MUNICIPAL ENGINEERING FOUNDATION VICTORIA

AUSTRALIAN STUDY TOUR 2003

REPORT

15 February 2004

CONTENTS

Executive Summary

The Municipal Engineering Foundation Victoria sponsored a Study Tour focusing on various aspects of Municipal Engineering within Western Australia and through the eastern and southern seaboards of Australia, based on a Scoping Paper prepared by Mr Maurice Stabb and Mr Claude Cullino (IPWEA Vic.) and refined in consultation with the Municipal Engineering Foundation Victoria Board.

The identified objectives of the Tour required the:

- Conduct of interviews with representatives of 20 to 25 Councils in the various States and others in associated industries;
- Investigation and reporting on differences between the States and between urban and 'other' Councils regarding service delivery, the future of the Municipal Engineer in Australia, Local Government culture, the status of the Municipal Engineer and the role of Engineering Associations;
- Participation in a workshop held at the IPWEA Australia Hobart Conference, to validate the preliminary findings of the Study Tour; and
- Establishment of contacts within the Municipal Engineering community across the nation.

The Study Tour has been completed as required under the provisions of the Scoping Paper dated 5 May 2003. Representatives of a total of 35 Councils and the IPWEA National Chief Executive Officer were interviewed in the course of the Study Tour.

The tour has been of considerable value to all of the participants. On every occasion, the members of the Study Tour Team were openly welcomed and provided with strong encouragement and support from the host Councils.

Data was collected and details are as set out in section 3 of this Report.

This Report presents an analysis of the data collected during the Study Tour and provides a comparison of differences between the States on a range of issues as at 2003.
All statistics included in this Report are based on the 35 Council sample. The primary findings of the Study Tour Team in relation to the these matters are as follows:

Service Delivery:

- Only 25% of the 'Engineering' Directorates are solely responsible for traditional engineering functions.
- Traditional engineering functions are being delivered solely by Engineers in 68% of cases.
- Management of water and sewerage systems and headworks by Local Government bodies is widespread throughout New South Wales and Queensland;
- All of the Municipalities approached as part of this Tour outsource part of their traditional engineering services;
- 26% of Municipalities considered that outsourcing had impacted on staff / Corporate knowledge.
- 94% of Councils work to a long term rolling Capital Works Program;
- A minority of Councils require Quality Assurance of consultants contractors;

Culture:

- Structural reform of Local Government in South Australia and Victoria has been undertaken within the last 10 years, Queensland and West Australia have stated that they will not enforce structural reform and New South Wales are seeking expressions of interest for structural reform;
- One Report of a formal mentoring program operating in Local Government was received from New South Wales;
- The majority of Councils currently run performance appraisals with structured feedback to staff on an annual basis and 40% have linked the performance appraisal system and employee training plans;
- Staff secondment opportunities between Public Works organisations are rare;
- Local Government engineers reported limited contact with the Federal and State Governments;
- Cost shifting from State Government onto Local Government is common in all States;

- The majority of the Councils consulted undertake annual community surveys to determine community satisfaction levels with services provided;

Status of the Local Government Engineer:

- Amendments to the Local Government Acts which removed the Statutory Engineer's position in the 1990's adversely affected the status of the Local Government Engineer;
- Only 24% of Engineering directorate / department titles include the term 'Engineer'. Titles influence community awareness of a Directorates functions;
- When engaging with the community, the community continue to seek the 'Engineer', as was the case prior to the 1990's at 70% of Municipalities;
- The level of technical expertise required of Municipal Engineering roles is increasing;
- Cases were reported of traditional engineering services being undertaken by other than Engineers;
- Of the Director level positions at the subject Municipalities, 87% are currently occupied by Engineers. However, only 55% of the subject Council's specifically require an encumbent to hold an Engineering degree as a prerequisite;

Future of Local Government Engineering:

- It is considered that there is potential for a strong future for Local Government engineering;
- The successful Engineer must manage the transition from technician to manager to politician throughout his/her career;
- It is still possible for a young Engineer to progress through Local Government to Chief Executive Officer level;
- Every Municipality consulted advised that they are experiencing difficulties in recruiting Engineers, particularly graduates.

Engineering Associations:

- Engineers Australia is considered to have a complimentary function to that of IPWEA for Local Government;
- IPWEA is considered to be the premier engineering Association for Local Government;
- Several suggestions were made by the interviewees as to service improvements which could be implemented to improve membership numbers.
- The Association is actively seeking alliances with appropriate organisations to raise it's profile and influence;
- Primary challenges facing the Association include attracting the membership of young Engineers and raising the profile of the Institute.

The following recommendations have resulted from the primary issues identified:

1. Difficulties experienced attracting professional staff to Local Government generally should be raised with the Local Government Association for further action and that the attention of Engineers Australia needs to be drawn to the diminishing numbers of engineering enrolments and graduates;

2. Request Education Institutions to address engineering and Industry Based Learning programmes;

3. Recruitment of new Engineers into Local Government needs to be addressed with the development of a National Strategic Plan. Factors to be considered in the preparation of this Plan are set out in the Recommendation;

4. That practicing Municipal Engineers note the emerging requirements identified for Director level positions and amend their professional development plans accordingly as required;

5. It is recommended that young Engineers who aspire to a future in Local Government:
    - Gain a broad Local Government experience encompassing design, planning, construction, administration and strategy development aspects; and

- When considering further studies, while specific post graduate technical qualifications can assist in career development, management / business administration / financial training are becoming fundamental requirements for Local Government management positions.

6. A marketing strategy be prepared to highlight the importance of professional Association membership and resultant benefits to the Municipal Engineer. Consideration could also be given to introduction of a system of professional accreditation run by IPWEA with specific performance and professional development requirements;

7. Consideration be given to support of future Australian Study Tours to permit emerging leaders in Municipal engineering to explore issues of common interest with their peers, work towards best practice, encourage dissemination of information for the betterment of the sector and facilitate personal and professional development of the Tour recipients.

1. Introduction

The Municipal Engineering Foundation Victoria sponsored a Study Tour focusing on various aspects of Municipal Engineering within Western Australia and through the eastern and southern seaboards of Australia. Expressions of interest were called from municipalities across Victoria for Study Tour candidates, specifically targeting young Engineers. The 2003 Australian Study Tour awardees comprising the team are:

- Mr Garfield D'Costa, Construction Supervisor / Design Engineer/ Shire of Yarra Ranges (South and Western Australian leg of the tour);
- Mr Mark Varmalis, Manager Civil Development Services, Shire of Yarra Ranges (New South Wales and Queensland leg of the tour);
- Mr Ray Weber, Project Coordinator, Wellington Shire Council; and
- Mr Roger Woodlock, Technical Services Engineer, Manningham City Council.

2. Objectives

A Scoping Paper was prepared for the Study Tour by the Tour Managers, Mr Maurice Stabb and Mr Claude Cullino (IPWEA Vic.) and refined in consultation with the Municipal Engineering Foundation Victoria Board. The final Scoping Paper dated 5 May 2003 outlined potential interview topics, interviewees, tour destinations and tour budget.

After consideration of the Scoping Paper, a draft Interview Format was prepared by the Study Tour team for further discussion and a meeting was conducted with the Tour Managers. The final Interview Format is attached as Appendix 'A'.

Identified objectives of the Study Tour required:

- Conducting interviews with representatives of 20 to 25 Councils across New South Wales, Queensland, South Australia, Western Australia and others in associated industries including the National IPWEA CEO;

- Investigation and reporting on differences between the States and between urban and 'other' Councils regarding service delivery, the future of the Municipal Engineer in Australia, Local Government culture, the status of the Municipal Engineer and the role of Engineering Associations;

- Participation in a workshop facilitated by CT Management Group and held at the Institute of Public Works Australia Hobart Conference 2003, to validate the preliminary findings of the Study Tour; and

- Establishment of contacts within the Municipal Engineering community Australia wide which will enable ongoing networking on issues of common interest for the participants.

3. Methodology

Each Study Tour team member was allocated responsibility for organising interviews and securing accommodation for one State. The Team targeted Engineering Manager and Director level interviewees where possible at each Council.

Interviews were organised in each State with a view to maximising the effective contact time in each State and to this end, interviewees were first invited to meet with the Tour Team at a central location. In cases where this was not possible, arrangements were made for the Team to travel to the respective Councils to conduct the interviews.

The Team conducted interviews with representatives of a total of 35 Municipalities and where necessary travelled to the respective Councils to obtain data and views from senior Engineers.

A trial interview was conducted to check interview timing and to gain independent comment on the questions to permit fine tuning of the Interview Format. The finalised Interview Format was e-mailed to the interviewees for information prior to the agreed meeting date.

The Tour was conducted in two stages, these being:

- New South Wales / Queensland stage was conducted between Monday 21 July and Friday 25 July 2003; and
- South Australia / Western Australia stage was conducted between Monday 28 July and Friday 1 August 2003.

Interview schedules for each state are attached as Appendix 'B' Except in three cases in Western Australia and the later Victorian interviews, the three member Team met with each interviewee separately. In Western Australia, three interviews were conducted with two Council's simultaneously.

After the first day of interviews, it became apparent that the two-way nature of the discussions and the tendency for some interviewees to be more expansive in their comments necessitated a further review of the Interview Format. Several questions were deleted and the remaining questions were prioritised to ensure that the critical information was collected at each interview. When time permitted, the lower priority questions were explored with the respective Council.

Representatives of a total of 35 Municipalities and the IPWEA National CEO were interviewed:

Figure 1

	Metropolitan Councils	'Other' Councils	Totals
New South Wales	3	3	6
Queensland	2	3	5
South Australia	4	3	7
Western Australia	5	4	9
Victoria	2	4	6
Totals	16	17	35

For the purposes of this Report, 'other' Councils are defined as rural, provincial and metropolitan fringe municipalities. With the exception of the Victorian Municipalities, profiles of each of the Municipalities involved in this Study are attached to this Report.

To validate findings, a session was convened at the Hobart IPWEA Conference on 26 August 2003 with invited guests. Advice was provided by the Tour Team regarding preliminary Study findings to the session facilitators, Mr Peter Drummy and Mr Neville MacPherson of CT Management, as a basis for this session. The session was scheduled to assess the preliminary findings of the Study Tour and results of this session have been incorporated as Section 9 of this report.

In order to facilitate inclusion of the Victorian perspective in the Report, a modified Interview Format was prepared and interviews were conducted with the IPWEA Board Members as part of their meeting conducted on 30 October 2003. The Victorian Council perspectives included in this Report were provided by Ballarat, Mornington Peninsula, Nillumbik, Kingston, Manningham and Yarra Ranges.

4. Service Delivery

▪ Responsibility for Engineering Services

In order to assess the manner in which traditional engineering services are being delivered by the various Councils, a matrix of 'traditional' engineering services was prepared and each interviewee provided feedback concerning two criteria, these being:

1. 'Engineering' directorate has jurisdiction over the service or whether another directorate is responsible for the delivery of that service; and
2. whether the majority of the service is delivered internally or has been outsourced

For this exercise, traditional engineering services have been defined as follows:

Figure 2

Grouping	Services Included
Technical Services	Engineering design, traffic engineering, subdivision and development assessment, construction supervision, strategy development, landscape / urban design
Road Maintenance Services	Road maintenance, resurfacing program, building maintenance, road furniture, line marking, roadside slashing, drainage maintenance and street sweeping.
Parks & Reserves	Parks litter bin collection, mowing, tree maintenance / removal, spraying / weed control, plant supply, oval maintenance and cricket pitch maintenance
Waste Management	Household waste service, recycling service, hard waste collection, green waste collection, commercial collection, landfill / transfer station operations, waste haulage bun service and street litter bin collection.
Other	After hours emergency callout, fleet / plant management, fleet / plant maintenance, water supply, sewerage reticulation, other

In New South Wales, a total of 110 Local Authorities and all but one of the Queensland Councils interviewed manage water and sewerage systems. Brisbane City Council also has responsibility for bus services, major bridge maintenance and delivers pavement resurfacing works in-house.

Of the Municipalities interviewed, it was found that the proportion of 'Engineering' Directorates with responsibility for all traditional engineering services listed in Figure 2, varied across the States as follows:

State	Percentage Responsibility
New South Wales Municipalities	17%
Queensland Municipalities	20%
South Australian Municipalities	29%
Western Australian Municipalities	50%
Victorian Municipalities	33%
All Municipalities in all states	25%

Consideration was also given to whether Engineers or others are undertaking traditional engineering work in Local Government. The term 'Engineer' has been defined to be inclusive of Technical Officers providing services under the direct supervision of an Engineer. The results of this enquiry were as follows:

Group	Percentage
'Other' Municipalities	86%

Urban Municipalities	61%
New South Wales Municipalities	100%
Queensland Municipalities	50%
South Australian Municipalities	43%
Western Australian Municipalities	75%
All Municipalities in all states	68%

Amongst Councils which have divided traditional engineering functions between two or more directorates, the percentage of organisations across Australia which solely utilise engineers to deliver these functions is 56%.

The services most commonly allocated to Directorates external to the 'Engineering' Directorate are listed below:

- Subdivisions and development assessment;
- Strategic planning;
- Waste management; and
- Fleet / plant management.

Conversely, there were cases in all States other than Queensland where an Engineer holds the Directors position for the 'Engineering' Directorate and has responsibility for traditional engineering functions as well as other key disciplines. Functions within the Engineer's portfolio included Financial Services, Information Management, Information Technology, Business Development, Local Laws, Customer and City Services, Environmental and Asset Management, Human Services, Coastal Reserve Management, Bushland Management, Emergency Management and Cemeteries. Of the subject Councils, 31% reported these circumstances with the majority being New South Wales and Victorian municipalities.

