulting services extensively, and uses outside expertise with special skills and experience to provide assistance to itself and/or borrowers and has concentrated on developing and observing 'good practice' in the employment of consultants generally.

This process can be competitive or non-competitive, depending on legislative requirements, the nature of the services required and the consultants available. The first decision is to decide whether the professional services required should be sourced from one particular supplier, selected and engaged on a non-competitive basis, or competitively bid for by more than one consultant.

The administrative efficiency model developed by Williamson (1979) suggests that the two key factors of transaction costs and principal-agent relationship are vital in understanding the nature of contractual relationships.

Transaction cost analysis suggests that by understanding the nature of the services required, clients can determine the most appropriate management structure, form of contract and selection procedures. The services required can be described in terms of the extent of job specific investments required, the ease with which the performance of external suppliers can be measured, the degree of uncertainty, the intensity of competition, the risk or cost of non-performance as well as contracting costs (McGeorge and van Geldermasen, 1995).

Agency theory, the other aspect of Williamson's model of administrative efficiency, considers that economic relationships can be best understood as a series of contracts, in which the principal enters into exchanges with the agent (Boston et al, 1996). This theory concludes that that it is more efficient for an organisation to contract work out than to perform it internally, when the purchaser is able to monitor the performance of external suppliers, the risk of failure to perform is not high and large investments in job-specific personnel, equipment and resources are not high (Hughes, 1995).

Agency theory assumes that as individuals are rational and self interested, the interests of agents and principals are bound to conflict (Boston et al, 1996). Moreover, the management of these relationships is complicated by incomplete information and uncertainties. The aim of agency theory is therefore to find the most satisfactory way of negotiating, specifying and monitoring contracts so as to minimise the likelihood of

non-performance resulting from opportunism on the part of the agent (Boston et al, 1996).

The first task in applying administrative efficiency is to understand the nature of the services required, and then determine the most appropriate purchasing regime for this service. The options available range from non-competitive procedures such as in-house provision or preferred supplier relationships, to various forms of competitive tendering for contracting out the work. The process of determining which option to adopted is outlined below.

2.2 NON-COMPETITIVE PROCUREMENT PROCEDURES

In situations where formal procurement procedures are unnecessary, or not required by legislation, ad hoc, non-competitive selection methods can be used. Such methods typically involve clients selecting a consultant based upon their reputation and on their personal knowledge and preference (KPMG Peat Marwick[10], 1990). Having decided which firm or consultant to use, the client then negotiates the terms, including the price, on a one to one basis.

While such non-competitive procurement procedures are simple and direct, and therefore result in low administration costs to the client and supplier, there are a number of disadvantages (KPMG Peat Marwick, 1990). Due to the absence of external pressures, for example, such systems depend heavily on the integrity of the client and supplier to ensure that fair and reasonable terms are reached:

> 'there is no scope for competition to enter into the process to exert any pressure to lower prices, rather, the price outcome is dependent on what the client's contracting officials think is reasonable and on their negotiating skills' (KPMG Peat Marwick, 1990, page 42).

10 The New Zealand offices of KPMG Peat Marwick were commissioned in 1990 by Transit New Zealand to develop the competitive pricing procedures for the procurement of both professional services and physical works contracts. Part of this study involved detailed research into different practices overseas, in order to provide recommendations to TNZ. This research therefore provides a good background to the rationale behind the procedures adopted by TNZ, as well as overseas practice, and is therefore drawn on throughout the thesis.

In-house resourcing is also a common and traditional form of resourcing for professional roading services, particularly in local government. Hughes (1995) comments that such services are normally provided under a non-contestable framework with the service unit having access to the work as of right. Such procedures also tend to be used where competition is inadequate, or only a single source is available.

2.3 COMPETITIVE PROCUREMENT PROCEDURES

Competitive procurement procedures, or competitive tendering, involve governments deciding which services should be provided and, by utilising a competitive auction system, allows the market to determine the most efficient service provider. The primary aim of such procedures is therefore to harness competition as an incentive to suppliers to maximise the efficiency of their service delivery. The absence of effective competition provides incentives for existing service providers to pursue goals other than cost minimisation (Rimmer 1991).

Governments of many developed countries, including New Zealand have always used competitive procedures to some extent for the procurement of goods (Boston, 1995). Early practice was, however, variable, and not always transparent. In the 1980s the use of competitive procedures began to extend to the procurement of government services.

King (1994) claims the microeconomic reform of the public sector has revolutionised the way people view government services throughout the world, with much of the activity re-orientating the way in which governments provide goods and services:

> 'at the heart of this reform has been the movement away from unquestioned 'in-house' provision of many services, to a reliance on competitive tendering and contracting to outside providers' (King, 1994, page 75).

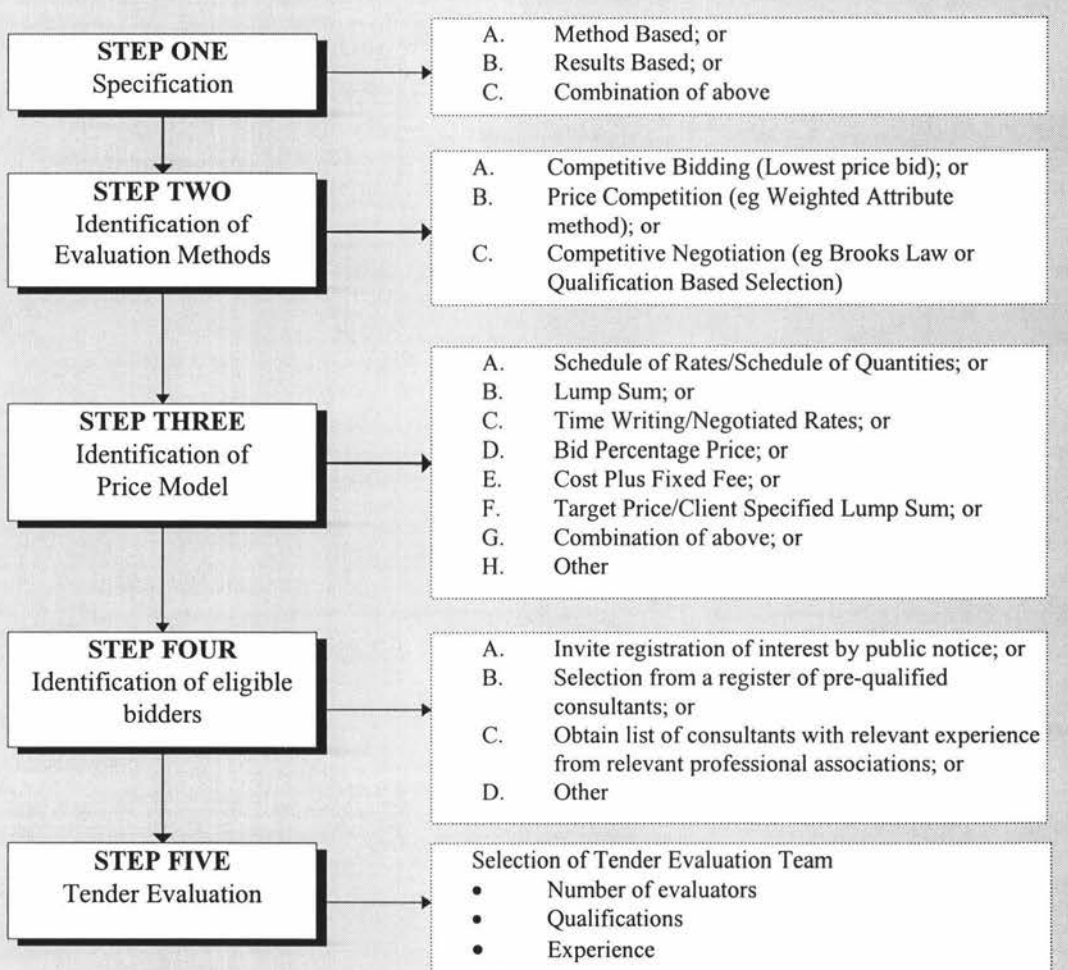
If a tendering authority decides that the most appropriate purchasing regime is to tender professional services requirements on a competitive basis, it must define the framework within which consultants can bid. The framework for any competitive procedure

usually includes the tendering authority performing the following functions (Figure 2-1).

1. Specification
2. Identification of evaluation methods
3. Identification of price model
4. Identification of eligible bidders
5. Identification of tender evaluation procedures

The document which details this framework is commonly referred to as the Request for Tender (RFT). Consultants then structure their bids, and the tendering authority evaluates them, within the specified framework. Each of the five functions can be performed in a number of ways, with varying degrees of complexity, speed, thoroughness, efficiency and cost (Figure 2-1).

Figure 2-1: Procedures For The Competitive Procurement Of Professional Services



2.3.1 Specification

The first step involves specifying the work for the bidder to respond to. Options range from method specification to results specification. Method specification involves the complete specification of every step, and how it is to be done. Results specification identifies only the outputs required or the performance of the completed work required. KPMG Peat Marwick (1990) claim that:

> 'Specification is not a simple matter of picking one of these extremes. There are many feasible approaches to specification that combine elements of them both. Therefore, specification is a matter of deciding how far to go along the line between the two end points' (KPMG Peat Marwick, 1990, page 15).

2.3.2 Identification of Evaluation Methods

The tendering authority must decide how the submitted bids will be reviewed and evaluated in order to identify which best satisfies its requirements. McGeorge and van Geldermasen (1995) suggest that it is very desirable in the case of professional services to predict the whole life costs of the service to be provided from the methodology proposed by the consultant.

As proposed outputs cannot be observed, the tendering authority must predict the likely output of each bid. This is achieved through the use of an evaluation method that measures a number of specific attributes, and which, in combination, provide an indication of the likely final outcome of each bid. A number of attributes can assist in predicting the degree to which a bidder can successfully complete the project. These include:

- the quality of the proposed methodology
- the technical capabilities of the bidder
- project management experience and skills of the bidder
- prior experience in similar work
- the successful completion of prior projects (KPMG Peat Marwick, 1990, page 25).

Consideration of the above attributes provides:

> 'a comprehensive coverage of the features relevant to judging the likelihood of the bidder accomplishing the professional services to a good quality and on the target time schedule' (KPMG Peat Marwick, 1990, page 25).

As well as ensuring the quality of the bid selected, the tendering authority may take into account the prices tendered. There are a number of different evaluation methods to aid in the selection of a consultant, each of which assign different weightings to the variety of quality attributes available, and the degree (if any) to which price is a factor.

The American Transportation Research Board (1988) states that evaluation methods for the competitive procurement of professional services can encompass three distinctively different procedures:

1. Competitive Bidding;
2. Price Competition;
3. Competitive Negotiation.

Competitive Bidding involves the selection of a consultant based on the single factor of price. Price Competition and Competitive Negotiation methods use explicit, quantitative evaluation processes over a number of specified pre-defined attributes. Each of the three competitive procurement procedures are discussed separately below.

Competitive Bidding

In this method bids received from consultants are evaluated on price only, with the contract being awarded to the lowest price bidder.

From its inception, the National Society of Professional Engineers (NSPE) in the USA has openly and aggressively opposed competitive bidding for professional engineering services as being contrary to the public interest. This position was reflected in Section 11(c) of the NSPE Code of Ethics:

> 'authorities shall not solicit or submit engineering proposals on the basis of competitive bidding. Competitive bidding for professional engineering

> services is defined as the formal or informal submission or receipt of verbal or written estimates of cost or proposals in terms of dollars, days of work required or any other measure of compensation whereby the client compares bids on a price basis' (NSPE, 1972, page 46).

However, following a judgement from the Supreme Court, which prohibited the Society from adopting any official opinion, policy statement or guideline implying that competitive bidding was unethical, the NSPE revised its Code of Ethics to permit price negotiations (American Transportation Research Board, 1988). The NSPE however still does not support the engagement of professional services where price is an element of selection.

In some countries there is pressure on clients to award all contracts to the lowest price bidder (FIDIC, 1996). This is because competitive price bidding is often the best method for procuring equipment and goods which can be specified precisely. In this way, Competitive Price bidding has been applied to the procurement of professional services, without much thought given to the difficulties of specifying these services.

Price Competition

In this method bids received from consultants are evaluated with price considered as one factor along with others, such as quality. There are a number of different procurement methods in which price plays a large part in the selection process, such as the Weighted Attribute and Target Price methods. Some of these methods attempt to integrate qualifications and quality, while retaining price as an element of selection (FIDIC, 1996). Bower (1986) cites the following advantages of evaluation methods involving price competition:

- There are qualified firms that can perform high quality work for lower cost than others through advanced methodology, experience, specialisation and/or modern techniques;
- The process can permit the selection of the best qualified firm and avoid the perceived disadvantages of competitive bidding, while still permitting competitive price comparisons where practical or required by law;
- The most important factor in selection is obtaining the best qualified firm in order to ensure the best end product, the best design concept, and the lowest life cycle cost. Whereas competitive bidding selects purely on price, which may discourage the high

quality firms from bidding, competitive pricing enables quality attributes to be assessed together with price.

- Without price comparison, the tendering authority cannot ensure a fair and reasonable price except by its subjective judgement

On the other hand, based on extensive history, legal and judicial actions, as well as practical experience, the NSPE consider that competitive pricing is contrary to the public interest, (NSPE, 1988). The NSPE does not consider it possible for a client to provide detailed or even reasonably complete specifications or scope of work prior to detailed negotiations of a particular project. Price proposals competition prior to detailed negotiations are misleading in the absence of a comparative understanding of the scope of work, including alternatives to be considered and consultation to be undertaken (NSPE, 1988).

The NSPE states that experience has shown over many years that if price is a factor to be considered by the client, it will be exceedingly hard for the client to select a bid that does not contain the lowest price. This raises the risk of an inferior and more expensive facility. They therefore favour rigorous competition for professional engineering services on the basis of excellence, qualification and quality.

Kasma (1987) also notes that when price is a factor in selecting a consultant, it usually becomes a deciding factor. While the lowest priced firm may not be the best qualified, this must be weighted against the political and economic pressures on the decision makers to save money. When price competition becomes a deciding factor, the client has no assurance that competing consultants have interpreted the brief in the same manner. With emphasis on price, the lowest fee proposal the client receives tends to result from a minimal interpretation of scope and quality and a low estimate of expenses required to perform the services. Kasma (1987) refers to the use of price competition in the procurement of professional services as penny-wise and pound-foolish.

The American Consulting Engineers Council (ACEC) also believes that it is impossible to obtain bids for professional services under conditions where the bidders base their quotations on differing interpretations of the scope of services to be rendered (ACEC,

1995). This is due to the fact that the scope of work often cannot be sufficiently defined to provide a basis for price estimates. In America, Congress has repeatedly rejected the notion of price and quality being considered together, and considers that:

> 'Regular competitive price negotiation would induce firms to favour the least costly design concept regardless of the impact on the quality of the plans and specifications .... Furthermore, the less skilled, and those willing to provide a lower level of effort, would have a better chance of selection as they could compensate their deficiencies by quoting a lower fee' (ACEC, 1995, page 3).

ACEC (1995) state that while the two envelope system is argued by some as offering the client the best of both worlds by considering both technical and price proposals, it is in fact the worst possible approach. With the two envelope system the client is forced to develop a comprehensive scope of work upon which price proposals can be based and compared. This presupposes that whoever develops this scope is at least as experienced and knowledgeable as the consultant being sought.

Moore (1986) argues that where price is a factor in the selection process, the technically competent and commercially astute engineer can usually win, and that the client is the loser. This is because the work output can never be specified with sufficient precision to assure that the client will actually receive the quality of service desired. Bryant (1982) supports this, noting that price competition for professional services often results in the lowest price being offered by a firm which will provide the least service and has the poorest qualifications. He goes on to argue that cheap advice is likely to be incompetent, and consequently result in the project being more expensive in the end.

Competitive Negotiation

In this method a number of the highest qualified firms are selected, and negotiation of a reasonable price is conducted with them in priority order until successful. Examples of tender evaluation methods using competitive negotiation are Brooks Law and Qualification Based Selection, discussed below. Competitive negotiation is often referred to as selection by ability, where the consultant is awarded the contract prior to negotiation of price and other contractual terms, on the basis of pre-defined attributes

such as technical competence, managerial ability, availability of resources, professional independence and professional integrity (FIDIC, 1996).

The following advantages of evaluation methods which involve qualification based selection have been identified in various literature (FIDIC, 1996; Bower, 1986):

- This system favours the selection of the most qualified firms
- There is no compulsion to compromise the quality of design or level of effort required for quality design to meet lower price bids by other consultants
- Consultants are free to suggest higher cost designs that may result in lower overall project costs or higher quality
- Fees will be fairer to consultant and client alike because they have been negotiated after the scope of work has been considered. Therefore consulting engineers are not under pressure to minimise their costs by devoting less time to detailed design, environmental investigation or by considering a fewer number of alternatives

FIDIC (1996) supports qualification based selection over any other method, believing that it provides clients with a basis for comprehensive selection that does not confuse the outcome by including price proposals for fee competition.

> 'Despite the use of well tried methods of selection that rely upon an assessment of the consulting engineers ability, experience and integrity, there is always severe pressure for consulting engineers to compete with each other on the price of their services. Few clients are, however, likely to select their consulting engineer on price alone as it is obvious that satisfactory professional services depend on qualifications and competence. The dilemma facing the client is how to balance ability against price, and how to quantify what they are trading off in technical competence and trust in a cheaper service' (FIDIC 1996, page 2).

Kasma (1987) states that too many times the client makes their selection on price rather than qualifications, and advocates a quality based selection process such as the Brooks Law Method. He believes that it is in the client's best interest to select an engineering firm on the basis of their skill and competence, rather than on price:

> 'High quality professional services depend on adequate fees to allow the consultant to assign properly qualified staff for sufficient periods of time' (Kasma, 1987, page 289).

ACEC (1995) also strongly advocates that professional services should be selected on the basis of professional qualifications and competence. They believe that Brooks Law provides for vigorous and open competition among firms in the areas of competence, experience, prior performance and technical qualifications.

Under qualifications based selection procedures, public agencies have the opportunity to acquire the services of the most qualified firm, and then to negotiate a price, fair and reasonable to taxpayers.

The Institute of Professional Engineers of New Zealand[11] (IPENZ) recommends that:

> 'Apart from direct engagement, the most frequently used method of selection should be some variation on selection by ability ..... based solely on the basis of the ranking with respect to qualifications, approach and methodology. Where price is important, it can be incorporated as an attribute in the ranking process (appropriately but not excessively weighted) or the final price can be negotiated with the consultant whose proposal is highest ranked' (IPENZ, 1994, page 13).

ACENZ also strongly support Qualification Based Selection as the most objective method of selecting professional consulting services:

> 'Qualification based selection represents international best practice in the procurement of engineering, design and management services. By selecting engineers...planners... and other professionals on their qualifications, then working together as a team, clients will ensure they procure a quality project at the best price' (ACENZ, 1998, page 3).

ACENZ are of the opinion that every project is unique, and at the beginning of many projects it is often very difficult for the tendering authority to fully grasp the complexities involved or the variety of professional services that may be required to complete the project.

11 IPENZ is a professional body responsible for setting and maintaining professional and ethical standards in pursuing the well-being of its members and the engineering profession. As a professional body, IPENZ standards and guidelines are frequently used for establishing formal agreements where professional engineers are employed as consultants.

2.3.3 Identification of Price Model

The design of the price model for the tender, and for use in the subsequent contract, is of fundamental importance for competitive procurement procedures. There are a variety of different price models that are accepted and used internationally in the procurement of professional services. The price models used most frequently include:

1. Schedule of Rates/Schedule of Quantities
2. Lump Sum
3. Time Writing/Negotiated Rates
4. Percentage Fee/Fee Curve
5. Cost Plus Fixed Fee
6. Target Price/Client Specified Lump Sum (IPENZ, 1994, page 23-26).

Schedule of Rates or Schedule of Quantities

Under this model, payment is made according to a predetermined schedule of rates applied to the actual number of units involved in completing the work. There is generally not a separate profit fee. This model provides some certainty to the client on the rates provided in the schedule.

While competition should reduce the rates bid by consultants, this model does tend to be less effective than the lump sum model in reducing the overall price bid of the consultants (Table 2-1).

Table 2-1 Strengths and Weaknesses of Schedule of Rates/Schedule of Quantities Price Model

STRENGTHS	WEAKNESSES
• Protects client on the risk of variation in rates, which is carried by the consultant • Agreed rate system will focus competitive pressures to drive down unit rates • Most appropriate where there are appreciable uncertainties and risks surrounding the work	• Less effective than lump sum in bringing competitive pressure to bear on the work price, as rates are only part of the total price • Quantities can be varied with this risk borne by the client which may result in higher price being paid for the services • Consultant has incentive to use more quantities in order to increase revenue

Source: Adapted from KPMG Peat Marwick, 1990

Consultant Specified Lump Sum

Under this pricing model, payment is based on an agreed fixed price for the services, determined by the consultant, and fixed at the bid selection stage by the tendering authority. No variation on the proposed price is permitted, provided that the scope of work is not varied by the client.

This model offers a high level of certainty to the client, without the need for the client to provide detailed or accurate schedules. However, it forces the consultant to focus on efficiencies and cost cutting rather than on the most effective solution to the clients needs. It may also encourage tenderers to bid conservatively, by building a risk premium into their prices (Table 2-2).

Underbidding on major projects has the potential to increase overheads if it results in litigation based on what is and is not included in the contract and claims for additional services. Under this model the relationship between client and consultant can tend to be that of adversaries. The client tries to obtain as much work as possible under the contract, regardless of the consultant's costs. The consultant is forced, by budget constraints, to perform a limited amount of work consistent with the contract provisions, while trying to recover underbid fees, or cut costs. 'This is a condition far removed from a proper, professional relationship in which the consultant is a confident and trusted agent of the client' (FIDIC, 1983, page 44).

Table 2-2 Strengths and Weaknesses of Lump Sum Price Model

STRENGTHS	WEAKNESSES
• Simple and clearly defined pricing model where the bidders are locked into a price from an early stage in bidding • Can encourage innovation, and the development of more cost efficient technologies for supplying client needs as it focuses competition on the total bid price • Consultants are forced to focus on efficiency in quantities used, cost efficiency, competitive efficiency and to correctly assess risks	• It does not encourage consultants to maintain quality, as cost reductions will go into higher profits • Is particularly inappropriate in cases where the work to be done is sensitive to quality and the work is difficult to monitor • Fails to provide an efficient way of managing the risks involved in the work as it is difficult to calculate the unknown • All risk carried by the consultant - as a result, they will tend to build a risk premium into the price

Source: Adapted from KPMG Peat Marwick, 1990

Time Writing or Negotiated Rates

Under this model payment is based on the actual hours worked by the consultant and the agreed hourly labour rate and reimbursable disbursements.

While the labour rates received will be competitive, this model provides no incentive to the consultants to minimise the quantity of the work to be performed. The client therefore has no certainty on the final cost of the project, and any risk of cost overruns is carried by them. Under this price model consultants are unlikely to minimise the quality of services provided or bid conservatively (Table 2-3).

Table 2-3 Strengths and Weaknesses of Time Writing/Negotiated Rates Price Model

STRENGTHS	WEAKNESSES
• Very competitive labour rates received as there is no risk to the consultant in estimating the labour quantity • Consultants can afford to investigate options that can minimise the total life cost of the project for the client and include other services such as peer reviews. • Client can modify the scope of work during the course of the project without the need to re-negotiate the contract • Very simple basis of payment	• No incentive for the consultant to minimise the labour content • Client is uncertain about the final cost of the consultant fees • Client carries the risk of cost overruns in fees • Productivity of individual employees of the consultant can vary and this may not be reflected in the agreed labour rates for the various categories of staff offered in the contract

Source: Adapted from KPMG Peat Marwick, 1990

Bid Percentage Price

Under this model payment is based on an agreed percentage of the cost of the associated physical works and usually includes both labour and disbursements. The percentage is proposed by the consultant as part of the bid in the competitive procurement process.

This model provides little incentive to the consultant to manage the project efficiently, and may lead to proposals for extras in the project that may or may not lead to quality gains.

Table 2-4 Strengths and Weaknesses of Bid Percentage Fee Price Model

STRENGTHS	WEAKNESSES
• Fee percentage is a single, visible parameter which allows competitive pressures to enter the price bid • Introduces useful quality incentives into the management of physical works, as increased cost in the physical works results in increased percentage fee to the consultant. • Effective in applying competitive forces to the price for professional services	• Is only applicable to particular types of professional services - those where the professional services are directly related to a physical works project. • Requires close involvement between the professional services and physical work for there to be any equity or efficiency justification • Consultant may be inclined to increase the cost of the physical work to ensure the percentage return from the professional services is larger.

Source: Adapted from KPMG Peat Marwick, 1990

Cost Plus Fixed Fee

Under this model payment is based on recorded actual costs plus profit either as a lump sum or percentage fee. This model is unlikely to encourage consultants to bid competitively, as all costs involved in the project are passed onto the client (Table 2-5).

Table 2-5 Strengths and Weaknesses of Cost Plus Fixed Fee Price Model

STRENGTHS	WEAKNESSES
• While this model may have some positive features in terms of risk management, it should only be used in cases of extreme risk difficulty	• Not an efficient pricing model to handle risk • Does not provide an adequate focus for competition • All costs involved are passed to the client • Does not provide consultants with an incentive to establish low cost sources of inputs or to develop new technologies that offer improved efficiencies

Source: Adapted from KPMG Peat Marwick, 1990

Target Price or Client Specified Lump Sum

Under this model payment is determined at the bid stage, by the client specifying the total funds available for the professional services required. The consultants offer a methodology and project team to undertake the work for the specified target price. This model provides certainty to both the client and consultant on the final cost of the proposed project, however does not provide the client with the certainty that they are receiving the most cost effective service for the job.

Table 2-6 Strengths and Weaknesses of Target Price/Client Specified Lump Sum Price Model

STRENGTHS	WEAKNESSES
• Client knows the final cost of the professional services which can be set to the available budget • Consultant can be selected on qualifications, competency and methodology for providing the services without price being a factor in selection • Risk is borne by the consultant to undertake the services in accordance with the agreed methodology and target price	• Precise scope of the professional services is required at the time of selection of the consultant • If the client wishes to change the scope of services there is usually no straightforward of valuing the variation in terms of the target price • Client is unsure whether the professional services provided have been undertaken for a lower price for essentially the same service, ie: consultants are not competing for the work on price

Source: Adapted from KPMG Peat Marwick, 1990

Clearly there are a range of commonly used pricing models available to price professional services, with more than one model frequently used to price one project. Other models used include those based on incentive fees, where payment increases where particular facets of the project are completed successfully, for example on time and without the need for hearings. Such a model provides incentives for the consultant to deliver the services to a higher standard than specified in the RFT.

KPMG Peat Marwick (1990) suggest the following criteria should be used when selecting a price model:

- The pricing procedures must be clearly defined and systematic;
- The pricing system should encourage good work quality;
- The pricing system should encourage innovative solutions;
- The pricing system should encourage suppliers to minimise the cost and work and pass cost savings onto the client;
- The pricing system should involve a relatively low cost of administration;
- The pricing system should allow for an efficient and realistic treatment of risks;
- Bidders must be largely committed to the initial bid price offered; there should be no vagaries in the procedures which allow significant variation in price after bids are accepted
- The determinants or components of the price should be clearly measurable so that the client can monitor and audit changes as the work proceeds.

FIDIC (1994) recognise the costs of providing quality professional services and therefore recommend the use of fee curves, or alternatively the use of fee remuneration methods. The Asian Development Bank, adopts a similar approach, based on price negotiation with pre-selected consultants.

IPENZ and ACENZ (1994) recognise time writing, percentage fee, cost plus fixed fee, lump sum, target price and retainer price models. These price models are, however, only endorsed when combined with quality based selection procedures.

The New Zealand Planning Institute (NZPI) (1995) do not favour a fixed fee or lump sum pricing model, except for small, readily identifiable tasks:

> 'The complexities of some of the large commissions which are seeking fixed fee contracts, such as major Environmental Impact Assessments, make it very difficult for a fixed fee to be established, even with a relatively clearly defined brief and work programme....the request for a fixed fee will encourage the practice of underbidding, to ensure that the lowest price tender will secure the contract, which is not considered to be favourable' (NZPI, 1995, page 5).

2.3.4 Identification of Eligible Bidders

When preparing the RFT, the tendering authority needs to define who is eligible to bid for the work. There are a number of different options available. The tendering authority can, for example:

- Invite registration of interest by public notice
- Invite just one selected supplier to bid
- Accept bids from a small, pre-selected set of consultants
- Accept bids from any qualified firm

Organisations such as ACENZ (1998) and FIDIC (1996), who support quality based selection procedures, recommend a combination of two of the above options. They believe that consultants should be invited to submit proposals which set out their qualifications and capabilities, which are then evaluated and short listed. Full bids are then only accepted from short listed consultants.

It is argued by FIDIC (1996) that pre-selection ensures that the short listed consultants will submit meaningful bids. FIDIC consider that this is not necessarily the case when the number of bidders is not limited, as a large number of bids reduces the probability of winning the tender to such a low level that many consultants may decide not to put too much effort into the bid, or not to bid at all. Pre-selection also reduces the amount of

time for the tendering authority in evaluating the bids, and ensures that the most competent consultants are bidding for the work.

KPMG Peat Marwick (1990) claim that where the tendering authority wishes to bring competitive forces into the procurement process, it is desirable that the tender be announced and bids be invited from a large number of potential consultants. A large eligibility system ensures that a good variety of consultants can bid, including new entrants and firms with new technologies, or without recognised competency.

2.3.5 Tender Evaluation

The process involved in awarding the professional services contract to a consultant is inherently linked to Step Three in the process (Figure 2-1), whereby the methods of evaluation are identified and specified in the RFT. This stage of the process however also involves identifying the people involved in the evaluation of the bids. This involves deciding the number of people and the make up of those people, including their role in the organisation, experience and qualifications.

These factors are important, as while all the selection procedures may be appropriate, if the bids are not appropriately evaluated, the procedures are unlikely to reveal the best bid. The incorrect weightings or values applied to different attributes can have a significant impact on which consultant is selected. The tender evaluation team must therefore be familiar with the project and the required outcomes, and have the necessary skill to identify quality in the methodologies submitted.

2.4 OVERSEAS PRACTICE

Practices for each of the five stages involved in the procurement of professional roading services, vary between countries and organisations throughout the world. The most contentious issue in most countries is the evaluation of tenders, and deciding whether selection by price, ability or a combination of both, is the most appropriate method to ensure the best outcomes for any given project. A selection of practices adopted by

different countries and international organisations are summarised in Table 2-7, and discussed below.

2.4.1 International Organisations

FIDIC, the World Bank and the Asian Development Bank all consider that selection by ability rather than price provides clients with the most appropriate basis for selection (KPMG Peat Marwick, 1998). That is, the client chooses a consultant on the basis of quality attributes such as technical competence, managerial ability, availability of resources, professional independence, fairness of fee structure, and professional integrity. Bid selection is strongly quality orientated, and comparison on the basis of price is not considered to be in the best interests of the client (KPMG Peat Marwick, 1990).

FIDIC considers that the use of ability criteria rather than price criteria to establish the preferred consultant is consistent with a quality-orientated approach (FIDIC, 1996). The ADB states in its guidelines that:

> 'Consultants are engaged on the basis of their ability to obtain the best results from the resources available. Selection of the most suitable consultants to undertake the services must be on the basis of technical ability...' (KPMG Peat Marwick, 1990, page 55).

2.4.2 Australia

While there are differences in the procedures used on a State by State basis in Australia, Public Works Authorities are required to follow national principles for the selection of consultants for roading projects. This results in a high degree of commonality in the essential elements of the selection systems used by the various authorities.

KPMG Peat Marwick (1990) note that the Public Works Authorities in Australia give high priority to the quality of consulting work, and little regard to the costs of services or value for money.

Table 2-7 Overseas Practice for the Competitive Procurement of Professional Services

Organisation/ Country	Specification of the work to be performed	The evaluation of the bids/Selection Procedures	The pricing of the services and form of the bid	Definition of the eligible bidder
FIDIC	Formally defined to include items such as scope of work, conditions of contract and the proposal	Strongly quality orientated Guidelines provided for selection procedures	Fee scales, the use of fee remuneration methods or preferably negotiated fees	No more than five consultants, pre-selected on competence, managerial ability, fee structure and professional integrity
World Bank	Specified in the invitation for tender	No requirement for evaluation on price. Competence and experience of the consultant, the personnel to be assigned and quality of methodology	If price is not a factor in selection, then estimated price is included in the proposal by the client, otherwise the client will specify an estimate of months required	Proposals are invited from three-six qualified and experienced consultants who must be from a bank member country
Asian Development Bank	Described as 'Terms of Reference' and include the objectives and scope, advice to consultants on the intended scope of work, and definition of the professional services required	Consultants selected on their ability to obtain the best results from the resources available and on the basis of technical ability. Selection Committee used if list of qualified consultants is lengthy	Prices negotiated from short-listed consultants	Preparation of a short list from a list of consultants considered suitable. Only as a last resort is a contract advertised for expressions of interest
Australia		Price is not used as the major criteria - at the preliminary stage selection is based on quality then the fee is negotiated with the selected consultant	A percentage (of total project), hourly rates, a fixed lump sum or a combination of fee systems	Use a Register of Consultants, to ensure that all suitable consultants are considered
United Kingdom - Local Authorities	Performance based specifications	If received from pre-selected consultants, selection should be on the basis of price	Flexible, but schedule of rates encouraged for batches of non specific work of a similar nature	Publicly advertised or invited from at least three consultants
United Kingdom - Department of Transportation	Governed by technical standards of the Institute of Engineers	Generally on the basis of lowest bid price. The two envelope system (a quality based selection procedure) is now often used.	Unit rates and total price are submitted for each of the specified items of work	Maintains a list of approved firms and generally 20-30 firms respond to tender. Approx. 6 firms are then invited to submit detailed bids
USA - Federal Government (Brooks Law)		Selects a short list and then ranks these firms according to quality - negotiations proceed with highest quality firm	Price negotiated with the highest qualified firm at a fair price. If unsuccessful the client then negotiates with second qualified	Policy of Federal Government to publicly announce all requirements for engineering services
USA - State Agencies (Competitive Procurement)	Specified in the Request for Proposal - identifying the required work, time schedule, conditions and stipulated form of the proposal.	Evaluated on understanding of problem, quality of methodology, skill and expertise of key personnel, management team and price. Proposals evaluated by specialists eg: engineering inputs reviewed by engineers, planning work by planners	Price can be either lump sum, fixed price, or agreed rate cost plus.	RFT sent to firms who have already expressed interest and advertised with any firm able to respond

Source: Adapted from KPMG Peat Marwick 1990

2.4.3 United Kingdom

In the United Kingdom, roads are categorised as either Secretary of State Roads or Local Roads, and are administered and financed by different organisations, as required by the Highways Act 1980. Secretary of State Roads are the responsibility of the Department of Transportation, while Local Roads are the jurisdiction of local authorities. In 1991 the Government applied a competitive tendering framework to local government professional services.

Awarding of contracts in the UK has typically been on the basis of the lowest bid, as it was an assumption of the Audit Commission that if consultants are invited to submit a bid, competence can generally be assured (Pigg, 1993). In 1990, the UK Department of Transport completed an examination of the procurement of consultants for large roading projects, the results of which were published in the White Paper titled 'Trunk Roads, England into the 1990s'. Conclusions included:

- Competition between bidders was based solely on price, with substantial price reductions recorded since the system had been put in place five years earlier;
- Competition between consultants based solely on price led to lower quality work; and
- Competition between consultants based solely on price led to over-cautious designs, and an unwillingness to explore new approaches, with these designs often resulting in high cost physical works.

As a result of these findings, the two-envelope method[12] is now frequently applied.

2.4.4 United States of America - Federal Government Procedures

Brooks Law was introduced as a procurement procedure in 1972 through Public Law 92-582 which in essence required that:

> '...it be the policy of the Federal Government to publicly announce all requirements for architectural and engineering services on the basis of demonstrated competence and qualification for the type of professional services required and at fair and reasonable prices'.

12 The two envelope method is a quality based selection method (Chapter Three).

Brooks Law involves the client selecting a short list of consultants from a register, judged to be the best able to provide the required services. The client then ranks these firms according to quality and negotiates with the highest qualified firm for the provision of the required services at a fair and reasonable price. If these negotiations are unsuccessful, the client then initiates negotiations with the second highest qualified.

2.4.5 United States of America - General Procedures by State Agencies

Practice for the procurement of professional services by State Agencies is diverse, with each roading authority adopting its own methods of deciding what work will be contracted out, and how the contracting process will be undertaken (KPMG Peat Marwick, 1990).

Generally, however, few states require the submission of cost proposals before the selection of a consultant. Instead they opt to furnish the selected firm (based on quality) with a detailed scope of services, discuss the scope, and then require a detailed cost proposal in a prescribed format (American Transportation Research Board 1988). The cost proposal is then evaluated by comparing it with the agency's independent cost estimate.

US Authorities consider the detailed scoping of services to be critical to developing a common understanding by the consultant and the authority of the effort and costs required to complete the assignment (KPMG Peat Marwick, 1990). The scoping statement is comprehensive and includes details of alternative designs to be considered and evaluated, and environmental studies to be carried out.

2.5 SUMMARY

This chapter has identified the different functions that tendering authorities carry out when competitively procuring professional services contracts for roading projects. Five main functions have been identified: (1) Specification, (2) Identification of evaluation methods, (3) Identification of price model, (4) Identification of eligible bidders and (5)

Tender evaluation. Each of these functions can be undertaken in a variety of ways, depending on the nature of the project and the requirements on the tendering authority. Often, the quality of services provided and the success of the project is dependent on what method the client uses to determine the most suitable consultant for the job.

