

Queensland Spatial Information Infrastructure
for the
Queensland Spatial Information Infrastructure Council

Property Interests Product

REPORT 2
BUSINESS CASE

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DISCLAIMER

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Property Interests Product Specification Reports

(Queensland Spatial Information Infrastructure Development)

Executive Summary

This report presents results and conclusions arising from the Property Interests Product Specification project. It includes recommendations to progress to the next stage of development of the Queensland Spatial Information Infrastructure (QSII).

Report 1 Product Specifications - This report comprises three sections: **1)** Institutional Environment for Development of Products and Services; - Outlines the scope of the Queensland Spatial Information Infrastructure and the role of information products in this environment; **2)** Product Specifications - Information Management; - Contains the 6 information product specifications, that when developed, will facilitate access to property related information maintained across state and local government; and the private sector; **3)** Technological Environment for Development of Spatial Products and Services; - Provides an overview of the technological environment required to provide access to property related information.

Report 2 Business Case - Presents an assessment of the Property Interests Information Product in terms of its market potential, potential benefits to the state; and its financial viability. Estimates are included on the number of transactions within a typical local government agency; and projections developed for implementation of an on - line property information service for the 19 priority councils.

Report 3 Implementation Plan - Provides background and context to how the proposed products could be developed by the Spatial Information Industry in Queensland. Outlines a 3 year and 6 year plan for statewide implementation of the products, subject to the results of a prototyping exercise with the City of Caloundra.

Report 4 Request for Expressions of Interest - An EOI document has been prepared addressing the need to prototype both the delivery infrastructure and information content (proposed information products) of an on - line property information service.

Structure of This Report . . . Business Case (Report 2)

This report presents an assessment of the Property Interests Information Product in terms of its market potential, potential benefits to the state; and its financial viability.

To provide context to the business case, this report includes an overview of the current environment in which the proposed information products and delivery infrastructure will be developed.

In addition to discussing the proposed information products, the report also addresses issues likely to have a major impact on the project (and hence the validity of this business case) including potential market demand, for information products, competitor systems; and critical risks and problems likely to be encountered during the implementation phase of the project.

Estimates are included on the number of search transactions within a typical local government agency; and projections developed for implementation of an on - line property information service for the 19 priority councils.

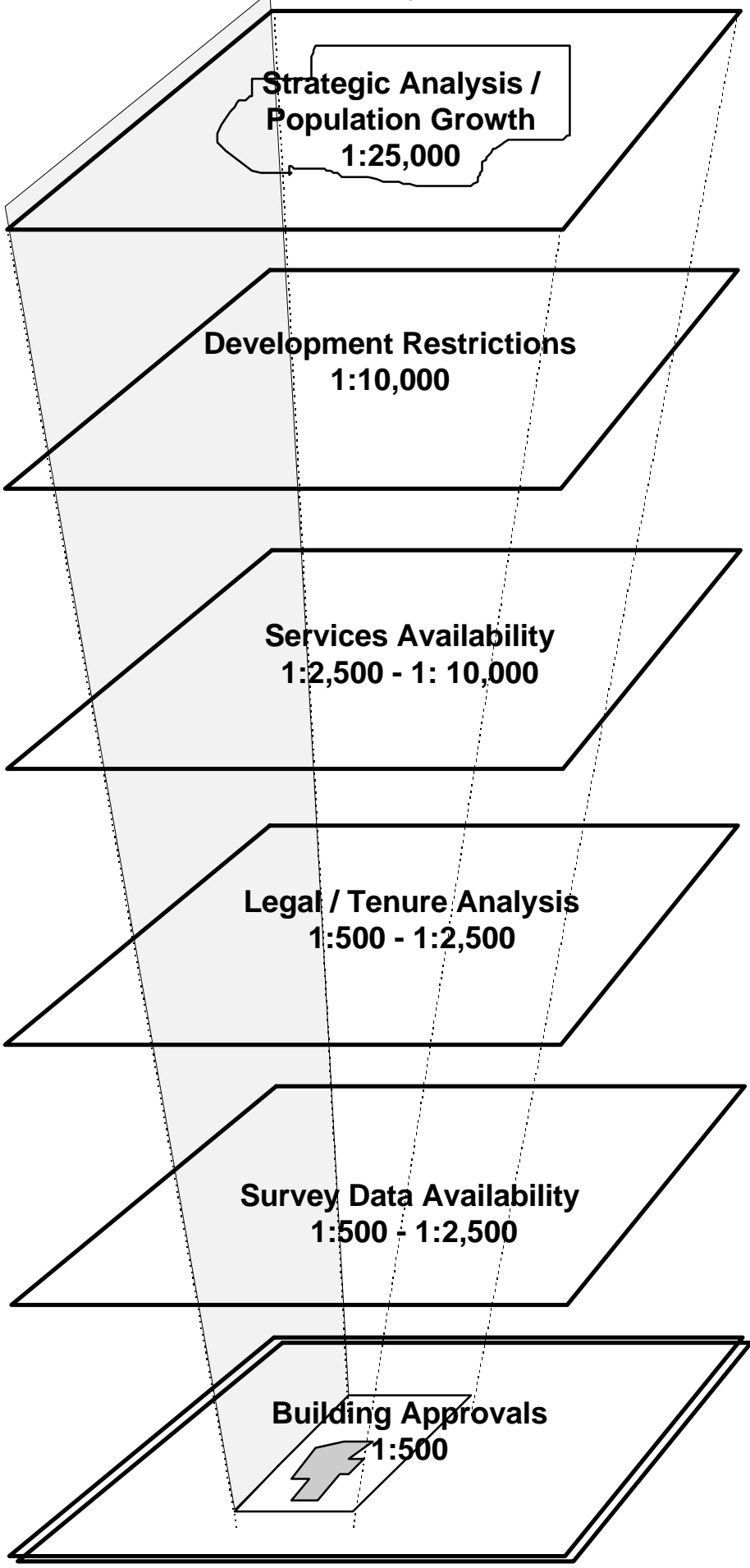
A detailed benefit - cost analysis provides the framework for improved estimates of financial viability, based on the results of a proposed prototyping exercise with local government.

Property Interests Product Specification

For further information about these reports, contact:

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Property Interests Product



100's of User customised Maps and Lists of text data in response to queries

Property Interests Product

REPORT 2 - BUSINESS CASE

Table of Contents

Property Interests Product - Schematic	i
Table of Contents	ii
1 INTRODUCTION TO THE BUSINESS CASE	1
1.1 Need for the Property Interests Information Product	1
1.2 Government Recognition of Information as an Infrastructure	2
1.3 Information Product Approach	3
1.4 Window of Opportunity - A Structured Spatial Information Industry	3
1.5 Scope of Property Interests Product Specification	3
1.6 Participants in the Development of the Property Interests Product	4
1.7 Current Stage of Information Product Development	5
2 PROPERTY INTERESTS PRODUCT & RELATED SERVICES	6
2.1 Purpose of the Property Interests Product	6
2.2 Information Product Descriptions	6
2.3 Information Product Applications	7
2.4 Information Product Benefits	8
2.5 Access Constraints - Existing Systems	8
2.6 Future Product Development Plans - Impact on Business Case	8
2.7 Information Product Liability	9
3 PROPERTY INTERESTS PRODUCT MARKET ANALYSIS	11
3.1 Target Market and Characteristics	11
3.2 Analyst of Market Potential - Property Interests Product	11
3.3 Information Product Market Share, Trends, & Growth Potential	14
3.4 Sales, Distribution, & Profits by Information Product / Service	16
4 COMPETITIVE ANALYSIS	17
4.1 Competitors Profile	17
4.2 Information Product / Services Comparison	17
4.3 Market Niche and Share	18
4.4 Comparison of Strengths and Weaknesses	18
5 MARKETING STRATEGY	19
5.1 Market Penetration Goals	19
5.2 Pricing and Packaging	19
5.3 Sales and Distribution of Property Interests Products & Services	20
5.4 Service and Warranty Policies	21
5.5 Advertising, Public Relations, and Promotions of Products	21
6 MILESTONES, SCHEDULE AND STRATEGIC PLANNING	22