Comment was received from several interviewees that organisational structures are often built to suit the skills of the people involved rather than sourcing people to suit a structure. The better the Manager, the more responsibility he/she will be given.

In the case of one municipality, the Director did not hold an engineering qualification. The Organisation had been restructured to amalgamate the 'Community Services' and 'Infrastructure' Directorates to form the City Services Directorate.

▪ Outsourcing

It appeared that all of the Municipalities approached as part of this Study outsource part of their traditional engineering services. Across Australia, the drivers for outsourcing of engineering services and the rationale for this were reported as follows:

- **Intermittency of work;**
- Need for specific expertise for limited duration; and
- Staff availability.

This outsourcing rationale applies equally to both rural and 'other' Municipality groups and to Councils in New South Wales and South Australia. In Queensland and Western Australia however, the main driver was staff availability.

Interviewees advised that outsourcing initiatives can be instigated by officers or Councillors. In depressed areas, outsourcing may be a more politically sensitive issue if local employment is likely to suffer as a result.

Services or parts thereof typically outsourced, in order from highest to lowest frequency Australia wide for both urban and 'other' Municipality groupings are:

- Operational functions associated with road maintenance and / or Parks and Reserves;
- Waste Management service delivery;
- Civil Design;
- Traffic Engineering; and
- Strategy Development.

On average, the South Australian metropolitan Councils visited relied more heavily on outsourcing of technical services than was the case for metropolitan Councils in the other States. 63% of the South Australian Councils outsourced at least part of the Civil Design function and 57% outsource traffic engineering functions. The incidence of outsourcing reported in South Australia is approximately twice that of the overall Tour average for all States. This result was unexpected given the prior introduction of Compulsive Competitive Tendering in Victoria.

In western Queensland, a report was received that owing to the available employment conditions and isolation, there are considerable difficulties experienced in recruiting and retaining senior Engineers. As a result, it is understood that consultants undertake all engineering services for a number of rural outback municipalities. Several Councils reported outsourcing of their Emergency Callout Service to Brisbane City Council.

Across Australia, 26% of Municipalities and within South Australia 80% of Councils considered that outsourcing had impacted on staff / Corporate knowledge.

Adverse impacts on Corporate / staff knowledge attributed to outsourcing included:

- Lost staff knowledge as a result of contracting out full extent of services and inadequate hand over;
- Lost opportunity owing to loss of value added services that internal staff once provided but were not included in the outsourced service specification;
- Deterioration in record keeping practices when internal staff no longer undertake the service and maintain the records;
- Tendency for internal staff to lose touch with community expectations when particular operational services are outsourced; and
- A risk work is outsourced for internal staff to lose ownership of the outcomes.

Several Council's reported use of various practices to minimise the disadvantages of outsourcing to Council:

- Outsourcing of only a portion of any service minimises adverse impacts on Corporate / staff knowledge, particularly where Council invests in training of ongoing training of internal staff;
- Maintenance of systems, particularly record keeping systems is critical to the success of service outsourcing.

One Council reported that use of Consultants can improve Corporate knowledge in some cases as the Consultant can introduce new or innovative technology to Council staff.

In Western Australia, the State Government's decision to outsource all design services provided by the Main Roads Department has had severe repercussions for Local Government. Few qualified Engineers hold Works Managers positions in outer rural areas of Western Australia and as such there was a heavy reliance on Main Roads staff for Technical advice.

As a result of the State Governments decision to outsource design services, this technical advisory service is no longer available to Local Government in Western Australia.

Issues raised in regard to utilisation of Consultants in place of in-house resources included concerns over the tendency for Consultants to work primarily to a budget, not an outcome.

▪ Regional Service Delivery

The Federal Government is encouraging Local Government to take a regional approach to road improvements through it's Roads to Recovery program as it focuses attention on freight routes, economic development and employment.

Across Australia, regional groupings of Councils exist which collectively consider issues of regional significance.

In the Sydney and Brisbane metropolitan areas, these regional groups known as ROC's are common and reports were received that issues such as regional handling of waste disposal are currently on the agenda. In addition, the Local Government Association in New South Wales is encouraging resource sharing between Local Government bodies, although formal agreements have been difficult to achieve.

New South Wales and Queensland rural Councils contacted reported a more active approach to regional project work and service delivery and examples of these were as follows:

- Consideration of alternative waste technologies & regional outsourcing of civil design services;
- The construction of a regional central records repository;
- Joint purchasing;
- Specialist works crews and technical staff undertaking works on behalf of abutting Municipalities;
- Water supply responsibilities shared between Municipalities in rural Queensland (responsibility for headworks, distribution and reticulation systems distributed); and
- A regional approach to rural fire service provision.

Victorian Councils reported that regional coordination and benchmarking of waste management services is widespread. Regional Library services are also common in Victoria. Regional groupings of Municipalities such as the Association of Bayside Municipalities are also in existence. Projects funded under the VSAP program and other projects are undertaken on a regional basis as required. Regional approaches to issues of broad interest and significance such as the Mitcham Frankston Freeway project, Asset Management and Local Government responses to the Road Management Bill also engender action on a regional basis. Reports were also received of regional forums involving CEO's and Mayors, particularly in rural areas.

In the South Australian metropolitan area, existence of only one regional Council group known as G6 was reported. This group focuses on provision of shared services (eg Library), joint purchasing, networking and benchmarking. Limited occurrence of Local Authorities forming regional groups was reported in Perth.

A regional approach has also been adopted for flood mapping, part funded by the South Australian State and Federal Governments.

The Local Roads Grant program funded by the South Australian Government funds road improvements prioritised on the basis of benefits to tourism, economics, business promotion and transport routes. Regional groupings of Councils work collectively to secure funds from this program.

A similar program exists in Western Australia where Local Government groups regionally consider the benefits to the State of collector and local distributor road improvements and make funding recommendations for Black Spot, Rehabilitation and Improvement works.

In Perth and Adelaide, reports were received of regional management of landfill operations and recycling centres. In Perth, regional delivery of risk management and environmental services was also reported.

Plant pooling was observed to be a difficult issue as Local Authorities usually required access to their own plant on an on-call basis. Cases of plant sharing however were reported in rural areas of Queensland and Adelaide. We observed that the differences in service standards between Councils created difficulties for municipalities to establish regional service provision.

▪ Capital Works Program Planning

Of the group of Local Government agencies interviewed, 94% work to a long term rolling Capital Works Program. A three year minimum term rolling Capital Works Program has generally been adopted in New South Wales, Queensland and Western Australia. In Queensland, Victoria and Western Australia, 5 year term rolling Capital Works Programs

are common and in Queensland and Victoria, several Councils operate to a 10 year Program.

- **Quality Assurance**

A total of 11% of the Municipalities interviewed required Quality Assurance of consultants and 14% required Quality Assurance of their contractors. Within New South Wales and Queensland, this occurred more in relation to waste water and water service delivery than for civil infrastructure programs.

Approximately 60% of Local Authorities interviewed give preference to Quality Assured consultants and contractors. These preference levels extend to both rural and 'other' Council groups.

Victorian, New South Wales and Queensland Municipalities displayed stronger interest in Quality Assured consultants than was the case for South and Western Australian municipalities. Councils interviewed generally consider the processes adopted, past performance and ability to deliver the required outcomes within budget and to an agreed program when selecting Consultants. QA certification is one factor considered in this assessment.

5. Culture

- **Structural Reform.**

None of the State Governments in the four States visited have imposed structural reform upon Local Government. Victoria was the only State that mandated amalgamations and Compulsory Competitive Tendering in the mid to late 90's. The number of municipalities was reduced from some 210 to 78 in number. Since this time there has been a reversal of the amalgamation for one municipality, the Shire of Delatite, which is now the Shires of Mansfield and Benalla.

In South Australia voluntary amalgamations were initiated by the State Government resulting in a reduction in the numbers of Local Government bodies, from 120 to a post amalgamation total of 63 Councils. Amalgamations were not driven by population or area considerations. Some inner City Councils were retained with as few as 7,000 ratepayers as a result of community pressure.

The previous Western Australian State Government divided Perth City up into five separate municipalities. The Cities of Joondalup and Wanneroo resulted from division of one City in 1998. The only amalgamation which has occurred in Western Australia involved Albany and the Shire of Albany, locally described as the doughnut Council. The State Government has indicated that it will not force structural reform of Local Government but would support voluntary amalgamations.

The Minister for Local Government in New South Wales wrote to Local Government bodies seeking expressions of interest for structural reform which closed on 31 August 2003. We were informed that the State Government was particularly concerned about the 'doughnut' Councils as they fragment service delivery and disadvantage the local community. Rate pegging has applied in New South Wales since 1976.

The formation of Brisbane City Council from 19 metropolitan councils occurred in 1925. There is no current agenda for further amalgamations within Queensland.

- **Training.**

It was generally agreed that staff training and skill enhancement are critical for staff retention, however the continually increasing demands on Local Government reduces the available staff training time.

We observed that the majority of Councils encourage further study for the achievement of further formal qualifications. Typically, Councils fund a portion of the further education

course costs or provides time off and in the cases of approximately 40% of the Councils interviewed, a combination of both time off and financial reimbursement was generally available. Access to these programs is subject to the course being relevant and an advantage to the employer Council.

There were no reports of formal mentoring programs in any Councils in Western Australia, South Australia or Queensland. We found that the Queensland Division of Engineers Australia administers a mentor program for interested members. Several Sydney Councils have implemented formal mentoring programs, most notably as part of a Local Government Graduates Program. Mentoring through this system aims to 'put old heads on young shoulders'. The program sources the 'cream' of the graduate market and provides graduates with a diverse range of Local Government experience over the initial years of their careers. This is achieved by providing different experiences by rotating staff through several Local municipalities.

The majority of Councils interviewed currently run performance appraisals with structured feedback to staff on an annual basis. However, six month and three month review periods were also reported. Approximately 40% of interviewees indicated linkages between their Councils performance appraisal system and employee training plans.

In general, higher duties opportunities are made available to staff across the States, however there appears to be a trend developing where these requirements are incorporated into Position Descriptions, permitting Council to avoid the associated additional costs. Several interviewees indicated that while Higher Duties are available the perception is that they are a reactive response to a problem rather than being planned as opportunities for professional development.

While staff secondment between Public Works organisations appeared to be relatively rare, the IPWEA in Queensland is currently investigating the implementation of a secondment scheme involving the Department of Main Roads and Local Government. The Department is displaying a high level of interest in this opportunity and it is considered a good model for State and Local Government partnership.

Of the external training providers, courses and seminars provided by IPWEA, APESMA, Engineers Australia are generally well regarded. Courses provided by APAA particularly in South Australia are also well received.

- **Local Government Relationship with State and Federal Governments.**

We found that Local Government engineering has limited contact with the Federal Government. Roads to Recovery seems to be the exception and this program was initiated by the Federal Government in keeping with Federal interests such as employment, economic development and freight routes. It has been enthusiastically received by Local Government being characterised by minimal bureaucracy and involving a direct partnering relationship between Federal and Local Government bodies.

The New South Wales Government has tended to outsource services and withdraw from direct service provision. Corporitisation of State functions and centralisation of service provision has resulted in loss of officer level contacts in many cases. The general perception of a number of the engineers interviewed was that the State Government has become remote from the community.

Local Government in New South Wales is restricted in it's ability to raise funds by State Government because of the imposed rate pegging.

We found that a strong relationship exists between State Government and some Local Authorities, particularly in traditionally marginal seats. Some Councils actively utilise their Politicians to lobby

State Government on matters of significance. A major finding was that The Local Government Association in New South Wales is encouraging resource sharing between Local Municipalities although agreements are proving difficult to achieve. Regional Council groups are also supported by the New South Wales Government.

Several officers of major regional centres reported strong relationships with State Government at a Political level with Councillors lobbying Ministers and Shadow Ministers directly. Officer level relationships with the Department of Main Roads are reported as generally very productive and some officers interact with the Department of Natural Resources and EPA.

Our observations were that Local Government is relatively independent of State politics in South Australia. Relationships between the South Australian Government departments and Local Government bodies are generally remote. Aside from the issue of Occupational Health and Safety which is being strongly pursued by Workcover, Local Government is not heavily regulated by the South Australian State Government. State Government influence for regionalisation of services has lessened since amalgamations took place in South Australia. Regionalisation initiatives encouraged by the South Australian Government include the establishment of Water Catchment Boards and regional public transport groups.

We found that relationships between the Western Australian State Government and Local Government are generally good as the local politicians are reported to be accessible and available and this level of availability and relationship extends to State Government Departments, particularly Main Roads.

Cost shifting from State Government to Local Government is common in all States interviewed. Generally it was considered that the social and community functions are more dramatically affected by cost shifting than engineering functions. We observed a trend at a number of municipalities whereby as a result of cost shifting, Local Government Community Services departments are increasing in size and budget, causing internal shifts of funds from engineering functions. Examples of direct impacts of cost shifting on engineering functions include:

- Council contributing 50% to the cost of state infrastructure and mowing on Main Roads subsidised by Council to improve the level of service to a satisfactory standard;
- EPA direction for Council's to prepare Stormwater Management Plans and Council expenditure on stormwater quality works;
- In New South Wales, Estuary / Coastal Management has been devolved to Local Govt from the Department of Land & Water Conservation; and
- Introduction of additional telecommunications carriers through Federal legislation has resulted in additional cost to Council when plant requires relocation as a result of civil construction works.