It is argued by many authors and international engineering organisations that competitive bidding is unsuitable for the procurement of professional services, and that the most appropriate selection procedure is one based on quality alone, with price negotiated only after a selection has been made. They argue that selection by ability favours the most qualified firms and there is no compulsion for consultants to compromise the quality of the work or level of effort to match the lower bids of other firms. Where price is a factor, tendering authorities may find it difficult to select other than the lowest bid.

However, these views are often contrary to practice. While most tendering authorities take into consideration the ability of consultants, price is typically the major component. A few countries have adopted a total quality based selection process, but most appear to take into account the price for the services in making the final selection.

CHAPTER THREE
PROCUREMENT OF PROFESSIONAL ROADING SERVICES IN NEW ZEALAND

TNZ and its predecessor the National Roads Board have been administering the state highway system for many years. This has included the purchase of roading related services, encompassing both professional services and physical works. Local authorities have direct management and financial responsibility for the local roading system within their area (Hughes, 1995). In 1989 the TNZ Act introduced competition to the market for professional services for TNZ, and later Transfund New Zealand funded or partially funded work.

This chapter identifies and analyses current practice for the procurement of professional services for roading projects in New Zealand. Firstly however, it outlines the background to the procurement of professional services in New Zealand and the legislative context which led to the introduction of the Competitive Pricing Procedures (CPP).

3.1 HISTORICAL CONTEXT

Government agencies in New Zealand have always had responsibility for providing roading services, and have evolve their own methods for meeting their roading responsibilities.

Prior to the introduction of competitive procedures, TNZ used the procedures adopted by its predecessor, the National Roads Board. KPMG Peat Marwick (1990) claim that there were no formalised procedures at that time, and consequently, ad hoc arrangements were followed, as warranted by the occasion. These depended largely on the reputations of consultants who specialised in particular fields, together with the knowledge and preferences of the tendering authorities responsible for obtaining the services. Once a firm was selected, terms were negotiated, and once accepted, the consultant was authorised to proceed with providing the services required.

The arrangements were similar in the private and local authority sector. Many tendering authorities also used guidelines published by IPENZ as a basis for entering into a professional services contract with a consultant.

Prior to the mid-1980s almost all professional services for the state highway network were given as of right to the then government agency, the Ministry of Works and Development (MWD) (McGeorge and van Geldermasen, 1995).

The administrative advantage of the old system was the simplicity and directness of the procedures, the low cost to the client and the supplier, and speed. Disadvantages of the related primarily to the price. There was no external pressure to control the price, to lower the price, or even to evaluate price:

> 'The system depends on the integrity of the personnel concerned in the two organisations - the client and tenderer....even with complete integrity, this system may not lead to the lowest cost to the client as there is no inherent pressure to push down prices.... there is no scope for competition to enter into the process to exert any pressure to lower the prices....This procedure is likely to lead to good quality services being provided and the target outputs delivered. However, it is unlikely that these services will be secured in the least cost manner' (KPMG Peat Marwick, 1990, page 41-42).

In the late 1980s the Government began the process of corporatisation. This process sought to improve the delivery of public services in New Zealand by separating policy and commercial functions, and exposing tradable functions to competition (McGeorge and van Geldermasen, 1995). The MWD was divided into policy and commercial divisions. The commercial division became a stand alone company in 1988, Works Corporation. The policy division was disbanded and its functions dispersed to other government departments (Enright, 1996).

Works Consultancy Services was formed to provide the full range of professional services previously performed by the MWD, and remained the sole supplier of state highway professional services until June 1991 (McGeorge and Van Geldermasen, 1995). In May 1989 however, the Transport Law Reform Bill was introduced,

establishing TNZ to perform the combined functions of the National Roads Board and the Urban Transportation Council (Enright, 1996).

The Transport Law Reform Bill introduced a new requirement that government funds could not be used by TNZ for any roading project unless the work was awarded by tender to the bidder submitting the lowest price (Enright, 1996). Later, it was amended, with new requirements incorporated into the TNZ Act. These amendments required consideration to be given to aspects of contract proposals other than price, such as efficiency, quality of roading service and safety and public interest.

3.2 TRANSIT NEW ZEALAND ACT 1989

Competitive pricing procedures are required for the procurement of professional services and physical works by the TNZ Act 1989. Section 27 of the Act states that:

> (1) No payment, -
>
> (a) in respect of any output or capital project carried out by the Authority under this Act, shall be made from the State Highways Account; or
>
> (b) in respect of any output or capital project, shall be made from the Land Transport Disbursement Account of any local authority, -
>
> unless the payment relates to an approved output or capital project, the price of which has been determined by a competitive pricing procedure, and no such payment shall be made to any local authority.
>
> (3) Without limiting subsection (1) of this section, -
>
> (a) no payment in respect of any output or capital project shall be made from the State Highways Account, or the Land Transport Disbursement Account of a local authority, to any local authority trading enterprise unless the amount of the payment has been determined by a competitive pricing procedure (TNZ Act, 1989, section 27).

Section 26(1) of the TNZ Act states that for the purposes of section 27 of the TNZ Act, Transfund New Zealand shall approve from time to time a competitive pricing procedure (CPP) for each output or capital project or class of project or capital project.

In exercising its powers to approve a CPP, Transfund is required to have regard to the following matters outlined in Section 26(3):

(a) The efficient application of the State Highways Account and Land Transport Disbursement Accounts:
(b) The safety and other interests of the public in respect of the output or capital project or the class of output or capital project:
(c) The desirability of encouraging competition in the sector of industry likely to supply goods or services in relation to the output or capital project or the class of output or capital project:
(d) The undesirability of excluding from competition for the output or capital project or the class of output or capital project any party who might otherwise be willing and able to compete;
(e) The costs of administration associated with the pricing procedure or of any contract formed under that procedure (TNZ Act, 1989, section 26).

In June 1990 the TNZ CPP Manual for roading projects, including physical works and professional services was approved, based on the work of TNZ and KPMG Peat Marwick in association with Work Corporation (Enright, 1996).

The manual states that the provisions for awarding contracts are designed to enable Transfund to ensure that physical works and professional services are procured in the most efficient way, having regard to the objectives and other requirements of the TNZ Act 1989. The principal means of achieving this overall objective is through the encouragement of competition among potential suppliers of physical works and professional services.

In the formulation of the CPP Manual, KPMG Peat Marwick stated that:

> 'Competition is the striving of opposing parties to be the party chosen by TNZ for the supplying of services. The role of competition is to accentuate the striving so that the opposing parties are driven to make the most attractive offer possible to the client. The result of this process is that it places pressure on suppliers to make the best feasible offer to the client' (KPMG Peat Marwick, 1990, page 12).

It is believed by Transfund that competition is a particularly effective and low cost mechanism for securing quality roading services at low prices.

3.2.1 Creation of Transfund New Zealand

In 1995 a substantial amendment was made to the TNZ Act, which saw TNZ separated

into two crown entities: TNZ and Transfund New Zealand. The new crown entity, Transfund New Zealand, is responsible for the land transport system funding operations, formerly carried out by TNZ. The objective of Transfund New Zealand is 'to allocate resources to achieve a safe and efficient roading system' (TNZ Act, 1989). The objective of TNZ reduced to 'operate a safe and efficient state highway system' (TNZ Act, 1989).

One of Transfund New Zealand's specific roles is to develop policies for competitive pricing procedures. Following the TNZ Amendment Act 1995, the CPP Manual prepared by TNZ was approved and adopted by Transfund in 1996, without any substantial amendments.

3.3 CURRENT ROADING DEVELOPMENT PROCEDURES

Since its establishment in 1989, TNZ has progressively enhanced the procedures for the development of roading projects. Roading developments currently follow the stages outlined below:

1. Project Feasibility Report (PFR) Stage
2. *Professional Services Contract(s) Awarded for:*
   a) **Investigation and Reporting (I & R) Stage**
   b) Design and Project Development (D & PD) Stage (including the preparation of the Request for Tender for the Physical Works Contract)
   c) Management, Supervision and Quality Assurance (MSQA) Stage (including the evaluation of tenders and awarding of Physical Works Contract)

Roading authorities are required to apply for funding to Transfund for state highway roading projects. Financial assistance is also available from Transfund for local roading projects approved in the National Land Transport Programme, but such projects are subject to the requirements of the CPP Manual.

Once funding is approved, the authority is then required to prepare an RFT, and tender out the professional services contract in accordance with competitive pricing procedures approved by Transfund New Zealand under the TNZ Act.

3.4 COMPETITIVE PROCUREMENT OF PROFESSIONAL SERVICES

In the present competitive market, consultants are required to bid for the professional services contract associated with up to three of the stages of project development outlined above. Each stage is subject to a funding review based on the benefit to cost ratio[13] for the project, which is reassessed after the completion of each stage.

The tendering authority is required by the CPP Manual to prepare an RFT which specifies the nature of the professional services required and the information to be supplied by the consultant in the tender. Consultants then use the RFT, which includes various engineering specifications and guidelines, to prepare a tender bid for the contract.

Section 5.2 of the CPP Manual states that at a minimum, the RFT should include the following information:

1. Appropriate standard contract terms and conditions
2. Safety and insurance requirements
3. Project scope and specification including quantum and completion date
4. Price Model
5. The tendering authority's policy on late tenders (Transfund New Zealand, 1997, page 5-3).

As outlined in Chapter Two, the process for any competitive engagement procedure usually follows five major functions: (1) Specification, (2) Identification of Evaluation Methods, (3) Identification of price model, (4) Identification of Eligible Bidders, and (5) Tender Evaluation. Each can be performed in a number of ways, with the accepted practices identified in the CPP Manual.

A decision tree is included in the CPP Manual which demonstrates the different selection procedures appropriate for different projects (Figure 3-1). The main issues

13 TNZ establishes a benefit to cost (B/C) ratio for each proposed project and uses this ratio to rank all projects in order of priority on a national basis. The B/C ratio determines whether a project is economic, ie, delivers more benefits, in dollar terms, than it costs. The B/C ratio is an indicator which, for example, enables a project with a B/C ratio of 5 to be ranked a higher priority than a project with a B/C ratio of 2 (Transit New Zealand, 1995).

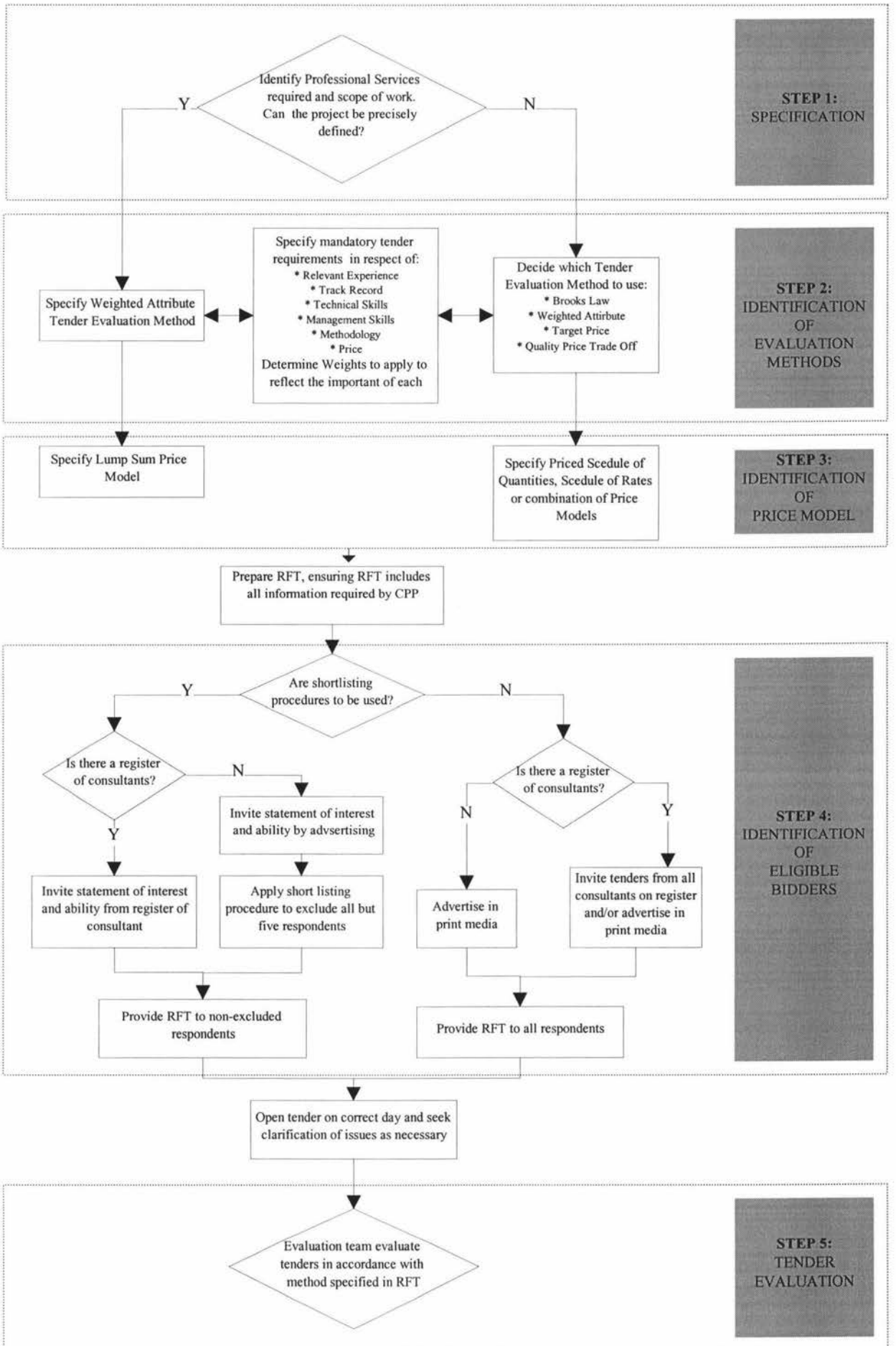


Figure 3-1: New Zealand Procedures for the Procurement of Professional Roading Services
Source: Adapted from Transfund CPP Manual, 1997

determining the selection of an appropriate evaluation procedure are worked through in the decision tree.

A description and analysis of the procedures identified in the CPP Manual is provided below. The analysis is based largely on two TNZ commissioned studies, by Butcher and Coker (1995) and Robert Hughes Consulting Ltd (1995), that reviewed the CPP. Both involved surveys and interviews of TNZ staff, local authorities and consultants.

3.4.1 Specification

The CPP Manual states that, whenever practicable, tendering authorities should specify end results and avoid specifying the methods to be used. The reason for this is that results specification promotes the objectives of an efficient CPP better than methods specification. A results approach requires the tendering authority to specify target outputs, leaving it up to the tenderer to determine the most appropriate methodology to achieve those outputs.

In a system where price is clearly a factor, clarity of the specification in the RFT is most important, as any misunderstanding can result in the work being priced incorrectly (Butcher and Coker, 1995; NZPI, 1995; Kasma, 1987). However, where quality is a selection factor, and the price is negotiated, any misunderstandings about the scope of the work can be resolved before the price is agreed. Butcher and Coker (1995) note that the majority of consultants (69%) consider the quality of the RFT's prepared by TNZ to be less than satisfactory.

Butcher and Coker concluded that throughout New Zealand the formats of briefs show great variation. The specific requirements and extent of the contract in the brief are not always clear and are open to different interpretations:

> 'These issues resulted in a wider range of tender prices, and higher bidding costs for tenderers than expected. The need was expressed for well formatted, succinct briefs, with clear instructions to the consultant about the information they are to provide in their tender submission' (Butcher and Coker, 1995, page 37).

3.4.2 Identification of Evaluation Methods

The submitted bids are reviewed and evaluated to identify the one which best satisfies the TNZ objective of providing quality roading services in the most efficient manner while having due regard to safety and other aspects of public interest. The CPP Manual specifies the following attributes which are required to be defined in the RFT and considered by the tendering authority when evaluating tenders: (1) Relevant Experience, (2) Track Record, (3) Technical Skills, (4) Management Skills, (5) Methodology and (6) Price (Transfund, 1997, page 4-13).

Table 3-1 Attribute Definition and Comments

1.	RELEVANT EXPERIENCE	Refers to the tenderer's previous experience in technical areas comparable to this project This relates more to the tendering company than to the individuals within that company. It is necessary to determine whether the tenderer has done this type of work before and how recently. Where the project requires a high level of technology, the experience should be recent and in an area directly comparable with the project.
2.	TRACK RECORD	Refers to the tenderer's record of completing projects to the quality standards required, on schedule and within budget. This relates to the experience of the tendering company. This attribute relates to the level of client satisfaction with the tenderer's performance on relevant projects. It is reasonable to differentiate between companies who frequently achieve the required standards without undue client enforcement and those who only achieve the standards after intensive supervision and rework.
3.	TECHNICAL SKILLS	Refers to the competence of the personnel that the tenderer proposes to use with particular regard to their skills and experience in technical areas comparable to the project It is necessary to determine the technical skills required for the project and to assess whether the qualifications and experience of the personnel proposed can provide it. This applies to personnel rather than the tendering company.
4.	MANAGEMENT SKILLS	Refers to the availability within the tenderer's organisation of personnel with appropriate management skills together with effective management systems and methods appropriate to the successful management of the project. Two factors should be examined. Firstly the relevance of the management skills and experience of the management personnel offered. Secondly, the tenderer's management systems for properly controlling the project, particularly its quality and cost and timing
5.	METHODOLOGY	Refers to the procedures the tenderer proposes to use to achieve the specified end result Under this heading a tenderer is expected to demonstrate their understanding of the project and the client's needs, and the means and methods whereby the desired results can be achieved in a practicable and efficient manner. When the Target Price Method is used, tendering authorities may consider requesting a more detailed presentation than normal of the proposed inputs and outputs.
6.	PRICE	Refers to the payment(s) that the tendering authority would have to made in respect of each tender.

Source: Adapted from Transfund, 1997

The proposed method of evaluating the tenders is also required to be specified in the RFT. Where the evaluation method requires that a weight be assigned to each attribute, the RFT shall specify the weights. When assigning weights, the tendering authority must ensure that:

1. All attributes are assigned a weight
2. All non-price attributes are assigned a minimum weight of 10
3. The price attribute is assigned a maximum weight of 20
4. The sum of all weights is 100 (Transfund New Zealand, 1997, page 4-13).

The tendering authority then awards the contract to a particular consultant based upon various evaluation criteria. The CPP Manual gives tendering authorities considerable discretion in the selection of tender evaluation methods. Both quality based (Brooks Law) and price sensitive selection (Weighted Attribute) are considered to be acceptable methods of evaluation.

The CPP Manual specifies four tender evaluation procedures: Brooks Law Method, Weighted Attribute and the Target Price Method, as well as the Quality Price Trade-Off Method, which was introduced as a provisional variation to the Manual on a trial basis.

Brooks Law

Using this method, the tender evaluation is conducted in four stages:

1. Tenderers are required to submit tender bid in two separate envelopes: envelope one containing all tender information except price, envelope two containing the tender price.
2. Open only envelope 1 and assess tenders against the five non-price attributes and no others. Each attribute is scored on a points basis, from 0 (totally inadequate) and 100 (excellent). Any tender that scores a 35 or less on any attribute shall be excluded.
3. Stage 2 consists of multiplying the weight of each attribute as specified in the Request for Tender by the grade of that same attribute and then dividing by 100 to give an index for each attribute. The indices for each tender are then summed to give an overall index for each.
4. Stage 3 involves opening Envelope 2 of the tender which scored the highest overall index only. Negotiation is then conducted with the consultant who submitted this tender, to resolve and agree on details. When agreements have been reached, the second envelopes of all unsuccessful tenderers are returned unopened (Transfund, 1997, page 4)

The CPP Manual states that negotiation is a major component of this method. It is therefore important that those evaluating the tender bids have a sound knowledge of the requirements of the job and what a reasonable price would be. This method is likely to be particularly suitable for contracts with outputs that are difficult to specify accurately (Transfund New Zealand, 1997).

Brooks Law is not widely used by tendering authorities (Butcher and Coker, 1995) for a number of reasons, including the fact that they believe they would be moving away from the principle of price as an element in selection, also because the skills required for negotiating are lacking, negotiating is lengthy and time consuming, and because greater input into the non-price attributes and their evaluation is required.

Butcher and Coker (1995) note, however, that consultants generally support the use of Brooks Law for a number of reasons, including that they are able to offer a higher quality of service for a correspondingly acceptable price, it promotes better engineering solutions, it may be the fairest system for all types of work, and is considered suitable for larger consultants with proven track record and relevant experience.

Butcher and Coker also note that using Brooks Law allows the development of consistency in procedures and contract processing, and that it creates incentives. If the consultant does not perform, then that consultant is less likely to win the next contract package.

It is therefore recommended by Butcher and Coker that wherever possible, the selection of the consultants should be made using quality based procedures such as Brooks Law, with price to be negotiated. On the other hand, selection of consultants using price as an element should be used where projects are technically straightforward, routine and tightly briefed (Butcher and Coker, 1995).

While acknowledging that the majority of the consultants support Brooks Law, Hughes (1995) notes that:

> 'It would be easy for Transit New Zealand to lose the benefits of purchasing from a competitive market if the current tension on price was relaxed. If price competition was removed altogether, or became too minor a part of the evaluation process, bargaining power would shift to the consultants who would naturally seek to turn their increased bargaining power into higher profits' (Hughes, 1995, page 32).

Hughes therefore considers that Brooks Law should only be used when the nature of the services required cannot be clearly defined or the risks and costs of failure are high. This method maximises the control of the evaluators on the selection procedure, allowing them to select the consultant perceived to be the most likely to deliver a satisfactory service, with the project scope and price negotiated at a later stage.

Weighted Attribute

Tender evaluation is conducted in three stages as follows, with a contract only entered into with the tenderer who scores the highest overall index. When more than one tender shares the top overall index the contract shall be awarded to whichever of these has the lowest price.

1. Tenderers are required to submit tender bid in two separate envelopes: envelope one containing all tender information except price, envelope two containing the tender price.
2. Stage 1 involves only opening Envelope 1 and assessing the tenders against the five non-price attributes. Each attribute is scored on a points basis from 0 (totally inadequate) to 100 (excellent). Any tender which scores 35 or less is excluded.
3. Stage 2 involves opening Envelope 2 and converting the tender price to a grade using the formula of:

$$\text{Grade} = 150 - 100 \times \frac{\text{Tender Price}}{\text{Estimate}}$$

4. Stage 3 consists of multiplying the weight of each attribute as previously specified in the Request for Tender by the grade of that same attribute and then dividing by 100 to give an index for each attribute. The indices for each tender are then summed to give an overall index for each tender (Transfund New Zealand, 1997, page 4-17).

The CPP Manual identifies that the Weighted Attribute Method should be used where the project can be accurately defined. This enables selection to be made with open price information which can be traded off against the perceived quality of the bid (McGeorge and van Geldermasen, 1995).

Butcher and Coker (1995) identify a number of consultants' concerns with the use of this method. The most common is that the prominence given to price causes very low value fee prices to skew the results and increase the likelihood that the lowest price bid will win the contract, regardless of quality.

Hughes (1995) also recognises this, but notes that this method was not designed with the intent that it should result in the firm best able to cut corners or best able to minimise inputs, winning the contract. He also notes, however, that it would be fair to say that tendering authorities do tend to award contracts to firms entering a lower price than the median for the job.

Although it is not intended, the way this method is applied makes price sensitive bidding and awarding inevitable.

Hughes (1995) considers that the Weighted Attribute method is most applicable when the risks and costs of performance failure are low and the service required can be defined clearly. However, as the risks and costs of failure increase, the ability of a consultant to deliver on time and to specification, becomes increasingly important.

In this situation, Hughes concludes that it is doubtful that this method can accurately reflect the right trade-off between price and non-price attributes (Hughes, 1995).

Target Price

The Target Price Method is most useful where outputs are difficult to specify or quantify. The CPP Manual states that this method is only to be used for: strategy studies, feasibility studies, transportation studies and investigations. The price to be paid for the contract is specified in the RFT, with tenders priced outside these specifications excluded.

The tender evaluation is then conducted in three stages:

1. The first stage is to confirm that the price conforms to the target price
2. The second stage involves assessing the tenders against the five non-price attributes. Each attribute is scored on a points basis, with any tender that scores below 35 excluded
3. The third stage consists of multiplying the weight of each attribute as previously specified in the RFT by the grade of that same attribute, and then dividing by 100 to give an index for each attribute. The indices for each tender is then be summed to give an overall index for each tender
4. The tendering authority shall only enter into a contract for the tender which scores the highest overall index (Transfund New Zealand, 1997, page 4-19).

Quality-Price Trade Off

This method has been introduced on a trial basis by Transfund New Zealand as an alternative to the Weighted Attribute Method. It requires tendering authorities to identify an explicit dollar value that they are prepared to pay for higher quality tenders.

1. Tenderers are required to submit tender in two separate envelopes: envelope 1 containing all tender information except price, envelope 2 containing the tender price information
2. Envelope 1 is then assessed against the five non-price attributes and no others. A systematic method specified in the RFT is used to rank tenders from highest overall quality to lowest quality
3. The second stage begins by selecting the three highest ranked tenders. The tendering authority then determines, for both the first and second ranked tenders, the maximum additional price over the price of the third ranked tender that it would be prepared to pay in order to secure each of these tenders of higher quality.
4. The second envelopes of the top three tenders are then opened.
5. The maximum additional price for each of the top three consultants are then subtracted from the actual tender price to obtain an adjusted price
6. The tender with the lowest adjusted price is the preferred tender and the tendering authority shall only enter into a contract for that tender (Transfund New Zealand, 1997, page J-14).

The advantage of this method compared with the Weighted Attribute method is that tendering authorities can explicitly determine how much they are willing to pay for the extra quality. Quality Price Trade Off is considered the most appropriate method of evaluation in situations where risk and costs of failure are high (Transfund New Zealand, 1997).

Hughes (1995) considers that evaluators have more control of the project outcomes using this method, and that it is therefore most valuable when public safety issues, high potential costs of project failure or difficulties monitoring consultant performance, make the ability to control the balance between quality and price important.

3.4.3 Identification of Price Model

The following price models are outlined in Section 5.2(4) of the CPP Manual as being efficient and acceptable:

Table 3-2 CPP Approved Price Models

1. Consultant Specified Lump Sum	Consultant submits a fixed dollar price to undertake the contract
2. Price Schedule of Quantities	Consultant submits a price based on a schedule of rates multiplied by the tendering authority's estimated quantities of each unit of output, summed to give an indicative lump sum
3. Schedule of Rates	Consultant submits a price per unit of input or per unit of intermediate output
4. Client Specified Lump Sum	Tendering authority specifies the maximum funds available for the contract

Source: Transfund New Zealand, 1997

The CPP Manual indicates that the most commonly used price model is expected to be one that combines Lump Sum for some components with a Price Schedule of Quantities for other components. This is seen as facilitating comparison among tenders, but moves some risk (in terms of quantities) to the tendering authority. Transfund expressly prefers:

> 'maximising the use of the consultant specified lump sum price model where the work content can be reliably gauged in advance. Tendering authorities should specify a lump sum price model where the work content can be reliably gauged in advance. When used appropriately, the lump sum pricing model brings greatest competitive pressure to bear to increase efficiency and hence minimise price. Another advantage is that the administration costs of a lump sum pricing model are comparatively low' (Transfund New Zealand, 1997, page 5-4).

KPMG Peat Marwick (1990) state that the Lump Sum price model is the most powerful competitive model because the full force of competition is focused on a single price. They do, however, also recognise that this method does not encourage suppliers to maintain quality, and in fact encourages them to cut quality in an effort to reduce costs and thereby increase net profit.

It is stipulated in the CPP Manual that where the work cannot be readily defined prior to tendering, then either the Schedule of Rates or Price Schedule of Quantities price models may be more appropriate.

3.4.4 Identification of Eligible Bidders

The selection of bidders for professional services is largely based on the requirements in Section 26(3) of the TNZ Act which requires Transfund to have regard to the following matters:

> (c) The desirability of encouraging competition in the sector of industry likely to supply goods or services in relation to the output or capital project or the class of output or capital project:
> (d) The undesirability of excluding from competition for the output or capital project or the class of output or capital project any party who might otherwise be willing and able to compete (TNZ Act, 1989, section 26).

The CPP Manual states that for each contract, advice of a RFT shall be:

> 1. Sent to all consultants on the tendering authority's register who have registered to undertake the class of work; and/or
> 2. Advertised in appropriate print media, the extent of which should bear a relationship to the size of the contract (Transfund New Zealand, 1997, page 4-11).

The CPP Manual also specifies that any tendering authority may adopt a two-part selection process to ensure that no more than five consultants are put to the expense of preparing full tenders. The use of short-listing is particularly appropriate for large projects where it would be inefficient for a large number of tenderers to expend considerable cost on preparing tenders (Transfund, 1997).

Butcher and Coker (1995) note that short-listing is not frequently used, rather most tendering authorities maintain a register of consultants who are sent the RFT as of right. This approach is favoured by TNZ as they are required to get as many bids as possible to create competition. However it may exclude lesser known firms from the process, and may be a disincentive to some if the odds of winning are reduced simply by the number of bidders.

3.4.5 Tender Evaluation

The CPP Manual does not indicate who should carry out tender evaluations. However the majority of tendering authorities consider that their procedures for evaluating professional service tenders are satisfactory (Butcher and Coker, 1995).

Butcher and Coker (1995) note consultants' concerns about the competency of TNZ staff who undertake the evaluations, and suggested that the evaluation teams should either comprise only consultants, or at the very least, be independent. They note that:

> 'Evaluating a professional services tender is a very subjective judgement of a consultant's broad competence for that work, despite TNZ use of objective rating systems' (Butcher and Coker, 1995, page 38).

3.5 OVERVIEW OF COMPETITIVE PRICING PROCEDURES

The market for the supply of professional services in New Zealand is outlined below, together with a discussion of the potential impact of CPP on the delivery of services.

3.5.1 The Market for Professional Roading Services

All approved state highway roading projects are wholly funded by Transfund New Zealand. Local authority roading projects are, however, only partly funded by Transfund, with the balance funded by ratepayers. Statistics compiled by Transfund for 1997/98 show the following expenditure on professional services associated with all safety and improvement roading projects (Table 3-3):

Table 3-3 Professional Services Market Subject to CPP (1997/98)

MARKET COMPONENT	COMPONENT COST ($M)
Local Authorities (Transfund contribution only)	5,934
Transit New Zealand	33,246
Total CPP Professional Services	**39,180**

Source: Transfund New Zealand, 1999

A number of consultants have estimated that the planning services component of the total professional services fees are typically 10%, or as applied to the total CPP professional services, approximately $4 million per year.

3.5.2 Competition in the Market for Professional Roading Services

The majority of tendering authorities consider that CPP encourages competition for the supply of professional services (Table 3-4). However the opinion of the consultants is spilt, with 48% agreeing that CPP encourages competition, 38% disagreeing, with the remainder undecided (Table 3-4). This can be attributed to the fact that many consultants in smaller firms are not able to bid due to the high cost, and the slim chance of winning a contract. They are therefore of the opinion that competition only exists between a few set contenders (Butcher and Coker, 1995).

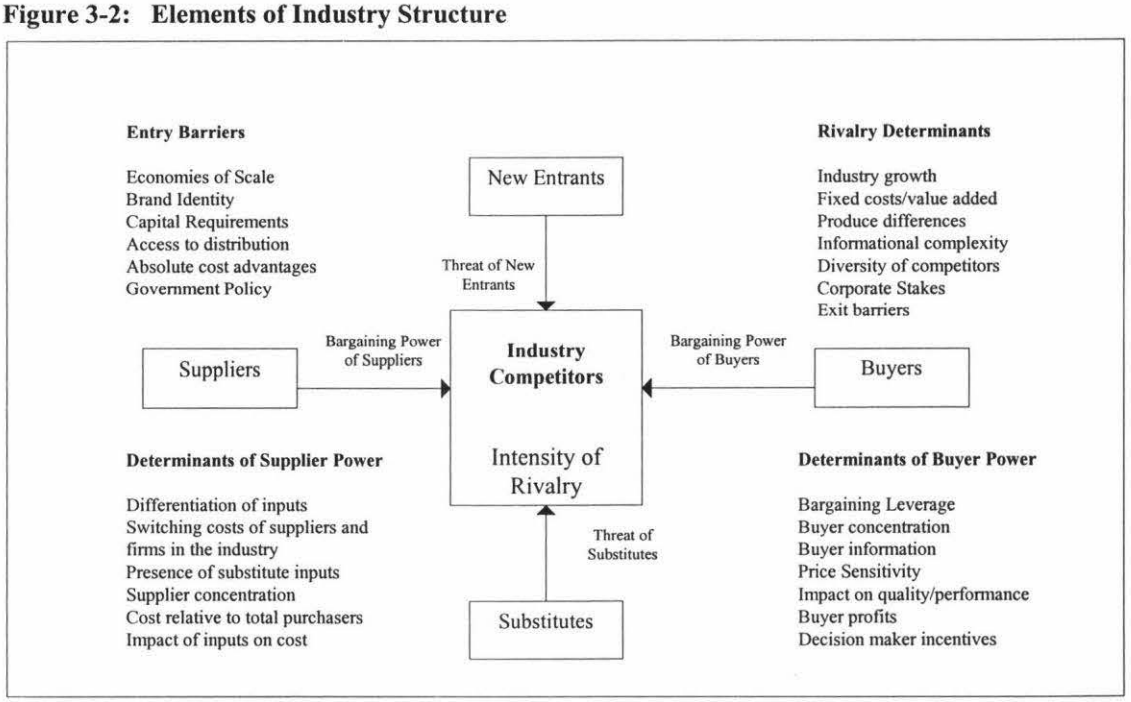
Table 3-4: The Effect of CPP on Competition

RESPONDENT	Agreement that CPP encourages competition		
	YES	NO	UNDECIDED
TNZ Regional Offices	4 57%	1 14%	2 28%
Local Authorities	9 64%	2 14%	3 21%
Consultants	20 48%	16 38%	6 14%

Source: Butcher and Coker, 1995

Porter (1998) identifies barriers to entry and exist, rivalry among competitors, and the power of buyers and suppliers as primary determinants of industry attractiveness (Figure 3-2). In any particular industry, the particular structural factors that are important will differ as every industry is unique, having its own unique structure (Porter, 1998).

Figure 3-2: Elements of Industry Structure



Source: Porter, 1998, page 6

This model allows a particular firm to identify which factors are critical to competition in its industry (Porter, 1998). As applied to the market of professional roading services in New Zealand, Hughes (1995) identified that the main forces contributing to its attractiveness are the easy availability of the labour supply and the relatively high dependence of buyers on the consulting industry for the supply of these services.

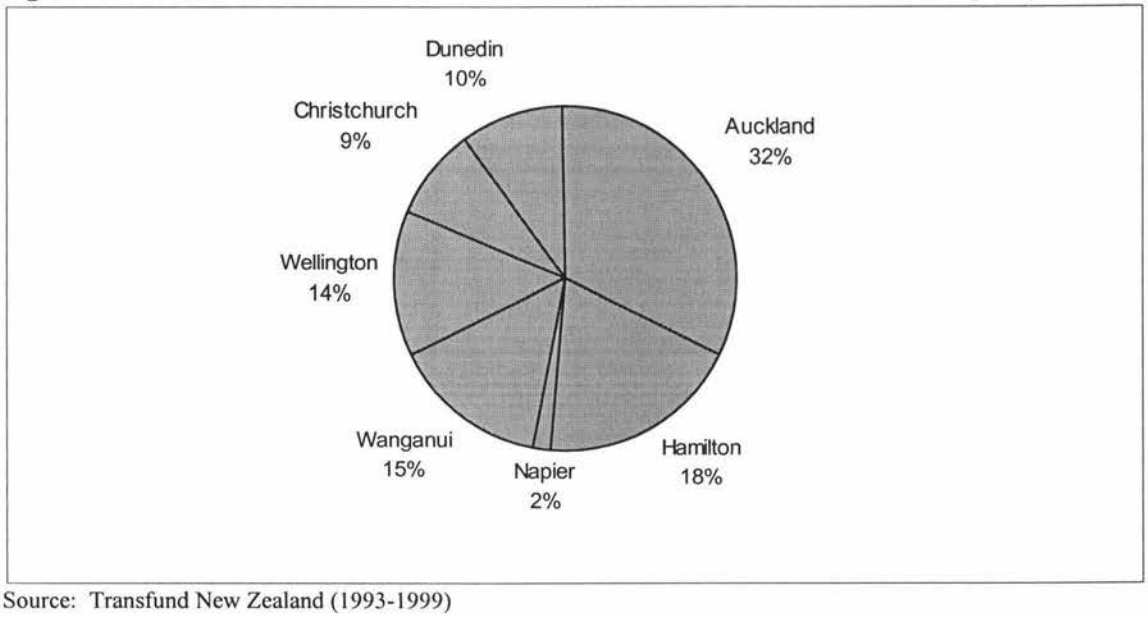
The main forces identified as limiting the ability of consulting firms to enter this market include the dependency of the industry on a few large purchasers, the intensity of rivalry between firms and the ability to demonstrate experience and local knowledge.

The nature of the external market providing the service, including the competitiveness of the industry is an important consideration when undertaking a study on CPP. This can be roughly estimated by identifying (a) the number of contracts let, (b) the number of consultants bidding and (c) the consultants winning the majority of contracts.

While the market is generally considered to be accessible, Hughes (1995) identifies that very few firms are achieving a win ratio that is likely to keep them in the market, with the market being dominated by a few large firms. This is particularly evident for major roading projects.

The National Roading Programme identifies that there have been 123 professional services contracts for state highway safety and improvement projects worth more than $1 million let since 1993. Of these, 81% have been located in the North Island, with 32% in the Auckland TNZ Region (Figure 3-3).