6.1	Major Milestones	22
6.2	Product Implementation Schedule	22
6.3	Strategic Planning	22
7	CRITICAL RISKS AND PROBLEMS - PRODUCT IMPLEMENTATION .	23
7.1	Summary of Major Problems Overcome to Date	23
7.2	Inevitable Risks and Problems	23
7.3	Potential Risks and Problems	23
7.4	Worst Case Scenarios	23
8	FINANCIAL DATA AND PROJECTIONS.	24
8.1	Funding Required to Develop Prototype Products	24
8.2	Benefit - Cost Analysis	26
8.3	Assumptions Used in the Financial Analysis	27

Appendices

Appendix 1	Estimated On - Line Search Transactions for Caloundra City Council; & Projections for SE Qld Councils	36
Appendix 2	Typical Property Information Search Enquiries	41
Appendix 3	From Bush Telegraph to Information Super Highway	45
References		47

List of Tables

3.1	Product Users and Estimated Number of Employees by Sector	12
3.2(a)	Estimated Property Information Enquiries - Caloundra	13
3.2(b)	Estimated Property Information Enquiries - 19 Councils	13
3.3	Major Users of a Property Information Service	14
3.4	Current DNR Land Services Program Revenue Sources	15
3.5	Digital Cadastral Database - Frequency of Client Updates	16
8.1	Estimated Costs - Property Interests Product Prototyping	24
8.2	Est. 6 Year Costs of Implementing the Property Interests Information Product 'On-Line' for a typical Local Government Authority	25
8.3	Est. 6 Year Costs of Implementing the Property Interests Information Product 'On-Line' for 19 Councils	26
8.4	Financial Analysis Summary - Typical LGA and 19 Councils	26
8.5	Benefit Cost Analysis - Typical Local Government Authority	29
8.6	Benefit - Cost Analysis - 19 Councils & Consortium	32

Property Interests Product

1 Introduction to the Business Case

Purpose of this Document

The Business Case presented in this report is based on a preliminary analysis of one information product and a conceptual design of product delivery infrastructure. It is an interim statement that justifies proceeding to the prototyping stage. It will need to be substantially revised taking into account:

- the results of the prototype with local government, and;
- completion of product specifications for the 22 proposed state information products;

before a case for full implementation of the Queensland Spatial Information Infrastructure can be presented to government.

The purpose of this document is to present a business case for prototyping the Property Interests Information Product; and related electronic service delivery infrastructure.

The Business Case that follows addresses the need to establish a coordinated, integrated state spatial information infrastructure and specific property related output products and services; to maximise the benefits of an estimated \$0.5 billion already invested in this technology over the last two decades.

To provide context to the business case, a brief background to the current spatial information environment is included prior to specifically focusing on the Property Interests Information Product and related delivery infrastructure.

1.1 Need for the Property Interests Product

The development of an Internet based 'on - line' property information service in Queensland is inevitable. The private sector is beginning to show initiative in this area. While their initiative is to be applauded, state and local government has a major role to play in establishing an appropriate environment for public access to quality spatial information products and services.

In the present land administration environment, there is significant potential for private sector duplication of effort in data maintenance; and variability in data standards and quality for the same data set.

Although significant progress has been made with the development of purpose - built, software dependent systems in state and local government, utilities and businesses; it has led to diminished opportunity for data exchange; and restricted opportunities to maximise benefits that arise from multiple data use. Data by itself, is a cost to the originator. Its value is realised when it is turned into

useful information for people to conduct business more effectively. It follows that more people using the data (multiple use) in an informational sense, leads to higher benefits associated with the initial investment.

Symptomatic of the Queensland spatial information industry to date, most local governments and major utilities maintain a separate version of the Digital Cadastral Database (DCDB), road centre line database and street address register, to list a few major instances of duplicated effort. The major reasons advanced for maintaining independent systems are time delays experienced in receiving notification of title registration, the high cost of digital data including royalty considerations; copyright restrictions, data exchange format difficulties and positional inaccuracies associated with the data.

With these limitations restricting multiple spatial data use firmly in mind, the Property Interests Product was commissioned by QSIIC to determine whether a specification could be developed that would largely overcome these barriers.

The Property Interests Product is one of twenty-two high priority *representative* state spatial information products identified in the QLIS Benefit Study that would assist most business sectors in the State to operate more efficiently.

Key application areas of the Property Interests Information Product include:

- land use planning, regulation and development
- land transfer
- resource management
- utilities service provision and management; and
- emergency response.

1.2 Government Recognition of Information as an Infrastructure

The Queensland Government recognises the value of information as an important component of state infrastructure. [Refer also to discussion in Appendix 3]. Access to information is critical to better plan and manage the State's natural and built assets in the best interests of the current community; and in the longer term interests of the State.

Reflecting the importance of spatial information in Queensland, it is estimated that:

- 90 per cent of all information used by government is spatially (or geographically) related.
- state and local government in Queensland has invested approximately \$0.5 billion to create digital map and related attribute databases to meet the needs of individual agencies over the last 18 years.

However, industry standards and coordination needed for 'cross - agency' sharing of information to maximise returns on this investment, has not been adequately addressed in that time.

1.3 Information Product Approach

The 1997 Benefit Study defined a new direction of activity by identifying 22 representative state spatial information products required to meet the needs of Queensland businesses.

The term *Information Product* is defined as the output generated by processing two or more data sets, where the newly generated product has greater information value than that of the individual data sets. (It is accepted that simply providing access to a single data set also has a certain value, but that simple data retrieval under-values the power of available spatial analysis technologies to add information value).

While the products are important, it is the infrastructure required to deliver the products that provides the greatest challenge. Technological advances such as the Internet; and increased private sector involvement in operating and maintaining government infrastructure provide exciting new opportunities to maximise returns on earlier investment.

However, the transition to a more efficient state information resource cannot be achieved with incremental changes of the past 18 years. The integration of new technologies requires a different approach which must be urgently addressed.

1.4 Window of Opportunity - A Structured Spatial Information Industry

The current window of opportunity will close for government to influence the future structure of the Queensland spatial information industry, as private sector investment in the current inefficient information environment precludes their participation in any new initiatives.

Strong leadership and a commitment to develop an integrated information infrastructure over the next 3 years, that meets the needs of business and the community will be rewarded with the establishment of a vibrant, new, high technology growth industry in the state, and a modern public access information network designed to address the challenges of the twenty-first century.

1.5 Scope of Property Interests Product Specification

The six Property Interests Information Product specifications presented in Report 1 are intended to take advantage of the Internet; supporting transactional enquiries for property information.

