



Inquiry into Infrastructure and the Development of Australia's Regional Areas

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Executive Summary

The very foundation of infrastructure development lies in the quality and availability of land and geographic information. Well-founded and strategically placed infrastructure development can only occur if there is readily available quality spatial data. It is the cornerstone of socio-economic strategies, equipment and infrastructure planning, resources and environment management, and law.

Quality spatial information enables government to direct and rationalise the investments needed to maintain a vibrant and growing Australian economy.

The stated purpose of this Inquiry is to “*make a significant contribution to development and employment in Australia's regions*”. This strategy is not inconsistent with previous attempts to stimulate regional economies through development initiatives to generate employment. However, this has usually been followed by a shift away from established regional policies such as location-specified subsidies, direct provision of services or the relocation of government employment and facilities. This was confirmed by Beer's study, of 1996. Beer contended that this transition has been “fueled by the belief that local communities are best placed to identify impediments to growth, develop strategies to address barriers to development and foster a better environment for businesses”.

However, overseas research carried out by Wolman, Ford and Hill in 1994 found no evidence to support this belief and contend that there is a tendency to “overestimate the effectiveness of these techniques”. This research would suggest that communities *cannot go it alone* and need support from the Federal Government.

There is a need to recognise that:

- ❑ Each region has unique opportunities for development but is restricted by the lack of infrastructure development. Regional communities are a vital fabric of our society and need encouragement now more than ever to survive.
- ❑ Deficiencies in infrastructure are exacerbated by deficiencies in the quality and availability of land and geographic information.
- ❑ Deficiencies in spatial information hinder the development of infrastructure and lead to expensive duplication across jurisdictions. Appropriately managed and regularly updated spatial information will ensure that both commercial and community interests are served through informed management and investment decisions.
- ❑ Provision of infrastructure such as energy, transport, telecommunications, water supplies, deep sewer, educational and health facilities will naturally stimulate development, particularly when this is performed in a coordinated way on a regional and sub-regional basis.
- ❑ Growth in regional investment by government and industry is retarded by incompatible and poor quality spatial data that leads to costly duplication, inconsistency, inefficiency, confusion and delays in decision making, none of which is conducive to investment.

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- A commitment to upgrading national spatial data will provide opportunities to secure uniform quality data that will enhance the opportunities for the eventual flow of investment projects throughout the economy. An investment now in upgrading spatial data will prevent costly rectification in the years ahead.
- The flow-on effect generated by accurate, up to date information that stimulates both developers and utility agencies into examining and planning projects would provide impetus to growth in most industries.
- Quality planning can proceed only on the basis of quality data that is up-to-date and accessible.

The work of ANZLIC and AUSLIG in developing an Australian Spatial Data Infrastructure will greatly enhance the opportunities for regional growth and prosperity. Government must look beyond the attraction of high profile activities such as transport, health care and industry to the essential ingredient for the smooth operation of the public and private sectors of the economy: the development of Australia's Spatial Data Infrastructure.

The benefits to cost ratio is estimated to be approximately 4:1, which would appear ample justification for on-going government funding. In simple terms, this means that for every dollar invested in producing land and geographic data, some \$4 of benefit is generated within the economy.

In actual dollar terms this represents approximately \$4 billion saved to date, much of which has been reinvested to generate additional economic activity.

Introduction

There is little doubt that the efficient development of Australia's infrastructure requirements is inexorably linked to the quality, availability and relevance of land and geographic information.

The benefits of land and geographic information to the development of the Nation's economy was addressed in some considerable detail by Price Waterhouse, in a study commissioned by the Australia New Zealand Land Information Council (ANZLIC) in 1995.

Price Waterhouse identified a correlation between the availability of accurate land and geographic data and economic benefits in the form of "improved business and strategic planning, increased productivity and the development of new business opportunities in agriculture, mining and environmental management."¹

Geographic and land information data is critical to effective administration of resources and environment, to the collation and use of socio-economic data, to equipment and infrastructure management and to the legal systems. It is important to ensure that geographic information is available in a manner that facilitates exchange of data between governments and other bodies in order to reduce acquisition costs and avoid duplication.