Figure 3-3: Number of Professional Services Contracts >$1 million in each TNZ Region (1993-99)

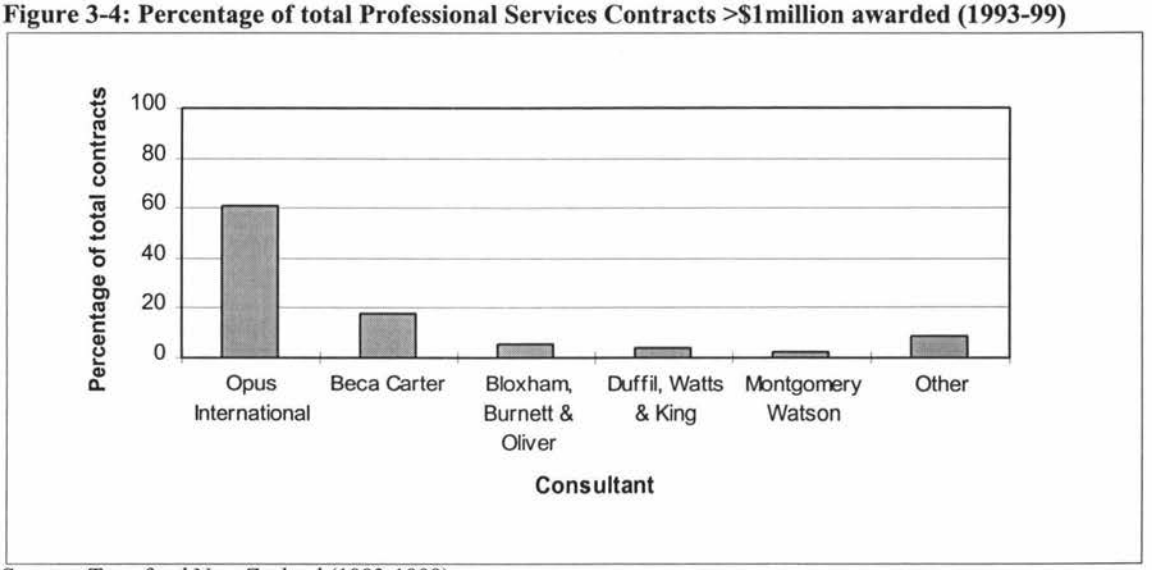


Source: Transfund New Zealand (1993-1999)

Butcher and Coker (1993) estimate that the number of consultants bidding is approximately 4.5 per contract. A number of consultants considered that this level of competition would decline due to the low success rate of the smaller firms, and the high cost of bidding.

Of the major roading contracts let since 1993, the market has been clearly dominated by Opus International Consultants (61%) and Beca Carter Hollings & Ferner (18%) (Figure 3-4). Three other consultants have won another 7% between them, but are individually insignificant compared to Opus International Consultants and Beca Carter Hollings & Ferner (Figure 3-4).

Figure 3-4: Percentage of total Professional Services Contracts >$1million awarded (1993-99)



Source: Transfund New Zealand (1993-1999)

The market share of the smaller firms is, however, significantly larger in the two TNZ Regions where the professional services market in larger. In the Auckland Region, where 32% of the major projects are located, 25% of contracts are awarded to firms other than Opus or Beca Carter. Similarly in Hamilton, where 18% of the major projects are located, 46% of contracts are awarded to firms other than Opus or Beca Carter (Table 3-5).

In the smaller TNZ Regions, such as Napier and Christchurch, with fewer major projects, the smaller, local consultants are awarded less work, as they may not be seen to be sufficiently experienced or competent.

Table 3-5: Geographic Distribution of Competition

Distribution of Competition for Professional Services Contracts >$1million awarded in each TNZ Region (1993-1999)						
TNZ Region	Consultants					
	Opus	Beca Carter	Bloxam Burnett & Oliver	Duffil, Watts & King	Montgomery Watson	Other
Auckland (40)	53%	25%	-	10%	-	15%
Hamilton (23)	50%	9%	27%	-	-	19%
Napier (2)	100%	-	-	-	-	-
Wanganui (18)	67%	11%	-	-	-	22%
Wellington (17)	65%	29%	-	-	-	6%
Christchurch (11)	64%	18%	-	-	9%	18%
Dunedin (12)	75%	-	-	8%	17%	-

Source: Transfund New Zealand (1993-1999)

Notwithstanding the dominance in the market of two main consultants, and the fact that a number of firms have dropped out because it is not sufficiently profitable for them to continue to actively pursue contracts, McGeorge and van Geldermasen (1995) consider that there is a sufficient number of firms remaining to constitute a competitive market.

This is supported by Hughes (1995) who concluded that there is little concern about the competitiveness of the market and that this is likely to be sustained. These conclusions were based on apparently low barriers to entry combined with an apparent decline in the market share of Opus International Consultants, allowing other firms to establish themselves.

While Hughes (1995) considers the market to be competitive for the supply of professional services contracts generally, the same cannot be said of those major projects worth more than $1 million. This market is clearly dominated by two firms and in a price sensitive CPP situation, economies of scale will continue to limit entry for smaller firms. For such projects, few consultants have the skills and resources to even consider bidding for the work, or undertake more than one at a particular time.

Hughes (1995) identifies the following features of major roading projects:

- A significant degree of job-specific investment in the form of specialist technical skill
- The performance of consultants is sometimes difficult to monitor and requires considerable skill
- The degree of uncertainty is high
- There is a limited number of large consulting firms willing and capable of competing for these projects
- The risk of non-performance by a consultant could be very costly to a tendering authority, both financially and in public relation terms
- The costs of contracting for professional services for major projects are low relative to the value of the contracts.

Williamson's (1979) administrative efficiency model demonstrates that different selection procedures are applicable to different situations, and should be determined largely by the nature of the services required and the level and nature of the competition for the work. The complexities and uncertainty involved with major roading projects, together with the dominance of two major firms in the market, suggests that the selection procedures adopted by the client are vital to ensuring the success of these projects.

The objective of the client in such a situation should be to ensure as close an alignment of their interests to the interests of the consultant as possible. Such an alignment is unlikely when clients and consultants are seeking different outcomes or have different agendas.

3.5.3 Impact of CPP on the Quality of Professional Services in New Zealand

Butcher and Coker (1995) identify wide differences of opinion on the use of CPP. The main concern is the quality of the services being provided. The majority of respondents, including TNZ, believe that CPP is having an adverse effect on service quality (Table 3-6).

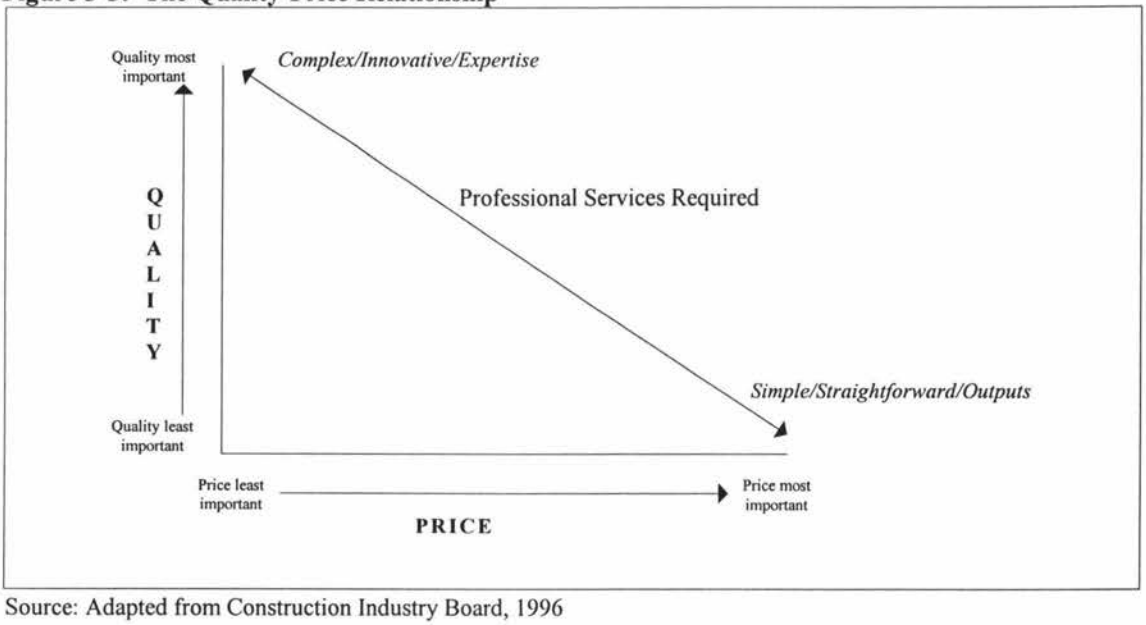
Table 3-6: Impact of CPP on the Quality of Professional Services

RESPONDENTS	Perceived Impact of CPP on Quality of Professional Services provided		
	NO CHANGE	ADVERSE	FAVOURABLE
TNZ Regional Offices	-	5	1
Local Authorities	8	2	1
Consultants	4	34	-

Source: Butcher and Coker, 1995

The Construction Industry Board (CIB) (1996) identifies that the relationship between price and the quality of professional services delivered should depend upon the services required by the client. Where the services required are complex, requiring a high level of innovation and expertise, quality should be the most important factor. However, where the services required are simple and straightforward, (ie: where the client only expects a number of basic outputs), quality becomes less important, while price becomes more important (Figure 3-5).

Figure 3-5: The Quality-Price Relationship



Source: Adapted from Construction Industry Board, 1996

The CIB (1996) considers that the recognition by the client of what is expected of the consultant (expertise or outputs) should be an important factor when determining the balance between quality and price, and establishing the weighting of quality criteria and the evaluation system.

The majority of consultants are, however, of the opinion that the balance of price typically adopted by tendering authorities in New Zealand is so dominant that they have become merely contractors providing a service rather than professionals providing the best advice (Butcher and Coker, 1995). This is despite price having a maximum weighting of 20% in the selection procedures.

Research has suggested that to secure work, very low bids are being offered that can be achieved only by reducing inputs to a minimum (Butcher and Coker, 1995). As the required outputs are surveys, designs, drawings and completed jobs, all of which have to meet certain standards, the only areas left for reducing inputs are in construction, supervision, or planning. Hughes (1995) identified that many consultants stated that they are afraid to submit bids which are too innovative or involve higher up front costs because they believe their proposals would be put aside as non-conforming, or would not stand a chance against lower priced bids taking a more conservative approach.

Both Hughes (1995) and Butcher and Coker (1995) note that one of the main concerns of the consultants is the quality of the engineering and supervision put in at the beginning of the project, as that determines the lifetime cost-effectiveness of the project:

> 'If the inputs into a project were being dictated by the low tender price, the quality of the outputs in terms of what finishes up on the road would suffer, and could mean increased and continuing maintenance costs (Butcher and Coker, 1995, page 24).

It is noted that while the dominance of price in the supply of professional services may be an advantage to the client in the short term, in the long term limiting the engineering input of the project could result in increased total project costs because quality may suffer (Butcher and Coker, 1995). Several TNZ staff involved in the survey also expressed concern at the problems created by a low price, such as lower quality and reduced level of service, and in particular that the quality of both the engineering advice and contract supervision had declined.

The administrative efficiency model developed by Williamson (1979) suggests that competitive markets are particularly effective in encouraging high quality services when the potential for further work is intended. In this situation, both parties have an incentive to act in the interest of the other, as past experiences will determine whether the client will continue a relationship, or look for an alternative business partner (Hughes, 1995).

Hughes considers, however, that the incentive to act in the clients best interest in order to win future work is tempered by the nature of professional services, which nearly always have a degree of uncertainty, and which can be difficult to monitor:

> 'For this reason it is not sufficient to assume that the threat of competition will be enough of an incentive to ensure good performance by consultants. At the moment it appears that many firms believe that TNZ do not evaluate the performance of its consultants sufficiently closely that this represents any real incentive to perform....in some regions everyone appears to be given the same scores on all non-price attributes regardless of past performance. This is giving the consultants the message that good performance will not be recognised, nor poor performance penalised' (Hughes, 1995, page 48).

3.6 SUMMARY

Professional services for roading projects in New Zealand are required under the TNZ Act to be competitively tendered out to firms in the private sector. Transfund considers that competition is a particularly effective and low cost mechanism to secure quality roading services at low prices, hence meeting their principle legislative objective.

In the formulation of the provisions in the CPP Manual, considerable effort was put into researching overseas practice and literature into accepted and appropriate practices. The CPP Manual therefore incorporates a variety of options for selection of a procurement procedure, which are intended to be selectively applied to different types of projects.

However, in keeping with the wider shift in the public sector towards greater efficiency, accountability and transparency, the CPP Manual accentuates market competition, so that competing parties are forced to make the most attractive offer possible to the client. While it provides a number of options that include both quality based and price based procedures, the manual encourages the use of those procedures which increase competition, such as weighted attribute evaluation methods and lump sum price models. The selection of each option is then left to the discretion of the tendering authority, although this should generally be determined by the nature of the services required and the availability and nature of competition for the work.

The selection procedures adopted by Transfund in the CPP Manual have been subject to much debate since their introduction in 1991. In 1995 Butcher and Coker identified wide differences of opinion about the use of CPP and its effectiveness for the allocation of funds. The main concern is over the quality of services provided in response to price driven competition.

The majority of those involved in the study considered that CPP did affect the quality of the services provided, with many consultants indicating that price was so dominant that they have become mere contractors providing a service rather than professional advice. The authors particularly note that very low bids are increasingly being offered, and can only be achieved by reducing inputs such as planning. By contrast, Hughes (1995) supports CPP, considering that it enables Transfund to retain its market knowledge and trade off ability, as well as meeting its objectives under the TNZ Act.

The total size of the professional services market for roading projects in New Zealand is substantial, being approximately $4 million per year. Competition for the supply of the professional services for this market is generally considered to be competitive. However competition for the supply of professional services for the major complex projects worth more than $1 million is dominated by two firms, providing approximately 80% of these services. The competitiveness of this market is therefore questionable.

CHAPTER FOUR
PROFESSIONAL PLANNING SERVICES IN NEW ZEALAND

As outlined in the previous chapter, the TNZ Act requires that all roading projects partially or wholly funded by Transfund New Zealand be put out for competitive tender. The consultant awarded the contract is required to ensure that all legislative responsibilities of the client are met, including the provisions of the RMA. The latter requirements are generally referred to as the planning services in the RFT.

The continued operation of the roading system, including its maintenance and improvement, and the construction of new roads, has the potential to have adverse effects on the environment. These effects depend on the size of the roading infrastructure and the sensitivity of the environment through which the road passes. All roading projects are therefore required under the RMA to avoid, remedy or mitigate any adverse effects on the environment. In the majority of cases this will involve the need to obtain resource consents, which involves the preparation of an AEE.

The requirement to produce an AEE was introduced as part of the RMA. Prior to this, environmental impact assessments[14] (EIA) in New Zealand were only required for major government projects or private developments. These procedures were not, however, mandatory and had no statutory basis. The introduction of the RMA therefore means that many roading projects are now subject to more rigorous tests as part of the statutory approval process.

4.1 HISTORICAL CONTEXT

Prior to 1984 planning in New Zealand can largely be seen as resulting from the desire of central and local government to manage land use to ensure efficient economic development, including the avoidance of externalities. Legislation pertaining to the management of resources in New Zealand evolved statute by statute, in response to

14 Morgan (1994) defines EIA as the prediction of likely environmental effects of a proposed action, so as to avoid, remedy or mitigate adverse effects through modification of the proposal or through the adoption of mitigation measures.

particular problems that arose from time to time. The result was a series of ad hoc laws relating to different parts of the environment (Dixon and Fookes, 1995).

The 1970s marked a period of great public concern over the state of the environment, with increasing demands for the protection of natural and physical resources leading to government action. In 1972 a Commission for the Environment was set up, headed by the Commissioner for the Environment.

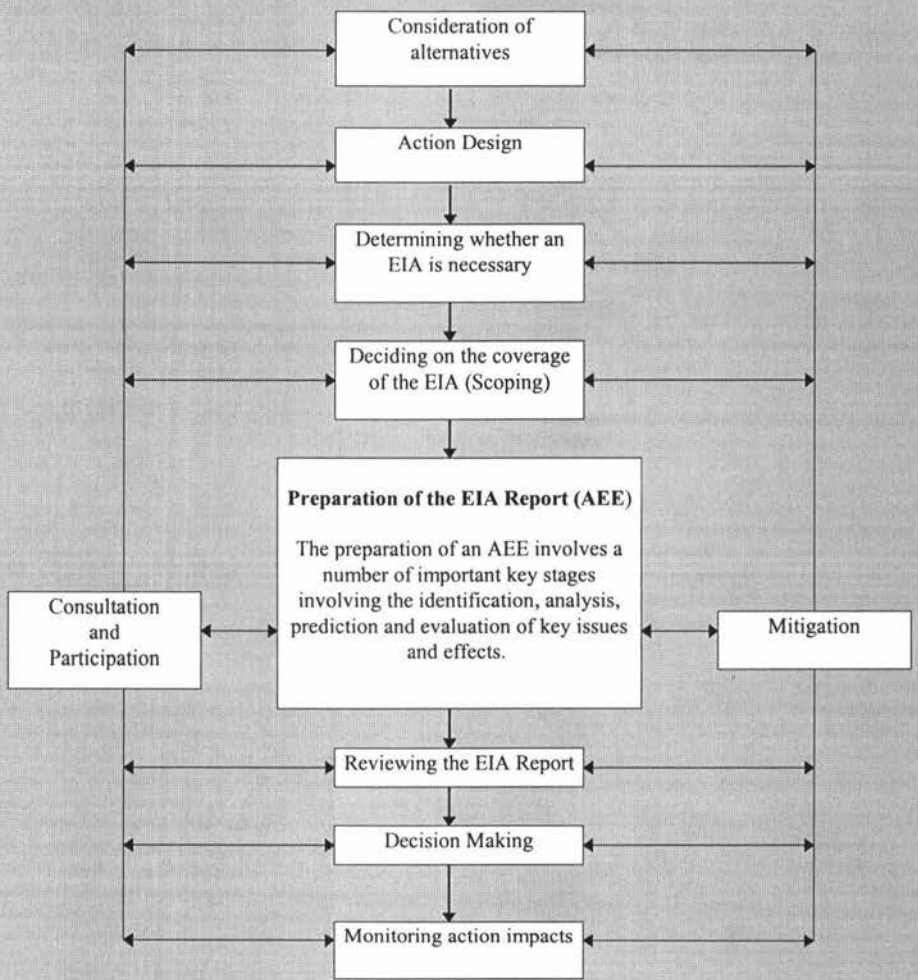
In 1974 the Environmental Protection and Enhancement Procedures (EPEP) were established as a set of Cabinet guidelines. EPEP introduced a system of EIA to New Zealand, as a means of assessing the environmental impact of government funded projects, administered by the Commission for the Environment (Morgan, 1995). Two forms of assessment were included in EPEP: Environmental Impact Assessments (EIA) and Environmental Impact Reports (EIR) (Dixon and Crawford, 1992). Because EPEP had no statutory base however, they operated independently of the consent requirements under the TCPA and Water and Soil Conservation Act 1967.

Despite reviews of the provisions in place under EPEP, the procedures remained largely in their original form until criticisms from the public led to demand for change. The nature of these criticisms have been detailed by Morgan (1988), and include: the absence of a statutory framework to guide departments and agencies in applying EPEP, lack of government commitment to environmental issues, overlap with statutory procedures, delays for developers due to the requirement to gain multiple consents and limited provision for public participation.

4.2 KEY COMPONENTS OF EIA

Wood (1995) refers to EIA as the evaluation of the effects likely to arise from a major project significantly affecting the natural and physical environment, with the purpose being to supply decision makers with an indication of the likely consequences of their actions. While it is recognised that the EIA process depends on the nature and scale of a proposed project, most will follow the process outlined in Figure 4-1.

Figure 4-1: The Environmental Impact Assessment Process



Source: Adapted from Wood, 1995

4.3 RESOURCE MANAGEMENT ACT 1991

The purpose of the RMA is to promote the sustainable management[15] of natural and physical resources. Morgan (1994) notes that while the term EIA is not used as such in the RMA, there are many references to the need to assess actual or potential effects on the environment, and the need to avoid, remedy or mitigate such effects.

15 Managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well being, and for their health and safety, while -

(a) Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and

(b) Safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

(c) Avoiding, remedying, or mitigating any adverse effects of activities on the environment. (RMA, 1991, section 5)

4.3.1 Requirements for the completion of an AEE

Section 88(4) of the RMA makes an AEE a mandatory requirement when applying for a resource consent:

> (b) An assessment of any actual or potential effects that the activity may have on the environment, and any ways in which any adverse effects may be mitigated (RMA, 1991, Section 88).

This section also requires that the details of such assessments correspond to the scale and significance of the actual or potential effects on the environment, and be prepared in accordance with the Fourth Schedule (RMA, 1991, Section 88). While applicants must prepare the AEE in accordance with the Fourth Schedule (Appendix B), this does not provide a prescriptive list, rather a guide of matters that *should* be both considered and included in a AEE (Brash, 1991).

Morgan and Memon (1993) identify the following phases of the AEE process:

Table 4-1 Phases of the AEE Process

Phase	Description
1. Starting the AEE Process	Set up the AEE team, identify resources and information needs (expert evidence), and which consents are required and from who.
2. Going Public - Scoping Process	Consult members of the public, local authorities, government agencies and non-governmental organisations with an interest and identify the preliminary scope of topics for study and invite public feedback
3. Undertake Impact Analysis and Prediction	Involves the identification, measurement and interpretation of likely effects using various assessment methods (checklists, matrices) Carry out more detailed work and undertake appropriate studies identify from studies clear statements about the likely changes to environmental systems due to the proposed actions, with estimates of the severity and probability of occurrence of the predicted impacts.
4. Assess Social Significance and Undertake Impact Evaluation	Discuss predicted impacts with representatives of the local community and other interested or affected parties to determine the social significance of the possible changes. This allows for the evaluation of key effects, discussions of alternative sites and designs and possible mitigation and appropriate conditions.
5. Report to the decision-maker	The information on likely impacts and the public evaluation of that information should be provided to the local authority and the public. This information is then used by the local authority to make the decision on whether the proposal should be (a) notified or non-notified and (b) accepted or declined.

Source: Adapted from Morgan and Memon, 1993

The provisions in the RMA require the AEE to be carried out much earlier than under the previous system, in order for planners to judge whether effects will be major or minor, and consequently, whether an application needs to be publicly notified. The RMA also empowers the consent authority to request further information (Section 92).

4.4 IMPLICATIONS FOR ROADING DEVELOPMENTS

Prior to the introduction of the RMA, once funding was obtained, planning consent for roading developments was sought under the TCPA. Under the TCPA, however, there was no formal requirement to assess environmental issues for planning approval (Chrisp and Heine, 1994). The development of roading projects therefore took little or no account of the potential adverse environmental effects and consultants bidding for such developments were not usually required to rigorously assess such impacts.

Brown (1993) claims that the RMA has increased the information and process requirements in respect to the development of roading projects. In particular, Brown cites the following RMA requirements:

- Resource Consent applications and requirements to designate land for development must be accompanied by details of the options which have been investigated (Section 32), and an assessment of the actual or potential effects of the work on the environment (Section 88)
- Need for wider public consultation, particularly on Maori issues
- EIA process, particularly larger projects, is a complex and lengthy process, involving a whole range of multi disciplinary professional inputs not traditionally associated with roading projects, such as ecologists and landscape architects.

Irrespective of the reasons, (whether time, resource or financial constraints, or the competence of the planning consultant), inadequate applications for consent can result in long time delays in obtaining the necessary approvals, particularly if those approvals are subject to an Environment Court hearing. It is therefore desirable for planning services to make proper allowance for the additional functions and services required to satisfy the provisions and intent of the RMA (Chrisp and Heine, 1994).

From a roading authority perspective, it is desirable that the consultant carries out the

work in a way that is likely to obtain the required consents without the time delays and expense associated with public notification and hearings. This is only possible when the local authority is satisfied that all affected parties have given consent to the project, and where the proposal complies with the provisions in both the RMA and relevant planning documents.

4.5 STRATEGIES FOR SUCCESSFUL PROJECT DEVELOPMENT

The important stages that need to be carried out to ensure the successful implementation of roading developments, in accordance with the requirements of the RMA include (1) consultation, (2) environmental investigations and (3) statutory approvals (Chrisp and Heine, 1994).

4.5.1 Consultation

Consultation is both a necessary component of the successful implementation of a project and a requirement of the resource consent process outlined in the RMA:

> 'An identification of those persons interested in or affected by the proposal, the consultation undertaken, and any response to the views of those consulted (RMA, 1991, Clause 1(h) Fourth Schedule).

In the development of a roading project it is likely that landowners, regulatory agencies, Tangata Whenua, community groups and others will have a direct interest in the process, outcome and implementation of that project. This will be either in terms of the benefits to the community, or in most cases, the adverse effects it may have on the environment, or on their private property rights (Chrisp and Heine, 1994).

Chrisp and Heine (1994) state that consultation with these parties is essential to ensure the success of the project. Consultation assists in determining the best option for construction or implementation; identifies at an early stage the environmental and social constraints affecting a project; avoids lengthy delays through the statutory approval process by resolving issues as opposed to having to deal with objections and creates

community ownership of the project (Chrisp and Heine, 1994).

The courts have identified certain elements which define 'good' consultation. The Court of Appeal in *Wellington International Airport v Air New Zealand* (1991) NZLR 671, determined that consultation should involve the following:

- Listening to what others have to say and considering responses;
- Allowing sufficient time and making a genuine effort;
- Providing enough information to the party being consulted to enable the consultee to be adequately informed so as to be able to make intelligent and useful responses;
- The party obliged to consult must keep an open mind and be ready to change and even start afresh, although it is entitled to have a working plan already in mind

Fraser (1996) states that there is no one agreed definition of consultation, rather it is a process which he describes as a feedback loop within the decision-making framework. Depending on what stage consultation is undertaken, the likely success or failure of the proposed development will be determined. Fraser further states that case studies have shown that effective consultation, undertaken early in the life of a project, can often lead to creative solutions, minimised costs, and avoidance of drawn-out legal battles which further polarise a community.

While it is widely accepted that consultation is both necessary and desirable in the development of any project, consultation also invariably involves time, resources and commitment. This process can also be inherently risky because of the time lost, the risk of not being understood, or of being understood too well, and of not achieving tangible or immediate results (Harris, 1995).

4.5.2 Environmental Investigations

Many environmental effects of roading developments are difficult to quantify and are often termed 'intangible effects'. Intangible effects include such things as noise, severance, air and water quality, visual and ecological impacts, overshadowing, psychological stress, and the impacts of carbon dioxide (Transfund New Zealand, 1997). Being intangibles, such effects have no market value, and are difficult to assess and

weigh up against tangible factors. For this reason, the values attached to intangible effects are not always accepted by the public, who often attach their own subjective values to the various effects.

While it is generally recognised by both planners and the public that the intangible effects of roading developments are often the issues of greatest importance, there are no set guidelines as to how to assess these effects, either in the RMA or Transfund New Zealand publications. The Transfund New Zealand Project Evaluation Manual (1997) merely states that where effects are not susceptible to physical measurement, a more qualitative form of assessment is required. There are a range of recognised methods available to aid in the assessment of the intangible environmental effects. These include direct valuation techniques such as hedonic pricing, travel-cost method and contingent valuation, as well as the more frequently applied indirect methods such as matrices, checklists, and interpretation of focus groups and surveys.

Difficulties arise when attempting to assess the environmental impacts of roading projects when no specified guidelines are available, relating to time, costs and resources, complexity, opportunity, familiarity, subjectivity, public involvement and the timing of assessment.

During the project design phases of roading developments there can be a tendency to underestimate the degree of effects, and the time required to assess these. Techniques to assess the degree of effects are therefore often not feasible, due to time and funding constraints. These effects are therefore often assessed in the most basic and quickest way possible. It has been well documented however, that the public is less likely to accept subjective methods of assessment, than statistical findings (Thompson, 1988).

Provisions are included in the RMA to appeal and make public submissions against a proposal if the intangible effects have not been assessed adequately. It is therefore in the tendering authorities interest to thoroughly assess these effects in order to avoid additional and unnecessary delays at the later stages of the project.

The requirements for consultants to bid competitively can also encourage tenderers to put in competitive prices based upon the most optimistic estimate of time and resources required to complete the project. This may encourage shortcuts in the project design phase such as limiting the number of effected and interested parties consulted, adopting the simplest methods of evaluation, and minimising the engagement of specialists to assess environmental effects.

The New Zealand Planning Institute (1995) identify that planning issues such as the preparation of an AEE, can be complex and require professional and technical assessments by experts. When undertaking an AEE it is also therefore important that experts in the appropriate field are engaged where necessary despite the fact that this tends to inflate the overall costs of professional services (Chrisp and Heine, 1994).

4.5.3 Statutory Approval Process

Obtaining the required statutory approvals under the RMA is a process that needs to be managed as much as possible by the tendering authorities and their consultants to ensure a successful outcome (Chrisp and Heine, 1994). Lengthy delays in gaining approvals can cause significant problems for roading developments, particularly when attempting to programme physical works within a particular construction season. Chrisp and Heine (1994) identify the following ways of reducing the likelihood of delays:

1. Undertake consultation with the relevant consent agencies throughout the development of the proposed project
2. Provide adequate information with the application
3. Provide as many written approvals from potentially affected parties as possible resulting from pre-application consultation to reduce the scope of issues to be dealt with by Councils when applications are publicly notified
4. Where possible gain the written approval of all potentially affected parties to increase the chances of the application being processed on a non-notified basis (Chrisp and Heine, 1994, page 8).

An application can be seriously delayed if the local authority requires it to be publicly notified, a Council hearing is required, and then if the resulting decision is appealed an Environment Court hearing is required. If the local authority is satisfied that the

application is adequate, and that the effects on the environment are not more than minor, it will not be publicly notified, and the application will normally be processed within 20 working days (Figure 4-2).

4.6 TNZ RESPONSE TO NEW LEGISLATIVE REQUIREMENTS

In response to the introduction of the RMA, TNZ modified many of its contract documents in order to incorporate the necessary requirements of the Act. A manual was produced titled 'Highway Planning under the Resource Management Act 1991' that included guidelines for the responsible development of the roading network, through the avoidance or mitigation of adverse effects of land use on the network (Transit New Zealand, 1994).

TNZ recently completed a Draft Policy Planning Manual (1998) which will replace the 1994 manual. The following objectives are identified in the manual:

- Plan state highway development to achieve a balance between transport needs and environmental protection;
- Maintain, improve and provide state highways in such a way as will, as far as practicable, avoid, remedy or mitigate any adverse effects on the environment;
- Endeavour to provide state highways which are in harmony with the natural landscape and with community expectations;
- Consult with communities when planning state highway improvements or new state highways; (Transit New Zealand, 1998, page 16).

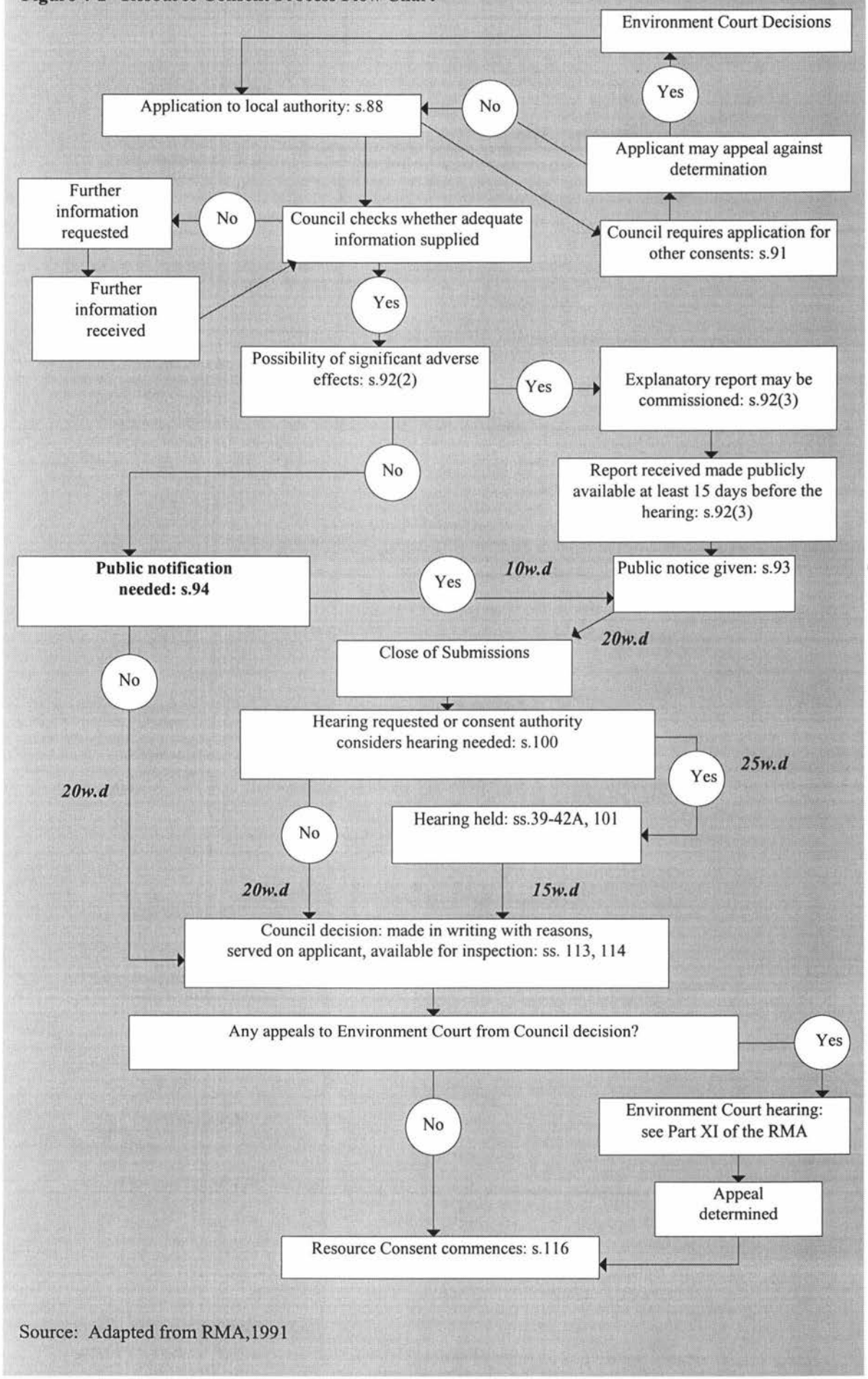
The manual identifies a number of potential effects of roading projects on the environment (Table 4-2):

Table 4-2: Potential Effects of Roading Developments on the Environment

Natural and Physical Resources	People and Amenity Values
• Natural Features and Landscapes	• Social and Economic Effects
• Wildlife Habitats	• Noise Effects
• Historical and Cultural Resources	• Vibration Effects
• Water and Air Resources	• Visual Effects

Source: TNZ, 1998

Figure 4-2 Resource Consent Process Flow Chart



Source: Adapted from RMA,1991

To meet its environmental objectives, TNZ has also developed a number of general environmental policies, as follows:

- To identify and take practical steps to protect the environment from any adverse effects of the state highway system, in particular on natural and physical resources and community values.
- To seek to achieve the best possible environmental outcome using expert advice during all project development and implementation phases, including transportation and land use planning and the evaluation, design, maintenance, construction, and auditing of state highway projects.
- To work in partnerships with regional and local authorities, Department of Conservation, the Tangata Whenua and local communities to avoid, remedy or mitigate adverse effects of state highways on the environment, wherever practicable.
- To take into account the principles of the Treaty of Waitangi when promoting the sustainable management of the state highway system as a physical resource.
- To develop an Environmental Management System and Code of Practice that assists Transit to implement its environmental objectives and policies through professional services contracts with consultants
- To encourage Transit contractors to have in place their own environmental management systems (TNZ, 1998, page 16-17).

To assist in the implementation of these environmental objectives and policies through professional services contracts TNZ has identified the need for an environmental management system.

> The Environmental Management System (EMS) will apply to Transit's professional services contracts with consultants who carry out various works on state highways on behalf of Transit. The EMS will ensure any consultant commissioned to provide services to Transit has in place a quality plan that minimises the likelihood of non-compliance with the RMA and achieves the environmental objectives and policies contained in the Policy Planning Manual' (Transit New Zealand, 1998, page 15).

4.6.1 Provisions for Planning Services in the Procurement Procedures

As part of the professional services contract identified in the RFT, the consultant is required to meet the provisions of the RMA

> 'The consultant shall be responsible for investigating and obtaining or ensuring as appropriate:
> (a) all consents under the RMA and
> (b) through the preparation and monitoring of an Environmental Effects Register, compliance with all environmental legislation, regulations and approved practices in undertaking works which have any actual or

> potential effect on the environment. The emphasis shall be on the fundamentals such as how to avoid adverse effects on the environment arising from any activity carried out on, by, or on behalf of, or carried out in terms of, this contract' (Transit New Zealand, 1995).

Extracts from RFT's below, illustrate how planning services are typically requested:

> 'The scope of services for this professional services contract cover .....the consultation with affected parties culminating with a statement of environmental effects and RMA consents required' (TNZ Contract No 421/P6/0, 1995).

> 'This document covers the professional service contract requirements for ....consultation with affected parties throughout the period, together with the securing of all necessary resource consents' (TNZ Contract No SM3-532/P6/0, 1997, page D-1).

> 'The consultant shall consult with the relevant local authorities, the Regional Council, Tangata Whenua, and all other interested parties which are recognised by the consultant as having an interest in the project (TNZ Contract No PSW-13, 1997, page D-10).