Given the enormity of the task, the scope of the study was limited to an initial assessment of user requirements that could be completed within a reasonable time frame (ie. use an evolutionary approach to product development). Two important caveats were therefore placed on the development of specifications for the Property Interests Product:

1 Maximise the benefits of existing property related information.

Initially, a version of the product is to be developed that uses available data, systems and technology. Early gains, ('runs on the board') are more important than elaborate, longer term complex solutions. This approach recognises that the State has invested significantly in spatial technologies over the last 15 years, and that it should be possible to 'work smarter' with existing resources, rather than have to start again.

2 Work with the organisational structures that currently exist.

Institutional restructuring and lengthy business process re-engineering will not be considered in the initial product specification. Instances where re-engineering could lead to greater efficiencies should be flagged for consideration by QSIIC member agencies.

1.6 Participants in the Development of the Property Interests Information Product

The current spatial information industry in Queensland comprises:

- data producers (mainly state and local governments)
- a limited number of system integrators, data brokers and value - adding entrepreneurs
- hardware and software vendors
- academic and research institutions
- professional associations
- a range of end users (state and local government, utilities, private sector businesses and the community).

Sponsoring Department for Product Development:

The Queensland Spatial Information Infrastructure Council has assigned lead agency status for this information product to the Department of Natural Resources.

Contributing Agencies (Data Input):State Government

Key state government agencies include:

- Mines & Energy
- Environment
- Emergency Services
- Local Government and Planning

Local Government

Priority councils for product implementation are considered to be those experiencing significant land development activity. (Following the completion of a prototyping exercise with the City of Caloundra, the balance of the State is to be assessed to establish the potential benefits of statewide

implementation of the property interests information product). The 19 priority councils are:

- Brisbane
- Gold Coast
- Caboolture
- Maroochy
- Pine Rivers
- Logan
- Caloundra
- Noosa
- Ipswich
- Beaudesert
- Cairns
- Thuringowa
- Hervey Bay
- Redland
- Redcliffe
- Bundaberg
- Mackay
- Caloola
- Kilcoy

Utilities

Utilities with a significant investment in spatial technology include:

- Telecommunications
- Electricity
- Gas

Private Sector

A significant number of private companies are involved in the development of spatial information products and services including:

- Data value-adding suppliers; mining companies; development companies etc.

Distribution & Marketing Agencies

It is proposed that the private sector (system integrators, data brokers and value adding entrepreneurs); will be responsible for product creation, distribution and delivery of a range of information services to end users.

1.7 Current Stage of Information Product Development

The project has now reached a stage where hardcopy specifications have been prepared for 6 property related information products required by customers in state, local government and the private sector.

The product specifications identify:

- **input data sets** (required from a range of sources)

to create

- computer generated **information outputs** (information products - maps and/or lists).
- standards required to facilitate uniform product development.

Currently, the Property Interests Product comprises six component information products that reflect the land development lifecycle:

- PI-01 Strategic Development Analysis
- PI-02 Restricted Development Areas Analysis
- PI-03 Services Availability Analysis
- PI-04 Legal / Tenure Analysis
- PI-05 Survey Data Availability Analysis

PI-06 Building Development Analysis

2 Property Interests Information Products and Related Services

2.1 Purpose of the Property Interests Product

The purpose of the Property Interests product is to:

- provide the established land information marketplace with streamlined (transparent) access to property related information, held by State and Local Government.
- modernise access to current disparate land administration systems to ensure that Queensland remains competitive with other States undertaking similar initiatives.
- use this product to commence development of the Queensland Spatial Information Infrastructure, as a platform for future integrated spatial information development.

Property related information systems are important for maintaining the integrity of statutory land administration processes; and for responsible state development. The proposed Property Interests product, available through an electronic information service (Internet based), is intended to provide clients with a gateway to registered interests in property from a single access terminal.

Nearly all sectors of business and the community are influenced to some extent by legal and regulatory procedures relating to the acquisition and use of land; or by the services and improvements provided by a range of public and private sector utilities.

2.2 Information Product Descriptions

The six proposed information products listed below, developed following an assessment of user requirements, are specified fully in a Report - 1 [Property Interests Product Specifications, 1998]. In summary, the products support the following analyses:

PI-01 Strategic Development Analysis - This information product is the initial entry point for early feasibility analysis of many land development proposals.

Candidate development parcels can be identified from the DCDB matching a range of user defined site selection criteria. (Also addressed in this product: Broadhectare Study to identify the timing for development of 'greenfield' sites; population growth projections and mining tenure). (Typical map output scales 1: 25,000 - 1:50,000)

PI-02 Development Restrictions Analysis - Identifies development restrictions affecting a DCDB land parcel / property, including calculation of areas where development is restricted within each land parcel. (Typical map output scales 1: 10,000 - 1:2,500).

PI-03 Services Availability Analysis - Identifies services available (or in proximity) to a selected parcel / property. (Includes details of the service provider and limited information on the type of service; easement width and tenure). (Typical map output scales 1: 10,000 - 1: 2,500)

PI-04 Legal / Tenure Analysis - Identifies legal interests in the selected parcel / property, using existing infrastructure developed by service providers / data brokers eg. on - line Title Searches, IVAS, MERLIN and GLR. (custodian access restrictions apply). Also supports enquiries on local government rating databases and Native Title interests. (Typical map output scales 1: 10,000 - 1:2,500).

PI-05 Survey Data Availability Analysis - Identifies information required by surveyors, engineers, land developers etc to prepare detailed engineering designs. Provides links to the Survey Control Database, Computer Inventory of Survey Plans, aerial photography and satellite imagery. Also supports the display of contour data and Permanent Survey Marks. (Typical map output scales 1: 10,000 - 1: 2,500).

PI-06 Building Approvals Analysis - Identifies information relating to development within the parcel / property including development applications; building permits, building footprints and connected services, and responsible authority to contact for further information. (Typical map output scales 1: 1,000 - 1: 500).

2.3 Information Product Applications

Typical applications of the product include [Refer also to Appendix 2]:

- developers searching for a site complying with a range of criteria.
- developers wishing to identify restrictions on site development.
- local government planners wishing to introduce environmental protection measures.
- enquiries relating to the availability of services to a block of land.
- legal interests in land prior to the purchase of a property.
- surveyor and engineers requiring access to survey information to assist in site layout and design.
- enquiries relating to development applications and building permits.
- exploration and mining companies requiring access to land.

A full list of potential enquiries and applications identified at the three Business Information Requirements Workshops is included in Appendix 5 of the Product Specification Report - Volume 1 (Alexander - Tomlinson (2), 1998).

2.4 Information Product Benefits

Benefits of the proposed on - line Property Interests products include:

- simplified, fast public access to a wide range of integrated, up to date information, using conventional desk - top computers.
- system independence for many applications.
- multiple use of uniquely maintained data sources.
- ensures all users work from the same base information.
- allows users to retrieve selected information and be billed for the service based on the number of transactions.
- provides data brokerage and value - adding opportunities for the private sector.
- lower costs (reduced acquisition, maintenance, distribution), while maximising the return on investment.

2.5 Access Constraints - Existing Systems

On - line public access must be restricted to a number of systems and sensitive data sets required to develop the Property Interests products, particularly to the Automated Titles System (ATS), Integrated Valuation and Sales (IVAS), and several environmental data bases relating to the location of significant sites. Existing commercial data brokering arrangements to provide access to ATS, IVAS, and the Digital Cadastral Database (DCDB), that are either in place, or planned must also be accommodated in the proposed Property Information service, without diminishing the business potential of such initiatives.