▪ Customer Focus.

The majority of the Councils consulted regularly undertake community surveys to determine community satisfaction levels with the services provided. In-house surveys were more commonly encountered than surveys undertaken by independent external market research groups. The extent of Council services included in these surveys vary, with the majority reporting that all Council services are included. Survey frequency varied considerably between six monthly and once every six years with the majority of surveys being undertaken annually.

The State Government in Victoria has introduced an annual community satisfaction survey that seeks feedback on a range of services. The survey results are collated and municipalities grouped with like Councils for benchmarking purposes. Many Councils within Victoria undertake their own community satisfaction surveys in order to gather specific information related to the services, and compare results against the State Government survey. Many Victorian Councils also undertake a more in-depth customer satisfaction surveys focused on specific service provision as a result of addressing Best Value legislation introduced into the Victorian Local Government Act during 1999.

In New South Wales at Wyong Shire Council and in South Australia at Charles Sturt City Council, a One Stop Shop approach has been adopted where the customer service staff are trained to be able to address queries across all Council services and are regularly briefed on current projects.

The City of Holdfast Bay in South Australia consider community perception of Councils service provision performance and community needs for their services as part of this process. This enables these municipalities to identify areas where over servicing may be occurring.

Some smaller rural Queensland Shires reported that they do not undertake community satisfaction surveys because their value is questionable in a small community where the Councillor / ratepayer ratio is high. These Councils do however participate in the LGAQ community surveys, thereby enabling correlation of findings.

The results of the community satisfaction surveys undertaken are generally reported to Council and thereby on the public record.

In several cases in urban areas of Queensland, South Australia and Western Australia the results of the community surveys are reported to the Executive Management Team, CEO or General Manager only.

The majority of Municipalities invite public and stakeholder input during the development of the Corporate and Strategic Plans. Several reports were received that Councils have had difficulty gaining meaningful community input as opposed to cursory consideration of the issues or raising of local interests through these processes. In New South Wales under Statutory requirements, the Corporate Plan must be advertised for 28 days. Interested residents are invited to consultation sessions and all submissions are addressed when finalising the document

Of those officers interviewed, approximately 75% believed that their community considers Council to have a community focus underpinned with business principles, rather than acting as a business.

6. Status of the Local Government Engineer

▪ Statutory Status.

Prior to the early 1990's, the Statutory position of the City / Town / Shire Engineer existed in addition to the City / Town / Shire Clerks position. The Engineer had the power to employ and dismiss staff and the engineering function controlled the majority of the Council budget. With supervision fees from Main Roads works paid to the Engineer, in some cases the Engineer was the most highly renumerated Council employee. The Chief Engineer was hands-on approving design plans and supervising construction.

Anecdotally, tension between these positions existed to the point where a dividing wall separated the Clerk and his staff from those of the Engineer with significant problems with no clearly defined head of organisation and no process for conflict resolution.

In the early to mid 1990's, amendments were made to the Local Government Acts in New South Wales, Queensland, South Australia and Western Australia which removed the Statutory Engineer and Clerk positions and replaced these with the Chief Executive Officer. The Victorian Local Government Act did not preclude introduction of a Chief Executive Officer or General Manager position. There are isolated cases of Victorian Municipalities having a CEO recorded as early as 1962. The introduction of the CEO provisions in the 1989 Act cemented the adoption of CEO's.

The Chief Executive Officer at each Council generally now appoints all staff. Comment was made by several interviewees that the status of the Engineer diminished in the mid 1990's as a result of these changes to the Local Government Act and accelerated the increase in profile of other professions within Local Government.

▪ Engineering Directorate Titles

Local Government organisational restructures which have occurred primarily over the last decade have resulted in the allocation of a variety of titles for what was traditionally the

"Engineering" directorate or department. In order of most frequently encountered, the following titles have been applied at the subject Municipalities:

- City Services;
- City Works;
- Works and Services;
- Technical Services;
- Infrastructure and Environmental Services; Engineering Services, Works, Operations, Engineering Assets, Engineering, Engineering and Environment, Engineering Construction and Maintenance, Engineering and Technical Services, Infrastructure Services, Infrastructure and Operations, Customer and City Services, Physical Services, Sustainable Infrastructure, City Development and Operational Services.

Of the Municipalities consulted, only 24% of the Engineering directorates / department titles included the term 'Engineer'. For the subject Municipalities, this naming trend is consistent for both urban and 'other' situations.

▪ Directorate and Municipal Engineer Community Profile

Application of engineering skills and expertise is critical for the good operations of Local Government and that the Municipality's infrastructure complies with the appropriate service levels and standards of sustainable management.

We would argue that strong community awareness of the functions of the Municipal Engineer is necessary to ensure that risk is understood and appropriate funding levels are maintained to protect Council's assets. Furthermore, new Engineers need to be attracted to the Local Government industry to ensure that these services continue to be delivered sustainably for the longer term.

All interviewees were requested to rate community awareness of the function of the Council's 'Engineering' directorate. The following results were recorded:

% of Municipalities where the majority of the community understand the function of Council's Engineering directorate	Percentage
Non-Urban Municipalities	47%
Urban Municipalities	64%
All Municipalities in all states	55%
Councils where the Directorate title includes the term Engineer	75%
Councils where the Directorate title does not include the term Engineer	52%

From the foregoing, residents of urban areas would be expected to be more aware of the functions of their Councils 'Engineering' Directorate than is the case in 'other' areas. In addition, it appears that Directorate title influences community awareness of the functions of the Directorate to some extent.

In several Municipalities where strong community awareness of engineering functions exists, the interviewee cited community surveys, media releases, project consultation and high profile project work as primary reasons for these results.

Comment was received on several occasions that directorate / group / department and position titles are not specific or easily understood by the community and can confuse community understanding of Council's engineering functions. Community awareness of Engineering Directorate functions is also affected by works undertaken within Municipality boundaries by main roads, national highway works and other authority works.

When engaging with the community, 70% of Municipalities reported that the community continue to seek the City, Town or Shire Engineer, as was the case prior to the 1990's. Feedback was received that particularly the older community members request the Engineer when they have a technical problem. The younger community members are simply aware that they have a problem and require someone to address their issue.

From Council's perspective, the most important objective is for the resident to have a point of contact and to have their problem addressed. To this end, many Councils aim to provide a seamless interface with the community where a one-stop enquiry shop can be made available. Marketing of Council's focuses on the organisation as a whole rather than raising the profiles of specific services.

▪ The Role of the Municipal Engineer.

Interviewees reported that the Director of 'Engineering' generally exercises a high level of autonomy in undertaking the duties of the position, as evidenced by:

- Council Reports are signed off at Director level;
- Delegated authority in regard to correspondence, staffing, legal matters and to manage the Budget within allocations provided;
- It is rare for Council to question a recommendation from the Director; and
- Engineers put the Capital Works program together and very few changes are initiated by Council.

Views on perceived trends in technical expertise levels required for Municipal Engineering roles were invited with our results indicating a strong view that a high level of technical expertise is required of the Municipal Engineer.

The results were consistent for all municipal groupings.

Of the five States visited, Western Australian Councils were strongest in their view that the level of technical expertise required of the Municipal Engineer is on the increase. This result reflects in part the impact of the State Governments decision to outsource the design section of WA Main Roads and the resultant loss of technical advice to Local Government in that State. The provision of water and wastewater services by councils within New South Wales and Queensland were considered to strengthen the role of the Municipal Engineer.

Following are some of the comments received in support of the view that the level of technical expertise required of the Municipal Engineer is increasing:

- **Demands for management skills to manage multi disciplinary requirements are increasing, resulting in diversification of the skills required of the Municipal Engineer;**
- **Legislative and technological advances relating to risk management, environmental issues, Water Sensitive Urban Design, Traffic Engineering, Asset Management, DDA, IT and other issues result in requirements to continually adapt to meet new skill challenges;**
- **Higher skill levels are being required eg. more complicated systems are required for Asset Management. In addition, there is a tendency for new developments to incorporate cutting edge technologies and features in attempts to capture the buyers imagination. Developments providing water frontages are becoming more common. The challenge for the Municipal Engineer is to keep pace with technology to ensure the long term viability of adopted solutions;**
- **Developers now engage panels of consultant specialists to contest Development conditions. In order to meet these challenges, the Engineers technical expertise must keep pace; and**
- **The community has become better educated and more assertive and won't accept the technical solution in many cases. The Municipal Engineer must balance the technical, community, political and environmental factors to arrive at a balanced solution.**

Views to the contrary generally resulted from the idea that Local Government Engineers are generalists and that Consultant services are utilised to meet the technical expertise gap.

It is noted that the role of the Municipal Engineer is changing with an increasing emphasis on Asset Management, Risk Management, Customer Service and engineering involvement in interdisciplinary groups. There is a trend to build multi-disciplinary teams for projects and problem solving. Particularly where these groups are considering technical matters, the involvement of the Engineer is necessary to ensure that Code of Practice and Standard requirements are considered during formulation of solutions.

▪ De-Engineering.

Advice was sought from the Interviewees as to whether any traditional engineering functions at their Municipalities were being undertaken by other than Engineers.

New South Wales and Victorian municipalities reported the lowest incidence of engineering functions being undertaken by other than Engineers.

Urban municipalities reported a similar level of reliance on non-engineering staff and technical officers in undertaking some traditional engineering functions to 'other' municipalities. Some 43% of non-urban municipalities reported utilisation of technical officers to undertake some traditional engineering functions. Where Technical Officers are being utilised, most Councils reported that supervision is being provided by an Engineer.

In Western Australia in particular, it has been reported that there are insufficient numbers of Engineers to meet the demands of the sector. As a result, one Council reported that Technical Officers have been promoted to engineering level positions, on the proviso that the incumbent acquires engineering qualifications. Around Perth, there are several Diploma Engineers currently employed at Director level based on experience.

It was reported that a significant number Western Australian rural Council's don't have an Engineer on staff at all. Limited design is undertaken as Consultants are too costly and the construction crews would have difficulty interpreting them effectively. The Works Manager expends the available resources on the ground in most cases.

Another Municipality reported that non-engineering disciplines had taken responsibility for building extension and skate park projects. Contractual difficulties were encountered and an Engineer was engaged to assist in completing the project. All project work at this municipality is now the responsibility of the Engineering directorate.

It appears that there is a growing understanding of risk management and the public liability issues and hence the need for engineering expertise to effectively meet the challenges of asset management. There is an appreciation that there will be a continued need for Engineers in Local Government.

▪ Rise of Other Professions.

Local Government's focus has shifted over time. Early in Australia's history, Surveyors held many senior Local Government positions. Later, Engineers assumed more senior positions in Local Government and the prominence of the Surveyors gradually diminished. The role of the Engineer was the most significant of those under Local Government jurisdiction for many years, commensurate with it's primary function of delivering infrastructure. Budgets reflected the prominence of Engineering functions in Local Government organisations.

Particularly in the case of inner City Municipalities, requirements for new infrastructure have diminished. Correspondingly, the focus of Local Government has shifted toward community services which has resulted in reduction in engineering budgets and increased expenditure on community services. This trend has been accentuated by the tendency for cost shifting from State Government to Local Government bodies. These factors have led to increased prominence in Local Government of the 'soft sciences'.

Of the Director level positions currently available at the subject Municipalities, 87% are occupied by Engineers.

Advice was received from those interviewed regarding qualification requirements for Director level positions as follows:

Current qualification requirements in order to secure a Director level position at Council	Percentage
Engineering Qualification required	55%

Suitable qualifications required (not necessarily engineering)	45%
Where an Engineering qualification is required, a 2nd qualification required.	50%

Similar trends were recorded for both urban and 'other' Council groupings. Of the States, Victoria, Queensland and Western Australia are strongest in their requirements for Engineers to fill the 'Engineering' Directors role. Within Queensland and New South Wales, the provision of water and wastewater services also influenced the level of qualifications expected of senior positions in charge of those services. There was however a stronger view held by those interviewed from rural municipalities, that senior staff (Director level) should have an engineering background to ensure their credibility when dealing with Councillors and the community.

Changes to the respective Local Government Acts has removed the Statutory position of the 'Engineer' and has enabled persons with other than engineering qualifications to secure Engineering Director positions. The future success or otherwise of the Engineer in competing for the Director's role depends on a variety of factors including:

- **Ability and skills. Several of the interviewees expressed the view that Engineers overall may not present as well as some other disciplines. Communication and public presentation skills are critical prerequisites for senior positions;**
- Executive Group understanding and appreciation of the complexity of the role, the contractual, risk management, public liability implications and asset management requirements, etc;
- Ability of the Engineer to shift roles with time from technical focus to become a Manager/leader and then to develop political skills;
- Ability of the Engineer to deliver services expected and agreed within time and budgetary constraints; and
- The Engineer's skills in the areas of people and community expectation management, negotiation and marketing.

One particular Council reported that they advertise to attract entrepreneurs and innovators rather than applicants with a technical background.

Several interviewees also expressed the view that rivalry which existed between the former Shire Clerk and Engineer continues to affect the ability of the Engineer to progress to senior positions, particularly at CEO level in Local Government in some Municipalities, although this trend appears to be lessening with time.

A view was presented that at some Councils during the last 15 years, Planners in particular have been successful in bids to secure the Directors position controlling engineering functions.

Half of the Municipalities requiring engineering qualifications for the Directors role also required additional qualifications in Management or Business streams with one rural Council requiring Planning qualifications.