> 'The consultant shall be responsible for ensuring that sufficient survey, consultation and design work is undertaken to define the extent of works and the impacts on the landscape to satisfactorily complete the AEE. The consultant shall prepare the appropriate notice of requirement and supporting information in accordance with the Resource Management Act' (TNZ Contract No PSW-13, 1997, page D-13).

Based on this sort of detail, consultants are required to estimate the cost of completing the planning services to the standard necessary to obtain resource consents. The price estimates are required to be included in the Contract Pricing Schedule (Appendix C), using the price model specified in the RFT.

Costing the planning services without full awareness of the total amount of work required, and without any guidance from the client on what is required could result in unrealistic estimates of the time and resources required for public consultation and preparation of the AEE, omission or underestimation of disbursements, such as the employment of external experts, and the limiting of the use of sophisticated methods which might increase the labour costs of the consultants. Consequently, if the planning costs are underestimated in the initial tender bid, consultants may then be pressured to

reduce the scope of planning services offered, in order to maintain their anticipated profit margin.

On the above basis, it is suggested that the current competitive tendering system in New Zealand may be encouraging consultants to tender unrealistically low lump sum prices for planning services. This may not result in the best outcome for the tendering authority in terms of cost and time if, as a consequence of less than adequate planning services, public notification and hearings are necessary.

The current system does not penalise the consultant if this happens, as the client is inevitably forced to extent the services provided on an hourly basis. In most professional services contracts this is considered a variation to the contract. Under these circumstances there appears to be little incentive for consultants to put in the time and effort to minimise the risk of the resource consent application being notified and hearing required.

4.7 SUMMARY

Major roading development projects are required, under the provisions of the RMA, to avoid, remedy or mitigate any adverse effects on the environment. In most cases this involves obtaining the relevant resource consents, which, in turn, requires the preparation of an AEE.

The development of a roading project can be delayed by the RMA requirements to undertake investigations and consultation and then gain the necessary statutory approvals, especially if the effects on the environment are more than minor, and the consultation and investigations undertaken are not to an appropriate standard. It is acknowledged that well designed programmes of community consultation, appropriate environmental investigations and careful management of the statutory approval process can successfully improve the chances of a roading project gaining the necessary approvals.

As the TNZ Act requires tendering authorities to put the professional services contracts for roading projects out to competitive tender, the responsibility for obtaining the relevant resource consents and meeting the requirements of the RMA is undertaken by the consultant who is awarded the contract. These are typically referred to as the planning services in the RFT.

The preparation of the AEE is a complex and substantive process that requires a considerable amount of input to ensure that it satisfies the requirements of the RMA and the local authority. This process typically involves consultation with interested and affected parties, impact prediction and analysis, and the involvement of experts. When putting together a bid for a professional services contract, consultants are required to rely on their own judgement and experience in estimating the amount of planning work required to complete the AEE in order to obtain the necessary approvals for the development.

This judgement is, however, constrained by the selection procedures identified in the RFT, the desire to bid competitively in order to win the contract, and the fact that the exact nature of environmental issues and the required amount of consultation are generally not known at the time of tender preparation. It therefore appears that the tender evaluation and pricing requirements favoured by tendering authorities (Chapter Three), presents difficulties for both the tendering authorities and consultants. These arise because both parties have difficulty defining the amount of planning work required at the bidding stage of the project. The impact of this on the supply of planning services in New Zealand is considered in the following chapters.

CHAPTER FIVE
RESEARCH DESIGN AND METHODOLOGY

This chapter presents the research design and methodology of the thesis. It provides a brief explanation of the research methods selected, and how they are employed in relation to each of the thesis objectives.

5.1 RESEARCH DESIGN

Figure 5-1 identifies the phases of research undertaken to achieve the research objectives of the thesis outlined in Chapter One.

Objective One was achieved by completing a review of the literature pertaining to procurement procedures, both in general and specifically relating to roading projects. Objective Two was achieved by examining the legislation and manuals produced by TNZ which identify the procedures for the procurement of professional roading services. Objective Three was achieved by referring to the environmental management legislation in New Zealand, and by reviewing literature relating to this.

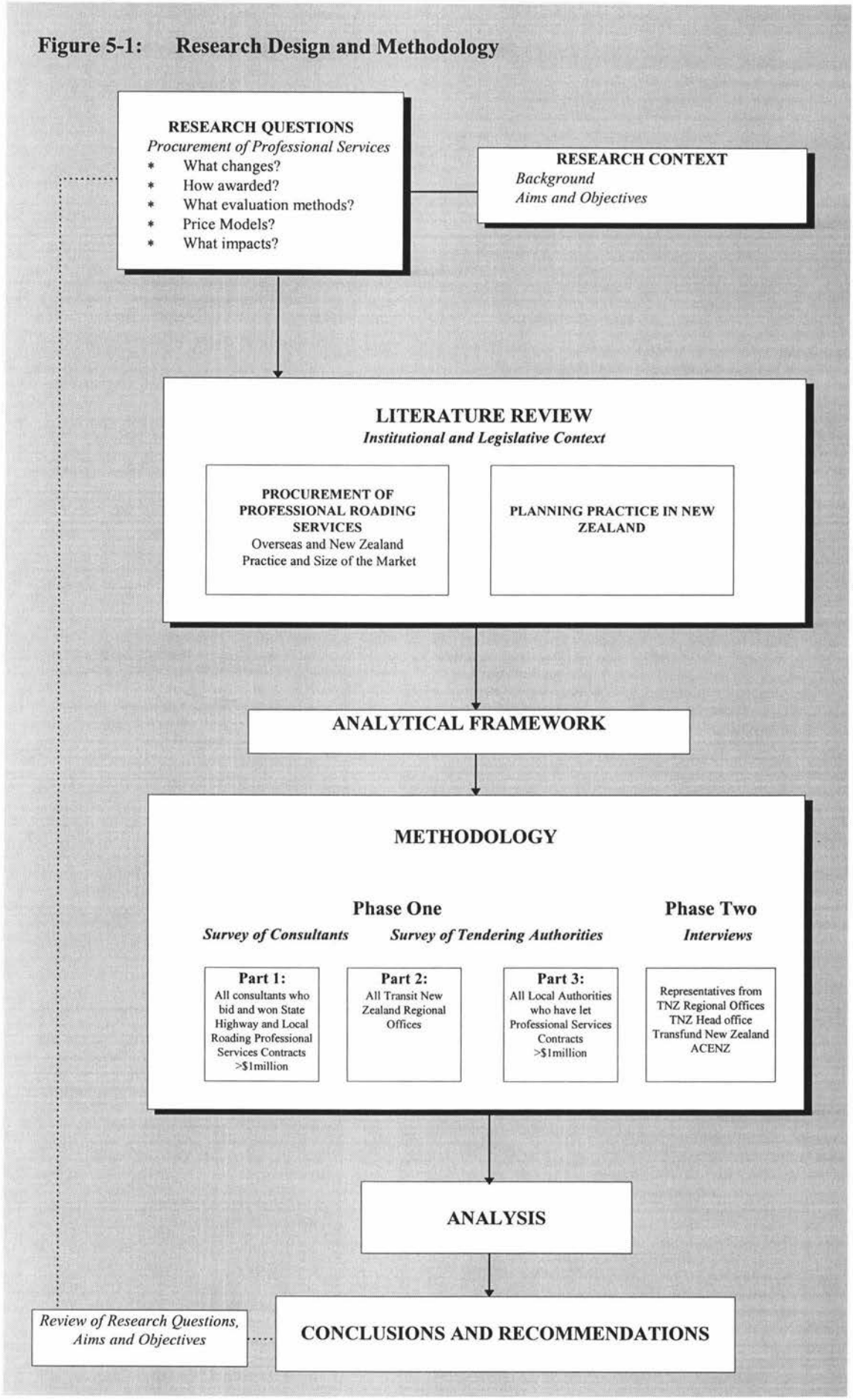
Objective Four is achieved by the research investigations. There are two distinct phases of research involving, firstly, the survey of consultants and tendering authorities and secondly, interviews with key people (Figure 5-1).

5.2 FIELD RESEARCH METHODOLOGY

5.2.1 Questionnaires

Phase One of the research investigation was based on the survey of representatives from all consultants and tendering authorities involved in the professional services market of projects valued at more than $1 million. The survey took the form of a structured questionnaire which was sent to:

Figure 5-1: Research Design and Methodology



1. All consultants who have bid and won professional services contracts for both state highway and local roading projects worth more than $1 million;
2. All TNZ Regional Offices; and
3. All local authorities who have let professional services contracts for local roading projects worth over $1 million.

The reason for surveying only those involved with projects worth more than $1 million was to ensure that respondents had a certain amount of knowledge and experience in pricing the planning component of these contracts. The price threshold was based on the assumption that projects costing more than $1 million would more than likely have involved at least 1km of realignment and therefore a reasonable level of planning input.

The process of identifying the consultants and tendering authorities involved in the survey is outlined below:

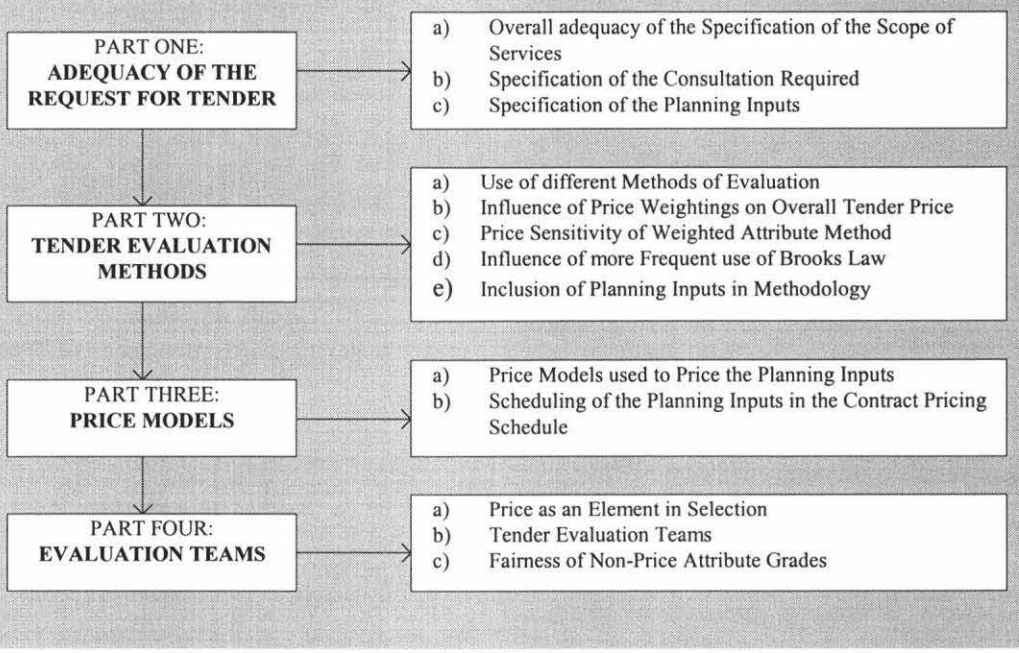
1. From the National Land Transport Programme, a list of all the state highway and local roading projects funded by TNZ, and later Transfund for each financial year from 1993 to 1999 was obtained. Projects were then sorted by financial year and TNZ Region, and included the following additional information specific to each project: regional and local authority, reference number, type of project, project name and project value.
2. Projects were then sorted, and where the same project occurred over more than one financial year, duplicate entries were removed, leaving only the first year the project appeared in the programme.
3. Projects with a cost of less than $1 million were then removed from the list.
4. Having established a list of projects with a value of over $1million, the names of the consultants who won the Professional Services Contract for each of the state highway projects was obtained from various sources, and each relevant local authority supplied the name of the consultant who won the professional services contract for each of the local roading projects. A total of 28 different consultants were identified as having bid and won a Professional Services Contract worth more than $1 million between the financial years of 1993 and 1999 (Appendix D)

The process of selecting those tendering authorities to be surveyed involved obtaining a list of all local roading projects funded between 1993 and 1999 by TNZ and Transfund worth more than $1 million. The list included the relevant TNZ Regional Offices and local authorities (Appendix D). All TNZ Regional Offices were surveyed in Phase One of the research.

Questionnaire Format and Content

The components of the tendering process (Chapters Two and Three) that are most likely to have an impact on professional planning services are (1) Adequacy of the Request for Tender, (2) Tender Evaluation Methods, (3) Price Models, and (4) Evaluation of Tenders. These four aspects of the tendering process formed the basis of the questionnaire (Figure 5-2).

Figure 5-2 Questionnaire Structure



The specific questions were developed through informal interviews with consultants, discussions at a seminar with Opus International Consultants in Hamilton, and relevant literature. These investigations flagged a number of concerns about the tendering procedures adopted by both Transit New Zealand and local authorities, which are the subject of the questionnaire.

The questionnaire comprised structured questions within each topic (Figure 5-2), with an opportunity for further detailed comment and feedback. The time taken to complete the questionnaire was generally between 15-20 minutes.

The majority of questions were forced choice, based on an itemised rating scale, or Likert Scale, with the respondents asked to indicate their level of agreement or disagreement with the statement provided, or on a semantic scale, where respondents were asked to answer questions by selecting an adjective from across a continuum.

The questionnaire package sent out included the questionnaire itself, a stamped self addressed return envelope, and an explanatory cover letter (Appendix E). This letter introduced the author, explained the main objectives of the study, and the reasons for completing the questionnaire, as well as assuring anonymity upon request.

Response Statistics

The survey to the 28 consultants was sent out on the 14 September 1998, with a return date of 25 September. All those who were involved were telephoned in order to explain the purpose of the research, and to request their involvement. The purpose of this was to ensure that a good response rate was achieved. Of the 28 questionnaires sent to the Roading Manager at each of the identified consultants, only one was not returned (Table 5-1). The consultant in question was a stand alone office which had won only one contract, and the person involved with this was no longer with the firm. It can therefore be concluded that the survey is in fact comprehensive in terms of the research design.

Table 5-1 Consultants involved in survey

1. Opus International, Napier
2. Opus International, Palmerston North
3. Opus International, Wanganui
4. Opus International, Wellington
5. Opus International, Hamilton
6. Opus International, Dunedin
7. Opus International, Taupo
8. Opus International, Rotorua
9. Opus International, Auckland
10. Opus International, Paeroa
11. Opus International, Christchurch
12. SIGMA Consultants, Rotorua
13. Beca Carter Hollings & Ferner, Tauranga
14. Beca Carter Hollings & Ferner, Auckland
15. Beca Carter Hollings & Ferner, Wellington
16. Beca Carter Hollings & Ferner, Christchurch
17. Montgomery Watson, Palmerston North
18. Montgomery Watson, Dunedin
19. Worley Consultants, Dunedin
20. Worley Consultants, Hamilton
21. Duffill, Watts & King, Auckland
22. Connell Wagner, Wellington
23. Manukau Consultants, Auckland
24. Woodward Clyde, Auckland
25. Bloxam, Burnett & Olliver, Hamilton
26. City Design, Auckland
27. Paynes Sewell, Wanganui

The survey to the seven Transit New Zealand Regional Offices, and 17 local authorities identified as having let contracts with a value of over $1 million was sent out on the 11 September 1998, with a return date of 21 September. A representative from TNZ Head Office contacted the managers at each of the TNZ Regional Offices to approve the completion of the questionnaire, and to request their co-operation with it. All those who were involved were also telephoned to inform them of the purpose of the research, and to request their involvement in it

Questionnaires were returned by all seven TNZ Regional Managers. Of the 17 questionnaires which were sent to the Roading Manager of the identified local authorities, 14 replies were received (Table 5-2), being a response rate of 82%. Individuals who assisted in Phase One (and Phase Two) of the research are identified in Appendix F.

Table 5-2: Local authorities involved in survey

1.	Tauranga District Council	8.	Palmerston North City Council
2.	Hastings District Council	9.	Christchurch City Council
3.	Hutt City Council	10.	Queenstown Lakes District Council
4.	Far North District Council	11.	Auckland City Council
5.	Northshore City Council	12.	Porirua City Council
6.	Waitakere City Council	13.	Hamilton City Council
7.	Manukau City Council	14.	Grey District Council

5.2.2 Interviews

Phase Two of the research is based on follow-up interviews with representatives from all five North Island TNZ Regional Offices and with a representative from Transfund New Zealand, TNZ Head Office and ACENZ. Both structured and semi-structured interview techniques were used (Appendix G). It was deemed unnecessary to interview any of the consultants, who had, in the majority of cases, already included detailed comments in their questionnaire responses.

Concerns over the comprehensiveness of the questionnaire results were alleviated by this phase of the research, as the interviews provided an opportunity to collect additional information, and to prompt the respondents for further clarification of responses.

The results of Phase One of the research formed the basis of a pre-determined list of questions which was followed during each of the interviews. An opportunity was also given for the interviewee to add further comments as appropriate, and for the interviewer to ask further questions as they arose. All interviews, except one telephone interview, were undertaken in person, and took approximately half an hour.

The interview questions for all TNZ representatives were identical, and based on a discussion of the results of the questionnaire responses. The questions for the representatives from Transfund and ACENZ were however different.

The responses are the opinions of the representatives as interpreted by the interviewer, and do not necessarily represent either the views of the office as a whole, or the policy of the consultancy. However, respondents were selected to reflect both their individual experience and the experience of the office or firm.

Chapters One, Two, Three and Four provided the necessary theoretical basis from which to carry out the research investigations. Chapter Six presents the findings of the questionnaires and interviews.

CHAPTER SIX
RESEARCH RESULTS

This chapter presents the results of the surveys undertaken. The objective of the surveys was to identify how representatives from both the consultants and tendering authorities perceive different aspects of the tendering procedures adopted by Transfund, with particular reference to the planning inputs. Four main aspects of the tendering process formed the basis of the questions in the survey:

(1) Adequacy of the Request for Tender
(2) Tender Evaluation Methods
(3) Price Models
(4) Evaluation of Tenders

The survey results are described below on the basis of these headings.

6.1 ADEQUACY OF THE REQUEST FOR TENDER

Part One of the questionnaire aimed to identify how both the consultants and tendering authorities perceive the adequacy of the RFT.

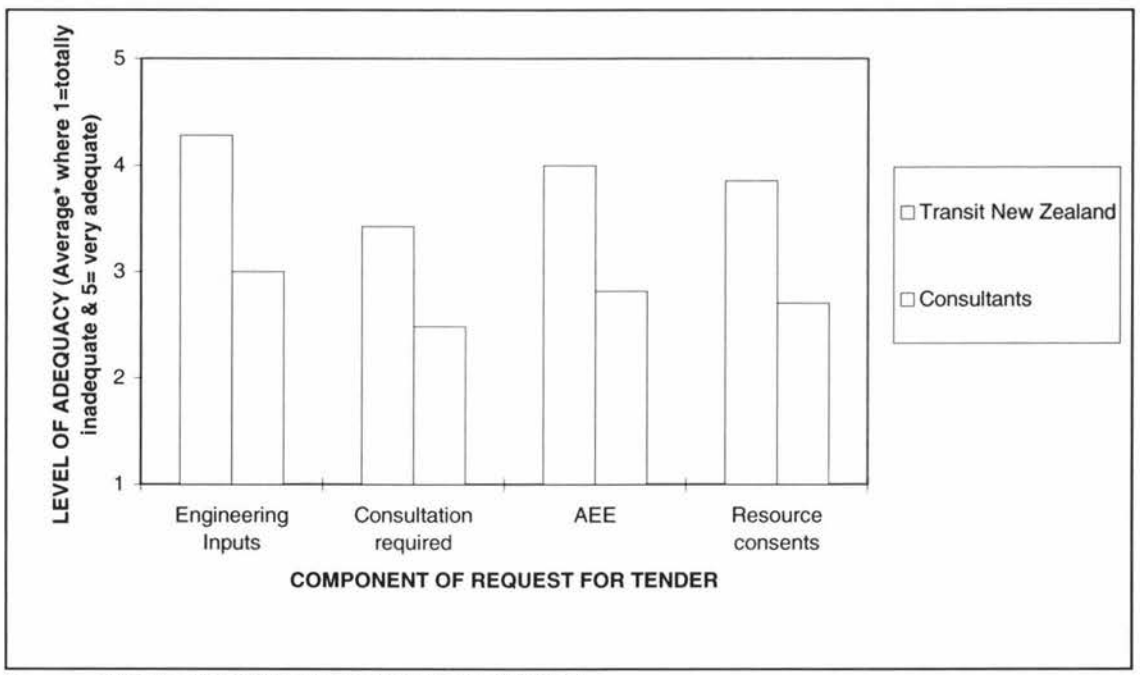
6.1.1 Overall Adequacy of the Specification of the Scope of Services

Both TNZ and local authorities were asked to identify how adequately they specify the scope of the services required, in the RFT, in terms of the engineering and the planning inputs. Planning inputs were broken down into (a) consultation, (b) the preparation of the AEE, and (c) the resource consents. Consultants were asked a parallel question regarding how adequately they consider the tendering authorities specify the scope of the services for both the engineering and the planning inputs.

The perceived adequacy of the scope of services provided, for both the engineering and planning inputs, varies considerably between the tendering authorities and consultants (Figures 6-1 and 6-2). Both TNZ and local authorities rate the scope of services provided by them in the RFT as better than adequate. Both groups identified

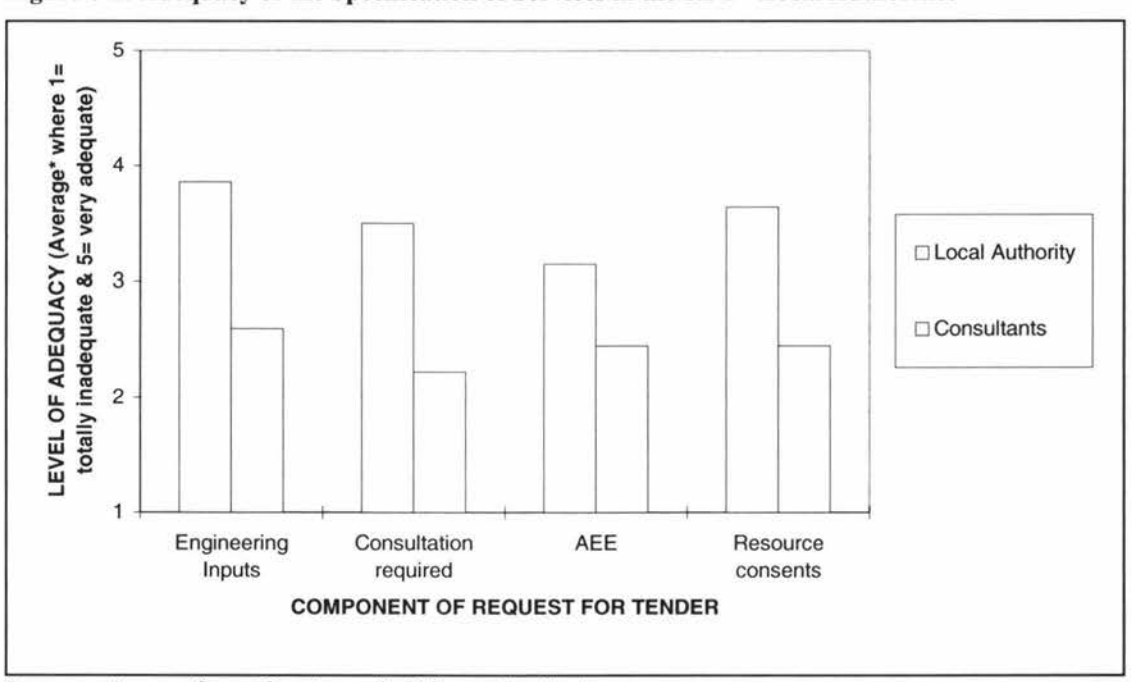
engineering inputs as being the most adequately specified, with average scores of 4.2 and 3.8 respectively.

Figure 6-1: Adequacy of the Specification of Services in the RFT - TNZ



* =Average Score (See Appendix H for result tables)
Source: Question 1b (Tendering authorities) and 1a (Consultants)

Figure 6-2: Adequacy of the Specification of Services in the RFT - Local Authorities



* =Average Score (See Appendix H for result tables)
Source: Question 1b (Tendering authorities) and 1b (Consultants)

On the other hand, consultants generally rate the scope of services provided in the RFT to be less than adequate, particularly the planning inputs, and especially with respect to consultation (2.4 and 2.2). While the adequacy of the scope for the engineering inputs rated higher than the adequacy for the planning inputs, this was still below average (3). Consultants however consistently identified the scope of services provided by TNZ to be more adequate than that provided by local authorities (Figures 6-1 and 6-2).

Overall, 75% of all respondents agreed that an improved scope of the RFT could produce better planning outcomes, compared to only 19% that did not (Table 6-1). TNZ showed the most support for this, with six out of seven offices indicating a positive response.

Table 6-1: Effect of Scope of RFT on Planning Outcomes

RESPONDENTS	Agreement that improved RFT scope could produce better planning outcomes		
	YES	NO	DNA*
Transit New Zealand	6 86%	1 14%	- -
Local Authorities	10 71%	3 21%	1 7%
Consultants	20 74%	5 19%	2 7%
TOTAL	36 75%	9 19%	3 6%

Source: Question 5a (1) (Tendering authorities and Consultants)

While the initial assessment of six out of the seven TNZ Regional Offices was that improved scope could produce better planning outcomes (Table 6-1), upon further questioning, the majority of these respondents, (all engineers), saw difficulties in providing a more specific scope of the planning services required by them:

> 'I don't think it is a good idea to have a scope that is like a recipe of what we expect, I don't think that is a good idea for planning at all'.
>
> 'As we are unsure of what the planning work will involve, it is unlikely that we would be willing to say specifically what the consultant has to bid for, as this puts the risk back on us if more needs to be done at a later stage'.

It was generally commented by tendering authorities and consultants that different situations need different solutions, and that the danger in producing a standard document is that it results in a standard approach which is not always focused on the

outcome to be achieved. It was agreed by the majority of consultants, however, that tendering authorities do need to be clear about the objectives being sought.

It was also commented by one respondent that it was not the inclusion of the planning components themselves that was the problem, but the difficulty in quantifying exactly how much would be required:

> '...everyone knows what consultation is needed, but the amount that you actually have to put into the job, nobody knows until you are into it, and this is where the problem lies. I know the consultants want us to make it absolutely black and white, however, from a client point of view, all we want is the consents delivered, and it is up to the consultant to do that'.

Some consultants offered a solution to this problem:

> 'The only other way really is to undertake a separate scoping exercise, but you don't really want to do this....if you try and actually put them in as provisional sums and tie it down later that leaves us at risk because we also have a contract to deliver to Transfund New Zealand....we could do it in general terms, but we still need the consultant to share some risk'.

These views, however, are contrary to those offered by the respondent from TNZ Head Office:

> 'We are slack about specifying the scope of planning inputs required and I think our excuse would be that we are so flat out that we can't invest a bit of time in it.... it would however probably more than pay off to commission someone to do a model scope for planning tasks, or even if there is a few different elements, do them as modules which you put together for each job and circulate them around the different regions'.

It was also suggested that training could be done in association with ACENZ, on how to scope the inputs required in the RFT to a higher and more useful standard. While such training could benefit with input from the New Zealand Planning Institute, ACENZ commented that such input had never been considered.

This suggests that the problem is recognised as a general engineering one, rather than one which is specific to planning.

6.1.2 Specification of the Consultation Required

The practice of scheduling parties to be consulted in the RFT was fairly evenly divided between those tendering authorities who do schedule, and those who do not (Table 6-2). Most consultants however believe that affected parties should be scheduled (Table 6-3).

Table 6-2: Specification of Consultation Required in the RFT (Tendering Authorities)

RESPONDENTS	Do you specify the amount of consultation required in the RFT?		
	YES	NO	DNA*
Transit New Zealand (7)	4 57%	3 43%	- -
Local Authorities (14)	7 50%	7 50%	- -

* *Did not answer*
Source: Question 1f (Tendering authorities)

Table 6-3: Specification of Consultation Required in the RFT (Consultants)

RESPONDENTS	Agreement that the amount of consultation required should be specified in the RFT?		
	YES	NO	DNA*
Consultants (27)	20 74%	6 22%	1 4%

* *Did not answer*
Source: Question 1c(Consultants)

Furthermore, most consultants (74%) were of the view that a limit should be specified in the RFT on the maximum number of times they are expected to consult with any one party. Of these, 59% considered that the limit should be between two and three consultations. However only 29% of TNZ Regional Offices and 50% of local authorities were of the same opinion (Table 6-4).

Table 6-4: Specification in the RFT of Amount of Consultation Required

RESPONDENTS	Agreement that a limit should be placed on the amount of consultation required in the RFT					
	YES (and number of times)				NO	DNA*
	1-2	2-3	3-4	4-5		
Transit New Zealand (7)	1 14%	1 14%			5 71%	- -
Local Authorities (14)	3 21%	4 29%			7 50%	- -
Consultants (27)	-	16 59%	4 15%		7 26%	- -

* *Did not answer*
Source: Question 1c and d (Tendering authorities) and 1d and e (Consultants)

The majority of Regional Office representatives interviewed were of the opinion that the specification of consultation requirements should be left to the consultant who should price accordingly and then manage the risk:

> 'If we get specific on who to consult and the number of times, then we are just going to get a cookery book approach, and it would be naive of the us if we thought we could pick it without knowing the detailed methodology'.

The representative from TNZ Head Office, however, supported the consultants, stating that as complete a list as possible of people to consult with should be made available to those bidding, even though such a list could not be exhaustive. Cases before the Environment Court have set legal precedents on the number of times people are expected to be consulted, and that this should be the limit specified in the RFT, with an allowance for additional consultation, if required.

6.1.3 Specification of the Planning Inputs

Most consultants (81%) considered that it would be beneficial to have more explicit specifications for the planning inputs in the RFT (Table 6-5). However none of the TNZ Regional Offices, and only 43% of local authorities agreed with this.

Table 6-5: Impact of more Detailed Specification of the Planning Inputs in the RFT

RESPONDENTS	Agreement that it would be beneficial to have more explicit specifications for the planning inputs		
	YES	NO	DNA*
Transit New Zealand (7)	- -	7 100%	- -
Local Authorities (14)	6 43%	8 57%	- -
Consultants (27)	22 81%	4 15%	1 4%

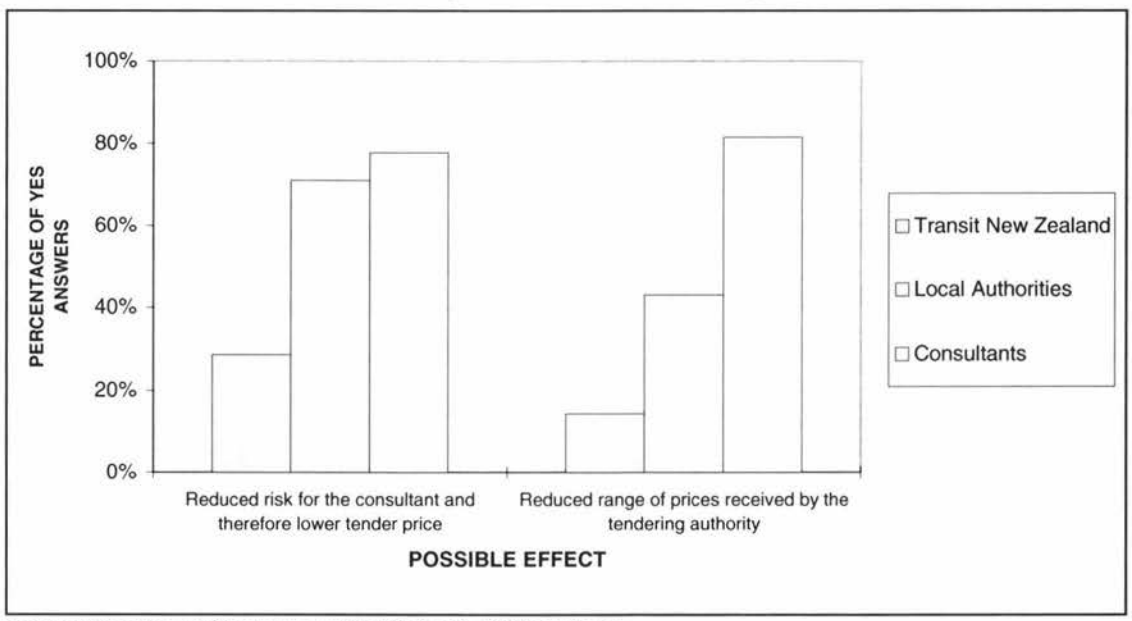
* *Did not answer*

Source: Question 1k (Tendering authorities) and 1k (Consultants)

Similarly, 78% of consultants believed that specifying planning inputs in more detail would reduce the risks for the consultant and therefore lower the tender price. Most local authorities agreed (71%), but only 29% of TNZ Regional Offices agreed (Figure 6-3).

Again, most consultants (81%) believed that more detailed specification would reduce the range of prices tendered, a view that was shared by only 43% of local authorities and 14% of TNZ Regional Managers (Figure 6-3).

Figure 6-3: Effect of more Detailed Specification of the Planning Inputs in the RFT



Source: Question 1e (Tendering authorities) and 1f (Consultants)

None of the TNZ representatives were surprised by the consultants' views when the results were discussed during the interviews. While they agreed that clearer specification would reduce the risk to the consultant, they remained unconvinced that this would reduce the tender price and range of prices received:

> 'If we simply wrote on the RFTs exactly what we wanted for the planning inputs then there is little incentive for the consultant to maximise the value by being smart about how they operate'.

Another concern was that specifying the planning inputs in more detail could take away the advantage from more experienced and competent consultants.

The question was asked that if the clearer specification of the planning inputs did reduce the risk to the consultant and therefore the tender price and the range of prices received, would this mean that the client could rely more on the non-price attributes for selection purposes.

None of the TNZ respondents felt that better specification would mean they could place greater weight on the non-price attributes. Rather, they felt this would simply eliminate consultant risk, as anything coming up that had not been specified in the RFT would be claimed as an extra cost. This would increase uncertainty as to what the planning services would cost in the long run.

In 1997, TNZ introduced price estimates into their price formula for the evaluation of tender bids. This implies that TNZ would need to undertake a similar scoping exercise to the consultant for each brief. If so, the question arises as to why TNZ does not include these expectations of the inputs required in the RFT.

The majority of respondents obtain their price estimate in one of two ways: either by sitting down and costing the project out, or by simply comparing the project to a similar, completed one. None of the TNZ Regional Offices use planners when preparing the price estimate:

> 'Planners do not generally aid in the process mainly because it has more to do with the functions within Transit New Zealand, where projects are managed by specific project managers, who are, in most cases, engineers'.

The reasons given as to why the estimates are not included in the RFT was similar between respondents:

> 'I mean, we could put the inputs in, but at the end of the day they are not bidding against us, they are bidding against the other consultants. The bids put in for the planning inputs also show us a lot about how the consultant has actually thought about and understood the project and its objectives. In most cases, if the methodology is focused on what the project is about it is a good indication of how well they have understood it'.

This philosophy was not shared by the respondent at TNZ Head Office, who agreed that if the tendering authorities have got information about the scope of the inputs required, this should be put in the RFT brief. It was acknowledged, however, that this may not be happening as the authorities are unsure themselves. In fact, a number of respondents confirmed that price estimates do tend to be based on the nearest equivalent completed job.

The representative from Transfund commented that while it would be desirable for such information to be included in the RFT in order to encourage information sharing and promote discussion, there was a practical reason why this does not occur. If TNZ requested a lump sum bid, but stated that they estimated a number of specific inputs, the ground would be cut from under them if it turned out that they got the estimate wrong.

It was agreed by Transfund that there may be a better way of specifying the inputs required, but the solution needs some method of sharing the risk with the consultant to ensure that there are no incentives to extend the consultancy more than is reasonably necessary.

6.2 TENDER EVALUATION METHODS

Part Two of the survey aimed to identify how the consultants and tendering authorities perceive the different tender evaluation methods.

6.2.1 Use of Different Methods of Evaluation

The Weighted Attribute method with a 10% price weighting is used most frequently, with six out of seven TNZ Regional Offices using it for over 90% of projects (Figure 6-4). While one office uses the Weighted Attribute method with a 20% price weighting in over 80% of projects, this method is rarely used by other regions.

In contrast to the Weighted Attribute method, Brooks Law is rarely used. Six out of seven Regional Offices apply it in less than 10% of cases. One Regional Office never uses it (Figure 6-4).

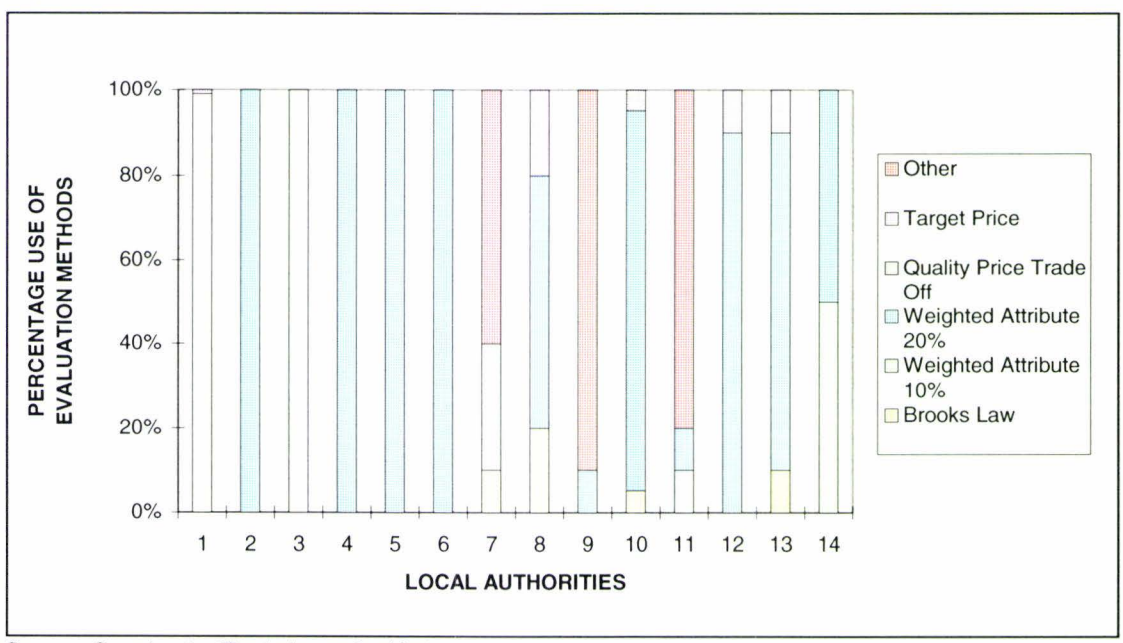
Other methods specified in the CPP Manual are never used by four out of seven Regional Offices, and used in less than 1% of projects in the other three Regional Offices.