It is proposed that where such arrangements are already in place, a gateway to existing access mechanisms provided by brokers would be developed to allow the Property Interests Products to be developed according the proposed specification.

2.6 Future Product Development Plans - Impact on the Business Case

The Business Case presented in this report is based on a preliminary analysis of one information product and a conceptual design of product delivery infrastructure. It is an interim statement that justifies proceeding to the prototyping stage. It will need to be substantially revised following the completion of the prototype with local government; and completion of information product specifications for the 22 proposed state information products.

The Property Interests product is expected to evolve from the present concept as users gain a better understanding of spatial analysis capabilities; and as value adding of established data sets takes place. It is highly likely that current data bases will be enhanced in structure, content and quality and that new and smarter applications will rapidly emerge, keeping pace with similar advance in Internet based technology.

A Data Enhancement Strategy is proposed for the 19 local government agencies listed for early product development, to increase the integrity, quality and availability of data. This strategy will have a major impact on the business case. For each data set, a program is required to address:

- data standards;
- database structure;
- data coverage (geographic area) and;
- sustainable data maintenance

Adequate resources are required within state and local government to complete the data enhancement program for the identified Councils over the next 3 years (ie. 6 Councils per year). A firmer estimate of the resources required will be available following prototyping of the products with local government.

Given that the six proposed information products are *representative* of the information outputs identified by a segment of users from business and industry, at three workshops held in October 1997; future information product development considerations include:

- product specifications must be regarded as part of an evolutionary process comprising definition, design, build, operate and review; with each new version introducing additional functionality.
- current product specifications are expected to change rapidly over the next three years as user understanding and sophistication with new technology grows.
- hundreds of variations to the current information product are expected to be created to meet specific user requirements.
- access to single data sets may be as important as access to value - added information for many users.
- some products may eventually become industry standards, introducing economies of scale through multiple use. These benefits cannot be assessed at this time for inclusion in the business case.

Clearly, the current product specifications have a limited shelf life, before re-specification is required to take into account increased levels of user understanding and sophistication, and advances in technology.

2.7 Information Product Liability

The business case for product development is at risk if required standards for data and service delivery cannot be achieved.

As each information product relies on component data sets provided by a custodian, liability for errors in the data remain with the custodian. Errors in data interpretation or from data analysis, carried out by data brokers / product developers on behalf of clients rest with those agents; and liability for

data interpretation errors made by end users, or mis-interpretation of value - added information products rest with the end user.

As the business case considers transactional use of products and services via the Internet, it is essential that customers have access to recent, relevant and reliable data and systems to ensure that the potential 40 per cent growth rate in Internet users is reflected in the use of the property interests information service.

3 Property Interests Product Market Analysis

3.1 Target Market and Characteristics

The potential market for the proposed 'on - line' information service includes:

- Financial institutions
- Legal practices
- Valuers
- Insurance agents
- Real Estate agents
- Property Developers and Land Assessors
- Surveyors
- Consultants / Advisory Services
- General Public / Community
- Town Planners
- Engineers
- Architects
- Local Government
- State departments
- Utilities companies
- Mining companies
- Transport planning and service agencies
- Market research / data brokers

Very few of the above - listed private sector agencies routinely use spatial information in their business applications, predominantly because this type of information has not been easily accessible, nor available at a reasonable price. Spatial information is often used to create lists or tables of information for use by these groups, although the accompanying map may be of limited value to some users.

A number of business sectors such as the Law Society and mining companies have established communications networks (intranets) to provide their members with 'on - line' access to information. The potential to use these networks for the distribution of spatial information products and services should be investigated.

3.2 Analysis of Market Potential for the Property Interests Product

Table 3.1 lists the number of registered businesses and estimated number of employees that represent the potential market for the proposed 'on - line' Property Interests information service. As other information products are specified and included as an extension of the current product, and awareness of the service increases, an increase in the number of users and 'on - line' searches per user session is expected to occur.

It is conservatively estimated that about 2 percent of the workforce is involved in accessing property related information, equivalent to approximately 4,000 people per day throughout the state with the potential to make enquiries using the proposed Property Interests information service. Information provided by users at the Business Information Requirements workshops conducted to establish user requirements for the product, indicated that each enquiry is estimated to involve on average, 5 searches. Minimum searches in the order of 20,000 per day are anticipated based on state wide access to the product. As a comparison, the Automated Title System (ATS) currently processes approximately 6,500 searches per day.

Table 3.1 **Product Users and Estimated Number of Employees by Sector**

Product Users	Number of Registered Businesses	Estimated Number Employed
Financial institutions		25,537
Banks	1,163	
Building Societies	252	
Credit Unions	160	12,000
Other Financiers	104	
Legal practices	1,200	5,000
Valuers		1,397
Insurance agents (general)	148	3,286
Real Estate agents	1,982	12,200
Property Developers and Land Assessors	868	7,913
Surveyors	157	1,392
Consultants / Advisory Services / Tech Services	955	
Town Planners		
Engineers	592	4,978
Architects	618	2,517
Local Government Admin	619	29,659
State departments / State Govt Admin	775	55,503
Mining companies	121	
Transport planning and service agencies		
Market research / data brokers	36	1,498
House & Building Construction	46	
Sewerage and Drainage	199	4,111
Water Supply	308)
Gas Supply	35	442
Electric Supply	227	9,995
Total	10,715*	177,428**

ABS May 1997

* Workcover Queensland

** Total Workforce Employed: 1,554,953 (ABS Labour Force Estimates) = 11 % of Workforce in businesses likely to use the Property Interests Product

The City of Caloundra (67,000 people) carries out 250 full property certificate enquiries per year (involving ownership, rates, water, building approvals, notices issued, licences and registrations, development applications and general information). The 250 enquiries per year generate in the order of 2,000 search transactions per year, or 9 searches per day. Internal transactions (within Council) are estimated to be in the order of 150 per day.

Table 3.2(a) indicates that general external enquiries for a typical local government are in the order of 6,300 per year (Category (4) - Other Users; - or 25 per day). [Refer to Appendix 1].

Assuming Caloundra is typical of most LGA's, and as it represents 3.4 per cent of properties in the 19 priority Councils recommended for early implementation of the product, the estimated enquiry load from the 19 Councils (Table 3.2(b) Other User Category) is 184,751 per year (approximately 740 per day).

The internal (within Council) enquiry load (Table 3.2(b), across the 19 Councils is estimated to be 1,099,707 per year or approximately 4,400 per day.