In recent years there has been a focus on the development of a National Spatial Data Infrastructure, which will serve as the umbrella of policies, standards and procedures to foster more efficient use, management and production of spatial data. This program is commonly referred to as the Australian Spatial Data Infrastructure (ASDI).

The ASDI will serve to coordinate the three spheres of government to provide data to local managers through a system that:

- ❑ Reduces data duplication
- ❑ Increases the integration capacity of data and systems
- ❑ Identifies gaps in environmental, social and economic knowledge
- ❑ Facilitates information exchange between agencies at all levels

Currently, much of the data is comprised of very low-resolution detail, which is too broadscale to be useful for local government agencies undertaking on-ground work. Much of the information is collected by agencies for specific purposes without providing for broader involvement of local stakeholders.

Much of the existing data is either entirely lacking in - or there is a scarcity of - fundamental data layers (e.g. forest types, endangered species, and contaminated sites) and these deficiencies generally have not been addressed.

There are many opportunities for government to contribute to employment growth through the enhancement of cadastral databases. Improvements in the availability and quality of land and geographic information will encourage private sector development and enhance the capacity of regional governments to better plan for infrastructure development.

¹ Australian Land and Geographic Data Infrastructure: Benefits Study, Price Waterhouse, AGPS Canberra 1995

Deficiencies in Infrastructure

Deficiencies in infrastructure are exacerbated by deficiencies in the quality and availability of land and geographic information. Regional Australia is perhaps more prone to the impact of such deficiencies, due to the greater diversity of geospatial requirements, such as maximising efficiency of cropping; minimising the use of chemicals; salinity and erosion issues; catchment management; land development; and transport planning, to name but a few. The cost of acquiring and maintaining such information is disproportionately high in regional Australia, given the low taxation base.

However, without adequate spatial information governments cannot adequately address important issues such as urban renewal, native title administration, emergency services, forest management, drought and flood relief and land care issues. Many of Australia's laws are predicated on land and geographic information, which define and identify where certain *things* are permitted or forbidden. Unfortunately, much of this information is inadequate to the demands of today.

Planning and project development within regional areas is arduous, expensive and slow where infrastructure is either lacking, poorly developed or in a non-progressive state because of insufficient planning by relevant Government Authorities or because of a lack of funding. The process of investigating legal and other rights over land use is both time-consuming and costly. Such delays and risks deter private development in regional Australia.

The ability to require project developers to finance all or some of the infrastructures/utilities outside of the immediate project area is limited, especially in regional areas; the smaller nature of the projects and the rate of sales means the recovery of capital outlay is delayed. Expecting developers to carry the entire burden for such infrastructure, especially when it will service existing lots and/or future development, is unrealistic and proves a disincentive. An example of this is the external infrastructure of water, sewer and power where there are no opportunities for a contributory scheme or cost recovery mechanism under the Acts for the *original* subdivider when a *future* subdivider taps into the mains.

Enhancement Factors

Without adequate geospatial information, farm management suffers; identification of suitable corridors for road construction and underground water all rely on spatial information. No government can adequately manage without proper spatial information.

Deficiencies in spatial information hinder the development of infrastructure and lead to expensive duplication across jurisdictions. Appropriately managed and regularly updated spatial information will ensure that both commercial and community interests are served through informed management and investment decisions.

Provision of infrastructure such as energy, transport, telecommunications, water supplies, deep sewer, educational and health facilities will naturally stimulate development, particularly when this is performed in a coordinated way on a regional and sub-regional basis.

When the stimulus provided by the upgrade or addition of a base utility is observed, private sector driven development is encouraged to proceed. Confidence that the region is receiving recognition

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by Government agencies and can therefore expect ongoing support, especially when there is a solid ongoing presence, helps to convince the private sector that sustainable economic growth will occur.

A case in point is the stimulation to the local economy and confidence provided by the 'Cowara Heights' urban development project in Cowaramup, Western Australia. The initiative shown by the developers in providing the necessary capital and determination to install the infrastructure elements lacking in the area resulted in an outstandingly successful development that has contributed to - and will continue to contribute to - the solid growth Cowaramup is now experiencing.