Figure 6-4 Transit New Zealand Use of available Tender Evaluation Methods

Source: Question 1a (Tendering authorities)

Local authorities also use the Weighted Attribute method most frequently with four out of fourteen using a 20% price weighting for all projects, and a further five using it in over 50% of projects (Figure 6-5). There is a clear preference for a 20% price weighting by local authorities.

Figure 6-5: Local Authorities Use of available Tender Evaluation Methods



Source: Question 1a (Tendering authorities)

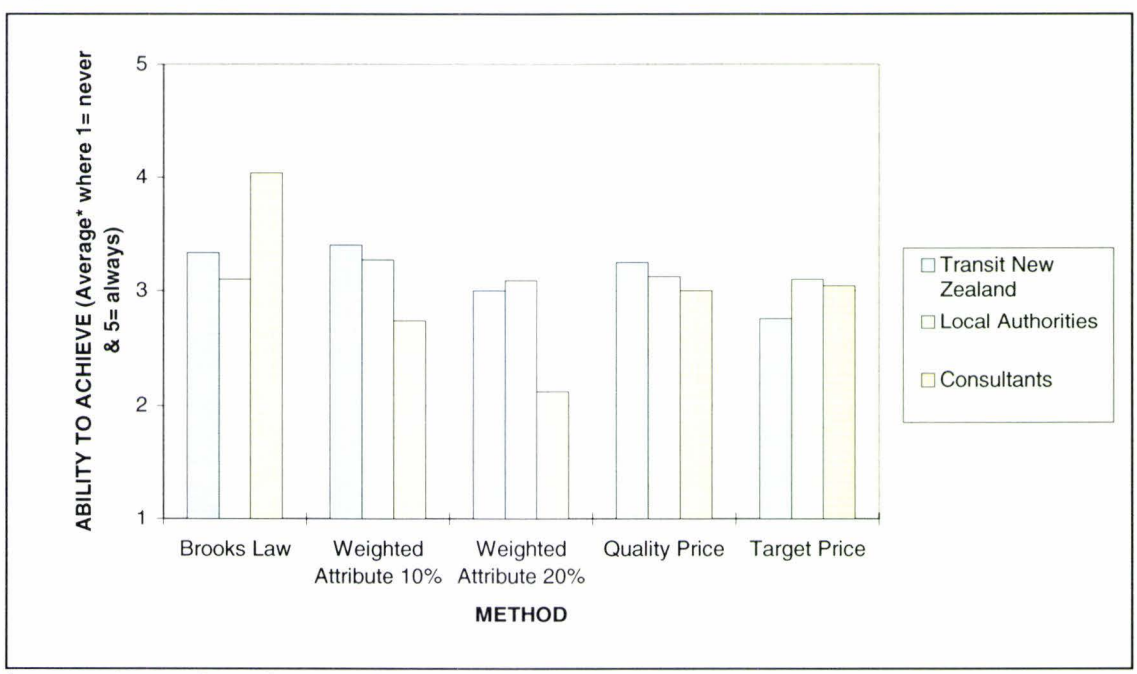
The Weighted Attribute with a 10% price weighting is used in almost all projects by two local authorities, and frequently by two others.

Only four of the fourteen local authorities make use of Brooks Law, and of these four, three use it in less than 10% of projects (Figure 6-5).

Like TNZ, local authorities make little use of the other available methods of evaluation. Quality Price Trade Off is used by only one local authority, and Target Price by two, but in only approximately 5% of projects. In one exceptional case one local authority uses Target Price in approximately 20% of projects (Figure 6-5).

For this question the survey required respondents to rate their percentage use of the five evaluation methods identified in the CPP Manual (1997). A number, however, also identified the use of 'other methods', about which no further information was sought. These other methods may be used for non-Transfund funded projects, and probably include direct negotiation on price with a consultant selected using a quality based system.

Figure 6-6: Ability of Different Methods of Evaluation to Achieve Overall Desired Outcomes



* =Average Score (See Appendix H for result tables)
Source: Question 2b (Tendering authorities) and 2b (Consultants)

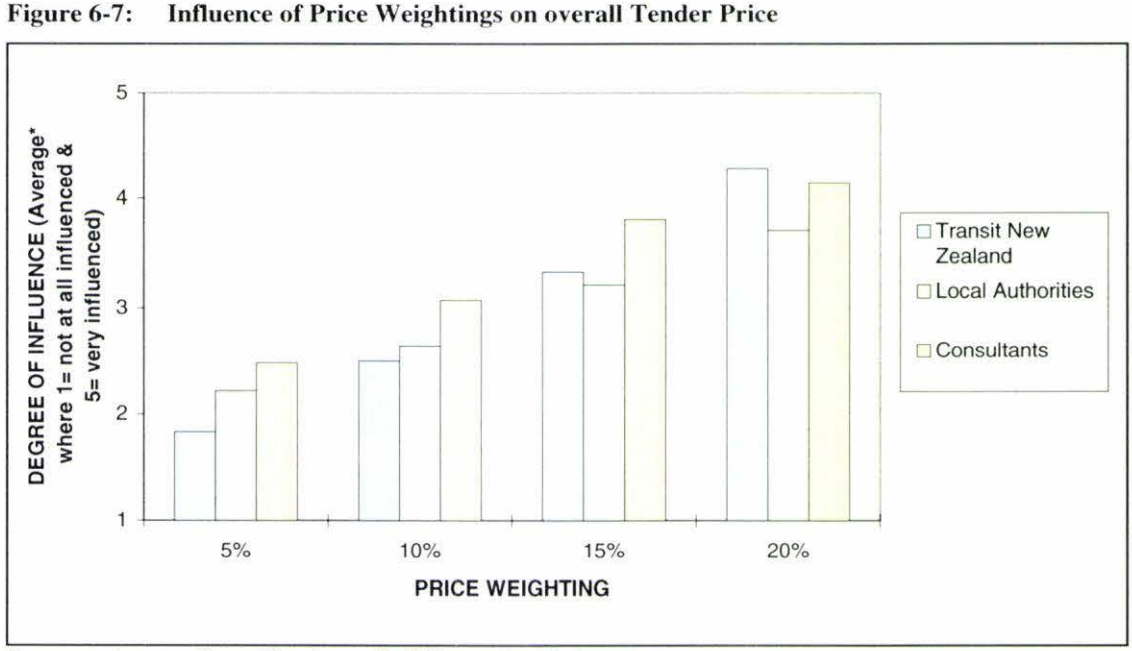
With one exception, both TNZ and local authority respondents rate all available methods of evaluation as above average in their ability to achieve their required outcomes (Figure 6-6). (The exception being the TNZ rating of the Target Price method).

It is interesting that TNZ respondents perceive little difference in the ability of Brooks Law and Quality Price Trade Off to achieve the desired outcomes, compared to the more favoured Weighted Attribute method. However, consultants show a clear preference for Brooks Law. Both the Quality Price Trade Off method and Target Price were rated as average in their ability to achieve the desired outcomes, and both Weighted Attribute methods were rated below average by the consultants (Figure 6-6).

6.2.2 Influence of Price Weightings on Overall Tender Price

The tendering authorities and consultants were asked their perception of the influence of the various price weights included in the Weighted Attribute method on their overall price bid. Four price weightings were given as options, ranging from 5% to 20%, which is the maximum price weight allowed under the CPP Manual.

Figure 6-7: Influence of Price Weightings on overall Tender Price



* =Average Score (See Appendix H for result tables)
Source: Question 2a (Tendering authorities) and 2a (Consultants)

All respondents agree that the greater the price weighting, the greater its influence on the overall tender price. Consultants consider this influence is greater than the tendering authorities do, particularly TNZ.

It is interesting to note, however, that TNZ considers the influence of a 20% price weighting to be greater than consultants do (Figure 6-7).

During the subsequent interviews the tendering authorities were asked whether they considered that consultants might offer lower standards of innovation and quality in order to maintain competitiveness because of the weighting they perceive to be attached to price. The majority agreed that many consultants do opt for a standard methodology in order to remain competitive on price. As stated by one respondent:

> 'It is a very expensive business preparing bids, and I think there is a bit of a tendency to cut the corners in order to get the jobs....I guess that they will always have a difficult commercial decision on how much added value they can put in while still being competitive'.

The respondent from TNZ Head Office also agreed that innovation and quality was affected to some degree, but thought that this had more to do with the incentives given by the client, and the pricing model used:

> 'There is no incentive in the pricing models favoured by the tendering authorities for [the consultant] to be a bit risky, and a bit innovative because if they get it wrong, the client will not compensate for it...the consultants feel that the safest thing is to do the job the text book way and get their money, and that way their track record stays intact, enabling them to win more work. I doubt it has anything to do with the price weightings or price competition, but more to do with the incentives and the way the tendering authorities compensate such incentives.....in this day and age the client is king and the consultants have to deliver the standard that the client is willing to pay for, not the standard they believe is the best in terms of innovation and quality'.

A number of those interviewed do, however, recognise innovation and quality in bids:

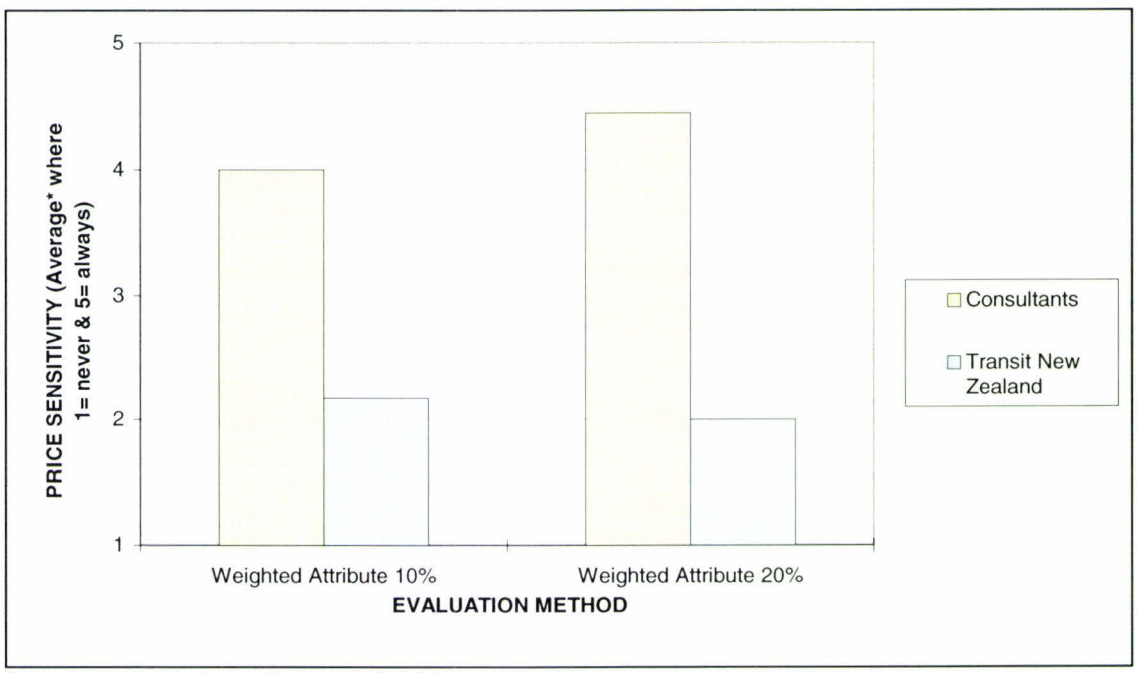
> 'We really do look quite seriously at what the consultants will do above the norm of what we would expect, from the run of the mill normal bidder, and they do receive additional marks for it'.

'I like to think that if a consultant is putting his bid in they should be trying to think what they should do to give their bid a competitive advantage over another consultant, because if they do, they generally do receive additional marks for it'.

6.2.3 Price Sensitivity of Weighted Attribute Method

Respondents were asked whether they find the tender evaluation process to be price sensitive using the Weighted Attribute method with a 10% and 20% price weighting. There is an obvious difference in perception, with the majority of TNZ Regional Offices considering that the method is not particularly price sensitive (2.2 and 2), compared with consultants who consider it to be very price sensitive (4 and 4.4) (Figure 6-8).

Figure 6-8: Perceived price sensitivity of Weighted Attribute Method (TNZ)

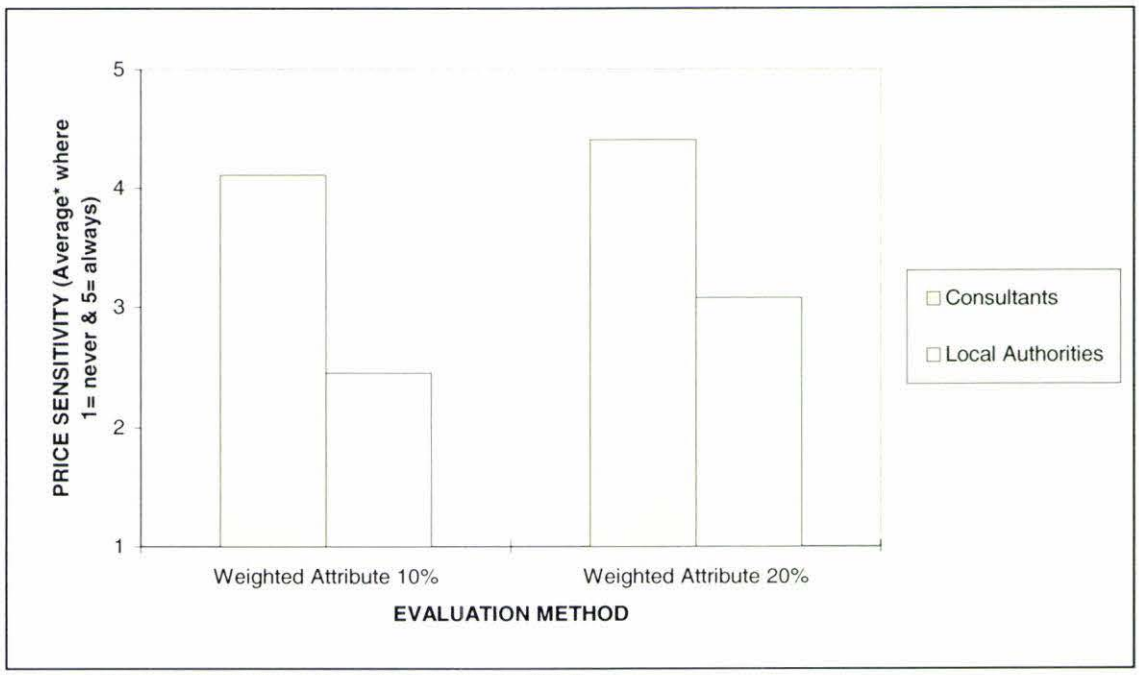


* =Average Score (See Appendix H for result tables)
Source: Question 4b (Tendering authorities) and 4c and 4d (Consultants)

There is also a difference in perception between local authorities and consultants (Figure 6-9).

The majority of local authorities consider that the method is only sometimes price sensitive (2.5 and 3.1), while the consultants consider that the method as applied by local authorities is very price sensitive (4.1 and 4.4).

Figure 6-9: Perceived price sensitivity of Weighted Attribute Method (Local Authorities)



* =Average Score (See Appendix H for result tables)
Source: Question 4b (Tendering authorities) and 4c and 4d (Consultants)

The tendering authorities were asked to comment on the consultants' perception of the price sensitivity of the Weighted Attribute method. They were also asked to comment on a statement made by several consultants, that where price is a consideration in the process, it becomes the dominant attribute, often assuming a weighting of around 80% rather than the notional 10-20%.

All but one tendering authority agreed that the method does become very price sensitive when price is given a weighting of above 10%. For this reason alone, the majority of Regional Offices do not use a weighting above 10%, with one comment being made that:

> 'in general, the price should not be above 10% unless it is a relatively simple project where the scope can be easily specified, anything more than this places a greater influence on price'.

The majority of tendering authorities suggested that the extent to which the method becomes price sensitive depends on the evaluation of the non-price attributes.

If the other attributes are marked properly with a good spread of scores, then the method should not become price sensitive. However, it was noted that:

> 'If the evaluation team is not making the distinctions between quality, then naturally the quality attributes for each consultant ends up similar, and then the price does dominate'.

Even when this does happen, none of the tendering authorities were concerned, as they considered that where all consultants scored evenly on quality attributes, price should be a distinguishing factor, as the process has already proven that they would all be capable of completing the project. The CPP Manual also specifies that price is meant to be a significant factor in the process.

6.2.4 Influence of More Frequent Use of Brooks Law

Only 14% of TNZ Regional Managers and 21% of local authority respondents agreed that more frequent use of Brooks Law could produce better planning outcomes (Table 6-6). By contrast, 74% of consultants considered that it would have a positive effect on planning outcomes.

Table 6-6 Impact of increased use of Brooks Law on Planning Outcomes

RESPONDENTS	Agreement that increased use of Brooks Law could produce better planning outcomes		
	Yes	No	DNA*
Transit New Zealand (7)	1 14%	6 86%	- -
Local Authorities (13)	3 21%	10 71%	1 7%
Consultants (26)	20 74%	6 22%	1 4%

* *Did not answer*

Source: Question 5a(6) (Tendering authorities and Consultants)

By way of explanation, many tendering authorities indicated that prices become very inflated under Brooks Law, as no real pressure is placed on the consultants price.

This maximises their possibility of getting a good profit from the job:

> 'All we have found with Brooks Law is that the costs are out of our ballpark, and then we have to spend months negotiating with the consultants on what

> the final price will be, and then they start wanting to take things out of the contract....it has never really delivered to us the kind of outcomes we want....at least if it is done with Weighted Attribute it is realistic and we know from the start what the final price paid will be'.

The comment was also made that:

> 'Brooks Law is just less transparent for us, as it requires that you don't look at the prices until you have decided what to do with the first one which creates uncertainty for the client. Tendering authorities want the balance of power more in their favour and while you do negotiate price, you know this negotiation is with the consultant who has put in the most gold plated proposal. The risk from our point of view with this method is that we are potentially paying for this additional quality'.

The general perception among tendering authorities appears to be that Brooks Law does not encourage price competition. It was also recognised, however, by one respondent that with Weighted Attribute they do tend to get lower quality with the lower price, which appeared to contradict the theory that competition is how you drive up quality and drive down price.

It was also commented by one respondent that the question really depends on what is meant by 'better planning outcomes':

> 'A consultant might say that a better planning outcome is a project where many of the issues are largely agreed and the project meets or exceeds the expectations of the public and it floats nice and easily through the RMA arena. This however may not be a better planning outcome for TNZ, as just about any project can obtain the necessary consents if you just keep adding more and more goodies to the project such as mitigation. Yet this is not an optimal way for TNZ to operate, as we are not in the business of environmental enhancement, we are in the business of safe and efficient highways'.

It was also noted that Brooks Law requires a large amount of negotiation. This is consistent with the CPP Manual (1997), which identifies that it is important that those evaluating the tender bids are able to negotiate on the basis of a sound knowledge of the requirements of the job and what a reasonable price would be.

As commented by respondents:

'There is a real skill in the negotiation required under Brooks Law and you have to have some objective criteria to follow in your negotiations and you have to know the market. It is very difficult'.

'There is a general tendency for Brooks Law to end up in fairly lengthy negotiation processes, which may be worthwhile for the projects worth more than $1million [in fees], but for the TNZ offices which are generally under resourced, or not resourced with people with confident negotiation skills, I think we see Brooks Law as a bit of a problem. This is why there is probably a bit of resistance for its more frequent use'.

6.2.5 Inclusion of Planning Inputs in Methodology

As outlined in Chapter Four, the preparation of an AEE is a complex process that is required to be completed to an appropriate standard in order to obtain the necessary resource consents.

Chrisp and Heine (1994) identified a number of key components of the planning process that contribute to the successful implementation of roading projects. These include:

(1) Engage specialists to assess environmental impacts
(2) Undertake detailed Social Impact Assessments
(3) Include hui and public meetings
(4) Use direct valuation methods to assess the intangible environmental effects in the AEE (eg: Hedonic Pricing, Travel Cost Method, Contingent Valuation)
(5) Use indirect valuation methods to assess the intangible environmental effects in the AEE (eg: Team Rating, Impact Matrices, Scaling and Weighting).

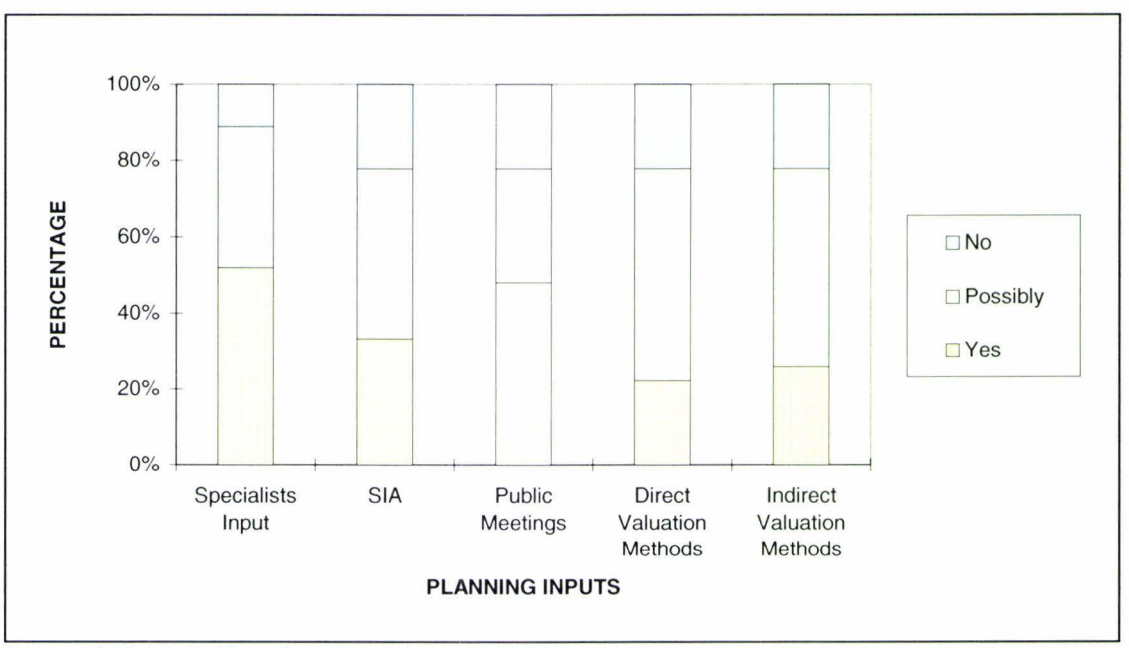
The consultants were asked whether they would be willing to include such components in their methodology, under two different price model and tender evaluation scenarios: (a) Lump Sum price model + Weighted Attribute method of evaluation and (b) Not Lump Sum price model + Brooks Law or Target Price method of evaluation.

Where the price model is Lump Sum, and the method of evaluation is Weighted Attribute, 52% would be willing to include specialist input, 33% social impact assessments, 48% hui and public meetings, 22% direct valuation techniques, and 26% indirect valuation techniques, to assess the environment impacts associated with the project (Figure 6-10).

While most of the remaining consultants responded that they would possibly include such inputs, 11% definitely would not include specialist input, and 22% would definitely not include any of the other inputs.

Under this price model and tender evaluation scenario, (which is most frequently used by tendering authorities), many consultants are either not willing, or unsure whether they would include important aspects of the planning process in their methodology.

Figure 6-10: Willingness to Include Planning Inputs (Lump Sum + Weighted Attribute)

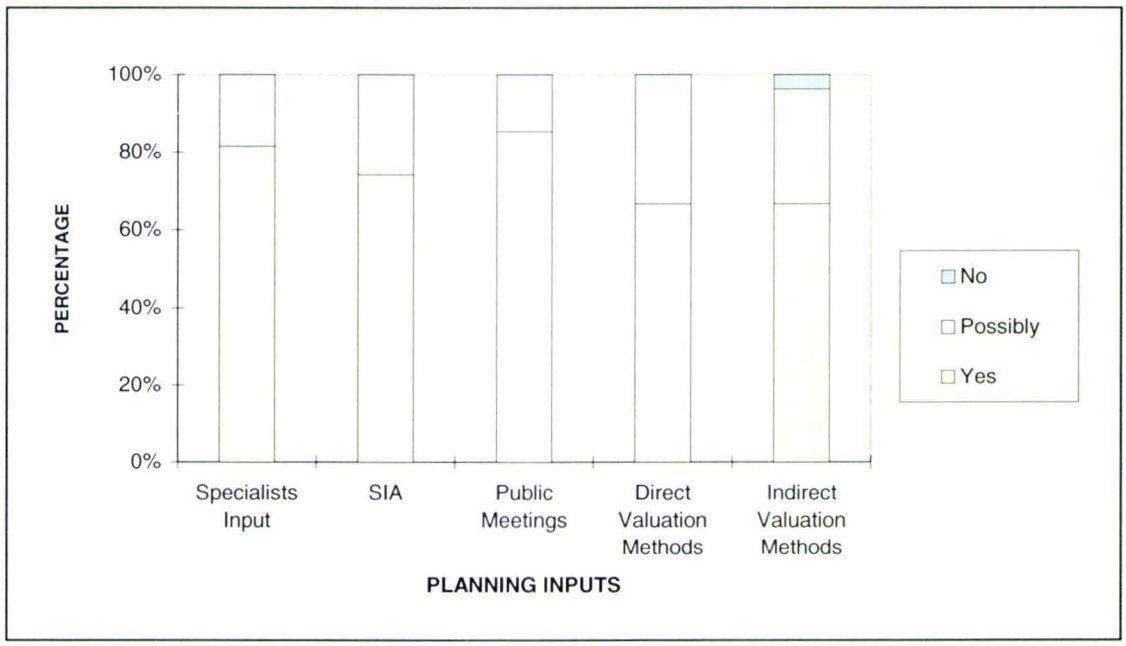


Source: Question 1g (Consultants)

By contrast, where the price model is not Lump Sum, and the method of evaluation is Brooks Law or Target Price, 81% would be willing to include specialist input, 74% social impact assessments, 85% hui and public meetings, 67% direct valuation techniques, and 67% indirect valuation techniques, to assess the environmental impacts associated with the project (Figure 6-11).

All of the remaining consultants responded that they would possibly include such inputs in their methodology, with the exception of one who would definitely not include indirect valuation techniques.

Figure 6-11: Willingness to Include Planning Inputs (Not Lump Sum + Brooks Law)



Source: Question 1h (Consultants)

It therefore appears that consultants are more likely to include detailed planning inputs into their methodologies where the price model is not Lump Sum, and the method of evaluation is Brooks Law or Target Price. This approach, however, is rarely used by tendering authorities.

In light of these results, the tendering authorities were asked whether this meant that the planning inputs are not being adequately considered by the consultants. The majority of those interviewed did not agree with this, and questioned that consultants would even consider not including such components in their methodology, regardless of evaluation method and price model.

They all agreed that all components listed were requirements under the RMA, and that they would expect to see them all in methodologies:

> 'It is just something that you have to deliver to even get up to the starting blocks and so I struggle to see how consultants can say they would not be willing to include them in their methodology.... what we will do if we get a methodology that is not robust we will just mark it right down and that will take the consultant right out of the evaluation'.

The representative from TNZ Head Office agreed, stating that the listed components appeared to be good practice and something that should be included in methodologies. This statement was, however, qualified:

> 'I don't think however that it should be up to the consultants on whether they should be including such components...TNZ should be specifying this as part of the scope of work in the RFT, then the debate on whether to include such necessary items does not become a competitive issue. It appear therefore that TNZ may need to become a bit more knowledgeable about the briefs it writes and it needs to make a judgement on what needs to be in, as a mandatory requirement.

It was also suggested that this was something that the consultants could be educating TNZ on, and offering concise explanations in their bid on why particular planning components have been included, and the value of having them in the methodology.

One Regional Manager stated that only now are they receiving adequate planning methodologies from the consultants, after a lot of work has been put into this by staff. This involved constantly giving those who bid and missed out on projects feedback on what TNZ expected and where bids fell short.

They believe that over the last three years the majority of local consultants have become fully aware of what planning inputs are expected by TNZ:

> 'It is probably fair to say that the consultants are now operating within the band that they have determined we feel comfortable with, but we have determined that band by direct feedback, and by being quite blunt in our evaluations of them'.

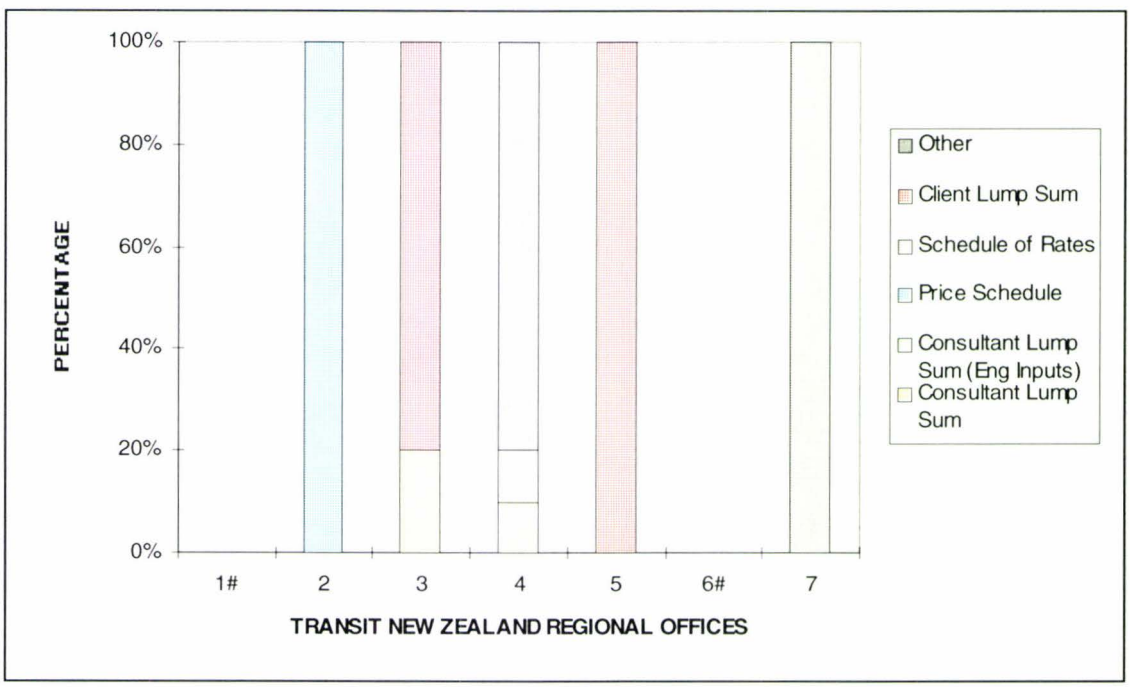
6.3 PRICE MODELS

Part Three of the questionnaire aimed to identify how both the consultants and tendering authorities view the price models included in the RFT, as required by the CPP Manual. The CPP Manual requires the RFT to include the price model required in the tender.

6.3.1 Price Models used to Price the Planning Inputs

The price models used for Professional Services Contracts let by TNZ vary considerably from region to region (Figure 6-12).

Figure 6-12: Transit New Zealand Use of different Price Models



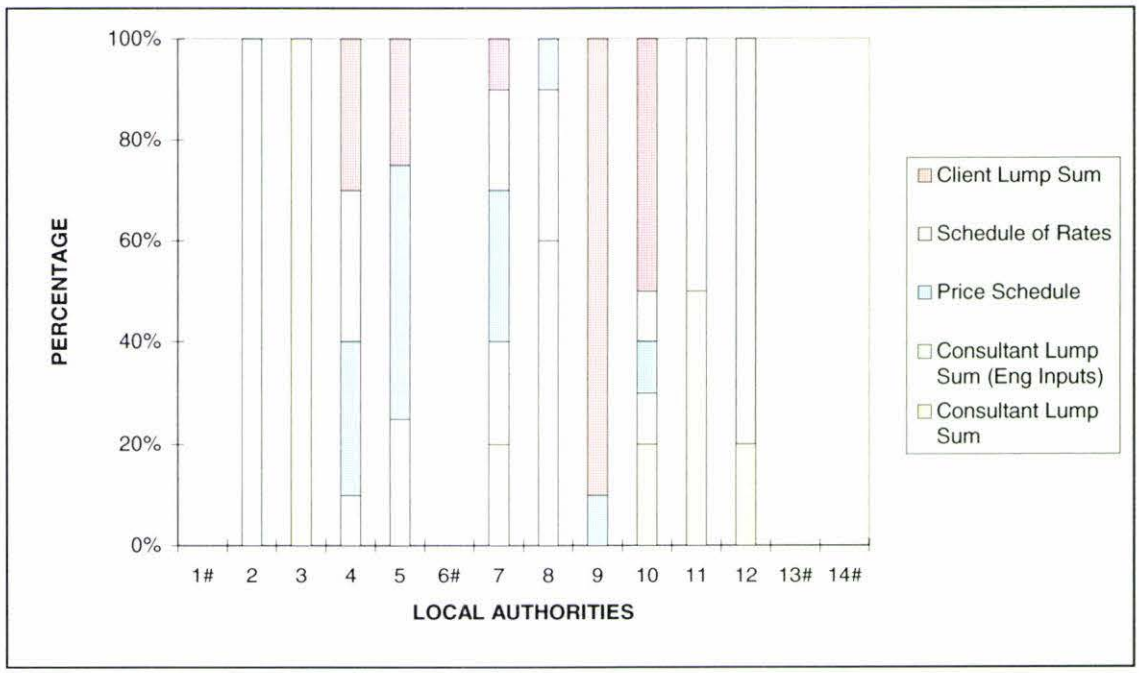
\# = *indicates a non-response from these Transit New Zealand Regional Offices*
Source: Question 3a (Tendering authorities)

Local authorities appear to utilise an even wider variety of methods than TNZ Regional Offices (Figure 6-13). Figure 6-13 also indicates a willingness by individual offices to use a variety of methods.

These results are consistent with the intentions of the CPP Manual, which specifies that the most commonly used price model will be one that combines Lump Sum for some components with a Price Schedule of Quantities for others (Transfund New Zealand, 1997).

It is interesting, however, that a variety of the other methods are being used to price the planning components of the project, especially by local authorities.

Figure 6-13: Local Authorities Use of different Price Models



 # Indicates a non-response from these Local Authorities
Source: Question 3a (Tendering authorities)

The majority of consultants are generally not satisfied with the price models used by tendering authorities, for either the engineering inputs (2.59) or the planning inputs (2.19). Significantly, 71% of respondents were less than satisfied with the price models for the planning inputs (Table 6-7).

Table 6-7: Satisfaction with Price Models in the Contract Pricing Schedule

Inputs	Degree of Satisfaction					
	1 Very Unsatisfied	**2**	**3 Satisfied**	**4**	**5 Very Satisfied**	**Average Score**
Engineering	2 7%	9 33%	11 41%	3 11%	1 4%	**2.59** n=27
Planning	5 19%	14 52%	4 15%	1 4%	2 7%	**2.19** n=27

Source: Question 3a (Consultants)

While there was dissatisfaction among consultants over the price models frequently used by the tendering authorities, 56% believe that more frequent use of the Price Schedule of Quantities model could produce better planning outcomes (Table 6-8). Similarly, 63% of consultants believe that more frequent use of the Schedule of Rates model could also produce better planning outcomes (Table 6-9).

Table 6-8: Impact of Price Schedule of Quantities Price Model on Planning Outcomes

RESPONDENTS	Agreement that more frequent use of Schedule of Quantities price model would produce better planning outcomes		
	YES	NO	DNA*
Transit New Zealand	2 29%	5 71%	- -
Local Authorities	4 29%	9 64%	1 7%
Consultants	15 56%	5 19%	7 26%
TOTAL	**21** **44%**	**19** **40%**	**8** **16%**

Source: Question 5a (3) (Tendering authorities and Consultants)

Table 6-9: Impact of Schedule of Rates Price Model on Planning Outcomes

RESPONDENTS	Agreement that more frequent use of Schedule of Rates price model would produce better planning outcomes		
	YES	NO	DNA*
Transit New Zealand	1 14%	5 71%	1 14%
Local Authorities	5 36%	7 50%	2 14%
Consultants	17 63%	4 15%	6 22%
TOTAL	**23** **48%**	**16** **33%**	**9** **19%**

Source: Question 5a (4) (Tendering authorities and Consultants)

However, only 15% of consultants considered that more frequent use of Client Specified Lump Sum would have the same effect.

By contrast, both TNZ and local authorities did not believe that more frequent use of any of these alternative price models could produce better planning outcomes (Table 6-10).