Table 3.2(a) **Estimated Property Information Enquiries**
(based on estimates for the City of Caloundra)

	A	B	C	D	E	F
86						
87	Category Name	Category	Estimated	Estimated	Est data	Est data
88		number	inquiries	inquiries	items	items
89			(No/year)	(No/Wday)	(No/Wday)	(No/year)
90	(a) Local government					
91	New lot and building approval	1	2570	10	391	97750
92	Existing properties	2	3300	13	325	81250
93	Internal inquiries	3	37500	150	750	187500
94	Sub-total (a)		43370	173	1466	366500
95						
96	(b) Other users					
97	Private sector/Utilities/State Govt	4	6300	25	126	31500
98						
99	Total for one LGA (a + b)		49670	199	1592	398000
100						

Table 3.2(b) **Estimated Property Information Enquiries**
(based on estimates for 19 Councils)

	A	B	C	D	E	F
94						
95	Category Name	Category	Estimated	Estimated	Est data	Est data
96		number	inquiries	inquiries	items	items
97			(No/year)	(No/Wday)	(No/Wday)	(No/year)
98	(a) For 19 Local government Authorities					
99	New lot and building approval	1	75367	301	11466	2883529
100	Existing properties	2	96774	387	9531	2294117
101	Internal inquiries	3	1099707	4399	21994	5294117
102	Sub-total (a)		1271848	5087	42991	10471763
103						
104	(b) Other users					
105	Private sector/Utilities/State Govt	4	184751	739	3695	923754
106						
107	Total SEQld (a + b)		1456599	5826	46686	11395517
108						

From the Business Information Requirements Workshops conducted to establish user requirements for property information, participants provided estimates of the likely number of property related enquiries per day for agencies listed in Table 3.3. These figures require substantiation but provide an interesting comparison to the estimated number of enquiries derived from Tables 3.1 and 3.2.

Table 3.3 **Major Users of a Property Information Service**
(Source: Business Information Requirements Workshops)

Organisation	Enquiries / day
--------------	-----------------

• Brisbane City Council	7,500 (mainly internal)
• real estate agents	2,000
• valuers	2,000
• financial institutions	2,000
• Energex	1,500
• utilities (Telstra)	1,000
• legal practices	1,000
TOTAL	17,000

(Note that these estimates are subject to validation by respective business groups)

3.3 Information Product Market Share, Trends, and Growth Potential

Currently, there are no equivalent on - line spatial information products available in the market place. However a number of data brokers provide specific text data sets on - line, such as IVAS property sales data (RPData); and four brokers recently appointed to distribute ATS data.

DCDB brokerage arrangements are also imminent.

The proposed products reflect user requirements to process raw data and package it into value added information products and services. The supply of component data sets from either the custodian or through data brokers can be accommodated provided that the end product is price competitive.

Where existing data sales or brokerage arrangements generate revenue, incorporation of these data sets into the Property Interests Product will only be feasible if the original revenue stream is maintained or increased. In the latter case, increased profit sharing arrangements would need to be negotiated with the custodian or broker.

Table 3.4 provides a summary of revenue flows from DNR's Land Services Program information products and services. Many of the data bases would be required to support development of the property interests products.

Apart from DNR systems, DME's Mineral and Energy Resources & Location Information Network (MERLIN) generates revenue of \$145,000 per annum.

It is envisaged that transactional access to value added information products, data and services will substantially increase the use of the above systems and databases. A proposed prototyping exercise will assist to clarify the likely extent of additional demand.

Table 3.4 **Current DNR Land Services Program Revenue Sources-**
(Source: Product Marketing (DNR).)

Land Service Program	\$,000	% of total revenue of Land Services program	Program Subtotals \$,000	Sub-program % of total revenue of Land Services Program
Land titles				
Search fees (CITEC Public Access)	\$6,505	4%		
Lodgement fees	\$62,350	40%		
Foreign ownership of land	\$74	0%		
Copies of documents	\$536	0%		
Sub-totals (ATS)			\$69,465.7	44%
Land Administration				
Deed and Application fees	\$732.7	0%		
Rentals	\$23,781.9	15%		
Freehold instalments	\$29,358.6	19%		
Surplus property disposal revenue	\$19,965.6	13%		
Other	\$1,274.7	1%		
Sub-totals			\$75,113.5	48%
Valuations				
Local Government fee	\$5,678	4%		
OSR fees	\$1,892.5	1%		
Searches	\$538.3	0%		
Data (revenue retention)	\$815.4	1%		
Client Valuations (revenue retention)	\$158.9	0%		
Split maintenance (local govt)	\$782	0%		
Sub - totals			\$9,865.1	6%
Surveying and mapping	\$286.9			
Survey plan audit/reg fee	\$588.1	0%		
Cadastral searches	\$790	1%		
CITEC public access	\$0.8	0%		
Maps	\$0.5	0%		
Misc. products	\$42.6	0%		
Survey control data	\$483.3	0%		
Other goods	\$566.5	0%		
DCDB	\$566.5	0%		
License fees	\$68.2	0%		
Sub - totals			\$3,393.4	2%
Total	\$157,837.7	100%	\$157,837.7	100%

Table 3.5 indicates the low up-dating frequency of the 210 DCDB clients. The proposed product would lead to an increased demand for individual parcel records and potentially improve the frequency of clients receiving updates. Under proposed arrangements, all users would share the same view of the DCDB, accurate to the nominated lag time of eg., from days to one week.

Table 3.5 **Digital Cadastral Database - Frequency of Client Updates**

Update Category	%
% weekly or more frequent updates	-
% taking monthly updates	4.5
% taking 6 monthly updates	5.5
% taking 12 monthly updates	35
% taking updates 2 or more years	5
% that have never taken updates	50

With a better packaged set of land information products and services, and increased marketing effort, the growth in demand for the proposed information products, related datasets and on - line information services is expected to be in the order of at least 10 per cent per annum (given that the spatial information market place is estimated to be growing at a rate of 20 per cent per annum).

3.4 Sales, Distribution, and Profits by Information Product / Service

The proposed prototyping exercise with Local Government is designed to gain a better understanding of the costs and revenue potential associated with producing the Property Interests Product on a Local Government Area basis.

Based on these estimates, a cost model will be developed incorporating a range of pricing formulae, allowing for a percentage return on investment; revenue protection for existing systems and a profit margin for wholesalers and retailers operating in the market place.

The feasibility of the proposed initiative will need to be reviewed based on the results of the prototype.

4 Competitive Analysis

4.1 Competitors Profile

The Property Interests Product comprises two separate business cases:

1. a business case related to the viability of the proposed Property Interests Information Products (to be developed by a range of private sector product developers);
2. a business case related to the provision of infrastructure and data enhancement / bulk data distribution (wholesaling) services, to establish an environment in which the Queensland spatial information industry may operate and expand. (Infrastructure Service Provider / Data Wholesaler)

The competitors in the development of a range of information products and services are predominantly existing data brokers and product developers; and potentially both state and local government agencies who may wish to develop information products and services; on either a commercial or non - commercial basis, (in the latter case, to meet community service obligations). It is envisaged that the Infrastructure Service Provider(s) / Data Wholesaler(s) should be restricted from competing in the product development marketplace.

The competitors in the provision of infrastructure and bulk data handling, (assuming a consortium of private sector and state and local government interests is formed to carry out this task), are other consortia; potentially multi-national or interstate corporations with adequate resources to buy copies of current state databases.

Without the proposed coordinated information infrastructure, such consortia could quickly establish narrowly defined agreements with data supplying agencies to enhance and distribute data.

This could lead to data monopolies and potential duplication of data collection and maintenance. State and local government could be in a position of competing with the private sector, should it continue to maintain and enhance the same data.

Given the significant level of expertise in spatial information management within state and local government, the preferred approach is for government to play a leading role in establishing an information infrastructure that avoids duplication in database development and maintenance, but encourages market competition through provision of valued added products and services.