In some cases, issues arose where a non-engineer had been appointed to the 'Engineering' Director level, these being:

- The lack of availability of appropriate technical advice direct to and on behalf of Council, particularly in public forums; and
- Insufficient knowledge and understanding of risk management, public liability and contractual issues.

▪ Status of the Engineer

It was generally considered by those interviewed that the status of the Municipal Engineer reached it's lowest level in the early to mid 1990's when the Statutory position of the 'Engineer' was abolished from the State Local Government Acts. It is recognised that status is at least partly dependant on the abilities of the individual Engineer including the ability to effectively communicate and consult with stakeholders and to deliver the required agreed outcomes for Council and the community. Status can be adversely affected by poor performance in these areas.

With this in mind, the Study Team focused on external factors which affect professional status and to this end, invited views on whether the status of the Engineer is currently increasing or diminishing. Generally views were balanced between the status of the engineer increasing or decreasing.

Conmsistent trends were reported across both urban and non-urban areas and in each State with the exception of New South Wales where the interviewees considered that the status of the Municipal Engineer is currently increasing overall.

Factors considered to be adversely affecting the status of the Local Government Engineer included:

- High level communication and political skills have become basic prerequisites for senior Municipal Engineering positions.
  Engineers have traditionally been technically focused and have not excelled at marketing the importance of the services they provide;
- In some cases, traditional engineering responsibilities are being separated over different directorates and non-engineers are being awarded responsibility for delivery of some of these functions. Reductions in numbers of Engineering graduates leading to appointment of technical officers to Engineer positions is another concern relating to the status of the Engineer;
- Community understanding of the role of the Municipal Engineer is diminishing with Directorate and position name changes. The Engineer's community profile is similarly diminishing and impacting on the status of the Engineer;
- Consultation and customer focus can over ride the best technical solution, which in turn can diminish the status of the technical function and the Engineer;
- The professionalism and status of other Council services, particularly the 'soft sciences', has increased relative to that of the Engineers. These shifts are reflected in Local Government budgetary shifts towards community areas and away from an engineering focus;
- The status of the Engineer is in part dependent on the views of the Executive and Councillors. In some Councils, the Executive don't value technical staff
- The term 'Engineer' is broadly and often inappropriately utilised by non-Engineers; and
- Inadequate marketing of the role of the Municipal Engineer has contributed to a decrease in numbers of professional Engineers attracted to Local Government.

Conversely, interviewees were of the opinion that the status of the Municipal Engineer is increasing and attributed this improvement to the following:

- Increased prominence of environmental, risk and asset management issues and the Engineers increasing involvement in community consultation, highlighting the benefits to the community of the activities of the Municipal Engineer;
- Elected members continue to seek technical advice to inform their decisions and with the demands of technological advances, the need for engineering expertise remains; and
- In several cases owing to improved management, project delivery targets are being consistently met, regular public consultation is being undertaken and the Engineers have focused on positive marketing of their achievements to the community. In turn, more responsibility has been given to the Engineers which has further improved their public profile and public perceptions of the profession.

7. Future of Local Government Engineering

▪ Status of Infrastructure.

As previously stated, the creation of new infrastructure has diminished, particularly in inner urban areas, as is reflected in the proportion of sealed roads to total road network.

Correspondingly, the focus of the community and Local Government has shifted toward community services and planning which has resulted in increased expenditure in these areas.

In order to determine the effects of diminished requirements for public infrastructure, two indicators have been defined, being the:

- Proportion of the Operating Budget allocated to Capital Works; and

- The proportion of Council's total workforce within the 'Engineering' Directorate.

This approach has resulted in the following data:

Municipalities	Average % of Operating Budget allocated to Capital Works	Average % of total Council staff employed by 'Engineering' Directorate
Urban	37%	42%
Non-urban	31%	54%

While in general, the level of remaining infrastructure development required within urban municipalities is less than that required for rural municipalities based on the sealed road network data, available information suggests that the proportion of Council's Operating budget being allocated to Capital Works in urban and non-urban areas is similar. This result supports the view that there is:

- a growing commitment to asset management, resulting in ongoing requirements to upgrade Council facilities;
- that 'polishing' of Council assets is being widely undertaken within urban areas to adjust assets to meet changing performance requirements and improve functionality; and
- ongoing works associated with changing technical knowledge and standards are being undertaken.

Based on the available data, the percentage of Council's workforce engaged by the 'Engineering' Directorate is 29% higher in non-urban areas than is the case in urban areas. This result is consistent with increased requirements for infrastructure development in rural as compared with urban Municipalities and the resulting difference in community focus and service requirements.

While it is possible that there will be reduced requirements for Engineers to meet Local Government needs particularly in urban areas, it is considered that the data collected suggests a strong future for the Local Government Engineer because:

- there is growing recognition that a more sophisticated technically based approach to asset management is required;
- requirements for on-going improvements to Council infrastructure are likely to meet changing technical standards and community needs; and
- there is potential for the Engineer to apply developed skills as a problem solver and manager to other functions.

▪ Qualifications and requirements for Senior Positions

It was generally considered that prior to the mid 1990's, the Engineer retained a strong technical focus even at the Shire Engineer level which encompassed direct supervision of construction works. The trend identified through this Study in the Local Government sector is a decrease in the emphasis on the technical aspects of engineering and a corresponding increase in requirements for management, community consultation and project management skills.

Engineering skills alone do not underpin decisions in Local Government and technical proficiency alone will not facilitate progress through the organisation. There is a broader need for principal managers.

Anecdotally, Engineers have poor communication skills and don't promote the profession or themselves well and this needs to change if the Engineer is to successfully compete for senior positions in Local Government. Other factors affecting progress of the Engineer to senior positions include personality, personal and political ability, technical, customer service and administrative skills. The successful Engineer must manage the transition from technician to manager and develop political acumen throughout his/her career.

Promotion of the importance of the Engineer in the sustainable management of public assets should be a high priority amongst Municipal Engineers.

We found that the qualifications required for 'Engineering' Director level Local Government positions across the four States at the Councils interviewed were:

Engineering degree qualification required.	28%
Engineering degree and post graduate management qualifications required.	27%
'Appropriate' qualifications required.	30%
Business degree qualification required.	15%

Of the Municipalities included in this Study, only 57% specifically require an encumbent Director to hold an engineering degree qualification. Similar trends were noted across urban and rural areas and across the five States. 80% of the Queensland Municipalities included in the sample still specifically require an Engineer in the Directors role.

Concern was expressed by one Council where the 'Engineering' Director did not have an engineering background, relating to problems which occurred due to lack of technical expertise at the higher management levels and in particular, a lack of technical detail in dealing with contract management.

Conversely, reports were received from two Municipalities of Engineers currently appointed to Director level positions, with responsibility for non-engineering functions, including City Business and Statutory Planning.

Comments offered by Study participants as advice to young Engineers who aspire to be future leaders in Local Government were:

- Firstly, gain a broad Local Government experience encompassing design, construction, administration and strategy development aspects; and
- When considering further studies, while specific post graduate technical qualifications can assist in career development, management / business administration / financial training are becoming fundamental requirements for Local Government management positions.

The majority of interviewees (70%) considered that it is still possible for a young Engineer to progress through Local Government to Chief Executive Officer level positions, although it may be necessary to relocate to achieve this aim.

▪ Recruitment / Sourcing Graduates

Every Municipality consulted advised that they are experiencing difficulties in recruiting Engineers, particularly graduates. Problems associated with recruitment increase with distance from the coast and from major population centres. Reports were received of long lead times in sourcing Development, Traffic and Design Engineers, Project Managers and Engineering Managers.

Factors suggested as contributing to these recruitment difficulties included:

- Engineering enrolments at tertiary institutions have diminished in recent times which has in turn diminished the numbers of available Engineers across the industry;
- Local Government generally does not pay as much as private industry and the rural Shires particularly have difficulty attracting Engineers from the cities and coastal areas. Strong competition for recruits occurs in Western Australia with the Mining Industry, private Consultants, State and Local Government bodies all competing for Engineers;
- Local Government doesn't promote itself well in terms of the depth and breadth of work undertaken;

- The creation of flatter management structures have impacted on opportunities for job rotation and the level of training and guidance available to the young Engineer;
- Local Government as an employer is perceived to be too demanding due to the level of public consultation involved, being hamstrung by Policy and the prominence of politics. There may also be a perception that the industry is too reactive to public opinion, that the public veto rather than comment on projects;
- There is also a perception that engineering in local government is not very technically challenging;
- Fringe benefits have been curtailed which has impacted on the appeal of Local Government;
- Tertiary institutions do not promote or focus upon Local Government services sufficiently enough in their civil engineering syllabus. Engineering structures, hydraulics, and geotechnical aspects have a higher profile than road and drainage design.

Several Municipalities outlined initiatives undertaken to recruit Engineers. Rockdale City and Canterbury City Councils in Sydney have commenced a Graduate Program, whereby an Employment Agency sources graduates for intake into Local Government and selects the most appropriate candidates. The appointed graduates are rotated through various roles for a period of up to two years and also shared between the municipalities to broaden their experience. Encouraging results have been reported with graduates developing their technical competency through involvement with the Program and Councils having the opportunity to attract and retain Engineers. This is significantly aided by elected members supporting the program and recognising the need to plan for future staff requirements of the organisation and local government generally.

Several rural Municipalities reported the need to increase pay rates in order to attract the required staff.

The Western Australian branch of the IPWEA have developed a relationship with one of the Tertiary Institutions, to provide an opportunity for industry to provide feedback during curriculum development. Many interviewees commented that private industry and the State Government secure graduates through cadetships and suggested that Local Government bodies should consider options such as these to attract graduates into Local Government.

The message from the tour is the need for municipalities to support and invest in marketing of careers in Local Government and particularly Engineering. Research into the most effective means of marketing Engineering to the general community, specifically targeting primary and secondary schools is required. Serious consideration should also be given to marketing the role of Municipal Engineering to Engineering under graduates.

▪ The Future

The group generally agreed that the future for the Local Government Engineer will in part be self determined. The outlook is positive given that:

- Accountability requires engineering expertise within the structure of Local Government to address risk and public liability issues;
- Increasing requirements for ongoing sustainable management of infrastructure also demands engineering expertise;
- Even once all infrastructure has been delivered on behalf of Council, asset modification works to meet the requirements of the community, the latest technical standards and legislation will require on-going engineering involvement;
- Traditional engineering functions will continue, particularly in rural areas;
- Engineers bring contract management expertise to Council; and
- The Engineer as the problem solver, can bring expertise and innovation to other areas and can prove to be an effective Manager / Director / CEO.

However, in order to guarantee that the future for the Municipal Engineer is positive, we would suggest that there are several issues to be addressed, these being:

- Effective marketing of the Municipal Engineers services is required, to raise our community profile and assist in attracting the next generation of Municipal Engineers;
- Improve Local Government's ability to attract new Engineers including but not limited to offering cadetships, revisiting remuneration, provision of appropriate training, encouraging

mentoring and sourcing advice from young Engineers to assist in strategy development to resolve these problems;

- Develop technical competencies to define issues and determine options or solutions in a timely manner and within budget;
- Develop those interpersonal and marketing skills to convince the stakeholders and community of the merits of a proposal.

8. Engineering Associations

▪ National Bodies

In each State, various Associations serve the needs of Local Government Engineers. The interviewees reported membership of Engineers Australia, the Institution of Public Works Engineers Australia (IPWEA) and various other Associations with specific focus on management and / or industrial issues.

Engineers Australia is a national body which is involved in higher level issues, while providing limited training opportunities for it's membership. Chartered status through Engineers Australia is often required by potential employers, particularly in the private sector and is recognised in the Asian region, allowing the Engineer to practice internationally. Several of those interviewed expressed the view that Engineers Australia probably doesn't appreciate the extent of local government involvement in engineering infrastructure and as such, expressed dissatisfaction with those services provided by Engineers Australia.

The new CEO of Engineers Australia is Mr Peter Taylor, a Municipal Engineer, former CEO of Toowoomba City Council and former President of the IPWEA. It is anticipated that the appointment of Mr Taylor to this position will enhance Engineers Australia's appreciation of the role of Local Government in developing and managing engineering infrastructure.

IPWEA is a National body with branches in each of the States visited. IPWEA has a technical focus and is involved in projects which assist the industry by providing training, networking opportunities as well as advocacy services. IPWEA maintains a focus on the Public Works sector and particularly Local Government. The Institution also aims to take a leadership role with Government bodies in issues of interest to the Public Works sector. Engineers Australia recognises that the IPWEA is the accreditation authority for Local Government Engineers.

The Local Government Managers Association has a management issue focus and is the only Association with representatives on the LGA. As such, State and Federal Governments consult with the LGMA regarding issues of significance to Local Government, including engineering related matters. For this reason, the LGMA is the most influential of the Associations for Local Government.

▪ Differences Between States.

New South Wales:

It was suggested that the New South Wales branch of IPWEA has been suffering a decline or at best static membership levels for the last eight years. Training courses provided are valued by the membership and membership costs are relatively inexpensive.

LGEA's primary focus is on industrial matters but their role overlaps that of IPWEA and APESMA in that services offered extend to professional development and training, and industrial services in addition to offering study tours. LGEA membership is open to Engineering Assistants as well as Engineers, with good representation from younger members. LGEA fly to regional areas each year and make presentations on professional development issues and industrial matters.

Queensland

As is the case In New South Wales, many municipalities in Queensland have responsibility for water supply and waste water services, and Municipal Engineers are often members of the Australian Water Association regarding issues affecting local government, including engineering issues.