Table 6-10: Impact of Client Specified Lump Sum Price Model on Planning Outcomes

RESPONDENTS	Agreement that more frequent use of Client Specified Lump Sum price model would produce better planning outcomes		
	YES	NO	DNA*
Transit New Zealand	2 29%	4 57%	1 14%
Local Authorities	3 21%	9 64%	2 14%
Consultants	4 15%	17 63%	6 22%
TOTAL	9 19%	30 62%	9 19%

Source: Question 5a (5) (Tendering Authorities and Consultants)

The dissatisfaction of consultants with the pricing models for both the engineering inputs and in particular the planning inputs, was discussed during the interviews. Many of those interviewed agreed that the risks for the planning inputs were a lot higher as there are a lot more variables, which make pricing more difficult, especially as a lump sum:

> 'Nobody likes having a lump sum around their ears where it is difficult to specify and I think that we have to recognise that things are variable... but equally, I think the consultants are dreaming if they think we are going to specify the inputs required as that takes the tension right away from them to manage the process sufficiently'.

It was also commented that while the lump sum may not be desirable for the consultants, it is the only way that the client can be assured of the costs of the project. Those interviewed were able to cite many examples under the old regime that there was often a significant difference between the price originally bid, and the price that was actually paid at the end of the process. Using the Lump Sum model, the onus is put back on the consultant to ensure that they can complete the project for the price bid, regardless of the difficulties (which TNZ acknowledges) that are involved in estimating the work required.

However, the following comment was made by the representative from TNZ Head Office:

> 'Our advice to the Regional Offices in relation to the selection of pricing models is that a lump sum pricing model is not very appropriate where you have not been able to scope and specify the inputs very well in advance, and that in these cases the schedule of rates pricing model would be more appropriate'.

This attitude of TNZ Head Office is consistent with the intention of the CPP Manual which clearly states that 'tendering authorities should specify a Lump Sum Price model where the work content can be reliably gauged in advance' (Transfund New Zealand, 1997). It goes on to state that 'where the work cannot be readily defined prior to tendering, then either the Schedule of Rates or Price Schedule of Quantities may be more appropriate' (Transfund New Zealand, 1997).

This is consistent with comments made by one Regional Manager in the survey:

> 'At an early stage in the project, the required amounts of consultation, the issues likely to be raised, and the difficulty in obtaining consents are rarely quantifiable. Therefore, the provisional sum method seems the best way of allowing for them in the overall tender evaluation without disadvantaging any party'.

It was also noted by several of the interviewees that if the RFT did not include a detailed scope and specification of the work required, a Schedule of Rates price model would be a license to give money away to the consultant. It was suggested that this is often why the lump sum pricing model is frequently used, as a detailed scope is not often known. One of the interviewees notes that

> 'it is a bit of an easy way on the part of TNZ by saying we don't really know what we want you to do, but we still want you to work within budget'.

The CPP Manual clearly states that for components of the project that are difficult to estimate, such as planning, the tendering authorities should be using the Schedule of Quantities as the price model. The question was therefore asked of the Transfund New Zealand representative, why tendering authorities favour the Lump Sum Price model in the majority of projects. The response was that:

> 'The manual suggests that the Schedule of Quantities price model be used for project components that are difficult to price because it remains a sensible bit of advise....I don't know why TNZ does not take this advise, but we certainly would like to influence them to think seriously about using it....and it is difficult for the consultants to price the planning inputs under a Lump Sum price model, actual experience proves how difficult it is'.

6.3.2 Scheduling the Planning Inputs in the Contract Pricing Schedule

Five of the seven TNZ Regional Offices stated that they always schedule and price the planning inputs separately from the engineering inputs (Table 6-11). By contrast, none of the local authorities always do this. The majority of consultants (78%) believe that the tendering authorities should always be scheduling and pricing the planning inputs separately from the engineering inputs (Table 6-12).

Table 6-11: Separately Scheduling Planning and Engineering Inputs (Tendering Authorities)

RESPONDENTS	Frequency that Planning and Engineering Inputs are Separately Scheduled					
	1 Never	2	3 Sometimes	4	5 Always	Average Score
Transit New Zealand	0 0%	0 0%	0 0%	2 29%	5 71%	4.7 n=7
Local Authorities	1 7%	5 36%	4 29%	4 29%	0 0%	2.8 n=14

Source: Question 3b (Tendering authorities)

Table 6-12: Separately Scheduling Planning and Engineering Inputs (Consultants)

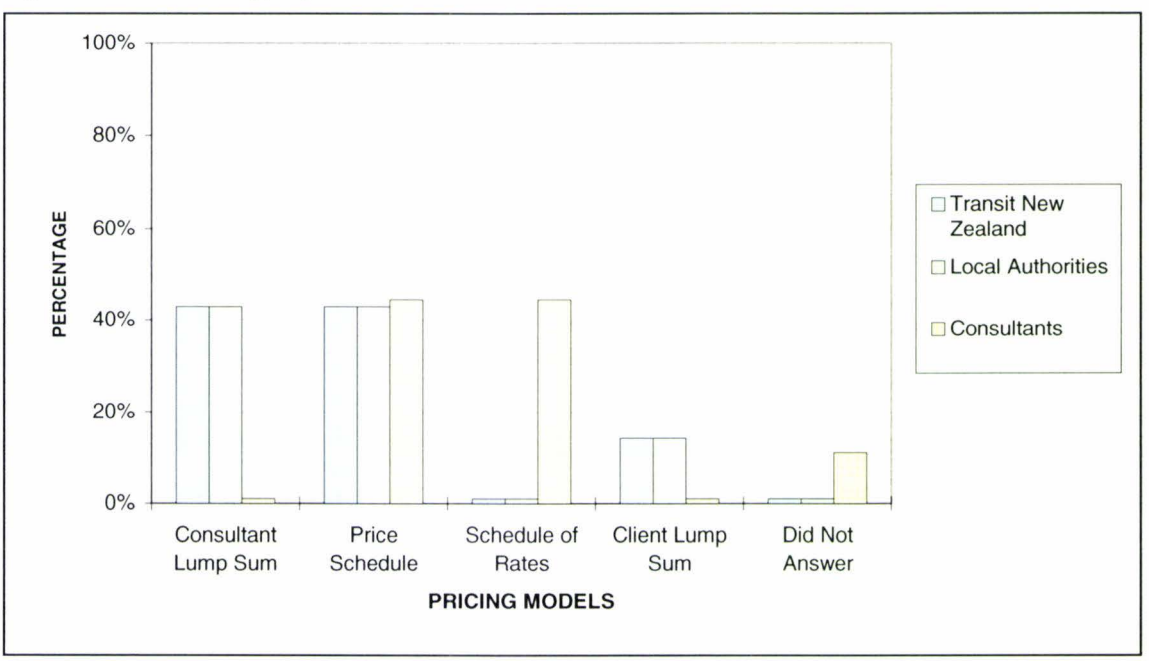
RESPONDENTS	Agreement that Planning and Engineering Inputs be separately scheduled and priced		
	YES	NO	DNA*
Consultants (27)	21 78%	5 19%	1 4%

* *Did not answer*

Source: Question 3b (Consultants)

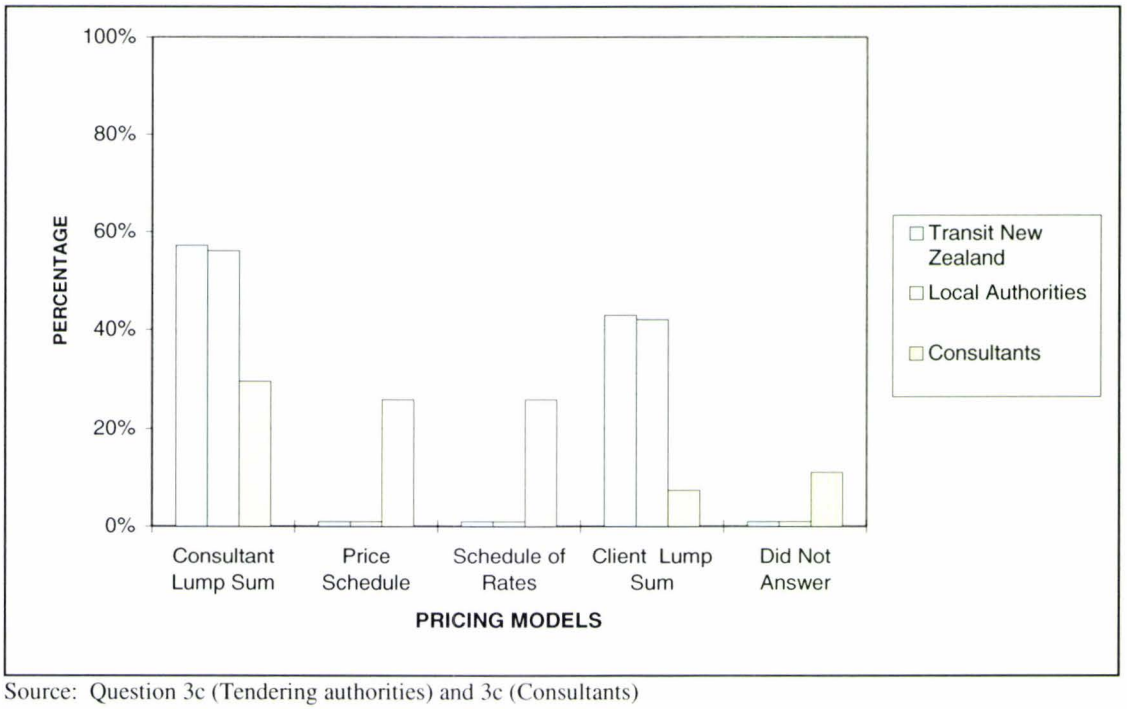
Both consultants and tendering authorities were asked to identify their preferred price model for: (1) the consultation required, (2) the preparation of the AEE and (3) the resource consent applications, assuming planning inputs were scheduled separately. The most favoured price models for all three planning inputs by the tendering authorities is Consultant Specified Lump Sum, although the Price Schedule of Quantities was equally favoured for consultation (Figures 6-14, 6-15 and 6-16).

Figure 6-14: Most appropriate Price Models for Consultation



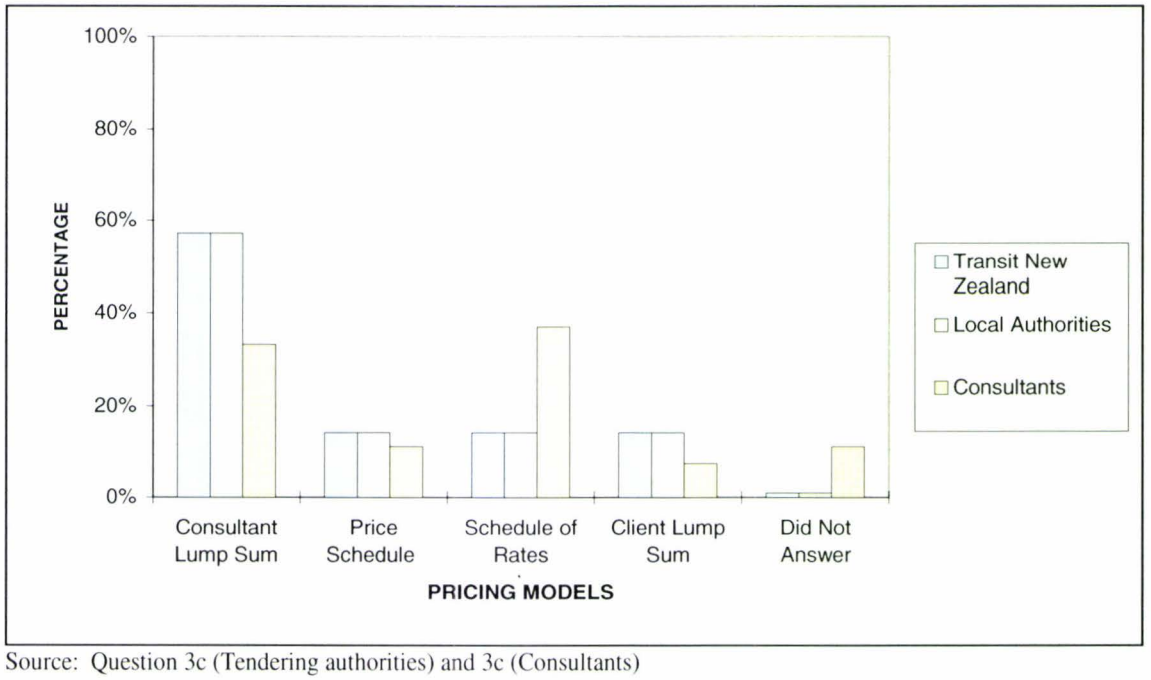
Source: Question 3c (Tendering authorities) and 3c (Consultants)

Figure 6-15: Most appropriate Price Model for the preparation of the AEE



Source: Question 3c (Tendering authorities) and 3c (Consultants)

Figure 6-16: Most appropriate Price Model for obtaining the Resource Consents



Source: Question 3c (Tendering authorities) and 3c (Consultants)

Consultants favour the Price Schedule of Quantities and Schedule of Rates for the consultation, Consultant Specified Lump Sum and Schedule of Rates for the AEE, and Consultant Specified Lump Sum and Schedule of Rates for the resource consents.

Tendering authorities were asked why they do not favour the Price Schedule of Quantities (except in the case of consultation) and the Schedule of Rates price models, which appear to balance the risk equally amongst the consultant and the client. The general feeling was that these models do not fairly balance the risk, and that the models tend to remove any pressure from the consultant to deliver the services as quickly as possible.

Another concern with the Schedule of Rates price model was that as consultant rates are often similar, it may favour the lower rate, less experienced people: 'any thing other than the lump sum concept is making it too easy for the mediocre people'.

6.4 TENDER EVALUATION TEAMS

Part Four of the questionnaire aimed to identify how both the consultants and tendering authorities view the actual process of tender evaluation, as opposed to the tender evaluation methods used by tendering authorities.

6.4.1 Price as an Element in Selection

Four out of six TNZ Regional Offices and eight out of fourteen local authorities award over 50% of their contracts to the lowest price bidder (Table 6-13).

Table 6-13: Percentage of Professional Services Contracts awarded to the Lowest Price Tender

RESPONDENTS	Percentage low price bids				
	0-25%	25-50%	50-75%	75-100%	DNA*
Transit New Zealand (7)	1 14%	1 14%	3 43%	1 14%	1 14%
Local Authorities (14)	2 14%	2 14%	6 43%	2 14%	2 14%

* *Did not answer*

Source: Question 4a (Tendering authorities)

The question was therefore posed to the TNZ representatives whether they believed the quality of professional services and advice provided is being affected by the use of methods such as Weighted Attribute which encourage low price bidding. The response was mixed. Three of the respondents considered that quality is being affected, with the

other three believing that it is not. Those that consider that the quality is affected claim that this is due to the process involved under Brooks Law.

> 'What tends to happen under Brooks Law is that everyone wants to get around the negotiating table so what goes into the bid is anything and everything that you think could be of added value, to ensure selection on quality. Then the negotiation usually proceeds along the lines of do we really need this and that, and some of these quality attributes are negotiated out. But at least you have made it that far'.

Another respondent stated:

> 'I will accept that on average you are likely to end up with a higher quality project with Brooks Law than the Weighted Attribute....Brooks Law does mean you select the absolute highest quality consultant and you start with their bid which offers you the highest quality solution..... on the other hand, the Weighted Attribute starts at the other end, where a minimum quality is generally offered for the lowest price'.

Those who felt that quality is not affected reasoned that that the consultant has to have a certain amount of quality in their bid to even be in the running.

6.4.2 Tender Evaluation Teams

The majority of consultants (81%) believe that better trained evaluation teams could result in better planning outcomes (Table 6-14). Only 43% of TNZ Regional Managers and 50% of local authorities agreed with this.

Table 6-14: Impact of Better Trained Evaluation Teams on Planning Outcomes

RESPONDENTS	Agreement that better trained evaluation teams will produce better planning outcomes		
	Yes	No	DNA*
Transit New Zealand (7)	3 43%	4 57%	- -
Local Authorities (14)	7 50%	6 43%	1 7%
Consultants (27)	22 81%	3 11%	2 7%

* *Did not answer*

Source: Question 5a (Tendering authorities) and 5a (Consultants)

The tendering authorities were asked whether they believed that their evaluation teams could be improved. While the majority thought that their own teams did an excellent job, a number of suggestions were made on how teams could be improved generally. These included the use of staff who have had experience in preparing tender bids, the use of more evaluators on the more important jobs, acquiring feedback on the evaluation process, reviewing the outcomes, the use of an outside evaluator, and letting younger staff sit in on the process to ensure that evaluation skills are learnt at an early stage.

It was suggested that a 'floating evaluator' could be used who would travel around the country to sit in on all tender evaluations, to bring some national consistency to the process.

Tendering authorities were also asked whether planners were involved in the tender evaluation process as recommended by one of the consultants in the survey. None of the Regional Offices in the North Island use planners as part of their tender evaluation teams. As stated by Head Office 'every Regional Office has got planners, but they are usually left out on the periphery a bit'. Head Office however recognises the potential of including planners in this process:

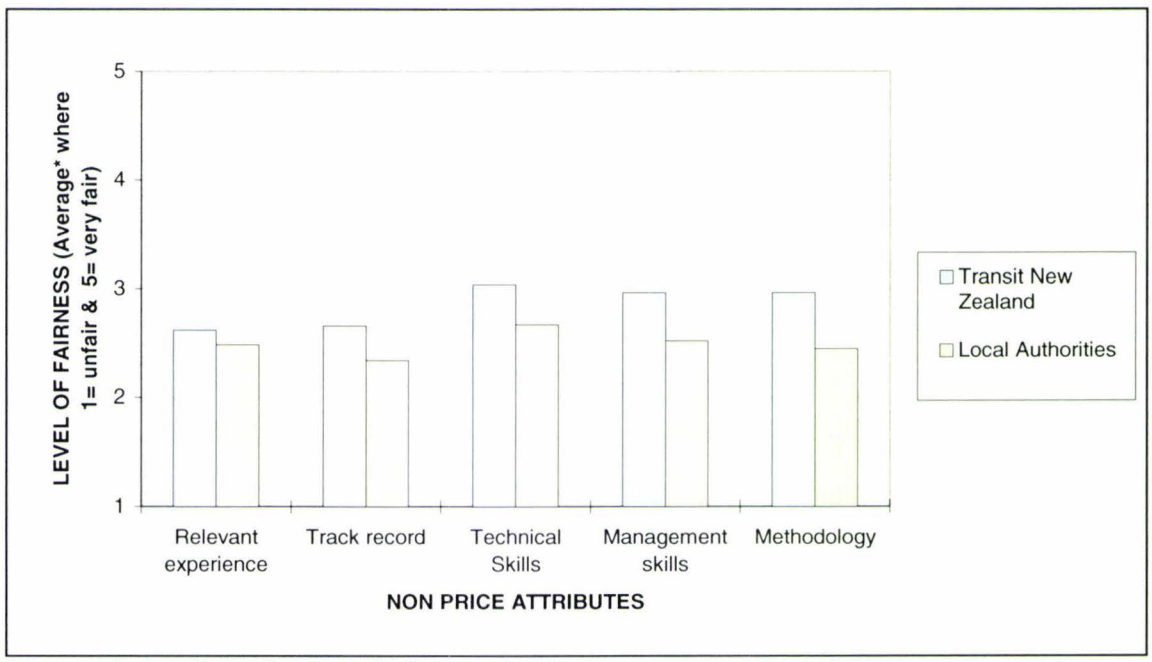
> 'The Regional Offices should have a planner involved in their tender evaluation teams, not necessarily in every case, but certainly for some of the real important projects, even if it is just to educate the engineering staff on the teams on what the true value of what is being offered is'.

6.4.3 Fairness of Non-Price Attribute Grades

The CPP Manual specifies five non-price attributes to be considered by the tendering authority when evaluating competing tenders: (1) Relevant Experience, (2) Track Record, (3) Technical Skills, (4) Management Skills and (5) Methodology.

The consultants were asked their perception of the fairness of the non-price attribute grades awarded by both Transit New Zealand and the local authorities (Figure 6-17).

Figure 6-17: Fairness of Non-Price Attribute Grades



* =Average Score (See Appendix H for result tables)
Source: Questions 4a and 4b (Consultants)

The grades awarded by TNZ are generally perceived by consultants as being fairer than the grades awarded by local authorities (Figure 6-17). However, there appears to be a general level of dissatisfaction among consultants in respect to the fairness of grades awarded by both TNZ and local authorities. All non-price attribute grades (for both tendering authorities) were consistently ranked below a score of three on the five point scale (Figure 6-17).

The majority of consultants consider that as the tender evaluation teams do not often score the non-price attribute grades consistently or fairly, most receive similar scores. When this occurs, the dominance of price in the selection procedure increases. The question therefore arises as to the ability of TNZ to accurately assess the non-price attributes of individual firms. This concern was also raised in Chapter Three by Hughes (1995) who considered that as some regions do not differentiate between non-price attributes of particular firms, regardless of past performance, this is giving the consultants the message that good performance is not recognised, nor poor performance penalised.

6.4 SUMMARY

The results from the survey indicate a general acceptance that the CPP Manual contains procedures which are capable of enabling the successful delivery of professional services appropriate to the nature of the project. Overall, however, the survey has highlighted a significant difference in perception between the tendering authorities and consultants regarding the effectiveness with which the CPP Manual is applied, and the implications of this in terms of the quality of planning services.

There is strong consensus among consultants that CPP have had an impact on the professional planning services that they are able to deliver. They consider that better planning outcomes could be achieved if the tendering authorities improved the scope of services specified in the RFT for the planning services required, if more frequent use was made of Brooks Law to evaluate bids and Price Schedule of Quantities and Schedule of Rates as the price models, and if the people evaluating the tenders were better trained and included professional planners.

The general feeling among tendering authorities, however, is that the procedures are successful in allowing them to obtain quality services at low prices. In general, they do not agree with the consultants that the process is having an adverse effect on the quality of professional planning services, or that improvements in particular areas could improve these services. On the contrary, they consider that the scoping of planning services required in the RFT is more than adequate, that their preferred tender evaluation method, Weighted Attribute, is not overly price sensitive, and that increased use of Brooks Law is unlikely to improve planning outcomes. The general feeling among the majority of TNZ Regional Offices is that they are employing the consultants as professionals to deliver a service, and that decisions about the nature and extent of planning inputs is part of the service they are providing.

However, this view is not shared by the representatives from either TNZ Head Office, or Transfund New Zealand. They recognise that improvements to the way the CPP Manual is being implemented by the Regional Offices could have a positive impact on how planning services are bid for and delivered.

While all parties recognise the relationship between quality and price, the tendering authorities are generally of the view that the procedures they use do not have a significant effect on the quality of services provided. This is not the view of consultants, however, who indicate that where price is a major factor in the evaluation, detailed planning components are less likely to be included in their methodologies, hence the quality of the services provided is reduced.

CHAPTER SEVEN
SYNTHESIS AND CONCLUSIONS

The aim of this thesis, as set out in Chapter One, has been to examine the extent to which planning practice in New Zealand may be affected by the competitive tendering of professional services. The procedures implemented by Transfund New Zealand for the procurement of professional services for roading projects were examined as a case study, within which the impact of this facet of managerialism on one area of practice could be assessed.

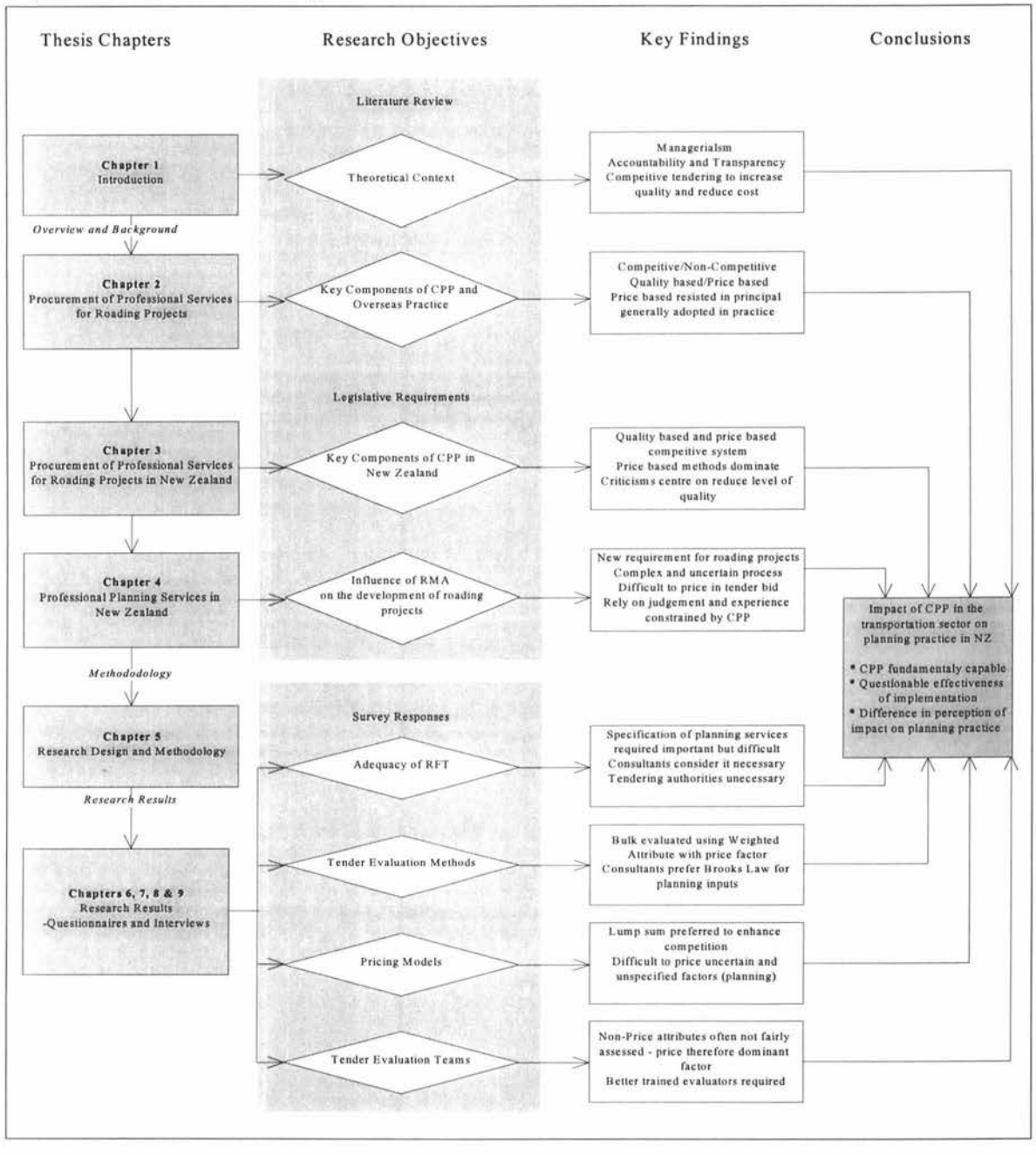
The thesis has considered how the contractual relationship for the supply of planning services is potentially affected by the tendering process. It does not look at the impact of the process on the quality of services delivered. It does, nevertheless indicate some differences in the way suppliers and purchasers of planning services for roading developments perceive the process and its potential effects on planning.

Four research objectives were identified:

1. Identify and assess the different procedures available for the procurement of professional services for roading projects, and those practised by different organisations overseas.
2. Identify and assess the procedures used by tendering authorities in New Zealand for the procurement of professional services contracts
3. Identify the influence of the Resource Management Act on the development of roading projects in New Zealand.
4. Assess and evaluate the extent to which the procedures used by tendering authorities in New Zealand for the procurement professional services for roading projects impact on planning practice.

This chapter indicates the extent to which the objectives were met by presenting the key findings. These findings are then synthesised into an overall perspective from which conclusions can be drawn on the perceived impact of CPP on the nature of planning services purchased for major roading projects (Figure 7-1). The lessons drawn from this thesis, in which one substantive area of practice, and one particular method of tendering was researched, are also used as a basis to suggest possible implications on other areas in which the practice of tendering for planning services may be adopted. Areas for further research are also presented.

Figure 7-1: Synthesis of Objectives Towards Conclusion



7.1 LITERATURE REVIEW

The managerialist philosophy behind the contracting out of the service delivery functions of many central government departments is to increase the efficiency, quality, accountability and transparency of those services. In keeping with this philosophy, Transfund New Zealand considers the competitive tendering of both professional services and physical works contracts for the development of roading projects to be a particularly effective and low cost way of securing quality roading services at the lowest

prices.

The framework for any competitive engagement procedure usually requires the tendering authority to perform a number of functions, each of which can be undertaken in a variety of ways, depending on the nature of the project and requirements on the tendering authority. It is suggested that the success of the project, and the quality of services provided is dependent on what selection method the client uses to select the consultant for a particular job.

The New Zealand approach to contracting out professional services for roading projects places an emphasis in selecting on price as well as quality, so that competing parties are encouraged to make the most attractive offer possible. While this approach is similar to those adopted by many roading authorities overseas, it has been the subject of considerable criticism from international and national organisations, who argue that the selection of professional services should be based on quality alone. Quality based selection procedures do not force the consultant to compromise the quality of the work or level of effort in order to remain competitive with other firms. This procedure therefore favours selection of the most qualified firm.

The reform of central and local government and the introduction of the RMA had a significant impact on the practice of planning, especially in the private sector. Planning practice within this new context has altered, in that planners in the private sector are now frequently required to competitively bid for work. This involves delivering the services requested by a client, while being constrained by what services the client has defined, and what price the client is willing to pay.

With the introduction of the RMA, the provision of professional services became more complex, with the mandatory requirements for roading authorities to prepare an AEE in order to obtain a resource consent. The preparation of an AEE can be a time consuming and lengthy process, requiring consultation with interested and effected parties, the evaluation of environmental effects, documentation of resource consents, and provision of expert advice.

As part of the professional services required by the roading authority, such planning services are bid for and undertaken by the consultant awarded the contract. Uncertainty, however, in terms of the possible effects on the environment, the required amounts of consultation, the issues likely to be raised, and the difficulty in obtaining consents, are rarely quantifiable at the bidding stage of the project. Consultants must therefore rely on their own judgement and experience to best estimate the resources required prior to commencing the planning work. This judgement is usually made, however, in the face of considerable uncertainty, and further constrained by the selection procedures identified in the RFT, and the desire for the bid to be financially competitive.

7.2 PARTICIPANT VIEWS

The perceived impact of the competitive pricing procedures adopted by Transfund, on the quality of professional services, and planning in particular, varies considerably between tendering authorities and consultants.

7.2.1 Adequacy of the Request for Tender

Consultants consider that the detailed specification of the scope of services required by the tendering authority is important to enable them to submit a realistic bid. None of the consultants are currently happy with the adequacy of the scope of services specified in the RFT, especially in relation to the planning inputs. They consider that if the scope of services was specified in more detail the increased certainty would reduce their risk in pricing the planning inputs. This would enable them to reduce their price bid, and reduce the range of prices received by the client.

Tendering authorities, however, are of the opinion that the scope provided by them is already adequate, and do not consider that a more comprehensive scope of planning services required would have any impact on the prices bid or the planning services provided.

As the nature of the environmental impacts of a proposed project are often unknown at

the time of submitting a bid, it appears unrealistic for the consultants to expect the tendering authority to clearly specify the planning work to be undertaken. It is, however, equally unrealistic for the tendering authorities to expect the consultants to accurately scope the planning inputs and commit to a specific methodology, when there is obvious uncertainty.

When a consultant is forced to commit to a methodology which may not prove to be realistic once the project develops, it potentially transforms the relationship between the client and consultant to one of conflict. This situation is compounded if the price bid is relatively low. Such a situation is not in the best interests of the client, whose primary objective, particularly on major projects where the risk of non-performance is high, should be to ensure a common interest in achieving satisfactory planning outcomes.

7.2.2 Tender Evaluation Methods

The survey indicates that the bulk of tenders for professional services contracts are evaluated using the Weighted Attribute method, where price comprises between a 10% and 20% weighting. The frequent use of this method of evaluation is considered appropriate in terms of engineering services, which can usually be clearly defined at the time of tender. In the majority of cases, however, the planning inputs are not differentiated from the engineering inputs in the contract pricing schedule. Evaluating planning services under this method is not considered appropriate as these services are uncertain at the bidding stage of the project, and are therefore difficult to clearly specify.

The majority of consultants consider that Brooks Law is the most appropriate method to evaluate the planning components of a tender. Under this method consultants would be willing to include more detailed planning methodologies in their bid. Where the method of evaluation for the planning inputs is Weighted Attribute, they are more likely to include only the most basic and standard approach, so as to maintain the competitiveness of their bid.

Tendering authorities, however, do not share these concerns, maintaining that the

Weighted Attribute method adequately achieves all of their desired outcomes. They do not generally consider that this method is price sensitive, or that it has any impact on the quality of planning services bid or delivered by consultants.

7.2.3 Price Models

While the tendering authorities prefer consultants to price their bid as a lump sum, this is not favoured by the consultants. The concerns of the consultants stem from the fact that if the client is unable to accurately scope the services to be provided at the time of tender, it is difficult to bid a lump sum for those services. This inevitably forces consultants to either incorporate a risk factor into their bid price, increasing their tender price, or significantly reduce the quality of services to be provided if they have underestimated the scope of the work.

Consultants are of the opinion that the most appropriate price model for costing the consultation required, the preparation of the AEE and obtaining the resource consents is either a Schedule of Rates, or Price Schedule of Quantities, as this enables the risk to be fairly shared between the client and consultant.

7.2.4 Evaluation of Tenders

The effectiveness of the Weighted Attribute method relies on the fair and accurate allocation of non-price attribute grades to each tenderer. When the non-price attributes are not fairly assessed, price can unintentionally become a dominant factor in the process. Consultants believe from experience that non-price attribute grades are consistently unfair, and that bidders frequently receive similar scores. Because evaluation teams are not seen to significantly distinguish bids at a qualitative level, consultants are putting a disproportionate emphasis on the price component of the bid.

Consultants also recognise that as planners are usually not included on the tender evaluation teams, it is not in their best interest to include other than standard approaches to their planning methodologies, as such approaches are not appreciated or recognised

by the tendering authorities.

7.3 KEY FINDINGS AND CONCLUSIONS

While many international and national organisations encourage the use of quality based selection procedures, the majority of roading authorities both overseas, and in New Zealand, favour procedures where price is a significant factor in selection. The rationale behind this is that competition is an efficient way of ensuring that the roading authority secures the highest quality bid at the lowest price. Where price is included, however, consultants consider that it becomes the dominant factor, resulting in tenderers reducing quality and input in an attempt to tender the most competitive price. The actual procedures adopted for the selection of professional services on a particular project can therefore be critical to its overall quality and success.

One of the key findings of the research is that there is a general belief among all those involved in the industry that the approved procedures in the CPP Manual are fundamentally capable of enabling the successful delivery of professional services, providing the most appropriate procedures are selected by the tendering authority. There is, however, a significant difference in perception between tendering authorities and consultants regarding the selection of appropriate procedures, particularly in terms of the planning services associated with roading projects. In contrast to the views of the tendering authorities, many consultants are of the opinion that the procedures favoured are often not appropriate to the nature of services required.

The majority of consultants consider that the competitive pricing procedures adopted by Transfund are having a significant impact on the professional planning services that they can provide. The procedures, consistent with managerialism, tend to favour and encourage process, outputs and efficiency over substance, quality and effectiveness, by prescribing results based specifications, with price a dominant factor in the selection procedures. While the tendering authorities agree that price is an important factor in the procedures adopted, they generally do not consider that this is having any impact on the quality of services provided by the consultants.

Consultants consider that better planning outcomes could be achieved if the tendering authorities improved the scope of services specified in the RFT for the planning services required, if more frequent use was made of Brooks Law to evaluate the bids and specified Price Schedule of Quantities and Schedule of Rates as the price models, and if the people evaluating the tenders were better trained and included planners. These opinions are not shared by the tendering authorities, who do not consider that the process is having an adverse effect on the planning services they receive, or that improvements in particular areas could improve these services.

There are some differences in opinion between TNZ Head Office and Transfund with the TNZ Regional Offices on how the provisions of the CPP Manual are being implemented, particularly with regard to the planning inputs. This may reflect differences in the nature of projects, the availability of local expertise and experience. Representatives from both TNZ Head Office and Transfund agree that the way the CPP Manual is being implemented by the Regional Offices may be having an impact on the quality of professional services being provided. They are also concerned about the differences in perception on the tendering process, due to the importance of open and trusting relationships between the client and consultant, especially on the larger projects.

While consultants have always been involved in the provision of public planning services to some extent, a significant change in recent years has been the move towards procuring such services in a competitive manner. While most competitive procurement procedures consider the quality of the services to be provided as well as the cost, in the majority of cases price becomes a more influencing factor than capability, experience and quality. Whether intentional or not, a competitive market tends to encourage process over substance, and efficiencies over effectiveness.

7.4 AREAS FOR FURTHER RESEARCH

This thesis has identified a number of differences in perception among those involved in the implementation of the CPP Manual, and the degree to which professional planning services are potentially affected by this. The thesis has not looked at the impact of the

process on the actual quality of services delivered. However, as it indicates significant differences in the way suppliers and purchasers of planning services for roading developments perceive the process and its potential effects on planning, it provides the necessary justification for further research into this area.

There is a need to study the extent to which CPP is actually having an impact on the quality of professional planning services outputs and outcomes provided by consultants. This is particularly important for major roading projects, where the risk associated with non-performance is high for the client both financially and in terms of maintaining good public relations.

The findings of this research justify investigating the relationship between projects where the outcomes were not achieved and whether this is attributable to the price models and/or evaluation methods used. Further study into the quality of planning services delivered under different purchasing procedures will need to be commissioned or undertaken by Transit New Zealand themselves, who have access to the commercially sensitive tender information necessary to determine the actual extent to which such services are affected by price.

If the quality of planning services being provided by the consultants is being constrained by the tender procedures adopted, studies may also be undertaken into how far the planning components of professional services should be subject to competitive procedures, and what alternative solutions exist for their procurement and delivery.