Further development to the town centre precinct and to support facilities such as education is now highly likely and only limited by the future provision of expanded utilities.

Potential for Regional Development

Quality spatial information will enhance the opportunities for growth in rural development by improving land management and the more efficient use of resources. Certainly, the availability of land and geographic data may be an important input for investment projects and be a key factor in determining the preferred location of projects.

There are opportunities for regional Australia to benefit from better management of water, soil, vegetation, transport, schools, hospitals, communication, policing and agriculture. None of these opportunities can be effectively developed without appropriate spatial data. Commercial investment is likewise hindered by poor spatial data.

The level of planning and the provision of infrastructure by Government Authorities assists and encourages developers to consider projects. With major projects assessing the cost is part of detailed planning to assess the economics of proceeding.

Studies to identify and map future development sites are urgently required to facilitate forward planning by all agencies and governments, both state and local. In many cases, this may lead to alternative and innovative solutions for the supply of services.

The enhancement of the spatial data infrastructure will in itself provide opportunities for employment in regional Australia. Over the years there has been a rationalisation of regional service centres for a range of infrastructure. In particular, telecommunications has been so dispersed that regional centres experience long and frustrating delays in dealing with distant administrative units. Such rationalisation will undoubtedly continue while there is a decline or stagnation of growth in regional centres. However, expenditure on the enhancement of spatial data may well encourage greater investment and employment opportunities that would see a reversal of negative population trends in regional Australia.

The flow-on effect generated by accurate, up to date information that stimulates both developers and utility agencies into examining and planning projects would provide impetus to growth in most industries.

An example of this is the Tille and Lantzke Land Capability Study prepared through Agriculture WA, for the Busselton Margaret River Region. Potential vineyard development has been closely tied to this information and has helped guide the direction of the development as well as provide guidelines to investors and Councils.

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Given the savings that are possible with improved information efficiency, substantial financial benefits can result, releasing funds for infrastructure development. A case study in Melton Victoria, outlined in the Price Waterhouse Document of 1995, demonstrated a data cost saving of some 30% per annum together with concomitant operating efficiency gains in the acquisition and management of spatial data. Again, such savings enhance the prospects for development by freeing-up funds for services and infrastructure development and maintenance.

A case study of the NSW Police also demonstrated savings for the force through the provision of more accurate vehicle crash site locations, by tracking criminal activity and by generating statistics. The NSW Police have "benefited significantly through reductions in overtime, lower response times for responding to accidents and fewer maintenance and running expenses for motor vehicles"².

Sydney Electricity estimates that, by expending some \$3 million to update maps, gains in excess of \$2 million have been realised. Sydney Electricity expect savings to be on going and in the medium to long term "are expected to substantially outweigh establishment costs", according to the study.

Employment Prospects

A commitment to upgrading National spatial data will provide opportunities to secure uniform quality data that will enhance the opportunities for the eventual flow of investment projects throughout the economy. An investment now in upgrading spatial data will prevent costly rectification in the years ahead.

Historically, surveying has revealed the potential of the land and the continued sensible usage of resources demands up-to-date accurate mapping.

Large scale mapping projects suitable for regional, local and project planning ensure the environmentally sound development of the entire region and - when considered on a state wide basis - would generate considerable employment prospects both in the surveying profession and the support areas. The full potential is not revealed until this detailed information is made available.

Role of Government

Both government and the private sector have contributed significantly to the development of infrastructure within regional areas. The forward planning capabilities of Government agencies should, and generally does, exceed those of the private sector. However the general tendency to centralise utility agencies and their subsequent withdrawal from smaller regional centres has the effect of stifling development within those smaller or less developed areas.

The private sector can and does play a role in these smaller areas by stepping in and creating the demand for the infrastructure and in some cases footing the bill for these services. This seems a fair contribution since the developer is also benefiting. But the infrastructure, particularly if rushed or poorly planned, can end up being underdeveloped to cope with future expansion or developed in isolation to other future needs and may require eventual upgrade, overhaul or expensive linking into new systems.