The Queensland branch of IPWEA is well regarded by it's membership, particularly since the appointment of a full time CEO two years ago. The Institute runs several courses but focuses strongly on raising it's profile with representation at most regional conferences and improved interaction with other organisations.

South Australia

IPWEA South Australia membership numbers are growing. Currently the Institute has 90 members, 10 of these joining in the last 12 months. The SA branch has no paid staff apart from a part time

secretary. Membership has been opened to consultants, suppliers and State Govt Departments. The Institute is involved in discussions with Engineers Australia with a view to referral of Municipal Engineering enquiries from EA to IPWEA.

Western Australia

The Western Australian branch of IPWEA reviewed it's membership policy several years ago to attract Consultants, Contractors, Technical Officers and State Government Public Works departments. The WA branch employs a Secretary on a part time basis only. A regional group has been formed in the south-western region which meets regularly.

Developing Council Engineers also reported membership of the Urban Development Industry Association.

Victoria

IPWEA has a crucial role and the Association's performance is rapidly improving, particularly in regard to it's advocacy role. The Association's profile is improving and it is being recognised as a key stakeholder in various forums. The Victorian branch aims to develop strong links with the Municipal Works Officers Association to improve rural area access to the Association. Development of stronger links with State agencies and Authorities such as VicRoads, the water industry and Stormwater Industry Association are current aims of the Branch. Promotion of the activities of the Association to younger Engineers to ensure it's future sustainability has also been identified as a key issue to be addressed.

In Victoria, the IPWEA is one professional association within Local Government Professionals (LGPro), which originally comprised IMM, VMSCA and IMEA. LGPro was formed in response to declining membership numbers, which resulted from the Local Government amalgamations. IPWEA replaced the role of IMEA within LGPro. The view has been expressed that without the formation of LGPro, it is doubtful whether the Victorian branch of IPWEA would have maintained it's significance post Local Government amalgamations and compulsive competitive tendering.

IPWEA now has strong representation on the LGPro Board and allows it's members access to an Association which looks beyond individual disciplines and remains relevant throughout the individuals career progression phases. The strength of LGPro is in it's healthy membership and it's recognised identity as a stakeholder in Local Government issues. A significant point however is that Local Government Professionals needs to position itself and maintain it's relevance to Engineers and other professionals in Local Government, hence a key challenge for the future.

▪ The Role and Future of IPWEA

The focus of IPWEA are the services provided including training, leadership, professional and personal development opportunities and networking opportunities. These are generally supported by the majority of the Engineers interviewed. The level of training provided across the States varies with little training provided by IPWEA's South Australian branch. Those involved with IPWEA spoke highly of the biannual Conferences held and the Institute's Journal. Management topics are addressed while the Institute retains a strong technical focus.

The IPWEA provides leadership to the industry by various means including their involvement in projects such as the development of AUSPEC and the Timber Bridge Testing Manual to name two.

The 'Ask Your Mates' website service provides a means to collectively work through issues.

Reports received from Institute members generally support the view that membership numbers had declined preceding the revision of the membership policy. However the Institute does not have representatives at all Metropolitan municipalities and has few active rural members.

Interviewees who reported minimal or no involvement in the Institute and the Associations cited time constraints and work pressures as major constraints on involvement. It was evident that Senior Management's support or otherwise for staff involvement in professional groups is a critical factor for individual organisations. The professional development opportunities and networking advantages inherent in Institute membership needs to be marketed to Municipalities and professionals.

The view was expressed that the current membership trend can in part be explained in terms of characteristics of the 'X' and 'Y' generations. Older Engineers consider that membership of professional Associations / Institutes is an intrinsic part of being a professional. Membership to Associations once influenced professional status. However, younger Engineers do not become members unless they perceive that they will personally derive a benefit.

Further research into the requirements of young and/or rural based Engineers in respect of professional Associations is required in order to inform a recruitment strategy. Marketing of member specific benefits including conferences and networking to potential members needs to be actively pursued. Electronic communication is one option which could be considered to encourage rural members to join. Membership lists need to be developed to assist with networking.

The focus of the Institute should be regularly reviewed to ensure relevance to a changing Local Government sector. Promotion of public works as well as the IPWEA, with a view to attracting Engineers to Local Government is required.

Raising the profile of the Institute and as a result of Public Works engineering, is a current challenge being addressed. The State and Federal Governments currently consult with the LGMA in respect of engineering issues of broad interest. Closer relationship with ALGA is being sought as a means to providing a clear path for consultation with IPWEA for the State and Federal Governments. Alliances at a National level already exist with Austroads and AAPA.

IPWEA have a complementary role to Engineers Australia and discussions are currently underway with the aim of having Local Government matters directed from Engineers Australia to the Institute and promoting reciprocal arrangements.

Consideration could also be given to introduction of a system of professional accreditation run by IPWEA with specific performance and professional development requirements.

Synergy between Associations representing Local Government to permit a united approach to shared issues was also suggested.

9. IPWEA National Conference 2003 Findings

The Study Tour Outline included a session to be conducted at the National IPWEA Conference 2003, in order to verify some of the findings of the Study Tour.

The session was held during the lunch break on Tuesday 26 August and involved 34 invited Conference delegates from the Northern Territory, New South Wales, Queensland, Western Australia and Victoria, Mr Keith Wood of the Municipal Engineers Foundation, Mr Chris Champion CEO IPWEA National and members of the Study Tour team. A full attendance listing is attached as Appendix 'D'. The session was facilitated by Mr Peter Drummy and Mr Neville McPherson of the CT Management Group.

After discussion between representatives of CT Management Group and the Study Tour team, it was agreed that the following issues were to be discussed:

- Attracting and retaining Engineers to Local Government; and
- The future of the Municipal Engineer.

Attracting Engineers to Local Government and retaining them.
The group reflected that individually, the reasons that they were originally attracted to a career in Local Government engineering included;

- Knowledge of the broad spectrum of what Local Government engineering involves;
- The appeal of creating, constructing and delivering assets and achieving tangible results through work;
- Desire to 'make a difference' and the status of the position; and
- Initial attraction to the maths / science stream and the influence of educators, throughout primary, secondary and tertiary education.

It was generally agreed that numbers of enrolments into Engineering degree courses are diminishing and that Local Government bodies in the Northern Territory, Western Australia and remote areas of Queensland and New South Wales are especially having difficulty attracting the required numbers and quality of Engineering graduates.

Factors which are considered to contribute to this problem include:

- The relative level of difficulty of the Engineering degree when compared with other tertiary qualifications is considered to be a disincentive to university enrolees;
- Location of the Municipality relative to major centres and the coast and associated problems with living in remote locations;
- The available level of remuneration, particularly in Western Australia where the Mining industry competes very strongly with Local Government for the available pool of graduates;
- Failure of Local Government Engineers to promote and market the diversity of the role;
- The need to work against the negative perceptions of working in Local Government employment;
- Lack of succession planning which in turn affects the available career path through the organisation, both in local government and public service; and
- The political climate at the Municipality.

Actions suggested by the group for consideration, to address the recruitment of engineers to Local Government were:

- Identify activities which are currently being effectively utilised to partially address this problem across Australia;
- Promotion of the maths/science streams and consider restructuring student guidelines in each State (Education Departments);
- Raise the profile of Local Government achievements to highlight 'good news' stories;
- Marketing of careers in Local Government Engineering and it's inherent diversity to students, with a view to improving the image of Local Government;

- Reintroduce student placement schemes, cadetships and provide work experience opportunities for students, targeting the local community;
- Pursue continuity of employment to Local Government / State Government entities and consider staff rotations through several organisations to provide a broader experience for the graduate;
- Provision of a satisfactory working environment with continuity of employment and a stable career path;
- Review pay scales for graduate level positions;
- Identification of the key tertiary institution staff who are responsible for graduate placements in each state / territory;
- Sponsorship of Engineering student prizes by Local Government on improve the Local Government profile at tertiary institutions;
- Market interchangeability between Local Government, public service and private industry;
- Interface with University on entrance requirements;
- Establish a mentor system to encourage linkages between undergraduates and Local Government Engineers;
- Initiate a system to sponsor attendance of young Engineers and undergraduates at specific Conference sessions; and
- Seek advice from students and others pertaining to what incentives would entice graduates into Local Government.

Measures to be considered to assist with retention of existing Local Government Engineers include:

- Effective management of the career paths of existing staff; and
- Aim for continuous improvement in professional development at all levels within the organisation

In Western Australia, an industry based Committee has also been formed with representatives from the Universities, Local Government, Department of Main Roads, the Cement and Concrete Association and other groups which reviews and provides comment on the tertiary Engineering syllabus twice each year.

It was also recognised that Local Government in general is having difficulty attracting professional staff.

The future of the Municipal Engineer

The Community and Council perceptions of the current role of the Local Government engineer vary from State to State, observations being:

Northern Territory	The Local Government Engineer does not have a high profile. Community Services attract more attention than infrastructure does. Changes to position titles away from 'Engineering' titles has adversely affected the profile of the Engineer with the community.
New South Wales	The Engineer is not recognised as delivering infrastructure services, although there is generally a high regard for the services provided. Since the abolition of the 'City Engineer' statutory position, there is community confusion over the role of the Engineer. In some Councils, the highest position held by an Engineer is 3 to 4 levels down in the organisation.
Queensland	There is public confusion over the role and a corresponding lack of recognition of the achievements of the Local Government Engineer. There is an increasing trend of politicians taking kudos for works delivered by the officers.
Western Australia	There is a focus on social services at the expense of infrastructure. The status of the Engineer depends on the Council to some extent. In some cases, the Engineering functions have been allocated to the Planning Directorate.

Victoria	The community have high expectations of the Local Government Engineer. At some Municipalities, the Engineers portfolio has been expanded to include non-traditional engineering functions

It was generally agreed that the status of the Local Government Engineer's position has diminished.

It was considered that there will be a continued need for Local Government Engineers for service provision in the next ten years. The future for the Local Government Engineer is considered to be bright, offering exciting career options.

One avenue available to Engineers to orchestrate a positive future in local government is for the Engineer to take a leading role in Asset Management which will in turn promote engineering employment opportunities. This course should result in an image shift to allow the Engineer to be seen as a proactive and creditable technician.

Engineers will however need to expand their skill base to include communication, community consultation, people management, leadership, environmental management and financial management skills to meet the challenges of the future.

However, if the Local Government Engineer is to have a future, the issue of attracting new Engineers into the industry must be addressed with the development of a National Strategic Plan to address this problem. This Plan should take into consideration the options raised earlier.

It was agreed that difficulties attracting professional staff to Local Government generally should be raised with the LGA for further action and that the attention of Engineers Australia needs to be drawn to the diminishing numbers of engineering enrolments and graduates.

10. Conclusions

The Study Tour has been completed as required under the provisions of the Scoping Paper dated 5 May 2003. The tour has been of considerable value to all of the participants. On every occasion, the members of the Study Tour Team were openly welcomed and provided with strong encouragement and support from the host Councils. Contacts have been established within the Municipal Engineering community Australia wide which will enable ongoing networking on issues of common interest for the participants.

Data collection was undertaken as follows:

- Visits to metropolitan, provincial, fringe and rural Municipalities in New South Wales, Queensland, South Australia and West Australia;
- Verification of specific findings at an invitation only session at the Hobart IPWEA Conference conducted on 26 August 2003 involving 34 delegates; and
- Introduction of the Victorian perspective through a joint interview conducted with the Victorian IPWEA Board on 30 October 2003.

This Report presents an analysis of the data collected during the Study Tour and provides a comparison of differences between the States on a range of issues as at July 2003.
The findings of the Study Tour Team in relation to the these matters are as follows:

Service Delivery:
For Municipalities included in the interview sample, only 25% of the 'Engineering' Directorates are solely responsible for traditional engineering functions.

Of these Councils, traditional engineering functions are being delivered solely by Engineers in 68% of cases.

Management of water and sewerage systems and headworks by Local Government bodies is widespread throughout New South Wales and Queensland but no instances were recorded in any of the other states. Some outer metropolitan and rural Municipalities in South Australia are also responsible for Septic Tank Effluent Treatment schemes.

All of the Municipalities approached as part of this Tour outsource part of their traditional engineering services due to lack of available in-house expertise, peak workload demands and benchmarking requirements. Across Australia, 26% of Municipalities considered that outsourcing had impacted on staff / Corporate knowledge.

The existence of regional groupings of Councils which collectively consider issues of regional significance and cases of regional project work and service delivery were reported, particularly in New South Wales and Queensland.

Of the group of Local Government agencies interviewed, 94% work to a long term rolling Capital Works Program.

A total of 11% of the Municipalities interviewed required Quality Assurance of consultants and 14% required Quality Assurance of their contractors and 60% of those interviewed give preference to Quality Assured consultants and contractors.

Culture:
Structural reform of Local Government in South Australia and Victoria has been undertaken within the last 10 years. The New South Wales Minister for Local Government sought expressions of interest for structural reform closing on 31 August 2003. The current State Governments in Queensland and West Australia have stated that they will not enforce structural reform and are not actively pursuing this matter at this time.

The only report of a formal mentoring program operating in Local Government was received from New South Wales, being the Local Government Graduates Program.

The majority of Councils interviewed currently run performance appraisals with structured feedback to staff on an annual basis. Approximately 40% of interviewees reported linkages between their Councils performance appraisal system and employee training plans.

In general, higher duties opportunities are available although concerns were expressed that the associated professional development opportunities are not always realised.