Further research will enable the tendering authorities to assess the different outcomes, and what impact this has on the successful completion of projects. It may be, for example, that under different purchasing procedures, the planning services delivered may be more innovative and efficient and result in fewer delays, happier stakeholders and more effective environmental mitigation measures. At the end of the day, however, it is the tendering authorities who are the purchasers of the services, and such outcomes may not be their primary objective, particularly if these result in higher project costs. Further research is therefore unlikely to be initiated by the tendering authorities, if

projects are being completed to the necessary standard, and within time and budget, regardless of the merits of the planning inputs.

While the findings of the research have focused on the impact of one particular method of tendering on one aspect of planning practice, the lessons drawn can also be used to identify possible implications to other areas in which the practice of tendering for planning services may be adopted. This is particularly pertinent to policy development and the consent processing of developments, particularly major ones. Both of these aspects of planning practice are increasingly being considered by local authorities as areas which have the potential to be contracted out to the private sector. This is particularly relevant in light of the 1996 amendment to the Local Government Act which requires Councils to review their methods of service delivery.

Over the last year there has been considerable public discussion on the merits of contracting out the processing of resource consents and policy developments. While the same advantages of competition identified in this thesis have been raised, (such as the improvement of service delivery and quality, and the reduction in costs), the same disadvantages also exist, such as potential impact on the quality of services provided. Further research could therefore use the findings of this study to consider the impacts of contracting out on other aspects of planning practice.

This research has highlighted the significant perception differences between tendering authorities and consultants on the impact of CPP on the quality of professional planning services delivered for roading projects. Further research into these differences in perception, as proposed above, will go a long way towards identifying the actual impact of CPP on the successful implementation of roading projects, and provide alternative solutions to ensure that the important client-consultant relationship is brought more in line. The Association of Consulting Engineers of New Zealand, together with the New Zealand Planning Institute could play an effective role in this process.

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LIST OF ACRONYMS

ACEC	American Consulting Engineers Council
ACENZ	Association of Consulting Engineers of New Zealand
ADB	Asian Development Bank
AEE	Assessment of Effects on the Environment
CIB	Construction Industry Board
CPP	Competitive Pricing Procedures
CPP Manual	Transfund New Zealand Competitive Pricing Procedures Manual 1997
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EPEP	Environmental Protection and Enhancement Procedures 1974
FIDIC	Federation Internationale des Ingenieurs-Consiels
IPENZ	Institute of Professional Engineers of New Zealand
MfE	Ministry for the Environment
MWD	Ministry of Works and Development
NSPE	National Society of Professional Engineers
NZPI	New Zealand Planning Institute
PCfE	Parliamentary Commissioner for the Environment
RFT	Request for Tender
RMA	Resource Management Act 1991
TCPA	Town and Country Planning Act 1977
TNZ	Transit New Zealand
TNZ Act	Transit New Zealand Act 1989
Transfund	Transfund New Zealand

APPENDICES

APPENDIX A: ENGINEERING SPECIFICATIONS

1. Bridges And Culverts	a) Bridge Manual - 1994 b) Bridge Inspection and Maintenance Manual - 1991 c) Waterways Design Austroads - 1994
2. Bridges And Culverts	a) Guideline Procedures for Building Act 1991 - 1992
3. Competitive Pricing Procedures	a) General Conditions for the provision of Professional Services - 1997 b) Manual of Competitive Pricing Procedures 1997 c) Asset Maintenance Management Manual - 1996 d) MP 3911: Conditions of Contract for roading construction -1992 e) MP 3912: Conditions of Contract for roading maintenance - 1992 f) Network Contract Documents - 1996 g) State Highways CPP Tender Evaluation Manual - 1995 h) Professional Services Construction Project Performance
4. Contract Administration	a) Contract Administration Manual - 1996
5. Cycle Facilities	a) Guide to Cycle Facilities - 1985
6. Drainage	a) Highway Surface Drainage - Design guide for highways - 1977
7. Geometric Design	a) Urban Streets Code of Practice - 1981 b) Rural Roads: Guide to Geometric Standards for Rural Roads - 1985 c) State Highways: Rural Road Design Guide to the Geometric Design of Rural Roads - 1989 d) Guidelines for Two Lane Rural State Highways: Changes to widths - 1993 e) Motorway exists and entrances: Geometric Details and Traffic Signs - 1973 f) State Highway Control Manual - 1994
8. Intersections	a) Guide to Traffic Engineering Practice Pt 5 Intersections at Grade - 1991 b) Guide to Traffic Engineering: Practice Pt 6 Roundabouts
9. Maintenance	a) State Highway Maintenance Standards - 1985
10. Median Barriers	a) Safety Barriers and Median Barriers - 1994
11. Overweight Permits	a) Overweight Permit Manual - 1995 b) Overweight Permit Route Maps - 1994

c) Highway Permits Users Manual - 1992
d) Highway Permits Assurance Manual - 1992
e) Highway Permits File Managers Manual - 1992

12. Pavement And Surfacing

a) Bitiminous Sealing Manual - 1993
b) Austroads Guide to Structural Design of Road Pavements in NZ - 1995
c) Design Guide for Assessing Freeze Thaw Effects on Pavements - 1995

13. Planning

a) Highway Planning under the RMA - 1991
b) Planning Policy Manual (Draft) - 1998
c) RTS3 Guidelines for Establishing Rural Selling Places - 1992
d) RTS7 Advertising Signs and Safety Design and Location Guidelines - 1993

14. Programming

a) Land Transport Programme Development and Management Manual - 1994
b) Users Manual for the NLTP System - 1993

15. Project Evaluation

a) Project Evaluation Manual - 1997

16. Property

a) Transit Property Manual

17. Quality Assurance

a) Quality Standard TQS1: 1995 for High QA Level Contracts
b) Quality Standard TQS2: 1995 for Normal QA Level Contracts

18. Ramm

a) Contract Documents for Road Inventory Implementation General Circular 91/58 - 1991
b) Contract Documents for Road Roughness Surveys General Circular 92/56 -
c) RAMM Computer Users Manual - 1995
d) RAMM Road Condition Rating Manual - 1994
e) RAMM Concepts and Overview Workshop Manual - 1988
f) RAMM Inventory Workshop Manual - 1988
g) RAMM Rating Workshop - 1992
h) RAMM Treatment Selection Workshop Manual - 1990
i) RAMM SH Database Operations Manual - 1995

19. Road Traffic Noise

a) Management of Road Traffic Noise - State Highway Improvements - 1994

20. Safety

a) Policy Guidelines for Traffic Accident Reduction and Prevention - 1990
b) Accident Investigation Procedures - 1991
c) Accident Investigation Monitoring System -Coding Manual - 1994

d) TR11 Recommended Practice for Pedestrian Crossings - 1988
e) Guidelines for Planting for Road Safety - 1991
f) Safety Audit Policy and Procedures - 1993
g) Road Safety Audit Austroads 1994
h) RTS 17 Guidelines for Setting Speed Limits

21. Signs And Marking

a) Handbook for temporary traffic control and safety at roadwork - 1991
b) Manual of Traffic Signs and Markings Pt 1 Traffic Signs
c) Manual of Traffic Signs and Markings - 1994
d) General Circular No 92/51 One Lane Bridges - 1992
e) General Circular No 92/10 Guidelines for the Implementation of an Urban Route System
f) RSMA Standard for the Manufacture and Maintenance of Traffic Signs, Posts
g) General Circular No 92/4 Radio Frequency Signing
h) RTS 1 Guidelines for Traffic Control at Crossroads - 1990
i) RTS 2 Guidelines for Street Name Signs - 1990
j) RTS 3 Guidelines for establishing rural selling places - 1992
k) RTS 4 Guidelines for Flush Medians - 1991
l) RTS 5 Guidelines for Rural Road Marking and Delineation - 1992
m) RTS 6 Guidelines for Visibility at Driveways - 1994
n) RTS 7 Advertising Signs and Road Safety - 1994
o) RTS 8 Guidelines for Safe Kerbline Protection - 1994
p) RTS 9 Guidelines for the Signing and Laying out of Slip Lanes - 1994

22. Standards Criteria Guidelines

a) Standards Criteria and Guidelines Manual - 1996

23. State Highway Control

a) State Highway Control Manual - 1994
b) State Highway Development and Resource Management Manual - 1995
c) Austorads Guide to Field Surveillance of Quality Assurance Contracts - 1995

24. Street Lighting

a) NZS 6701: Code of Practice for Road Lighting - 1983

25. Traffic Signals

a) Traffic Signals - A guide to the Design of Traffic Signal Installations - 1990

Source: TNZ, Standards, Criteria and Guidelines, 1996

APPENDIX B: FOURTH SCHEDULE OF THE RMA 1991

FOURTH SCHEDULE

s 88(6)(b)

ASSESSMENT OF EFFECTS ON THE ENVIRONMENT

1. Matters that should be included in an assessment of effects on the environment— Subject to the provisions of any policy statement or plan, an assessment of effects on the environment for the purposes of section 88(6)(b) should include—

(a) A description of the proposal:

(b) Where it is likely that an activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:

(c) Repealed, as from 7 July 1993, by s 225 Resource Management Amendment Act 1993 (1993 No 65).

(d) An assessment of the actual or potential effect on the environment of the proposed activity:

(e) Where the activity includes the use of hazardous substances and installations, an assessment of any risks to the environment which are likely to arise from such use:

(f) Where the activity includes the discharge of any contaminant, a description of—

  (i) The nature of the discharge and the sensitivity of the proposed receiving environment to adverse effects; and

  (ii) Any possible alternative methods of discharge, including discharge into any other receiving environment:

(g) A description of the mitigation measures (safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:

(h) An identification of those persons interested in or affected by the proposal, the consultation undertaken, and any response to the views of those consulted:

  (i) Where the scale or significance of the activity's effect are such that monitoring is required, a description of how, once the proposal is approved, effects will be monitored and by whom.

2. Matters that should be considered when preparing an assessment of effects on the environment— Subject to the provisions of any policy statement or plan, any person preparing an assessment of the effects on the environment should consider the following matters:

(a) Any effect on those in the neighbourhood and, where relevant, the wider community including any socio-economic and cultural effects:

(b) Any physical effect on the locality, including any landscape and visual effects:

(c) Any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:

(d) Any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural, or other special value for present or future generations:

(e) Any discharge of contaminants into the environment, including any unreasonable emission of noise and options for the treatment and disposal of contaminants:

(f) Any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations.

APPENDIX C: CONTRACT PRICING SCHEDULE

Item	Description	Unit	Rate	Amount	
1.0	***General***				
1.1	Monthly Reporting	L.S			
1.2	Consultant's Project Quality Plan	L.S			
1.3	Site Safety Plan	L.S			
1.4	Liaison	L.S			
				Sub total Item 1.0	
2.0	***Strategy Review***				
2.1	Strategy Review Report	L.S			
2.2	Investigations Programme	L.S			
				Sub total Item 2.0	
3.0	***Investigations and Report***				
3.1	Survey	L.S			
3.2	Geotechnical Report and Analysis	L.S			
3.3	Environmental Impact Report	L.S			
3.4	Scheme Assessment Report	L.S			
3.5	Land Entry Consents	L.S			
				Sub total Item 3.0	
40	***Design and Documentation***				
4.1	Design and Project Development	L.S			
4.2	Contract Specifications and Tender Document	L.S			
4.3	Statutory Approvals and Advertising Costs	P.S			
				Sub total Item 4.0	
5.0	***Construction and Maintenance***				
5.1	Tender Administration	L.S			
5.3	Contract Completion Report	L.S			
5.4	Legislation Survey Brief	L.S			
				Sub total Item 5.0	
6.0	***Geotechnical Pricing*** ***(From Geotechnical Pricing Schedule)***			**Sub total Item 6.0**	
7.0	***Additional Services*** ***(From Additional Services)***			**Sub total Item 7.0**	
				Total Items 1.0-7.0	
8.0	***Provisional Sums***				
8.1	Random Verification Testing	P.S			
				Sub total Item 8.0	
	TOTAL TENDERED SUM (ITEMS 1.0-8.0)				

Source: TNZ 421/P6/0

APPENDIX D: SELECTION OF SURVEY PARTICIPANTS

All State Highway Safety and Improvement Projects Valued at more than $1 million (1993-1999)					
Year	TNZ Region	Number	Name	Cost ('000s)	Consultant undertaking Professional Services Component of Project
1993/4					
93/94	Auckland	14/7	Bond Street - Waterview Stage 2	6008	Duffil, Watts & King
93/94	Auckland	14/19	Constellation Interchange	12500	Opus - Auckland
93/94	Auckland	15/8	George Bolt Widening	4346	Woodward Clyde
93/94	Auckland	15/55	Old Albany Highway - Constellation	1800	Beca - Auckland
93/94	Auckland	26/29	Papatoetoe Bypass Shoulders	2200	Opus - Auckland
93/94	Auckland	26/26	Puhoi Bridge Replacement	1600	Opus - Auckland
93/94	Auckland	14/12	Quarry - Massey Road	30000	Beca - Auckland
93/94	Auckland	13/7	Rosebank Bridge Widening	1490	Beca - Auckland
93/94	Auckland	14/10	Rosebank Intersection	10810	Beca - Auckland
93/94	Auckland	14/14	St Stephens - Mill Road	8030	Opus - Auckland
93/94	Auckland	26/85	Upper Harbour Drive II	1520	Beca - Auckland
93/94	Auckland	14/11	Waterview - Rosebank	3410	Opus - Auckland
93/94	Auckland	15/3	Whites - Nikau	6500	Opus - Auckland
93/94	Auckland	26/46	Brynderwyn - Piroa	2026	Opus - Auckland
93/94	Auckland	15/21	Brynderwyn Summit	1050	Opus - Auckland
93/94	Auckland	16/13	Waimamaku - Forest Entrance	2580	Opus - Auckland
93/94	Auckland	16/12	Wairau Summit - Waipoua Bridge	4025	Opus - Auckland
93/94	Christchurch	12/1	Broken River Approaches	1385	Opus - Christchurch
93/94	Christchurch	15/12	Church Street Approaches	1147	Opus - Christchurch
93/94	Christchurch	15/26	Temuka Bypass	1541.8	Opus - Christchurch
93/94	Christchurch	15/12	Waiti-Sophie	2051	Opus - Christchurch
93/94	Christchurch	15/14	Arahura Kaikanui	1123	Opus - Christchurch
93/94	Christchurch	12/5	Havelock Approaches	1176.5	Opus - Christchurch
93/94	Dunedin	16/12	Boundary Camp Creek	1500	Opus - Dunedin
93/94	Dunedin	16/4	Haast Pass - Davis Flat	1091.5	Opus - Dunedin
93/94	Dunedin	26/10	McArthurs Bend	3025	Opus - Dunedin
93/94	Dunedin	26/11	Mosgiel Interchange	1900	Opus - Dunedin
93/94	Dunedin	26/12	Waihoia - Milburn Stage 1	1610	Opus - Dunedin
93/94	Hamilton	15/307	Fairy Springs 4 Laning Street	1804	Opus - Hamilton
93/94	Hamilton	16/378	Coromandel - Whangapoua s/e	7450	Beca - Auckland
93/94	Hamilton	16/763	Kuaotunu Hill	4600	Opus - Hamilton
93/94	Hamilton	26/872	Mangaiti Hill Realignment	5600	Bloxham, Burnett & Oliver
93/94	Hamilton	26/824	Mangatawhiri Bridge Realignment	5930	Opus - Hamilton
93/94	Hamilton	16/376	Owera - Myndermann's Hill s/e	2100	Bloxham, Burnett & Oliver
93/94	Hamilton	15/319	Pokeno Bypass I & II	8200	Bloxham, Burnett & Oliver
93/94	Hamilton	26/811	Tamahere Intersection	7300	Opus - Hamilton
93/94	Hamilton	26/488	Tuahu Realignment	1150	Bruce Henderson Consultants

Year	TNZ Region	Number	Name	Cost ('000s)	Consultant undertaking Professional Services Component of Project
93/94	Hamilton	26/867	Waikato Str. Realignment	4000	Bloxham, Burnett & Oliver
93/94	Hamilton	26/756	Whakahora Deviation	2989	Opus - Hamilton
93/94	Hamilton	16/374	Whangapoua - Owera s/e	2600	Bloxam, Burnett & Oliver
93/94	Wanganui	26/27	Butchers Creek	1996.6	Opus - Wanganui
93/94	Wanganui	26/60	Maxwell Okehu Stage 1	1945.3	Opus - Wanganui
93/94	Wanganui	26/67	Potshill Stage I	1760	Opus - Wanganui
93/94	Wanganui	26/25	Waiau Deviation	2020	Opus - Wanganui
93/94	Wellington	15/7	Brightwater Bypass Stage II	1533	Opus - Wellington
93/94	Wellington	15/12	Whangamamoa Hill North Realignment	2838	Opus - Wellington
93/94	Wellington	26/15	Bellmont Road Realignment	2565	Opus - Wanganui
93/94	Wellington	15/12	Ramp Bridge Replacement	5230.7	Opus - Wanganui
93/94	Wellington	26/52	State Highway 2 Median Barriers D	1190	Opus - Wanganui
1994/5					
94/95	Auckland	411	Church - Timbermill	1449	Opus - Hamilton
94/95	Auckland	72	Hobsonville Road Widening	2050	Bruce Wallace Consultants
94/95	Auckland	55	Manukau - Manurewa	4000	Opus - Auckland
94/95	Auckland	40	Northern Corridor IR	1170	Manukau Consultants
94/95	Auckland	28	Papatoetoe - Maukau Widening	5400	Opus - Auckland
94/95	Auckland	70	Upper Harbour Drive Widening	2800	Beca - Auckland
94/95	Auckland	53	Western Springs - Newton AuxL	1120	Opus - Auckland
94/95	Auckland	47	Brynderwyn North	1500	Opus - Auckland
94/95	Christchurch	75	Cass River Bridge	1805	Opus - Christchurch
94/95	Christchurch	10	Otira Viaduct	15050	Beca - Christchurch
94/95	Dunedin	13	Hillgrove - Kaitiki	2086.3	Montgomery Watson
94/95	Dunedin	9	Last Creek - Scrub Barn	1830	Opus - Dunedin
94/95	Dunedin	1	Tiroti - Kokonga	1400	Opus - Dunedin
94/95	Hamilton	416	Heavens Curves	1470	Opus - Hamilton
94/95	Hamilton	440	Oturu - Swampy Realignment	1022.5	Opus - Hamilton
94/95	Napier	40	Elands - Glengarry Realignment	4510	Opus - Napier
94/95	Wanganui	29	South of Greatford	1112	Opus - Wanganui
94/95	Wellington	8	Newlands Interchange	8100	Opus - Wellington
1995/6					
95/96	Auckland	51	Albany/Puhoi Stage 2-4	1300	Opus - Auckland
95/96	Auckland	50	S.E Arterial Construction	6800	Bloxam, Burnett & Oliver
95/96	Auckland	60	Hukerenui Relignment	1200	Duffil, Watts & King
95/96	Auckland	52	Urlichs Hill Realignment	1300	Duffil, Watts & King
95/96	Dunedin	10	SH87 Seal Extension	3230	Opus - Dunedin
95/96	Hamilton	556	Earthquake Flat	3064	SIGMA Consultants
95/96	Wanganui	9	Laws Hill	3250	Opus - Wanganui
95/96	Wanganui	23	Maxwell - Bushy Park Stage II	2400	Opus - Wanganui

Year	TNZ Region	Number	Name	Cost ('000s)	Consultant undertaking Professional Services Component of Project
1996/7					
96/97	Auckland	66	Alpurt Stage A1 & A2	66300	Opus - Auckland
96/97	Auckland	51	Alpurt Stage A1 & A2	4500	Opus - Auckland
96/97	Auckland	41	Alpurt Stage B1(a)	1600	Beca - Auckland
96/97	Auckland	411	Church Timbermill	2002	Opus - Auckalnd
96/97	Auckland	2	Orewa River Bridge	5870	Opus - Auckland
96/97	Auckland	134	Philips - Hudson Widening	1355	Beca - Auckland
96/97	Christchurch	155	SH73 Craigieburn Stm Bridge	1200	Montgomery Watson
96/97	Christchurch	210	SH73 Otira Viaduct	26100	Beca - Christchurch
96/97	Hamilton	565	Tarukenga Curves Stage II	2151	Opus - Rotorua
96/97	Hamilton	555	Tumunui South Realignment	2937	SIGMA Consultants
96/97	Hamilton	400	Waimana Gorge - B/S Curve	2020	Opus - Rotorua
96/97	Napier	4	Allen Road - Omahu Road	15300	Opus - Napier
96/97	Wanganui	91	Bradleys	1461	Opus - Palmerston North
96/97	Wanganui	4	Paparata Saddle	1785.6	Opus - Palmerston North
96/97	Wanganui	10	Spiral Hill	1200	Opus - Palmerston North
96/97	Wanganui	71	Vinegar Hill Reconstruction	5080	Paynes Sewell
96/97	Wanganui	52	Waihapa Curves	1128	Opus - Wanganui
96/97	Wellington	7	Stoke Bypass	23500	Opus - Wellington
96/97	Wellington	75	Maisey-Bronte	4140.5	Opus - Wellington
96/97	Wellington	71	Inner City Bypass Stage 2	1000	Opus - Wanganui
96/97	Wellington	67	Kapiti Intersection	2875	Worley - Wellington
96/97	Wellington	2	Thorndon Overbridge	18150	Beca - Wellington
1997/8					
97/98	Auckland	80	Alpurt Sector B1 (a)	19010	Beca - Auckland
97/98	Auckland	79	Alpurt Sector B2	2880	Delayed
97/98	Auckland	70	Esmonde-Onewa NthBd Widen	1100	Duffil, Watts & King
97/98	Christchurch	211	Candys to Starvation Const.n	3600	
97/98	Dunedin	153	Kaitangata Turnoff	1000	Duffil, Watts & King
97/98	Dunedin	176	Sloans Tumai Realignment	3300	Montgomery Watson
97/98	Hamilton	500	Maungarangi S Bends	1700	Beca - Rotorua
97/98	Hamilton	427	Stockpile Curves Realignment	2530	
97/98	Hamilton	522	Platts Road Realignment	1665	Bloxham, Burnett & Oliver
97/98	Wanganui	121	North Mission Road	1080	Paynes Souell
97/98	Wanganui	116	Spiral Hill North	1300	Opus - Wanganui
97/98	Wanganui	129	Taihape Deviation	2448	Worley - Hamilton
97/98	Wanganui	38	Ngaere Overbridge	2520	Beca - New Plymouth
97/98	Wellington	71	I/C Bypass Stage 2	1630	Opus - Wellington
97/98	Wellington	5	Manor Park 4 Lane	5500	Opus - Wellington
97/98	Wellington	47	Pukerua Bay	1140	Beca - Wellington
97/98	Wellington	73	Pukerua Bay to Plimmerton	8500	Beca - Wellington

Year	TNZ Region	Number	Name	Cost ('000s)	Consultant undertaking Professional Services Component of Project
97/98	Wellington	342	Transmission Gulley	1375	Beca - Wellington
1998/9					
98/99	Auckland	5	AHB Seismic Upgrade	1040	Beca - Auckland
98/99	Auckland	163	Papakura - Mill Road Lighting	1583	Opus - Auckland
98/99	Hamilton	373	South of Sargants Corner Realignment	1980	Opus - Paeroa
98/99	Dunedin	238	Makarora Bridge Widening	1280	Opus - Dunedin
98/99	Hamilton	683	Whangamarino - Long Swamp DP	1200	Opus - Hamilton
98/99	Wanganui	106	South of Waiouru Rail Crossing	2963.2	Paynes/Royds Wanganui
98/99	Wanganui	151	Urenui Bridge and Approaches	2025	Beca - New Plymouth
98/99	Wellington	74	Plimmerton to Mana	2565.1	Beca - Wellington

All Local Road Safety and Improvement Projects Valued at more than $1 million (1993-1999)					
Year	TNZ Region	Number	Name	Cost ('000'S)	Local Authority undertaking Professional Services Component of Project
1993/94					
93/94	Auckland	24/3	Eastern Access to Auckland Airport	4180	Manukau
93/94	Auckland	23/56	Monument Bypass	1200	Auckland
93/94	Auckland	24/57	Mount Wellington Bridge Widening	2630	Auckland
93/94	Auckland	21/119	Orakei Tanks II	1297.5	Auckland
93/94	Auckland	24/51	Panmure Roundabout	2177	Auckland
93/94	Auckland	26/4	Rosedale Road	1220	Northshore
93/94	Auckland	24/2	Taharoto Wideing	1605	North Shore
93/94	Auckland	23/710	Upper Harbour M/way - Albany	3864	Northshore
93/94	Auckland	23/1	Fred Thomas Drive Extension	1520	North Shore
93/94	Christchurch	28/2	Fendalton Road	2762.8	Christchurch
93/94	Christchurch	23/12	Northcote Expressway Stage IV	2365	Christchurch
93/94	Hamilton	23/187	Route 'P' Stage I	7500	Tauranga
93/94	Napier	24/1	St Aubyns Street Widening	2370.2	Hastings
93/94	Wanganui	26/1	Bruce Road	1947.6	Dept of Conservation
93/94	Wanganui	24/7	Fitzherbert Avenue Tidal Flow	1086.3	Palmerston North
93/94	Wanganui	24/26	Summerhill Drive Intersection	1788.3	Palmerston North
93/94	Wellington	21/101	Ewen Bridge Replacement	8320	Hutt
93/94	Wellington	21/103	Ramp Bridge Replacement	5153	Porirua
1994/5					
94/95	Auckland	704	Glencoe/Beach & Anzac/Beach	1175	Northshore
94/95	Auckland	401	Great North Road Widening	1406	Auckland
94/95	Dunedin	901	Glenorchy Road	4600	Queenstown Lakes
94/95	Hamilton	400	Pukete Arterial	3540	Hamilton
94/95	Hamilton	401	Totara Drive Bridge	1720	Hamilton
1995/6					
95/96	Auckland	13	Albany Highway - Oteha Link	1729.1	Northshore
95/96	Auckland	704	Cleasby's Hill Seal Extension II	1480	Rodney
95/96	Auckland	708	Glencoe/Beach/Anzac Intersection	1175	Northshore
95/96	Auckland	18	Great South/Sylvia PK Intersection	3250	Auckland
95/96	Auckland	13	S.E Arterial Construction	26070	Auckland
95/96	Auckland	73	Pawarenga Road I	1290	Far North
95/96	Auckland	60	Westcoast Road III	1572.3	Far North
95/96	Wanganui	1	Pipiriki Road Seal Extension	1290	Ruapehu
95/96	Wellington	101	Ewen Bridge Replacement	8740	Hutt
1996/7					
96/97	Auckland	1	Alpurt Orewa Link connection	2200	Rodney
96/97	Christchurch	2	Marsden Road Seal Extension	1056	Grey
96/97	Wellington	461	Mungavin Duplication	3660	Porirua
96/97	Wellington	441	Parkway Extension	1075	Hutt

Year	TNZ Region	Number	Name	Cost ('000'S)	Local Authority undertaking Professional Services Component of Project
1997/8					
97/98	Auckland	49	Khyber/Symonds/Newton	2109	Auckland
97/98	Auckland	9	Khyber/Symonds/Newton	1367	Auckland
97/98	Auckland	21	Mount Eden/Balmoral Intersection	1575	Auckland
97/98	Auckland	18	Wairau Roading Network Upgrade	4200	North Shore
97/98	Auckland	76	Pokapu Road I	1134	Far North
97/98	Christchurch	122	Aldwins/Ensors/Ferry Intersection	1020	Christchurch
97/98	Dunedin	11	Hagart Alexander Drive	2088	Dunedin
1998/9					
98/99	Auckland	421	Golf/Walmsley/Mangere	1960	Auckland
98/99	Auckland	1	Great South Rd/Station Road	3200	Auckland
98/99	Auckland	424	Greenlane West	2100	Auckland
98/99	Auckland	2	Henderson Valley/Railside Avenue	1036	Waitakere
98/99	Auckland	8	Oteha Valley Road Upgrade	6985	Northshore
98/99	Auckland	46	Rawhiti Road - South	1435	Far North
98/99	Christchurch	410	Blenheim Road (Clarence-Curletts)	1393.2	Christchurch
98/99	Christchurch	406	Lincoln Road (Sylvan-Barrington)	3360	Christchurch
98/99	Hamilton	414	R1 Stage II	4385	Hamilton

APPENDIX E: QUESTIONNAIRE

Rachel Stuart
c/- Hastings District Council
Private Bag 9002
HASTINGS

14 September 1998

«Position»
«Name»
«Address1»
«Address2»
«Address3»

Attention: «Attention»

Dear Sir

I am a part time student at Massey University, completing my final year of my Masters of Resource Planning. Part of the requirements of the completion of this course is a two paper thesis. The topic that I have selected is titled '*Procurement of Professional Planning Services for Roading Projects under a Competitive Pricing Regime*'.

I have already completed the literature review and background chapters to this thesis, and are currently undertaking my research investigations. Phase One of the research investigation involves the survey of (a) consultants involved in bidding for Professional Services Contracts for both State Highway and Local Roading Projects, and (b) the Roading Authorities who let these contracts. The purpose of this is to identify how both the consultants and Roading Authorities view different aspects of the tendering procedures adopted, with particular reference to the planning inputs. Four main aspects of this process have been identified, and form the basis of the questions in the questionnaire: (1) Adequacy of the Request for Tender, (2) Basis for Tender Pricing, (3) Pricing Models, and (4) Evaluation of Tenders.

I would appreciate it if this questionnaire could be completed by **Friday 25 September 1998**, and sent back to me in the stamped self addressed envelope provided. I anticipate that the questionnaire will only take approximately 10 minutes to complete, and request that it be completed by the person in your organisation who has the most involvement in preparing the bid for Professional Services Contracts for major roading projects.

The results of survey will be summarised and made available to all those who participated in it. The information contained within the questionnaires will remain confidential, and no reference will be made in the summary, or the final document to any individual consultant. It is therefore not necessary to fill out your name and company name at the end of the questionnaire if you do not wish to. Thank you very much for your time and I look forward to your response.

Yours sincerely

Rachel Stuart

SURVEY OF THE IMPACT OF COMPETITIVE PRICING PROCEDURES ON PROFESSIONAL PLANNING SERVICES

Survey of Consultants

1. ADEQUACY OF REQUEST FOR TENDER (RFT)

a. Overall, how adequately do **Transit New Zealand** generally specify the scope and specifications for the services to be provided in the RFT for each of the following components?

COMPONENTS OF RFT	1 Totally Inadequate	2	3 Adequate	4	5 Very Adequate
1. Engineering Inputs:	-	33%	44%	11%	11%
2. Planning Inputs:					
a. Consultation Required	11%	48%	26%	11%	4%
b. AEE	4%	44%	26%	19%	7%
c. Resource Consents	-	52%	30%	15%	4%

b. Overall, how adequately do **Local Authorities** generally specify the scope and specifications for the services to be provided in the RFT for each of the following components?

COMPONENTS OF RFT	1 Totally Inadequate	2	3 Adequate	4	5 Very Adequate
1. Engineering Inputs:	7%	30%	59%	4%	-
2. Planning Inputs:					
a. Consultation Required	19%	48%	26%	7%	-
b. AEE	11%	37%	48%	4%	-
c. Resource Consents	15%	33%	44%	7%	-

c. Do you consider that the affected parties to be consulted with should be scheduled by the Roading Authority in the RFT?..... YES **74%** NO **22%** DNA **4%**

d. Do you consider that a limit should be specified in the RFT on the maximum number of times the consultant is expected to consult with any one party? ..... YES **74%** NO **26%** DNA **-**

e. If Yes, how many times?

1-2	2-3	3-4	4-5
-	59%	15%	-

f. If the planning inputs required were specified in more detail in the RFT would you consider that it would:

(i) Reduce the risks for the consultant and therefore the tender price? YES **78%** NO **19%** DNA **4%**

(ii) Reduce the range of prices received by the Tendering Authority? YES **81%** NO **15%** DNA **4%**

g. Where the price model is Lump Sum, and the method of evaluation is Weighted Attribute, would you be prepared to include the following in your methodology?

	YES	NO	POSSIBLY
I. Engage specialists to assess environmental impacts	52%	11%	37%
II. Undertake detailed Social Impact Assessments	33%	22%	44%
III. Include hui and public meetings	48%	22%	30%
IV. Use direct valuation methods to assess intangible environmental effects in the AEE *	22%	22%	56%
V. Use indirect valuation methods to assess intangible environmental effects in the AEE**	26%	22%	52%

* *ie: Hendonic Pricing, Travel Cost Method, Contingent Valuation*
** *ie: Team Rating, Impact Matrices, Scaling & Weighting*

h. Where the price model is not Lump Sum, and the method of evaluation is Brooks Law or Target Price, would you be prepared to include the following in your methodology?

	YES	NO	POSSIBLY
I. Engage specialists to assess environmental impacts	81%	-	19%
II. Undertake detailed Social Impact Assessments	74%	-	26%
III. Include hui and public meetings	85%	-	15%
IV. Use direct valuation methods to assess intangible environmental effects in the AEE *	67%	-	33%
V. Use indirect valuation methods to assess intangible environmental effects in the AEE**	67%	4%	30%

* *ie: Hendonic Pricing, Travel Cost Method, Contingent Valuation*
** *ie: Team Rating, Impact Matrices, Scaling & Weighting*

i. Do you consider the page limits normally included in the RFT to be too restrictive to differentiate the non-price attributes between tenderers?

1 Very Restrictive	2	3 Acceptable	4	5 Not Restrictive
11%	11%	63%	-	15%

j. If you consider the page limits to be restrictive, do you consider this is likely to make the selection of consultants price sensitive? YES **48%** NO **19%** DNA **33%**

k. Do you consider it would be beneficial to have more explicit specifications for the planning inputs in the RFT?. YES **81%** NO **15%** DNA **4%**

2. TENDER EVALUATION METHODS

a. Is your overall tender price influenced by the price weightings specified in the RFT for a Weighted Attribute Method of Tender Evaluation?

PRICE WEIGHT	1 Not at all Influenced	2	3 Somewhat Influenced	4	5 Very Influenced	DNA
5%	**26%**	**22%**	**33%**	**15%**	**4%**	-
10%	**7%**	**26%**	**30%**	**26%**	**11%**	-
15%	**7%**	**4%**	**33%**	**11%**	**44%**	-
20%	**7%**	**4%**	**15%**	**15%**	**59%**	-

b. Of the following quality based methods of selection of consultants, which method do you consider is most likely to achieve the overall desired outcomes for the Roading Authorities:

SELECTION METHOD	1 Never achieves	2	3 Usually achieves	4	5 Always achieves	DNA
1. Brooks Law	-	**4%**	**22%**	**37%**	**33%**	**4%**
2. Weighted Attribute (With a 10% Price Weighting)	**4%**	**30%**	**52%**	**11%**	-	**4%**
3. Weighted Attribute (With a 20% Price Weighting)	**15%**	**63%**	**15%**	-	**4%**	**4%**
4. Quality Price Trade-Off	-	**30%**	**33%**	**22%**	**4%**	**11%**
5. Target Price	-	**30%**	**30%**	**26%**	**4%**	**11%**

3. PRICE MODELS

a. Are you generally satisfied with the Price Models (in the Contract Pricing Schedule) for:

SELECTION METHOD	1 Very unsatisfied	2	3 Satisfied	4	5 Very satisfied	DNA
1. Engineering Inputs	**7%**	**33%**	**41%**	**11%**	**4%**	**4%**
2. Planning Inputs	**9%**	**52%**	**15%**	**4%**	**7%**	**4%**

b. Do you think the Planning Inputs should be scheduled and priced separately from the Engineering Inputs? ... YES **78%** NO **19%** DNA **4%**

c. If the Planning Inputs are scheduled separately, what do you consider to be the most appropriate Price Models for the following planning inputs?

PRICING MODELS	Consultation Required	Assessment of Environmental Effects	Resource Consent Applications
1. Consultant Specified Lump Sum	-	**30%**	**33%**
2. Price Schedule of Quantities (ie: client estimate of hours multiplied by consultants tendered hourly rate)	**44%**	**26%**	**11%**
3. Schedule of Rates (ie: unit rate per consultation and resource consent application)	**44%**	**26%**	**37%**
4. Client Specified Lump Sum	-	**7%**	**7%**
5. DNA	**11%**	**11%**	**11%**

4. EVALUATION OF TENDERS

a. Do you consider that Non-Price Attribute grades from **Transit New Zealand** usually fairly reflect your company's attributes, particularly relative to other tenderers?

NON-PRICE ATTRIBUTES	1 Unfair	2	3 Fair	4	5 Very Fair	DNA
Relevant Experience	22%	19%	33%	19%	4%	4%
Track Record	15%	19%	48%	15%	-	4%
Technical Skills	11%	11%	48%	15%	11%	4%
Management Skills	7%	11%	59%	15%	4%	4%
Methodology	11%	22%	30%	26%	7%	4%

b. Do you consider that Non-Price Attribute grades from **Local Authorities** usually fairly reflect your company's attributes, particularly relative to other tenderers?

NON-PRICE ATTRIBUTES	1 Unfair	2	3 Fair	4	5 Very Fair	DNA
Relevant Experience	19%	37%	30%	7%	7%	-
Track Record	19%	44%	26%	7%	4%	-
Technical Skills	15%	26%	44%	7%	7%	-
Management Skills	19%	33%	33%	7%	7%	-
Methodology	19%	33%	37%	7%	4%	-

c. Have you found the tender evaluation process undertaken by **Transit New Zealand** to be price sensitive using the following methods?

SELECTION METHOD	1 Always	2	3 Sometimes	4	5 Never
1. Weighted Attribute (With a 10% Price Weighting)	26%	56%	11%	7%	-
2. Weighted Attribute (With a 20% Price Weighting)	63%	26%	4%	7%	-

d. Have you found the tender evaluation process undertaken by **Local Authorities** to be price sensitive using the following methods?