4.2 Information Product / Services Comparison

Internet based systems developed to date provide access to individual data sets. There are currently no integrated, network oriented GIS information services similar to the proposed Property Interests Information Product information service operating in Queensland, or in any other state in Australia.

4.3 Market Niche and Share

Many niche market opportunities exist to supply a range of value added products and services in areas such as real estate, financial services and the legal profession. Brokers and product developers would be expected to exploit such market opportunities.

4.4 Comparison of Strengths and Weaknesses

From an information infrastructure / data enhancement perspective, a joint venture consortium involving state and local government; and the private sector offers the following strengths over an independent, private sector group supplying the proposed products and services.

Strengths

- provides considerable state and local government expertise in spatial information management developed over the last 18 years, and not currently available in the private sector.
- prepares the private sector to gradually take increased responsibility for the overall operation and maintenance of the state information infrastructure.
- separates the task of infrastructure provision from product and service delivery, to avoid a potential conflict of interest.
- separates the task of infrastructure provision from custodial data generation and maintenance responsibilities.

Weaknesses

- may take longer to develop if resource limitations exist in state and local government.
- delays handing over full responsibility for infrastructure development to the private sector.

5 Marketing Strategy

5.1 Market penetration goals

Data brokers and product developers will be responsible for marketing products and services to specific segments of the market. Target markets include customised information services for financial institutions, real estate agents, the legal profession and property developers. The goal is to ensure that the business sector and community in general, are aware of available information, and have ready access to the right information at an affordable price.

The Law Society has been indicated that most of the 1,200 legal firms in the state would seek access to an integrated state and local government property information service, customised to address their specific requirements.

Brokers will be required to liaise with such professional associations to increase market awareness.

Availability of the proposed information products and services on the Internet provides the opportunity for 24 hour access to information. Rapid acceptance of the Internet as an information medium is predicted to result in a growth rate in the order of 40 percent per annum in the number of users accessing Property Interests Products and services (using the current growth in Internet use as a guide).

All potential professional markets for property related information should be fully saturated within 3 years of the service becoming available within a local government area.

5.2 Pricing and Packaging

The proposed prototyping exercise will be used to evaluate options for pricing and packaging information. Options include pricing per transaction (ie. similar to the cost of a phone call), pricing for screens of information returned to the user; and a set pricing structure for categories of map products and customised analysis.

It should be remembered that the Property Interests Product is not intended to stand alone in the market place, but that the balance of the 21 high priority state information products will need to be developed to achieve 'critical mass' and hence economic viability of the Queensland Spatial Information Infrastructure 'on - line' initiative.

The prototyping exercise will provide a strong indication of extent to which the proposed 'on - line' Property Interests Product is likely to contribute to a financially viable / sustainable Queensland Spatial Information Infrastructure.

5.3 Sale and Distribution of Property Interests Products and Services

A two tier distribution network is proposed involving:

- wholesaling of bulk data to licensed data brokers and product developers;
- retailing value added information products, services and data, by brokers and product developers.

At the discretion of distributors, products will be available in a range of formats apart from Internet access, including hard copy, CDROM, disk etc., according to particular market requirements.

It is anticipated that brokers operating under existing agreements will avail themselves of the opportunity to market high quality integrated products and services within the infrastructure established for the Property Interests, and subsequent information products.

Councils Identified for early Product Implementation

Statewide distribution of the proposed products and services is envisaged to take place in two stages. Following an analysis of local government data availability, and a review of land development activity across the state, a prioritised list of 19 councils is proposed for Stage 1 implementation of the Property Interests product.

Brisbane	Cairns
Gold Coast	Thuringowa
Caboolture	Hervey Bay
Maroochy	Redland
Pine Rivers	Redcliffe
Logan	Bundaberg
Caloundra	Mackay
Noosa	Caloola
Ipswich	Kilcoy
Beaudesert	

These councils cover 966,268 land parcels (74 per cent of the State's 1.3 million parcels) and 2,554,757 people (75 per cent of the State's 3.39 million population).

It is proposed that the Property Interests product is developed in conjunction with the above local government's over the next 3 years. The principal task is to complete and upgrade data required to implement the product. This includes reconciliation of land information records for 74 per cent of the State's land parcels.

Statewide implementation of the product to the balance of councils (stage 2), will be reviewed following the proposed prototype with local government.

5.4 Service and Warranty Policies

The proposed marketing strategy will rely heavily on the promotion of fast, efficient and economical access to accurate information. It is envisaged that both the wholesaler(s) and retailers will achieve quality endorsed status, differentiating products and services developed under this initiative from alternative products in the market place.

Products and services will need to be clearly specified in terms of quality and risk of error, based on established quality certification procedures adopted by wholesalers and retailers.

The rights of all parties producing and using property information will be clearly stated in a proposed Customer Charter, outlining procedures to handle customer complaints and other problems with products and services.

5.5 Advertising, Public Relations, and Promotion of the Property Interests Information Products

The promotion of products and services will be largely the responsibility of data brokers and product developers. The objective is to create a business with a strong corporate image (market identity) similar to the major telecommunications or energy companies. Customers must have confidence in the system, and value its products and services.

6 Milestones, Schedule and Strategic Planning

6.1 Major Milestones

The following milestones identified for the 6 month to 3 year time frame provide an indication of what needs to be done; and why it is required; to support the development of the Queensland Spatial Information Infrastructure.

- LGA Prototyping Exercise (6 months)
Evaluate Infrastructure requirements
Product development
Costs and benefits of full implementation
- Infrastructure & Product Re-assessment
Modify based on prototype experience
- Completion of 21 Product Specifications
Develop state data model
Consortium viability (critical mass of data)
- Queensland Spatial Information Infrastructure Development
Progressive implementation - 19 LGA's

6.2 Implementation Schedule

The following Gantt Chart indicates the timing of activities; and responsibility for development, over the next 3 years.

Activity	97/98	98/99	99/00	00/01
LGA Prototyping Exercise	■	State, Local Government; Private Sector		
Infrastructure & Product Re-assessment		■	QSIIIC	
Data Assessment - 18 LGA's	■	DNR Information Integration Unit LGA's		
Completion of 21 Product Specifications	■	Contract		
Data Model		■	Contract Consortium	
QSII Development 19 x LGA's		■		
Product Development	■ Data Brokers / Product Developers			

6.3 Strategic Planning

Based on experience gained from the prototyping exercise, an initial strategic plan, revised business case and business plan will need to be prepared, indicating how the products and delivery infrastructure will be developed (eventually statewide), including a prioritised program for enhancing databases to benchmark standards across the 19 local government areas.

7 Critical Risks and Problems - Product Implementation

7.1 Summary of Major Problems Overcome to Date

While there are many problems still to be addressed in implementing the proposed Property Interests Products as an electronic information service, significant progress has been made towards this objective, including:

- changed focus from data inputs to information outputs.
- industry support for the development of a state information infrastructure.
- central government support - recognising information as an essential component of state infrastructure.

7.2 Inevitable Risks and Problems

Some of the more immediate concerns related to the development of Property Interests Products include:

- potential for revenue corrections in the process of restructuring to achieve increased industry and state benefits.
- political uncertainty.
- new technology impacts affecting the status quo.

7.3 Potential Risks and Problems

The success of the project is also at risk from:

- custodians restricting access to data.
- lack of integrity in new systems and enhanced databases.
- the relevance of proposed products and services in an emerging market place.
- the availability of technology, data, resources and capital.
- data security / confidentiality.
- year 2000 impacts.
- legal liability.