Staff secondment opportunities between Public Works organisations have been found to be relatively rare.

Local Government engineers reported limited contact with the Federal Government and the perception of several of the interviewees was that the State Government has largely become remote from the community and Local Government, except in marginal seats.

Cost shifting from State Government onto Local Government is common in all States interviewed. Due in part to the level of cost shifting, Community Services departments budgets are increasing in size, attracting funds from engineering functions.

The majority of the Councils consulted undertake annual community surveys to determine community satisfaction levels with services provided.

Status of the Local Government Engineer:

Amendment to the Local Government Acts in Victoria, New South Wales, Queensland, South Australia and Western Australia which removed the Statutory City Engineer's position in the 1990's adversely affected the status of the Local Government Engineer.

Of the Municipalities consulted, only 24% of the Engineering directorate / department titles include the term 'Engineer' and from the available data it appears that Directorate titles influence community awareness of Directorate functions.

When engaging with the community, 70% of Municipalities reported that the community continue to seek the City, Town or Shire Engineer, as was the case prior to the 1990's.

The majority of interviewees consider that the level of technical expertise required for Municipal Engineering roles is increasing. It is noted that the role of the Municipal Engineer is shifting with increasing emphasis on Asset Management, Risk Management, Customer Service and technical involvement in interdisciplinary groups.

Cases were reported of traditional engineering services being undertaken by other than Engineers. New South Wales and Victorian municipalities reported the lowest incidence of engineering functions being undertaken by other than Engineers. It was reported that most Western Australian rural Council's don't have an Engineer on staff at all.

Requirements for new infrastructure have diminished particularly for inner City municipalities and correspondingly, the budget focus of Local Government has shifted toward social and community services. This trend has been accentuated by the tendency for cost shifting from State Government to Local Government bodies.

Of the Director level positions currently available at the subject Municipalities, 87% are occupied by Engineers. However, only 55% of the subject Council's specifically require an encumbent to hold an Engineering degree to make application for the 'Engineering' Director's position.

High level communication and political skills have become essential for senior Municipal Engineering positions. Engineers have traditionally been technically focused and have not excelled at marketing the solutions and the services they provide.

Overall, views on whether the status of the Municipal Engineer is increasing or decreasing were on average evenly balanced, except that in New South Wales the prevailing view is that status is highly respected.

Future of Local Government Engineering:

We formed the view and considered that there is potential for a strong future for Local Government engineering given that:

- a more sophisticated technically based approach to asset management is required;
- community needs and changing technical requirements will necessitate on-going improvements to Council infrastructure; and
- the Engineer can apply developed skills as a problem solver and manager to other municipal and community functions.

Factors affecting progress of the Engineer to senior positions include personality, personal and political ability, technical, customer service, communication and administrative skills. The successful Engineer must manage the transition from technician to manager to politician throughout their career.

The majority of interviewees (70%) considered that it is still possible for a young Engineer to progress through Local Government to Chief Executive Officer level positions.

Every Municipality consulted advised that they are experiencing difficulties in recruiting Engineers, particularly graduates. It is considered that various factors contribute to this major issue, as previously discussed and confirmed at the IPWEA Conference session.

Engineering Associations:

Of the engineering Associations, the majority of interviewees expressed the view that Engineers Australia has a complimentary function to that of IPWEA for Local Government. IPWEA is considered to be the appropriate professional body for engineers in Local Government.

Several suggestions were made by the interviewees as to service improvements which could be implemented to encourage increase in membership numbers. The IPWEA is actively seeking alliances with appropriate organisations to raise it's profile and influence of engineers.

Primary challenges facing the IPWEA include:

- attracting the membership of young Engineers; and
- raising the profile of the Institute and as a result, of Public Works engineering in Australia.

11. Recommendations

We make the following recommendations to address these primary issues identified in this paper:

1. Difficulties experienced recruiting professional staff to Local Government generally should be raised with the Local Government Associations for further action and that the attention of Engineers Australia needs to be drawn to the diminishing numbers of engineering enrolments and graduates.

2. Request Education Institutions to address engineering and Industry Based Learning programmes.

3. Recruitment of new Engineers into Local Government needs to be addressed with the development of a National Strategic Plan. Factors to be considered in the preparation of this Plan include:
   - Identification of activities which are currently being effectively utilised to partially address this problem across Australia such as the Graduate Program currently being implemented at Rockdale and Canterbury City Councils in Sydney;
   - Promotion to Secondary schools of the maths/science streams and careers in engineering and restructuring student guidelines in each State. Consideration be given to development of text books with an engineering leaning;
   - Effective marketing of Local Government achievements to highlight 'good news' stories;
   - Marketing of careers in Local Government Engineering and it's inherent diversity to tertiary students and review of the civil engineering syllabus to promote Local Government careers, as the WA branch of IPWEA is currently implementing;
   - Reintroduce student placement schemes, cadetships and provide work experience opportunities for students, targeting the local community;
   - Pursue continuity of employment to Local Government / State Government entities and investigate opportunities for staff rotations through several organisations to provide a broader experience for the graduate;
   - Provision of a satisfactory working environment with continuity of employment, and a stable career path with due consideration to succession planning;
   - Review remuneration scales for graduate level positions;
   - Identification of the key tertiary institution staff who are responsible for graduate placements in each state / territory;
   - Sponsorship of Engineering student prizes by Local Government to promote Local Government at tertiary institutions;
   - Market interchangeability between Local Government, public service and private industry;
   - Aim for continuous improvement in professional development at all levels within the organisation;
   - Interface with University on entrance requirements;
   - Establish a mentor system to encourage linkages between undergraduates and Local Government Engineers;
   - Initiate a system to sponsor attendance of young Engineers and undergraduates at specific Conference sessions; and
   - Seek advice from students and others pertaining to what incentives would entice graduates into Local Government.

4. That practicing Municipal Engineers note the emerging requirements identified for Director level positions and amend their professional development plans accordingly as required;
   - Development of skills including political, community consultation, communication, financial management, people management, leadership, public presentation, environmental management in addition to technical skills;
   - Note that the role of the Municipal Engineer is developing with increasing emphasis on Asset Management, Risk Management, Customer Service and technical involvement in interdisciplinary groups
   - The ability to consistently deliver what is required and agreed within budget and time is essential;
   - Promotion of the importance of the Engineer in the sustainable management of infrastructure and resources on behalf of Local Government;
   - An engineering degree meets the qualification requirements for Director of Engineering positions at 28% of the Councils interviewed. Post graduate qualifications are required in addition to Engineering qualifications at a further 27% of the Councils interviewed.

5. It is recommended that young Engineers who aspire to a future in Local Government:
   - Gain a broad Local Government experience encompassing design, construction, administration and strategy development aspects; and
   - When considering further studies, while specific post graduate technical qualifications can assist in career development, management / business administration / financial training are becoming fundamental requirements for Local Government management positions.

6. A marketing strategy be prepared to highlight the importance of professional Association membership and resultant benefits to the Municipal Engineer, including professional development opportunities. Strategy preparation should include investigation into the requirements of young and/or rural based Engineers in respect of professional Associations. Consideration could also be given to introduction of a system of professional accreditation run by IPWEA with specific performance and professional development requirements.

7. Consideration be given to support of future Australian Study Tours to permit emerging leaders in Municipal engineering to explore issues of common interest with their peers, work towards best practice, encourage dissemination of information for the betterment of the sector and facilitate personal and professional development of the Tour recipients. Topics which could be considered include asset management, management practice, water sensitive urban design or innovative staff recruitment practices. Alternatively, expressions of interest could be called from interested parties.

12. Acknowledgements

The Study Tour Team gratefully acknowledge the support, assistance and contributions from the following individuals and organisations:

- The Municipal Engineering Foundation Victoria for their long term and ongoing commitment to the Local Government industry and for funding the Study Tour;

- Manningham City Council, Wellington Shire Council and the Shire of Yarra Ranges for releasing the Study Tour Team from their daily duties to participate in the Study Tour;

- The Tour Managers Mr Claude Cullino, Director City Development, Manningham City Council and Mr Maurice Stabb, Group Manager Infrastructure Services, Nillumbik Shire Council for their support, guidance and contributions;

- Mr Adrian Ashford of Maroondah City Council for his assistance in the development of the Interview Format prior to the Tour;

- The interviewees in chronological order from first to last interview undertaken:

  Mr Paul Clarence (Parramatta City Council);
  Mr Chris Champion (IPWEA National);
  Mr Chris Watson and Mr Bill Woodcock (Rockdale City Council);
  Mr Bob Bullivant (Canterbury City Council);
  Mr Max Woodward and staff (The Council of the Shire of Hornsby);
  Mr Lew Oldfield (Cessnock City Council);
  Mr David Cathers (Wyong City Council);
  Mr Gerry Franzmann and Mr Yoga Jayantha (Laidley Shire Council);
  Mr Vim Balachandran and Mr Tony Jacobs (Shire of Esk);
  Mr Peter Taylor (Toowoomba Shire Council);
  Mr Richard Sivell, (Brisbane City Council);
  Mr Lou Kamenos (Logan City Council);
  Mr Robert Harris (Adelaide Hills Council);
  Mr Paul Di Iulio (City of Campbelltown);
  Mr Andrew Craig (City of Tea Tree Gully);
  Mr David Diprose (Town of Gawler);
  Mr Geoff Hatwell (City of Onkaparinga);
  Mr Charles Sheffield and Mr Steve Hodge (City of Holdfast Bay);
  Mr John Mauro and Mr Bill Morias (City of Charles Sturt);
  Mr Brian Lewis (City of Bunbury);
  Mr Bruce Lorimer Mr James Muir and Mr Steven Fisher (Bussleton Shire Council);
  Mr Allan Claydon and staff (City of Mandurah):
  Mr Silvio Trinca (Town of Victoria Park);
  Mr Alex Sheridan (Town of Victoria Park);
  Mr Ross Moody (City of Stirling);
  Mr David Djulbic (City of Joondalup);
  Mr Dennis Blair (City of Wanneroo);
  Mr Mike Foley (City of Swan);

- Participants at the IPWEA Hobart Conference session and CT Management Group for facilitating the session;

- The IPWEA Board in Victoria for their assistance in providing comment and feedback from a Victorian perspective;

- Mr Ross Moody, National President IPWEA for providing a copy of his article 'Attracting Young & New People To Public Works'; and

- Mr John Stamp, Manager Project Management, Manningham City Council for his support, advice and editorial contributions.

APPENDIX ‘A’

INTERVIEW FORMAT

Municipal Engineering Foundation

2003 Australian Study Tour

The role of the Australian Local Government Engineer

Interview Structure

13. Welcome and introductions

14. Australian study tour theme, objectives and follow-up actions
    - Study Tour sponsored by the Municipal Engineering Foundation;
    - Interviews to be conducted in NSW, QLD, SA and WA by 1/8/03;
    - Preliminary findings of the team are to be confirmed at the IPWEA Conference scheduled for 24-28 August 2003;
    - Team to present it's Report to the MEFV by 30 November 2003;
    - Report to form basis of articles to be published in state and national magazines;
    - Report may also form the basis of a paper to be presented at the LGPro and MWOA Conferences in 2004;

    Objectives include consideration of the following:
    - Status of the role of the Local Government Engineer;
    - Develop understanding of differences between Local Government Engineering service provision between the States;
    - The future for the Local Government Engineer;
    - Relationships between Federal, State and Local Government; and
    - Associated issues.

15. Municipality profile
    a) population
    b) area
    c) annual capital program budget
    d) annual operating budget
    e) organisational staff numbers & structure
    f) engineering directorate staff numbers and management structure
    g) length of road network (sealed and unsealed)
    h) number of buildings
    i) number of parks and recreational facilities
    j) overview of municipality, its context within its State, and any key aspects for which the municipality is recognised (topography, seaside / rural / urban location, fluctuating population, environmentally sensitive areas, etc)

16. Status of the "Engineer"

How would you rate community awareness of the function of your Council's engineering directorate?

Is there a statutory appointment of a City/Shire Engineer or equivalent for your municipality.

What is the name of the "engineering" directorate.

Does the Director/General Manager hold an engineering qualification/background or other.

What are the qualification requirements for the Director/General Manager or most senior engineering position. Most senior position in the Council?

What level of autonomy does the Engineering Manager have in decision making? Is there a trend towards decision making by Committee / interdisciplinary approach?

When engaging with the community, do they seek to speak to the City/Shire Engineer.

What are the functions and responsibilities of the engineering directorate in your municipality.

Are traditional engineering functions separated over different directorates.

Are traditional engineering roles being undertaken solely by Engineers or are other disciplines undertaking some of these functions.

Is it your view that the status of the Engineer is increasing or diminishing? Why?

17. Future of Local Government Engineering
    a) What do you consider to be the future of the Local Government Engineer from a personal perspective.
    b) In terms of succession planning, are there any initiatives in your municipality or elsewhere to develop future engineering leaders.
    c) Is there any lessening or increasing of the technical competence/expertise required for engineering roles within your municipality.
    d) Where services have been outsourced, has there been any resultant impact on staff/ corporate knowledge.
    e) Is there an achievable career path for the young engineer through the organisation to the highest officer level at Council?
    f) What are Council's current requirements for entry level engineer and Engineering Director level qualifications?
    g) What advice would you give to the young engineer in regard to attaining qualifications – Degree / Masters / Multi Disciplinary (Business Administration) / other approach?