² Australian Land and Geographic Data Infrastructure: Benefits Study, Price Waterhouse, AGPS Canberra 1995

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Government must ensure that it has timely and accurate data to ensure that it is able to make the best decision for regional Australia.

Planning, Coordination and Cooperation

Quality planning decisions must be based on sound spatial data. Accurate and current mapping and GIS is essential.

When intensive agricultural developments are planned - such as viticultural projects - it is difficult to design appropriate facilities to service these sites if there is a lack of infrastructure elements such as power and transport. In many cases three-phase power is not available, which severely limits the opportunities for pumping apparatus and cool storage facilities. Alternatively, expensive inverters are required by the developers to manipulate the power generation.

Within the Busselton and Margaret River Shires, for example, many proposals for viticulture and horticulture subdivisions, tourist developments and extractive industries have suffered significant cost impositions by local government authorities. The authorities have used these projects, in many cases, as an opportunity to impose substantial road upgrading conditions on the gazetted access roads that will service these future projects. These roads are already under Councils' control; however, their limited funding prohibits Councils from maintaining rural roads to a standard commensurate with the growing traffic demands. While it is accepted that development should be self-funding there is a limit to how far outside of the immediate project the funding should occur, especially when there is an obvious apparent need for the pre-existing locations.

The Busselton deficiencies were first raised with local authorities in 1993, yet no planning had been completed by 1996 when a developer was required to carry the cost burden of some \$750,000 in order to gain approval.

Benefit to National Economy

The Price Waterhouse study produced a number of case studies to highlight the importance of quality spatial data including the Shire of Melton, NSW Policy, Sydney Electricity (mentioned above), North Sydney Health Services, tree mapping in Victoria, Victorian Department of Education and CRA Exploration. The Study also revealed an estimated benefit to cost ratio of approximately 4:1, which would appear ample justification for on-going government funding. In simple terms, this means that for every dollar invested in producing land and geographic data, some \$4 of benefit is generated within the economy.

In actual dollar terms this represents approximately \$4 billion saved by users, much of which has been reinvested to generate additional economic activity.

Recommendations

Government must address the issue of infrastructure planning. To plan effectively there must be appropriate geographic and land data to support strategic decisions. Sustainable growth in regional Australia will only be possible if government recognises the need for quality spatial data and accepts the current state of fundamental infrastructure and socio-economic deficiencies.

The following issues require urgent attention by government to ensure sustainable growth throughout regional Australia:

- ❑ the general shortage of new housing developments
- ❑ the lack of associated sewer and water services
- ❑ the lack of health services (doctors, pharmacists etc)
- ❑ the shortage of skilled workers. (Previous low levels in employment prospects have seen skilled people leave and not be replaced. This is evident in the surveying profession where anecdotal evidence indicates a severe shortage of suitable persons.)
- ❑ the poor rail infrastructure, which is in need of repair to facilitate more effective freight distribution
- ❑ weak communication links, especially in the provision of internet services. (If e-commerce is the way of the future, then current infrastructure (or lack thereof) will inhibit regional Australia's capacity to compete.)
- ❑ low maintenance of existing infrastructure services.
- ❑ a predisposition to funding city rail services rather than regional services, despite some evidence that some regional services are more cost effective than city services.
- ❑ a need for upgrading of power services to support required local industry.

Sustainable development requires that the evidence of infrastructure need is established and that appropriate funding is available to develop and maintain infrastructure. Without confidence in the future prospects for regional Australia, evidenced by government financial commitment, communities will not be able to fund infrastructure development, entice professional service providers (doctors, banking services, surveyors, etc) or commercial development to support growth.

Investment in regional Australia by both government and business must be contingent on informed strategic planning, built on a sound foundation of quality geographic and land data. First and foremost in this process of inquiry must be a recognition of and appreciation for the importance of quality land and geographic data. The compilation and ongoing maintenance of this data will serve to enhance the quality and effectiveness of government investment decisions.

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