7.4 Worst Case Scenario

Under proposed arrangements, the worst case scenario is that a private sector infrastructure consortium is not financially viable. If this occurs after the completion of the proposed state and local government data enhancement program, benchmark standards in data quality and meta data specifications will be in place for 75 per cent of the state's land parcels.

In the event that provision of coordinated delivery infrastructure is not viable, alternative measures would need to be considered to avoid duplication of database maintenance, improve data quality and provide improved public access to range of property related information across state and local government.

8 Financial Data and Projections

8.1 Funding Required to Develop the Prototype Products and Delivery Infrastructure

The estimated cost to prototype the proposed Property Interests product, using the City of Caloundra as an example, is shown in Table 8.1.

These estimates are based on the assumption that the prototype will be developed in conjunction with a private sector consortium technically competent in providing maps served over the Internet, in the development of software and net based tools for applications running locally or remotely and in the development of billing systems for Internet services (ie. transactional billing).

Table 8.1 **Estimated Costs - Property Interests Product Prototyping**

Activity	Days
DATA STANDARDS	
1 Metadata	
Text	20
Geographic	20
2 Data Dictionary	
Text	7
Geographic	10
3 Quality Certification	
Topo, Env, Constraints	3
Validation	15
Compliance to Stds	10
DATA STRUCTURE	
4 Consortium Developing Prototype	
DATA COVERAGE	
5 Completion of Data Sets	
Refer to Stage 1 & 2 Lists	16
Standardisation	5
SUSTAINABLE DATA MAINTENANCE	
6 QSIIS Team & Local Government (each)	5
Total Days	111
Costs	
Labour (@ \$250 / day)	\$ 27,750
Hardware / Software (Local Government)	\$ 28,000
Middleware / Vendor Consulting	\$ 5,000
Total (Caloundra)	\$60,750
Consortium Fees (middleware / software for prototype system)	\$125,000
Local Government Observers (TA, etc)	\$ 3,250
State Government Project Staff Costs	\$61,000
Project Total Cost	\$250,000

The Caloundra prototype should be regarded as an open benchmarking exercise. It is suggested that Expressions of Interest are sought to engage two consortia and two data brokers in the project. Consortia will be tasked with developing an open GIS solution, while data brokers will be required to demonstrate that their product or service can be delivered by either of the two consortia solutions. It is envisaged that this method will allow the industry to find its own level in terms of required interoperability.

Estimated Cost of Implementing the Property Interests Product

The estimated 6 year costs associated with the development of the Property Interests Product in a typical Local Government Authority (Table 8.2, extracted from the financial analysis) are based on requirements for:

- hardware
- software / software development
- communications
- data upgrade costs by local government area / annual maintenance
- staff resources

The present value of these costs over a 6 year period is estimated to be \$327,249. (Refer to the financial analysis for a detailed explanation of these costs)

Table 8.2 **Estimated 6 Year Costs of Implementing the Property Interests Information Product 'On - Line' for a Typical Local Government Authority**

	A	B	C	D	E	F	G	H	I	J	K
64	PROJECT COSTS										
65	(a) Extra costs										
66	Operating costs										
67	Costs to upgrade LGA data bases (LGA only)		0	100000	10000	10000	10000	10000	10000	10000	134079
68	Staff resources (no change within GIS sector)		0	0	0	0	0	0	0	0	0
69	LGA contribution to Consortium operating costs		0	0	1833	3665	5498	7330	9163		20999
70	Consortium costs-annual license fee) by LGA		0	10000	10000	10000	10000	10000	10000		49173
71	LGA prototyping exercise		0	0	0	0	0	0	0	0	0
72	All other maintenance costs		0	0	0	0	0	0	0	0	0
73	Sub-total Operating Costs		0	110000	21833	23665	25498	27330	29163		204251
74	Capital costs										
75	Extra computer hardware - upgrade LGA equip		0	30000	0	0	30000	0	0		52065
76	LGA computer software develop/upgrade costs		0	40000	0	0	20000	0	0		53578
77	Communications equipment upgrading costs		0	10000	0	0	10000	0	0		17355
78	Sub-total Capital Costs		0	80000	0	0	60000	0	0		122997
79	(b) Income lost (forgone)										
80	Loss of existing product sales		0	0	0	0	0	0	0		0
81											
82	Total Costs (a + b)		0	190000	21833	23665	85498	27330	29163		327249
83											

Table 8.3 provides an estimate of the 6 year costs to implement the proposed information products and related delivery infrastructure for the 19 priority Councils, including estimated consortium costs. (Refer to the financial analysis; section 8.3, for a detailed explanation of these costs).

The estimated consortium costs are \$9.89 million over 6 years; plus local government data enhancement costs of \$3.52 million for the 19 councils (Total \$13.82 million).

These estimates will be improved following the completion of the proposed prototype with local government. Various alternatives to the delivery of infrastructure services by a consortium would have a major impact on the costs allocated for infrastructure development. The cost estimates should be regarded as indicative figures only at this stage, demonstrating the approach to consider a range of options throughout the product development process.

Table 8.3 **Estimated 6 Year Costs of Implementing the Property Interests Information Product 'On - Line' for 19 Councils (including Consortium Costs)**

	A	B	C	D	E	F	G	H	I	J	K
71	PROJECT COSTS										
72	(a) Extra costs										
73	General operating costs										
74	Extra costs to upgrade Govt. data bases and hardware			(Yet to be prototyped)							
75	Costs to upgrade databases for 19 LGA's - Stage 1			0	976615	97662	97662	97662	97662	97662	1309435
76	Costs to upgrade databases for 19 LGA's - Stage 2			0	0	976615	97662	97662	97662	97662	1170366
77	Costs to upgrade databases for 19 LGA's - Stage 3			0	0	0	976615	97662	97662	97662	1039168
78	Sub-total general operating costs			0	976615	1074277	1171938	292985	292985	292985	3518969
79	Est. Consortium Costs (LGA's/Treasury/Funding Partners)										
80	LGA's contribution to consortium costs (Stage 1)			0	0	17452	34904	52356	69808	87260	199989
81	LGA's contribution to consortium costs (Stage 2)			0	0	0	17452	34904	52356	69808	130636
82	LGA's contribution to consortium costs (Stage 3)			0	0	0	0	17452	34904	52356	76815
83	Floating license fees paid to consortium by LGA's			0	0	63330	126660	189990	189990	189990	589107
84	Consortium operating costs			0	1500000	1500000	1500000	1500000	1500000	1500000	7375986
85	Consortium capital costs			0	800000	90000	90000	500000	90000	90000	1437129
86	Consortium communications costs			0	100000	100000	100000	100000	100000	100000	491732
87	Sub-total Consortium Costs			0	2400000	1770782	1869016	2394702	2037058	2089414	9893954
88	(b) Income lost (foregone)										
89	Loss of existing product sales			0	0	0	0	0	0	0	0
90	Total Costs			0	3376615	2845059	3040954	2687687	2330043	2382399	13820362
91											

8.2 Benefit - Cost Analysis

Table 8.4 provides the results of two separate financial analyses undertaken for:

- a typical local government authority;
- the 19 councils and the proposed consortium.