18. Recruitment
    a) Has your municipality had any difficulties in attracting staff to engineering positions, and if so any particular positions. Reasons?
    b) How are staff recruited? Does Council advertise in Newspapers or use Agencies to assist?
    c) Does Council recruit Engineers at all experience levels or look to internally upskilling and promoting existing staff and recruiting at base level?
    d) Does the Engineering office staff have a range of experience levels and ages / mainly younger / mainly older & more experienced?

e) Is gender balance an issue when considering new appointments?

19. Training
    a) Does your municipality have a mentor program in place for graduate and young engineers.
    b) Are mentors sourced internally, within Local Government or externally?
    c) In terms of professional development, what external programs are you aware of that are available to engineers, and how would you rate their value.
    d) Outline the extent of training support provided to staff for career development, for both short courses and further formal qualifications.
    e) Does Council support youth work experience / training?
    f) Is training targeted to benefit Council or the sector as a whole?
    g) Are Skills Analyses and Performance Appraisals conducted with structured feedback provided to staff?
    h) Does Council provide higher duties opportunities for staff and has consideration been given to secondment opportunities?

20. Engineering Service Provision
    a) Outline of services provided identifying whether they are internally resourced or outsourced (refer to attachment).
    b) Value of services outsourced or under contract.
    c) What is the basis for identifying what services should be internally or externally provided and what is Council's philosophy – in-house/external favoured.
    d) For outsourced service contracts, indicate periods of key contracts, performance measuring processes, resourcing for contract supervision, and overall view of the value (including any problems encountered with community or otherwise) of outsourcing contracts.
    e) Where services are outsourced, describe methodology for engaging contractors and indicate whether any preference is provided to local service providers.
    f) Are Key Performance Indicators established for service provision and for which services. (See attached)
    g) Are services benchmarked, if so how often and against whom.
    h) Are services, planning or projects undertaken on a regional basis involving your municipality.
    i) Extent and value of Capital Works undertaken by day labour or competitive contract.
    j) If Capital Works are undertaken by day labour, provide information on Council staff and equipment resources. (May be better to ask what percentage of capital works undertaken internally?).
    k) In cases where services are outsourced, what is Council's attitude to chain of responsibility issues? (Eg Breaches of Electrical Safety Regulations – Council held responsible, not contractor)

21. Community satisfaction with services provided
    a) Is the community satisfaction of service provision measured.
    b) If so, in what form (phone/ mail), how often and what is measured?

c) To whom are results reported to.
d) Would your community have a view that your municipality has become more business orientated than community orientated.
e) From this data, are improvement opportunities identified and actioned?
f) Does the community input into development of the Corporate Plan prior to service delivery?

22. Relationship with Government
a) Outline of the relationship with State and Federal Governments.
b) Interaction with and support from local State and Federal parliamentarians.
c) Primary government departments that are interacted with, and on what basis/frequency.
d) Has there been any influence of government for regionalisation of activities or services.
e) Are there examples of cost shifting from other levels of Government onto Local Government?

23. Asset and Risk Management
a) Are asset management plans in place.
b) Does the Council budget match the resource requirements of the plans – are there any gaps and how are they dealt with / reported?
c) How is the municipality dealing with removal of the "Highway rule".
d) Extent of Occupational Health and Safety procedures in place.
e) Are job specific risk assessments carried out for various projects.

24. Engineering Associations
a) Do you have a view of the role and performance of IPWEA (both State and nationally) in the activities of local government.
b) Do you have a view of the role of other associations in the activities of local government.
c) Are there any peak officer groups seeking amalgamation of various disciplinary Local Government Associations?

25. Best Practice
a) How is progress of the Capital Works program tracked and reported and have KPI's been established and agreed?
b) Is a long term (3 or 5 year) Capital Works Program utilised?
c) Does Council use or require Quality Assurance certified consultants / contractors?
d) Is staff training undertaken on an on-going basis to ensure compliance with latest practice and standards?
e) Are improvement projects undertaken with contributions provided by landowners, and if so what nature of projects and what processes are involved.
f) Does Council have a Policy / Service Specification for community consultation, setting out responsibilities and requirements for consultation with internal and external customers?
g) What are your measured performance levels and what factors do you consider could be addressed to improve performance?

Engineering Service	Resourcing		Jurisdiction	
	Internally provided	**Outsourced**	**Internal to Engineering Directorate**	External to Engineering Directorate
Technical Services				
▪ Engineering design				
▪ Traffic engineering				
▪ Subdivision & development assessment				
▪ Construction supervision				
▪ Strategy development				
▪ Landscape/Urban design				
Road Maintenance Services				
▪ Road maintenance				
▪ Resurfacing program				
▪ Building maintenance				
▪ Road furniture				
▪ Line marking				
▪ Roadside slashing				
▪ Drainage maintenance				
▪ Street sweeping				
Parks & Reserves				
▪ Parks litter bin collection				
▪ Mowing				
▪ Tree maintenance/removal				
▪ Spraying / weed control				
▪ Plant supply				
▪ Oval maintenance				
▪ Cricket pitches maintenance				
Waste Management				
▪ Household waste service				
▪ Recycling service				
▪ Hard waste collection				
▪ Green waste collection				
▪ Commercial collection				

▪ Landfill/transfer station operations				
▪ Waste bin haulage service				
▪ Street litter bin collection				
Other				
▪ After hours emergency callout				
▪ Fleet/Plant management				
▪ Fleet/Plant maintenance				
▪ Water supply				
▪ Sewerage Reticulation				
▪ Other				
▪				
▪				
▪				
▪				

APPENDIX ‘B’

INTERVIEW SCHEDULES

New South Wales Interview Schedule

Day	Time	Organisation	Representative	Venue
Monday 21 July	1:00pm	Parramatta City Council	Mr Paul Clarence	Rockdale
	3:00pm	IPWEA National	Mr Chris Champion	Rockdale
Tuesday 22 July	8:30am	Rockdale City Council	Mr Chris Watson Mr Bill Woodcock	Rockdale
	10:30am	Canterbury City Council	Mr Bob Bullivant	Rockdale
	3:30pm	The Council of the Shire of Hornsby	Mr Max Woodward Executive Manager Works	The Council of the Shire of Hornsby
Wednesday 23 July	9:00am	Cessnock City Council	Mr Lew Oldfield	Cessnock City Council
	11:00am	Wyong Council	Mr David Cathers	Wyong City Council

Queensland Interview Schedule

Day	Time	Organisation	Representative	Venue
Thursday 24 July	7.30am – 8.45am	Travel Brisbane to Laidley		
	9am	Laidley Shire Council	Mr Gerry Franzmann Director Operations Mr Yoga Jayantha	Laidley Shire
	11am – 12 noon	Travel Laidley to Esk		
	12 noon	Esk Shire Council	Mr Vim Balachandran Manager Operations Mr Tony Jacobs	Esk Shire
	2pm – 3pm	Travel Esk to Brisbane		
	4pm	Toowoomba Shire Council	Mr Peter Taylor CEO	Albert Park Hotel, Brisbane
Friday 25 July	8:30am	Brisbane City Council	Richard Sivell Manager Local Asset Services	Brisbane CC
	11am	Logan City Council	Lou Kamenos	To be confirmed

South Australia Interview Schedule

Day	Time	Organisation	Representative	Venue
Mon 28 July				11am arrive Adelaide
	1.00pm	Adelaide Hills Council	Mr Robert Harris	Adelaide Hills Council
	3.30pm	City of Campbelltown	Mr Paul Di Iulio	City of Campbelltown
Tuesday 29 July	10am	City of Tea Tree Gully	Mr Andrew Craig	City of Tea Tree Gully
	1pm	Town of Gawler	Mr David Diprose	Town of Gawler
	3.30pm	City of Onkaparinga	Mr Geoff Hatwell	City of Onkaparinga
Wednesday 30 July	9am	City of Holdfast Bay	Mr Charles Sheffield Mr Steve Hodge	City of Holdfast Bay
	11.30am	City of Charles Sturt	Mr John Mauro	City of Charles Sturt
				3pm depart Adelaide

Western Australian Interview Schedule

Day	Time	Organisation	Representative	Venue
Wednesday 30 July	2:50pm	Depart Adelaide	Arrive Perth (Travel to Bunbury 2Hrs)	4:50pm
Thursday 31 July	8:00am	City of Bunbury	Mr Brian Lewis	City of Bunbury
	Approx 10:30am	Bussleton Shire Council / Bridgtown-Greenbushes	Mr Bruce Lorimer	Bussleton Shire Council
	3:00 pm	City of Mandurah	**Mr Allan Claydon**	City of Mandurah
Friday 1 August	8:30	City of Canning	Mr Silvio Trinca	Town of Victoria Park
		Town of Victoria Park	Mr Alex Sheridan	
	10:30	City of Stirling	Mr Ross Moody	City of Stirling
Councils were split in 1998	1:00	City if Joondalup	Mr David Djulbic	City of Joondalup
		City of Wanneroo	Mr Dennis Blair	
	3:20	City of Swan	Mr Mike Foley	City of Swan
	6:10pm	Depart Perth	Arrive Melb	11:40 pm

APPENDIX ‘C’

MUNICIPALITY PROFILES

Appendix 'C' – Municipality Profiles – **New South Wales**

Parramatta City Council	
Population:	148,900 No.
Area:	61km^2
Annual Capital Works Budget:	$22 Mil
Annual Operating Budget:	$131 Mil
Organisational Staff No's:	675 No.
Engineering Directorate Staff No's:	160 No.
Length of road network, Sealed (Unsealed):	519 km
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	24 km west of Sydney CBD, located at the head of the Parramatta River. Council forecasts a 34% increase in population over the next 20 years. Parramatta is located near the demographic centre of Sydney. The State Government is investing in Parramatta as Sydney's 2nd CBD.
Rockdale City Council	
Population:	92,900 No.
Area:	28km^2
Annual Capital Works Budget:	$6.7 Mil
Annual Operating Budget:	$55 Mil
Organisational Staff No's:	322 No.
Engineering Directorate Staff No's:	No.
Length of road network, Sealed (Unsealed):	Km
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	12km south of Sydney CBD. Highly urbanised, with 90% residential, 3%commercial and 7% industrial properties.

Canterbury City Council:	
Population:	137,000 No.
Area:	33.4 km^2
Annual Capital Works Budget:	$17.9 Mil
Annual Operating Budget:	$93.6 Mil
Organisational Staff No's:	578 No.
Engineering Directorate Staff No's:	308 No. (269 in Operations)
Length of road network, Sealed (Unsealed):	356 Km
No. of Buildings:	150 No.
No. Parks and Recreational Facilities:	33 active parks, 313 passive parks and reserves, 1 Velodrome, 2 Aquatic Centres and a Golf Course.
Municipality Overview:	17 km south-west of Sydney. Culturally diverse, largely residential area. Small scale retail and manufacturing sectors. City is divided into three Wards with three Councillors per Ward. The Mayor is popularly elected, representing the entire City.
The Council of the Shire of Hornsby	
Population:	154,000 No.
Area:	510 km^2
Annual Capital Works Budget:	$21.9 Mil
Annual Operating Budget:	$107 Mil
Organisational Staff No's:	540 No.
Engineering Directorate Staff No's:	175 No.
Length of road network, Sealed (Unsealed):	1,300 local roads, 26 regional roads
No. of Buildings:	150 No.
No. Parks and Recreational Facilities:	
Municipality Overview:	10% of Shire urban, 16% rural, 23% open space, remainder National Park / nature reserve, 200km of foreshore, located on the Hornsby plateau with topography rising from the south, population growth has been 12.5% between 1991 & 2001. Few greenfield development sites remain. Development now primarily involves high rise and medium density development, following State Government push.

Cessnock City Council	
Population:	47,000 No.
Area:	1,966 km^2
Annual Capital Works Budget:	$21.6 Mil
Annual Operating Budget:	$52 Mil
Organisational Staff No's:	3 Directorates.
Engineering Directorate Staff No's:	No.
Length of road network, Sealed (Unsealed):	
No. of Buildings:	.
No. Parks and Recreational Facilities:	.
Municipality Overview:	High unemployment level. Declining mining sector and developing wine industry (Hunter Valley Region). Predominantly rural area. Shire includes townships of Cessnock and Kurri Kurri. Large areas of State Forest and grazing land. Declining dwelling approvals.
Wyong City Council	
Population:	140,000 No.
Area:	827 km^2
Annual Capital Works Budget:	$36.2 Mil
Annual Operating Budget:	$190 Mil
Organisational Staff No's:	4 Directorates
Engineering Directorate Staff No's:	
Length of road network, Sealed (Unsealed):	
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	108 km north of Sydney. Large proportion of workforce commute out of Shire each day. Rapidly growing population. Municipal boundary to east Pacific Ocean. Council is the responsible authority for sewer and water. Former tourist area. Largely residential. Agricultural base has largely gone. Depressed area with high unemployment. High road making costs owing to poor subgrades..