SELECTION METHOD	1 Always	2	3 Sometimes	4	5 Never
1. Weighted Attribute (With a 10% Price Weighting)	30%	56%	11%	4%	-
2. Weighted Attribute (With a 20% Price Weighting)	63%	22%	7%	7%	-

e. Transfund New Zealand have identified the need for more consistent attribute marking and more training of evaluation teams. If this problem is addressed, do you consider the selection of consultants using the Weighted Attribute Method of evaluation is likely to be less price sensitive?

1 Unlikely	2	3 Likely	4	5 Highly Likely
19%	37%	26%	7%	11%

5. GENERAL

a. Which of the following areas do you consider could be improved in order to produce better planning outcomes?

	AREAS OF IMPROVEMENT	YES	NO	DNA
1.	Improved Scope of Request for Tender	74%	19%	7%
2.	More detailed Specifications for Planning Inputs	78%	11%	11%
3.	More frequent use of Priced Schedule of Quantities as the Pricing Model	56%	19%	26%
4.	More frequent use of Schedule of Rates as the Price Model	63%	15%	22%
5.	More frequent use of Client Specified Lump Sum as the Price Model	15%	63%	22%
6.	More frequent use of Brooks Law	74%	22%	4%
7.	Separate Request for Tender for Planning Inputs	19%	67%	15%
8.	No page limit for bid	22%	63%	15%
9.	Lower weightings of prices	63%	22%	15%
10.	Better trained evaluation teams	81%	11%	7%

b. General Comments

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Name: ..... Position:.....

Company: .....

Date: .....

Please return in the stamped self addressed envelope provided by the 25 September 1998

SURVEY OF THE IMPACT OF COMPETITIVE PRICING PROCEDURES ON PROFESSIONAL PLANNING SERVICES

Survey of Transit New Zealand Regional Offices

1. ADEQUACY OF REQUEST FOR TENDER (RFT)

a. Approximately what percentage of Professional Services Contracts let in your Region are evaluated using the following methods?

METHOD	PERCENTAGE
1. Brooks Law	
2. Weighted Attribute (With a 10% Price Weighting)	
3. Weighted Attribute (With a 20% Price Weighting)	
4. Quality Price Trade-Off	
5. Target Price	
6. DNA	

b. Overall, how adequately do you consider you specify the scope and specifications for the services to be provided, in the RFT for each of the following components?

COMPONENTS OF RFT	1 Totally Inadequate	2	3 Adequate	4	5 Very Adequate
1. Engineering Inputs:	-	-	**29%**	**14%**	**57%**
2. Planning Inputs:					
a) Consultation Required	-	-	**71%**	**14%**	**14%**
b) AEE	-	-	**29%**	**43%**	**29%**
c) Resource Consents	-	-	**29%**	**57%**	**14%**

c. Do you consider that a limit should be specified in the RFT on the maximum number of times the consultant is expected to consult with any one party? YES **29%** NO **71%**

d. If Yes, how many times?

1-2	2-3	3-4	4-5
50%	**50%**	-	-

e. If the planning inputs required were specified in more detail in the RFT would you consider that it would:

(i) Reduce the risks for the consultant and therefore the tender price? YES **29%** NO **71%**

(ii) Reduce the range of prices received by the Tendering Authority? YES **14%** NO **86%**

f. Do you schedule the affected parties to be consulted with in the RFT?..... YES **57%** NO **43%**

g. Where the price model is Lump Sum, and the method of evaluation is Weighted Attribute, would you expect the consultant to include the following in their methodology?

	YES	NO	POSSIBLY
I. Engage specialists to assess environmental impacts	**43%**	-	**57%**
II. Undertake detailed Social Impact Assessments	**29%**	**29%**	**43%**
III. Include hui and public meetings	**43%**	-	**57%**
IV. Use direct valuation methods to assess intangible environmental effects in the AEE *	**14%**	-	**86%**
V. Use indirect valuation methods to assess intangible environmental effects in the AEE**	**14%**	-	**86%**

* *ie: Hendonic Pricing, Travel Cost Method, Contingent Valuation*
** *ie: Team Rating, Impact Matrices, Scaling & Weighting*

h. Where the price model is not Lump Sum, and the method of evaluation is Brooks Law or Target Price, would you expect the consultant to include the following in their methodology?

	YES	NO	POSSIBLY
I. Engage specialists to assess environmental impacts	**71%**	-	**29%**
II. Undertake detailed Social Impact Assessments	**43%**	-	**57%**
III. Include hui and public meetings	**71%**	-	**29%**
IV. Use direct valuation methods to assess intangible environmental effects in the AEE *	**14%**	-	**86%**
V. Use indirect valuation methods to assess intangible environmental effects in the AEE**	-	-	**100%**

* *ie: Hendonic Pricing, Travel Cost Method, Contingent Valuation*
** *ie: Team Rating, Impact Matrices, Scaling & Weighting*

i. Do you consider the page limits normally included in the RFT to be too restrictive to differentiate the non-price attributes between tenderers?

1 Very Restrictive	2	3 Acceptable	4	5 Not Restrictive
-	-	**14%**	**14%**	**71%**

j. If you consider the page limits to be restrictive, do you consider this is likely to make the selection of consultants price sensitive? YES - NO **100%**

k. Do you consider it would be beneficial to have more explicit specifications for the planning inputs in the RFT?. YES - NO **100%**

2. TENDER EVALUATION METHODS

a. How much do you consider the overall tender price is influenced by the following price weightings specified in the RFT for a Weighted Attribute Method of Tender Evaluation?

PRICE WEIGHT	1 Not at all Influenced	2	3 Somewhat Influenced	4	5 Very Influenced	DNA
5%	**14%**	**71%**	-	-	-	**14%**
10%	-	**43%**	**43%**	-	-	**14%**
15%	-	**14%**	**29%**	**43%**	-	**14%**
20%	-	**14%**	-	**29%**	**57%**	-

b. Of the following quality based methods of selection of consultants, which method do you consider is most likely to achieve the overall desired outcomes for you, in terms of meeting the project programme, budget and quality?

SELECTION METHOD	1 Never achieves	2	3 Usually achieves	4	5 Always achieves	DNA
1. Brooks Law	-	-	**57%**	**29%**	-	**14%**
2. Weighted Attribute (With a 10% Price Weighting)	-	-	**43%**	**29%**	-	**29%**
3. Weighted Attribute (With a 20% Price Weighting)	-	**14%**	**57%**	**14%**	-	**14%**
4. Quality Price Trade-Off	-	-	**43%**	**14%**	-	**43%**
5. Target Price	-	**33%**	**17%**	**17%**	-	**43%**

3. PRICE MODELS

a. Approximately what percentage of Professional Services Contracts let in your Region use the following pricing models (in the Contract Pricing Schedule) for the Planning Inputs?

PRICING MODEL	PERCENTAGE
1. Consultant Specified Separate Lump Sum	
2. Consultant Specified Separate Lump Sum combined with Engineering Inputs	
3. Priced Schedule of Quantities	
4. Schedule of Rates	
5. Client Specified Lump Sum	
6. DNA	

b. Do you schedule and price the Planning Inputs separately from the Engineering Inputs?

1 Never	2	3 Sometimes	4	5 Always
-	-	-	**29%**	**71%**

c. If the Planning Inputs were scheduled separately, what do you consider to be the most appropriate Price Models for the following planning inputs?

PRICE MODELS	Consultation Required	Assessment of Environmental Effects	Resource Consent Applications
1. Consultant Specified Lump Sum	**43%**	**57%**	**57%**
2. Price Schedule of Quantities (ie: client estimate of hours multiplied by consultants tendered hourly rate)	**43%**	-	**14%**
3. Schedule of Rates (ie: unit rate per consultation and resource consent application)	-	-	**14%**
4. Client Specified Lump Sum	**14%**	**43%**	**14%**

4. EVALUATION OF TENDERS

a. What percentage of Professional Services Contracts are awarded in your Region to the consultant which bid the lowest price?

0-25%	25-50%	50-75%	75-100%	DNA
14%	**14%**	**43%**	**14%**	**14%**

b. Do you find the tender evaluation process undertaken by you to be price sensitive using the following methods?

SELECTION METHOD	1 Always	2	3 Sometimes	4	5 Never	DNA
1. Weighted Attribute (With a 10% Price Weighting)	29%	14%	43%	-	-	14%
2. Weighted Attribute (With a 20% Price Weighting)	43%	29%	14%	14%	-	-

5. GENERAL

a. Which of the following areas do you consider could be improved in order to produce better planning outcomes?

AREAS OF IMPROVEMENT	YES	NO	DNA
1. Improved Scope of Request for Tender	86%	14%	-
2. More detailed Specifications for Planning Inputs	43%	57%	-
3. More frequent use of Priced Schedule of Quantities as the Pricing Model	29%	71%	-
4. More frequent use of Schedule of Rates as the Price Model	14%	71%	14%
5. More frequent use of Client Specified Lump Sum as the Price Model	29%	57%	14%
6. More frequent use of Brooks Law	14%	86%	-
7. Separate Request for Tender for Planning Inputs	-	100%	-
8. No page limit for bid	-	100%	-
9. Lower weightings of prices	-	100%	-
10. Better trained evaluation teams	43%	57%	-

b. General Comments

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Name:.....Position:.....

Company: .....

Date: .....

Please return in the stamped self addressed envelope provided by the 21 September 1998

SURVEY OF THE IMPACT OF COMPETITIVE PRICING PROCEDURES ON PROFESSIONAL PLANNING SERVICES

Survey of Local Authorities

1. ADEQUACY OF REQUEST FOR TENDER (RFT)

a. Approximately what percentage of Professional Services Contracts let in your Region are evaluated using the following methods?

METHOD	PERCENTAGE
1. Brooks Law	
2. Weighted Attribute (With a 10% Price Weighting)	
3. Weighted Attribute (With a 20% Price Weighting)	
4. Quality Price Trade-Off	
5. Target Price	
6. DNA	

b. Overall, how adequately do you consider you specify the scope and specifications for the services to be provided, in the RFT for each of the following components?

COMPONENTS OF RFT	1 Totally Inadequate	2	3 Adequate	4	5 Very Adequate	DNA
1. Engineering Inputs:	-	-	**36%**	**43%**	**21%**	-
2. Planning Inputs:						
a) Consultation Required	-	**14%**	**43%**	**21%**	**21%**	-
b) AEE	-	**7%**	**57%**	**14%**	**14%**	**7%**
c) Resource Consents	-	-	**57%**	**21%**	**21%**	-

c. Do you consider that a limit should be specified in the RFT on the maximum number of times the consultant is expected to consult with any one party? ..... YES **50%** NO **50%**

d. If Yes, how many times?

1-2	2-3	3-4	4-5
43%	**57%**	-	-

e. If the planning inputs required were specified in more detail in the RFT would you consider that it would:

(i) Reduce the risks for the consultant and therefore the tender price? YES **71%** NO **29%**

(ii) Reduce the range of prices received by the Tendering Authority? YES **43%** NO **57%**

f. Do you schedule the affected parties to be consulted with in the RFT?..... YES **50%** NO **50%**

g. Where the price model is Lump Sum, and the method of evaluation is Weighted Attribute, would you expect the consultant to include the following in their methodology?

	YES	NO	POSSIBLY
I. Engage specialists to assess environmental impacts	**50%**	**7%**	**43%**
II. Undertake detailed Social Impact Assessments	**36%**	**21%**	**43%**
III. Include hui and public meetings	**50%**	**7%**	**43%**
IV. Use direct valuation methods to assess intangible environmental effects in the AEE *	**29%**	**21%**	**50%**
V. Use indirect valuation methods to assess intangible environmental effects in the AEE**	**29%**	**29%**	**43%**

* *ie: Hendonic Pricing, Travel Cost Method, Contingent Valuation*
** *ie: Team Rating, Impact Matrices, Scaling & Weighting*

h. Where the price model is not Lump Sum, and the method of evaluation is Brooks Law or Target Price, would you expect the consultant to include the following in their methodology?

	YES	NO	POSSIBLY	DNA
I. Engage specialists to assess environmental impacts	**50%**	**7%**	**21%**	**21%**
II. Undertake detailed Social Impact Assessments	**43%**	**14%**	**14%**	**29%**
III. Include hui and public meetings	**50%**	**7%**	**14%**	**29%**
IV. Use direct valuation methods to assess intangible environmental effects in the AEE *	**36%**	**14%**	**21%**	**29%**
V. Use indirect valuation methods to assess intangible environmental effects in the AEE**	**29%**	**14%**	**29%**	**29%**

* *ie: Hendonic Pricing, Travel Cost Method, Contingent Valuation*
** *ie: Team Rating, Impact Matrices, Scaling & Weighting*

i. Do you consider the page limits normally included in the RFT to be too restrictive to differentiate the non-price attributes between tenderers?

1 Very Restrictive	2	3 Acceptable	4	5 Not Restrictive
-	**14%**	**21%**	**43%**	**21%**

j. If you consider the page limits to be restrictive, do you consider this is likely to make the selection of consultants price sensitive? YES **17%** NO **83%**

k. Do you consider it would be beneficial to have more explicit specifications for the planning inputs in the RFT?. YES **43%** NO **57%**

2. EVALUATION OF TENDERS

a. How much do you consider the overall tender price is influenced by the following price weightings specified in the RFT for a Weighted Attribute Method of Tender Evaluation?

PRICE WEIGHT	1 Not at all Influenced	2	3 Somewhat Influenced	4	5 Very Influenced	DNA
5%	**43%**	**29%**	**7%**	**7%**	**14%**	-
10%	**14%**	**29%**	**43%**	**7%**	**7%**	-
15%	-	**21%**	**43%**	**29%**	**7%**	-
20%	-	**7%**	**36%**	**36%**	**21%**	-

b. Of the following quality based methods of selection of consultants, which method do you consider is most likely to achieve the overall desired outcomes for you, in terms of meeting the project programme, budget and quality?

SELECTION METHOD	1 Never achieves	2	3 Usually achieves	4	5 Always achieves	DNA
1. Brooks Law	-	21%	29%	14%	7%	29%
2. Weighted Attribute (With a 10% Price Weighting)	-	21%	14%	43%	-	21%
3. Weighted Attribute (With a 20% Price Weighting)	-	14%	43%	21%	-	21%
4. Quality Price Trade-Off	-	14%	21%	21%	-	43%
5. Target Price	7%	13%	27%	27%	-	27%

3. PRICE MODELS

a. Approximately what percentage of Professional Services Contracts let in your Region use the following pricing models (in the Contract Pricing Schedule) for the Planning Inputs?

PRICING MODEL	PERCENTAGE
1. Consultant Specified Separate Lump Sum	
2. Consultant Specified Separate Lump Sum combined with Engineering Inputs	
3. Priced Schedule of Quantities	
4. Schedule of Rates	
5. Client Specified Lump Sum	

b. Do you schedule and price the Planning Inputs separately from the Engineering Inputs?

1 Never	2	3 Sometimes	4	5 Always
7%	36%	29%	29%	-

c. If the Planning Inputs were scheduled separately, what do you consider to be the most appropriate Price Models for the following planning inputs?

PRICING MODELS	Consultation Required	Assessment of Environmental Effects	Resource Consent Applications
1. Consultant Specified Lump Sum	21%	57%	36%
2. Price Schedule of Quantities (ie: client estimate of hours multiplied by consultants tendered hourly rate)	36%	21%	29%
3. Schedule of Rates ie: unit rate per consultation and resource consent application)	21%	7%	14%
4. Client Specified Lump Sum	7%	-	7%
5. DNA	14%	14%	14%

4. EVALUATION OF TENDERS

a. What percentage of Professional Services Contracts are awarded in your Region to the consultant which bid the lowest price?

0-25%	25-50%	50-75%	75-100%	DNA
14%	14%	43%	14%	14%

b. Do you find the tender evaluation process undertaken by you to be price sensitive using the following methods?

SELECTION METHOD	1 Always	2	3 Sometimes	4	5 Never	DNA
1. Weighted Attribute (With a 10% Price Weighting)	-	14%	21%	29%	14%	21%
2. Weighted Attribute (With a 20% Price Weighting)	-	29%	50%	7%	7%	7%

5. GENERAL

a. Which of the following areas do you consider could be improved in order to produce better planning outcomes?

AREAS OF IMPROVEMENT	YES	NO	DNA
1. Improved Scope of Request for Tender	71%	21%	7%
2. More detailed Specifications for Planning Inputs	57%	43%	-
3. More frequent use of Priced Schedule of Quantities as the Pricing Model	29%	64%	7%
4. More frequent use of Schedule of Rates as the Price Model	36%	50%	14%
5. More frequent use of Client Specified Lump Sum as the Price Model	21%	64%	14%
6. More frequent use of Brooks Law	21%	71%	7%
7. Separate Request for Tender for Planning Inputs	43%	50%	7%
8. No page limit for bid	-	93%	7%
9. Lower weightings of prices	14%	79%	7%
10. Better trained evaluation teams	50%	43%	7%

b. General Comments

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Name:..... Position:.....

Company: .....

Date: .....

Please return in the stamped self addressed envelope provided by the 21 September 1998

APPENDIX F: REPRESENTATIVES INVOLVED IN SURVEYS

PHASE ONE: QUESTIONNAIRE

Consultant Representatives

1. Colin Stuart (Civil Manager) Opus International, Napier
2. Wayne Stewart (Manager) Opus International, Palmerston North
3. Bob Smith (Manager) Opus International, Wanganui
4. Tim Kelly (Transportation Manager) Opus International, Wellington
5. Dave Jennings (Civil Manager) Opus International, Hamilton
6. Bill Thew (Principal Roading Engineer) Opus International, Dunedin
7. Luke Meys (Manager) Opus International, Taupo
8. Simon Hunt (Manager) Opus International, Rotorua
9. John Douglas (Civil Manager) Opus International, Auckland
10. Gary dela Rue (Manager) Opus International, Paeroa
11. Dave Blackmore (Principal Engineer) Opus International, Christchurch
12. Dennis Whimp (Principal) SIGMA Consultants, Rotorua
13. John Hannah (Roading Manager) Beca Carter Hollings & Ferner, Tauranga
14. Jean Williams (Senior Planner) Beca Carter Hollings & Ferner, Auckland
15. Graeme Ramsey (Roading Manager) Beca Carter Hollings & Ferner, Wellington
16. David Blackstock (Associate) Beca Carter Hollings & Ferner, Christchurch
17. Brian Knowles (Roading Manager) Montgomery Watson, Palmerston North
18. Bruce Buxton (Roading Manager) Montgomery Watson, Dunedin
19. Steven Knowles (Roading Manager) Worley Consultants, Wellington
20. Ian Watson (Senior Engineer) Worley Consultants, Hamilton
21. Paul Jones (Resource Management Planner) Duffill, Watts & King, Auckland
22. Colin Hickling (Principal) Connell Wagner, Wellington
23. Garry Payne (Roading Manager) Manukau Consultants, Auckland
24. Noel Nancekiell (Transportation Manager) Woodward Clyde, Auckland
25. John Olliver (Director) Bloxam, Burnett & Olliver, Hamilton
26. Phil Consedine (Roading Manager) City Design, Auckland
27. Ken Scott (Roading Manager) Paynes Sewell, Wanganui

Transit New Zealand Regional Office Representatives

1. Ken Rutherford (RFT Drafter and Evaluator) Auckland
2. John Jones (Project Engineer) Wanganui
3. Dave Bates (Regional Highway Engineer) Christchurch
4. Dave Rendall (Regional State Highway Engineer) Wellington
5. C. Mackay (Regional Highway Engineer) Dunedin
6. Mark Cairns (Regional Manager) Napier
7. Ian Cox (Regional Highways Engineer) Hamilton

Local Authority Representatives

1. B Hodge (Transportation Manager) Tauranga District Council
2. Alan Watton (Roading Manager) Hastings District Council
3. Trevor Muir (Road Asset Manager) Hutt City Council
4. Geoff Cobb (Roading Manager) Far North District Council
5. D Newman (Roading Engineer) Northshore City Council
6. R J Ward (Roading Manager) Waitakere City Council
7. Brent Piggott (Roading Engineer) Manukau City Council
8. Graeme Tong (Roading Manager) Palmerston North City Council
9. Ken Stevenson (Support Manager) Christchurch City Council
10. Ken Gousmett (Projects Engineer) Queenstown Lakes District Council
11. Graham Lay (Roading Projects Co-ordinator) Auckland City Council
12. Geoff Marshall (Technical Services Manager) Porirua City Council
13. Norm Robins (Design Engineer) Hamilton City Council
14. M Sutherland (Assets Manager) Grey District Council

PHASE TWO: INTERVIEWS

1. Ken Rutherford (RFT Drafter and Evaluator) TNZ Auckland
2. Rachel Harward (Senior Planner) TNZ Auckland
3. Ian Cox (Regional Highways Engineer) TNZ Hamilton
4. Mark Cairns (Regional Manager) TNZ Napier
5. John Jones (Project Engineer) TNZ Wanganui
6. Dave Rendall (Regional State Highway Engineer) TNZ Wellington
7. Ted van Geldermasen (Policy Manager) TNZ Head Office
8. Bernie Cuttance, Transfund New Zealand, Wellington
9. Enrico Vink (President) Association of Consulting Engineers of New Zealand

APPENDIX G: INTERVIEW QUESTIONS

SURVEY OF THE IMPACT OF COMPETITIVE PRICING PROCEDURES ON PROFESSIONAL PLANNING SERVICES

Interview with Ken Rutherford (TNZ Auckland, Ian Cox (TNZ Hamilton), Mark Cairns (TNZ Napier), John Jones (TNZ New Plymouth), Dave Rendall (TNZ Wellington) and Ted van Geldermasen (TNZ Head Office).

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1 ADEQUACY OF REQUEST FOR TENDER

a Both consultants and Transit New Zealand Regional Offices believe that improved scope of the Request for Tender would produce better planning outcomes. Why is the scope not currently producing good planning outcomes, and how do you believe that it could be improved?

b 80% of consultants believe that if the planning inputs were specified in more detail this would reduce the risk to the consultant and therefore the tender price, and the range of prices received. Would this mean that then the client could rely more on the non-price attributes to select the most qualified and experienced consultant for the job, without price being the main consideration?

c 74% of consultants believe that the affected parties to be consulted with should be scheduled by the Roading Authorities in the RFT, and that a limit should be specified on the maximum number of times the consultant is expected to consult. However, only 29% of Transit New Zealand Regional Offices agree with this. Why do you not believe that a limit should be specified?

d It was introduced into the CPP Manual last year that Transit New Zealand include a price estimate into their price formula for the evaluation of tender bids. How can Transit New Zealand estimate the amount of planning work to be done when it does not specify this in the RFT? Secondly, do planners aid in this process?

2 TENDER EVALUATION METHODS

a The majority of consultants, and many of the Transit New Zealand Regional Offices agree that the overall tender price is very influenced by the price weighting specified in the RFT for the Weighted Attribute Method, especially when the weighting is above 10%. Some even suggest that where price is a consideration in the process, it becomes the dominant attribute, often assuming a weighting of around 80%, rather than the notional 10-20%. Would you agree with this?

b Do you believe that consultants have to lower standards of innovation and quality in order to overcome the effects of the price weighting to maintain competitiveness?

c Elements that contribute to good planning outcomes, as required by the RMA include the engagement of specialist evidence, SIA, hui and public meetings and the evaluation of environmental effects. However, where the price model is lump sum, and the method of evaluation is Weighted Attribute, only 36% of consultants stated that they would definitely be willing to include these in their methodology, compared to 74%

who definitely would if the price model was not lump sum and the evaluation method was Brooks Law. As Brooks Law is not used very often, do you believe that the planning inputs are not being adequately considered by the consultants?

d 74% of consultants thought that more frequent use of Brooks Law would produce better planning outcomes, compared to only 14% of Transit New Zealand Regional Offices. Why do you think Transit New Zealand do not think this method is more likely to achieve better planning outcomes?

3 PRICE MODELS

a 71% of consultants are unsatisfied with the price models (in the contract pricing schedule) for the planning inputs, compared to only 40% dissatisfaction with price models for the engineering inputs. Why do you believe this is, and what could be done to fix it?

b The majority of consultants believe that if the planning inputs were scheduled separately, the most appropriate price models for consultation, the preparation of the AEE and the resource consents would be Priced Schedule of Quantities or the Schedule of Rates. Transit New Zealand however favour the Consultant Specified Lump Sum.

Why do Transit New Zealand favour this pricing model over others, which appear to balance the risk equally amongst the consultant and client?

4 EVALUATION OF TENDERS

a 57% of Transit New Zealand Regional Offices award over 50% of projects to the bidder with the lowest price. Do you believe that the quality of professional services and advise provided by the consultant is affected by using methods such as Weighted Attribute instead of Brooks Law?

b Many consultants have commented that the tender evaluation teams are often made up of people with limited experience who often write the RFT. 81% of consultants and 43% of Transit New Zealand Regional Offices believe that better trained evaluation teams would produce better planning outcomes. Do you agree with this, and how do you think the process could be improved? Secondly, are there any planners involved in this process?

5 GENERAL

a Do you consider that some consultants are buying work with a low price to merely gain the experience?

b Terry Brown has been quoted as stating that large time and cost overruns can occur if the consultation, environmental investigations and resource consent applications are not to the appropriate standard. Do you believe that poor consultation and AEE can contribute to project delays and increased costs to the client

c Many people recognise that there is a problem in specifying the planning services in the RFT. Do you consider that this is having a direct impact on the time or cost of roading projects, or is it having no direct impact?

SURVEY OF THE IMPACT OF COMPETITIVE PRICING PROCEDURES ON PROFESSIONAL PLANNING SERVICES

Interview with Bernie Cuttance, Transfund New Zealand.

1 GENERAL

a Could you briefly explain the role of Transfund New Zealand in the formulation of the CPP Manual, and the Transfund plays in ensuring that it is meeting the needs of both the client and consultant?

b Do Transfund New Zealand see any major flaws in the way that professional services contracts are awarded under this manual?

2 RESEARCH RESULTS

a Is Transfund New Zealand aware of the dissatisfaction among consultants on the way that professional services contracts are awarded under the CPP Manual, with specific reference to the Planning Inputs?

b Does Transfund New Zealand undertake any audits of projects that were not undertaken as successfully as hoped, or does it monitor details of the tender process - ie: bids received, number awarded to lowest tender, price for planning inputs etc.

c The CPP Manual states that for components of the project where the hours are difficult to estimate, such as planning, the client should be using the schedule of quantities as the price model. However, the majority of Regional Offices use lump sum as their preferred price model. Why does the manual recommend this, if the Offices are not actually using it - and how difficult do you believe this would make it for consultants to lump sum?

d It was introduced into the CPP Manual last year that Transit New Zealand include a price estimate into their price formula for the evaluation of tender bids. How do you think that Transit New Zealand can estimate the amount of planning work to be done when it does not specify this in the RFT? Do planners within TNZ aid in this process?

e As can be seen from the survey results, there is a huge perception difference between consultants and Transit New Zealand regarding the procedures for the selection of professional services, particularly the planning inputs. Why do you believe that there is such a difference in perception?

SURVEY OF THE IMPACT OF COMPETITIVE PRICING PROCEDURES ON PROFESSIONAL PLANNING SERVICES

Interview with Enrico Vink, Association of Consulting Engineers of New Zealand (ACENZ).

1 GENERAL

a Could you briefly discuss with me the policy of ACENZ regarding the selection of professional services, and why ACENZ have adopted such a policy

b Do you believe that the Transfund New Zealand CPP Manual is consistent with this policy?

c How do ACENZ lobby Transfund and Transit New Zealand regarding their policies for the selection of professional services?

d Do you believe that ACENZ are an effective lobby group, and are concerns raised by you taken in account by Transfund and Transit New Zealand?

2 RESULTS OF SURVEY

a Perception differences between consultants and Transit New Zealand regarding the procedures for the selection of professional services, particularly planning

b Why do you believe that there is such a difference in perception?

c Do ACENZ view the dissatisfaction of the consultants regarding the procurement procedures, in particular the planning services as a major problem?

d What have, or could ACENZ do about this?

e Do you have any liaison with the Planning Institute of New Zealand regarding the development of roading projects?

f Do you believe that such liaison may be useful to ensure that planning services are being delivered in accordance with the Resource Management Act?

APPENDIX H: RESULTS TABLES FOR AVERAGED GRAPHS

Figure 6-1: Adequacy of the Specification of the Services in the RFT - TNZ

Components of RFT	Respondents perceived adequacy of the Specification of the Services in the RFT					
	1 Totally Inadequate	2	3 Adequate	4	5 Very Adequate	Average Score[1]
TRANSIT NEW ZEALAND						
Engineering Inputs	-	-	2	1	4	**4.2**
	-	-	29%	14%	57%	n=7
Consultation Required	-	-	5	1	1	**3.4**
	-	-	71%	14%	14%	n=7
AEE	-	-	2	3	2	**4**
	-	-	29%	43%	29%	n=7
Resource Consents	-	-	2	4	1	**3.8**
	-	-	29%	57%	14%	n=7
CONSULTANTS						
Engineering Inputs	-	9	12	3	3	**3**
	-	33%	44%	11%	11%	n=27
Consultation Required	3	13	7	3	1	**2.4**
	11%	48%	26%	11%	4%	n=27
AEE	1	12	7	5	2	**2.8**
	4%	44%	26%	19%	7%	n=27
Resource Consents	-	14	8	4	1	**2.7**
	-	52%	30%	15%	4%	n=27

Figure 6-2: Adequacy of the Specification of the Services in the RFT - Local Authorities

Components of RFT	Respondents perceived adequacy of the Specification of the Services in the RFT					
	1 Totally Adequate	2	3 Adequate	4	5 Very Adequate	Average Score
LOCAL AUTHORITIES						
Engineering Inputs	-	-	5	6	3	**3.8**
	-	-	36%	43%	21%	n=14
Consultation Required	-	2	6	3	3	**3.5**
	-	14%	43%	21%	21%	n=14
AEE	-	1	8	2	2	**3.1**
	-	7%	57%	14%	14%	n=14
Resource Consents	-	-	8	3	3	**3.6**
	-	-	57%	21%	21%	n=14
CONSULTANTS						
Engineering Inputs	2	8	16	1	-	**2.5**
	7%	30%	59%	4%	-	n=27
Consultation Required	5	13	7	2	-	**2.2**
	19%	48%	26%	7%	-	n=27
AEE	3	10	13	1	-	**2.4**
	11%	37%	48%	4%	-	n=27
Resource Consents	4	9	12	2	-	**2.4**
	15%	33%	44%	7%	-	n=27

[1] The average score provides an overall measure of response to the question posed. In this instance, the average score for a particular component of the RFT is calculated by multiplying the number of responses to a given category, by the number assigned to it (eg. 'totally inadequate' = 5), and then adding the calculated totals for each category, and dividing by the total number of responses. For example, from the above table the average score for engineering inputs = [(1x0) + (2x0) + (3x2) + (4x1) + (5x4)] / 7 = 4.2. While this score provides an overall summary of responses, caution is needed in interpreting the results. A neutral response (eg a score close to 3) for example may indicate either general indifference or a divided response

Figure 6-6: Ability of different methods of evaluation to achieve overall desired outcomes

Selection Method	Respondents perceived adequacy of the Specification of the Services in the RFT						
	1 Never Achieves	2	3 Usually Achieves	4	5 Always Achieves	Did not answer	Average Score
TRANSIT NEW ZEALAND							
Brooks Law	-	-	4	2	-	1	**3.3**
	-	-	57%	29%	-	14%	n=6
Weighted Attribute (With a 10% Price Weighting)	-	-	3	2	-	2	**3.4**
	-	-	43%	29%	-	29%	n=5
Weighted Attribute (With a 20% Price Weighting)	-	1	4	1	-	1	**3.0**
	-	14%	57%	14%	-	14%	n=6
Quality Price Trade-Off	-	-	3	1	-	3	**3.3**
	-	-	43%	14%	-	43%	n=4
Target Price	-	2	1	1	-	3	**2.8**
	-	29%	14%	14%	-	43%	n=4
LOCAL AUTHORITIES							
Brooks Law	-	3	4	2	1	4	**3.1**
	-	21%	29%	14%	7%	29%	n=10
Weighted Attribute (With a 10% Price Weighting)	-	3	2	6	-	3	**3.3**
	-	21%	14%	43%	-	21%	n=11
Weighted Attribute (With a 20% Price Weighting)	-	2	6	3	-	3	**3.1**
	-	14%	43%	21%	-	21%	n=11
Quality Price Trade-Off	-	2	3	3	-	6	**3.1**
	-	14%	21%	21%	-	43%	n=8
Target Price	1	1	4	4	-	4	**3.1**
	7%	7%	29%	29%	-	29%	n=10
CONSULTANTS							
Brooks Law	-	1	6	10	9	1	**4.0**
	-	4%	22%	37%	33%	4%	n=26
Weighted Attribute (With a 10% Price Weighting)	1	8	14	3	-	1	**2.7**
	4%	30%	52%	11%	-	4%	n=26
Weighted Attribute (With a 20% Price Weighting)	4	17	4	-	1	1	**2.1**
	15%	63%	15%	-	4%	4%	n=26
Quality Price Trade-Off	-	8	9	6	1	3	**3.0**
	-	30%	33%	22%	4%	11%	n=26
Target Price	-	8	8	7	1	3	**3.0**
	-	30%	30%	26%	4%	11%	n=24

Figure 6-7: Influence of Price Weightings on overall Tender Price

Price Weight	Respondents Perceived Influence of Price Weightings on overall tender price						
	1 Not at all Influenced	2	3 Somewhat Influenced	4	5 Very Influenced	Did not answer	Average Score
TRANSIT NEW ZEALAND							
5%	1 14%	5 71%	- -	- -	- -	1 14%	**1.8** n=6
10%	- -	3 43%	3 43%	- -	- -	1 14%	**2.5** n=6
15%	- -	1 14%	2 29%	3 43%	- -	1 14%	**3.1** n=6
20%	- -	1 14%	- -	2 29%	4 57%	- -	**4.2** n=7
LOCAL AUTHORITIES							
5%	6 43%	4 29%	1 7%	1 7%	2 14%	- -	**2.2** n=14
10%	2 14%	4 29%	6 43%	1 7%	1 7%	- -	**2.6** n=14
15%	- -	3 21%	6 43%	4 29%	1 7%	- -	**3.2** n=14
20%	- -	1 7%	5 36%	5 36%	3 21%	- -	**3.7** n=14
CONSULTANTS							
5%	7 26%	6 22%	9 33%	4 15%	1 4%	- -	**2.4** n=27
10%	2 7%	7 26%	8 30%	7 26%	3 11%	- -	**3** n=27
15%	2 7%	1 4%	9 33%	3 11%	12 44%	- -	**3.8** n=27
20%	2 7%	1 4%	4 15%	4 15%	16 59%	- -	**4.1** n=27

Figure 6-8: Price sensitivity of Weighted Attribute Method - TNZ

Selection Method	Respondents perceived price sensitivity of the Weighted Attribute Method						
	1 Never	2	3 Some times	4	5 Always	Did not answer	Average Score
TRANSIT NEW ZEALAND							
Weighted Attribute 10% Price Weighting	2 29%	1 14%	3 43%	- -	- -	1 14%	**2.2** n=6
Weighted Attribute 20% Price Weighting	3 43%	2 29%	1 14%	1 14%	- -	- -	**2** n=6
CONSULTANTS							
Weighted Attribute 10% Price Weighting	- -	2 7%	3 11%	15 56%	7 26%	- -	**4** n=27
Weighted Attribute 20% Price Weighting	- -	17 63%	1 4%	7 26%	17 63%	- -	**4.4** n=27

Figure 6-9: Perceived price sensitivity of Weighted Attribute Method (Local Authorities)

Selection Method	Respondents perceived price sensitivity of the Weighted Attribute Method						
	1 Never	2	3 Some times	4	5 Always	Did not answer	Average Score
LOCAL AUTHORITIES							
Weighted Attribute 10% Price Weighting	2 14%	4 29%	3 21%	2 14%	- -	3 21%	**2.4** n=11
Weighted Attribute 20% Price Weighting	1 7%	1 7%	7 50%	4 29%	- -	1 7%	**3.1** n=13
CONSULTANTS							
Weighted Attribute 10% Price Weighting	- -	1 4%	3 11%	15 56%	8 30%	- -	**4.1** n=27
Weighted Attribute 20% Price Weighting	- -	2 7%	2 7%	6 22%	17 63%	- -	**4.4** n=27

Figure 6-17: Fairness of Non-Price Attribute grades received from the tendering authorities

Non-Price Attributes	Respondents perceived fairness of Non-Price Attribute grades received						
	1 Unfair	2	3 Fair	4	5 Very Fair	Did not answer	Average Score
TRANSIT NEW ZEALAND							
Relevant Experience	6 22%	5 19%	9 33%	5 19%	1 4%	1 4%	**2.6** n=27
Track Record	4 15%	5 19%	13 48%	4 15%	- -	1 4%	**2.7** n=27
Technical Skills	3 11%	3 11%	13 48%	4 15%	3 11%	1 4%	**2.9** n=27
Management Skills	2 7%	3 11%	16 59%	4 15%	1 4%	1 4%	**3.0** n=27
Methodology	3 11%	6 22%	8 30%	7 26%	2 7%	1 4%	**3.0** n=27
LOCAL AUTHORITIES							
Relevant Experience	5 19%	10 37%	8 30%	2 7%	2 7%	- -	**2.4** n=27
Track Record	5 19%	12 44%	7 26%	2 7%	1 4%	- -	**2.3** n=27
Technical Skills	4 15%	7 26%	12 44%	2 7%	2 7%	- -	**2.6** n=27
Management Skills	5 19%	9 33%	9 33%	2 7%	2 4%	- -	**2.5** n=27
Methodology	5 19%	9 33%	10 37%	2 7%	1 4%	- -	**2.4** n=27