Appendix 'C' – Municipality Profiles – **Queensland**

Laidley Shire Council	
Population:	13,500 No.
Area:	696 km^2
Annual Capital Works Budget:	$4 Mil
Annual Operating Budget:	$11.8 Mil
Organisational Staff No's:	115 No, 10 casual and 17 trainee.
Engineering Directorate Staff No's:	No.
Length of road network, Sealed (Unsealed):	395km (129 km)
No. of Buildings:	63 No.
No. Parks and Recreational Facilities:	53 No.
Municipality Overview:	Council has been subject to two rounds of staff redundancies in last 4 years. Laidley is a rural and developing Shire which produces vegetables for export to Japan. High rate of unemployment locally. Over last six months, developers have been showing interest in developing land in Shire owing to paucity of land in vicinity of Brisbane. Many residents commute for work to adjacent Shires / Cities.
Council of the Shire of Esk	
Population:	15,000 No.
Area:	4,000 km^2
Annual Capital Works Budget:	$4 Mil
Annual Operating Budget:	$12 – 13 Mil
Organisational Staff No's:	120 No.
Engineering Directorate Staff No's:	80 No.
Length of road network, Sealed (Unsealed):	540 km (1,040 km), 145 km unformed
Municipality Overview:	Predominantly rural shire, involved in cattle production and market gardening, largest employer being an abattoir. 4 major towns and 5 villages, Council is responsible for 3 swimming pools and 3 libraries.

Toowoomba City Council	
Population:	92,000 No – Toowoomba, 111,000 – Greater Toowoomba.
Area:	117 km^2
Annual Capital Works Budget:	$55 Mil
Annual Operating Budget:	$79 Mil
Organisational Staff No's:	745 No.
Engineering Directorate Staff No's:	245 No.
Length of road network, Sealed (Unsealed):	595 km
No. of Buildings:	215 No.
No. Parks and Recreational Facilities:	224 No.
Municipality Overview:	Urban area located 125 km west of Brisbane. Toowoomba is the largest inland regional city in Australia and a regional centre for south-west QLD and north-western NSW. Population is growing at a rate of between 5 & 7% currently. 6-700 metres above sea level.

Brisbane City Council	
Population:	880,000 No.
Area:	km^2
Annual Capital Works Budget:	$ Mil
Annual Operating Budget:	$1.6 Bil
Organisational Staff No's:	No
Engineering Directorate Staff No's:	No.
Length of road network, Sealed (Unsealed):	5,500 km, 300 km main roads
No. of Buildings:	No.
No. Parks and Recreational Facilities:	
Municipality Overview:	Council operates under a purchaser provider model.with internal business units purchasing services from one another. Council is responsible for water supply, bus services and traditional roles.

Logan Shire Council	
Population:	170,000 No.
Area:	250 km^2
Annual Capital Works Budget:	$25 Mil
Annual Operating Budget:	$187 Mil
Organisational Staff No's:	986 No. 6 directorates.
Engineering Directorate Staff No's:	175 No.
Length of road network, Sealed (Unsealed):	1,000 km (17 km), 57 km unformed.
No. of Buildings:	No.
No. Parks and Recreational Facilities:	450 No
Municipality Overview:	Mainly urban area, south of Brisbane, experiencing population growth of 0.6% per annum. Shire 50%urban, 35% rural, 15% Commonwealth owned (Greenbank Artillery Range)

Appendix 'C' – Municipality Profiles – **South Australia**

Adelaide Hills Council	
Population:	39,000 No.
Area:	794 km^2
Annual Capital Works Budget:	$6 Mil
Annual Operating Budget:	$24 Mil
Organisational Staff No's:	150 No.
Engineering Directorate Staff No's:	76 No.
Length of road network, Sealed (Unsealed):	
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	Situated east of Adelaide, the Adelaide Hills Council was formed by the amalgamation of 4 council areas. While 61% of population live in urban areas or localities, and 39% live in rural areas, the Council promote a rural, " quiet country living" lifestyle.

Campbelltown City Council	
Population:	45,000 No.
Area:	23.3 km^2
Annual Capital Works Budget:	$3 Mil
Annual Operating Budget:	$16 Mil
Organisational Staff No's:	118.2 No.(FTE)
Engineering Directorate Staff No's:	73 No.(FTE)
Length of road network, Sealed (Unsealed):	260 kms, (300metres)
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	Situated north-east of Adelaide, Campbelltown City Council is recognised for 'its unique heritage and cultural diversity'

Tea Tree City Council	
Population:	100,000 No.
Area:	96 km^2
Annual Capital Works Budget:	$6.5 Mil
Annual Operating Budget:	$45 Mil
Organisational Staff No's:	340 No.
Engineering Directorate Staff No's:	No.
Length of road network, Sealed (Unsealed):	580 kms
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	Tea Tree Gully is situated approximately 15 kms north-east of Adelaide and is known for its natural open spaces. It has one of the fastest growth rates in Metropolitan Adelaide. 80% Urban 20% Rural

Town of Gawler	
Population:	18,000 No.
Area:	41.3 km^2
Annual Capital Works Budget:	$2.5 Mil
Annual Operating Budget:	$10 Mil
Organisational Staff No's:	70 No.
Engineering Directorate Staff No's:	36 No. (includes Outdoor staff)
Length of road network, Sealed (Unsealed):	156kms (15kms)
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	Town of Gawler is located 40kms north of Adelaide

Onkaparinga City Council	
Population:	151,000 No.
Area:	518 km^2
Annual Capital Works Budget:	$15 Mil
Annual Operating Budget:	$86 Mil
Organisational Staff No's:	550 No. (FTE)
Engineering Directorate Staff No's:	230 No. (FTE)
Length of road network, Sealed (Unsealed):	1,200 kms (240 kms)
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	Largest Council in South Australia situated on the southern fringe of Adelaide. It has a mix of urban and rural communities.
Holdfast Bay City Council	
Population:	32,600 No.
Area:	14.5 km^2
Annual Capital Works Budget:	$4 Mil
Annual Operating Budget:	$24 Mil
Organisational Staff No's:	129.5 No. (FTE)
Engineering Directorate Staff No's:	65.5 No. (FTE)
Length of road network, Sealed (Unsealed):	185 kms Sealed
No. of Buildings:	74 No.
No. Parks and Recreational Facilities:	41 No.
Municipality Overview:	City of Holdfast Bay is a fully developed seaside council. It has a tourism focus with Glenelg being in its boundaries.

Charles Sturt City Council	
Population:	102,000 No.
Area:	54.74 km^2
Annual Capital Works Budget:	$8-10 Mil
Annual Operating Budget:	$48 Mil
Organisational Staff No's:	500 No.
Engineering Directorate Staff No's:	22 No. (Engineering & Construction Department)
Length of road network, Sealed (Unsealed):	640 kms
No. of Buildings:	
No. Parks and Recreational Facilities:	
Municipality Overview:	One of the larger South Australian metropolitan councils, the City of Charles Sturt is situated west of the Adelaide CBD.

Appendix 'C' – Municipality Profiles - **Western Australia**

City of Bunbury	
Population:	31,000 No.
Area:	61km^2
Annual Capital Works Budget:	$25 Mil
Annual Operating Budget:	$50 Mil
Organisational Staff No's:	201 No.
Engineering Directorate Staff No's:	
Length of road network, Sealed (Unsealed):	310 (0.4) km
Municipality Overview:	Bunbury is a centre for tourism in the south west of WA. In addition with its deep water port Bunbury is also a focus for many heavy and light industries supporting the fishing, mining and timber industries.
Busslleton Shire Council	
Population:	24,750 No.
Area:	1,454km^2
Annual Capital Works Budget:	$6 Mill
Annual Operating Budget:	$26 Mil
Organisational Staff No's:	188 No.
Engineering Directorate Staff No's:	No.
Length of road network, Sealed (Unsealed):	681 (341) Km
Municipality Overview:	Located on the coast 2hrs drive south of Perth Busselton is a fast developing tourist destination. Surrounding Busselton the rich farmland is known for its wine production, beef cattle and dairying industries.

Bridgetown-Greenbushes Shire Council	
Population:	4,175 No.
Area:	1,691km^2
Annual Capital Works Budget:	
Annual Operating Budget:	$6 Mil
Organisational Staff No's:	35 No.
Engineering Directorate Staff No's:	
Length of road network, Sealed (Unsealed):	190 (624) Km
Municipality Overview:	Located approximately 2.5 hours from Perth the shire is predominantly a farming community that supports other major industries such as Mining, tourism and timber production.
City of Mandurah	
Population:	52,000 No.
Area:	173.5 km^2
Annual Capital Works Budget:	$14 Mill
Annual Operating Budget:	$40 Mill
Organisational Staff No's:	394 No.
Engineering Directorate Staff No's:	105 No.
Length of road network, Sealed (Unsealed):	533 (4) km
Municipality Overview:	Mandurah is located a the centre of Western Australia's Peel tourist region and is recognised as a regional centre outside the metropolitan area and as a day tourist destination point.

City of Canning	
Population:	74,016 No.
Area:	65.4 km^2
Annual Capital Works Budget:	$44Mil
Annual Operating Budget:	$49.7 Mil
Organisational Staff No's:	1500.
Engineering Directorate Staff No's:	No.
Length of road network, Sealed (Unsealed):	538 (1.5) km
Municipality Overview:	The City of Canning adjoins the Town of Victoria Park and is located 10km from the Perth CBD. The largest local government area in the Perth Metro area
Town of Victoria Park	
Population:	28,000No.
Area:	18 km^2
Annual Capital Works Budget:	$10 Mil
Annual Operating Budget:	$17 Mil
Organisational Staff No's:	195 No.
Engineering Directorate Staff No's:	37
Length of road network, Sealed (Unsealed):	160 km
Municipality Overview:	The Town of Victoria Park is a unique residential area and is located on eastern side of the Swan River adjacent to the Perth CBD. Within the boundaries of the Municipality are a University, Racecourse, 5 Star hotel, Casino, golf course, 2 Technical Colleges, a prison, 3 bus and 5 train stations and currently has $1,200 Million worth of development pending

City of Stirling	
Population:	170,000 No.
Area:	100 km^2
Annual Capital Works Budget:	$67.42 Mil
Annual Operating Budget:	$108.19 Mil
Organisational Staff No's:	784 No.
Engineering Directorate Staff No's:	306 No.
Length of road network, Sealed (Unsealed):	1023
No. of Buildings:	377 No.
No. Parks and Recreational Facilities:	765 No.
Municipality Overview:	The City of Stirling is 8.5km from the Perth CBD and is largely a well developed residential area. Comprising 30 suburbs the City of Stirling stretching from Railway Parade, Mount Lawley in the East(which is immediately Due North of the Perth CBD), to the Indian Ocean suburbs of Scarborough, Trigg, North Beach and Waterman in the West.
City of Joondalup	
Population:	158,000No.
Area:	97 km^2
Annual Capital Works Budget:	$50 Mil
Annual Operating Budget:	$112 Mil
Organisational Staff No's:	450 No.
Engineering Directorate Staff No's:	
Length of road network, Sealed (Unsealed):	975 km
Municipality Overview:	Located on the coast 20km north of the Perth CBD Joondalup was split from Wanneroo in 1998. Predominantly residential in nature Joondalup is almost fully developed.

City of Wanneroo	
Population:	89,000 No.
Area:	688 km^2
Annual Capital Works Budget:	$52 Mil
Annual Operating Budget:	$112 Mil
Organisational Staff No's:	530 No.
Engineering Directorate Staff No's:	
Length of road network, Sealed (Unsealed):	800 (20) km
Municipality Overview:	Located on the coast 20km North of the Perth CBD Wannaroo was split from Joondalup in 1998. Being located on the edge of the Perth Metropolitan area Wanneroo is a heavily developing Urban area with a projected population of 158,200 in 2016.
City of Swan	
Population:	82,126 No.
Area:	1,043 km^2
Annual Capital Works Budget:	$15 Mil
Annual Operating Budget:	$60Bil
Organisational Staff No's:	500 No
Engineering Directorate Staff No's:	175 No.
Length of road network, Sealed (Unsealed):	900, (100 km) km
Municipality Overview:	As the largest local government area within metropolitan Perth it is centred 16km west of the CBD and is the western gateway to Perth. The City of Swan has a diverse economic base and strong economic sectors including retailing, manufacturing, property, and business services, agriculture, wholesale trade and construction.

APPENDIX ‘D’

IPWEA CONFERENCE HOBART SESSION ATTENDANCE LIST

Australian Study Tour 2003, IPWEA Hobart Conference Session
Attendance List, Tuesday 26 August 2003

Name	Organisation
Phil Bambrick	Ipswich City Council
Suzanna Barnes - Gillard	IPWEA Queensland
Mike Butcher	Palmerston City Council
Steve Carmichael	Sydney City Council, Civil
Garfield D'Costa	Shire of Yarra Ranges
Chris Champion	IPWEA National
Glyn Davies	City of Armadale (WA)
Bruce Douglas	Mornington Peninsula Shire Council
Bevin Eberhardy	Central Coast Council
Michael Foley	City of Swan
Bob Fredman	Cooloola Shire Council
Martyn Glover	Town of Mosman Park
Ross Goyne	City of Ballarat
Dave Harris	City of Gosnells
Chris Hastie	Wellington Shire Council
John Hawkes	Cairns City Council
Chris Lawson	Beaudesert Shire Council
Mark McCain	Guest
Stewart McLeod	Dubbo City Council
Ross Moody	City of Stirling
Warren Roberts	City of Stonnington
Andrew Ryan	Maroochy Shire Council
Alex Sheridan	Town of Victoria Park
Mark Spangler	Darwin City Council
Maurice Stabb	Nillumbik Shire Council
Malcolm Styles	Wangaratta Rural City
Peter Taylor	Toowoomba City Council
Silvio Trinca	City of Canning
Mark Varmalis	Shire of Yarra Ranges
Dawson Wilkie	Townsville City Council
Keith Wood	Municipal Engineering Foundation Victoria
Bill Woodcock	Rockdale City Council
Max Woodward	Hornsby Shire Council
Ian Woodyard	Warwick Shire Council
Stephen Yam	Moree Plains Shire