Table 8.4 **Financial Analysis Summary (Typical Local Government / 19 Councils & Consortium)**

	Benefit - Cost (B-C)	Internal Rate of Return (IRR %)
Typical Local Government	5.67	119
19 x Local Government's - predominantly SE Queensland	5.12	134

Benefit - cost analysis for implementation of the products in a typical medium sized local government (eg. 30,000 to 40,000 properties) using the proposed Internet based information service is shown in Table 8.5. These results have been extrapolated to cover the 19 Councils predominantly in South East Queensland, shown in Table 8.6.

The analyses use an illustrative pricing structure applied to search estimates in Appendix 1. For indicative purposes only, potential revenue streams are based

on either the number of data items accessed (transactionally based), or access to data screens containing multiple records (eg. 5 to 10 data items per screen). The results of this analysis should be used as a guide only to the magnitude of the likely costs and benefits.

It is assumed that 6 councils per year will undergo a data upgrade and be added to the network over a three year period. Many different combinations are possible and potentially more desirable. This analysis reflects one scenario. Many of the estimates will become clearer following the proposed prototyping exercise.

8.3 Assumptions Used in Financial Analysis

The following assumptions have been used in the benefit - cost analysis and should be read in conjunction with Tables 8.5 and 8.6.

Typical Local Government (Table 8.5) - Refer to 'Key Variable'

- 1 A 6 per cent discount rate is used in the analysis (as required by Treasury).
- 2 The cost of labour is estimated at \$30 per hour.
- 3 The number of properties in Caloundra, as a percentage of the total for the 19 priority councils, is 3.4 per cent.
- 4 The model includes provision for returning a royalty to local government on revenue generated by external data sales of local government data by brokers or the consortium.
- 5 The model includes provision for the consortium to raise revenue from transactional usage of the property information service.
- 6 It is assumed Local Government will increase revenue from the sale of improved data and services by 10 per cent.
- 7 It is assumed Local Government revenue from the provision of information services is currently \$250,000 per annum.
- 8 It is assumed Local Government spatial data bases will have an increased asset value of \$250,000 after the data enhancement program.
- 9 The estimated salvage value of equipment will be \$5,000 at the end of its productive life.
10. Benefits in the form of labour savings are estimated in the product specifications, and increase to peak value by the 6th year of operation.
- 11 Local government would pay for access to data items / screens at the stated consortium levy rate (assumed to be the cost of a local phone call in the analysis).

- 12 Local government would pay an annual 'floating license' fee of \$1,000 per license.
- 13 No income will be lost or foregone by local government following the introduction of the information products.
- 14 The initial data upgrade cost for the property interests product is \$100,000 per LGA; (subject to review following the prototype).
- 15 No additional staff will be required by local government to implement the products.
- 16 Additional hardware, software and communications equipment will be required at each local government site at \$80,000 in the year of installation, plus on-going maintenance fees.
- 17 Lot development activity (subdivision / building approvals / re-development of existing properties) has been used to estimate the likely number of enquiries and hence searches for property related information.
- 18 It is assumed that the number of searches by state government, the private sector, utilities and the community in a local government area will be equivalent to the number of searches undertaken by Council for new and existing development.
- 19 The rate of adoption of the products and on - line services by council staff is estimated to increase by 20 per cent per year over 5 years.

Projection for 19 x Councils (predominantly in SE Queensland) and the Consortium (Table 8.6)

(Note: additional assumptions not included in previous list)

- 20 Estimated rate of adoption is the rate at which the 19 Councils are added to the Internet based information service; assumed to be 6.3 per annum over 3 years.
- 21 Projections for the 19 Councils are based on estimates for the City of Caloundra multiplied by a factor of 29.3. (Derived from the property ratio - Caloundra to SE Queensland; ie. the number of properties in the 19 Councils in SE Queensland divided by the number of properties in Caloundra local government area); (= equivalent number of Caloundra - sized LGA's; or the 'average LGA').
- 22 Factor to scale up to an average LGA is 1.542 (29.3 / 19).
- 23 It is assumed that costs to upgrade government data bases and hardware will be minor; and could be met from existing program budgets; (to be reviewed following the prototype).
- 24 Provision is made for increased revenue from additional sales of state government data after upgrading, but is assumed to be zero pending further analysis during the prototyping phase.

- 25 The benefits of the property interests products and services to the private sector, utilities, state government and the community are estimated to be equivalent to the benefits gained by the 19 local government agencies.

Insert pages 29 to 34 from File BCASETAB.DOC

APPENDICES

Appendix 1

Estimated On - line Search Transactions for the Caloundra City Council; and Projections for South East Queensland Councils

1.1 Estimated Local Government Search Transactions - City of Caloundra

Four broad information categories are identified (Table A1.1):

- Category 1 Information required to support **new** lot and building approval.
(Source: Queensland Residential Land Activity Monitor)
- Category 2 Information required to support activities associated with **existing** properties (assume 10 per cent of existing 33,000 properties per annum undergo some form of activity / alteration etc requiring property information to be reviewed).
- Category 3 Information to support internal business enquiries

Other Users

- Category 4 Information to support enquiries by Utilities, State Government, Private Business Sector, Community (assume 10 per cent of existing 33,000 properties per annum are enquired upon by these users; and that this sector has the same enquiry rate as local government); (refer to assumptions below).

Caloundra City Council Search Enquiry Estimates:

Public Enquiries	20 per day
Internal Business Unit Enquiries	150 per day

Table A1.1 Caloundra City Council Search Enquiry Estimates - Category 1

LOCAL GOVERNMENT	Frequency
<ul style="list-style-type: none"> Category 1. New Lot & Building Approval 	
<p>Stages of Lot Activity (separate stages of property activity requiring access to property related information)</p> <p>Stage 1. Lot Approvals</p> <p>Stage 2. Lot Production</p> <p>Stage 3. Lot Registration</p> <p>Stage 4. Lot Consumption</p> <p>Stage 5. Residential Dwelling Approvals</p>	<p>637</p> <p>618</p> <p>458</p> <p>857 (3.4/ day)</p> <p>6.8/day</p>
<p>Sum of Lot / Dwelling Activity</p> <p>(Note: these 1996/97 statistics are considered to be 30 % lower than in an average year; and are therefore considered to be <u>very</u> conservative).</p> <p>Equivalent per day enquiries relating to lots / dwellings (from Category 1 activity) (assuming a 50 week year and 5 days per week)</p>	<p>2,570 (per year)</p> <p>10.3 (per day)</p>
<p>Assumptions:</p> <p>1) Of the 128 data items listed for the six Property Interests Information Products, an estimated 45 would be used routinely per enquiry on category 1 activity (except Stage 5 = 25); serviced by Local Government business units.</p> <ul style="list-style-type: none"> - Rates - Engineering - Town Planning - Environment 	
<p>No. of Data Items accessed per day (6.8 enquiries by 45 Data Items per enquiry; 3.4 enquiries by 25 data items)</p>	<p>391 (per day)</p>
<p>No. of data items accessed for new Caloundra properties and dwellings per year (x 5 days x 50 weeks)</p>	<p>97,750 (per year) (A)</p>
<p>Projected enquiries for 19 LGA's in South East Queensland</p>	
<p>Properties in Caloundra as a % of SE Queensland properties (32,956 / 966,268 =)</p>	<p>3.4 %</p>
<p>2) Assume projection for SEQ is similar lot / dwelling activity in Caloundra</p>	<p>2,867,647 (per year) - (D)</p>

Table A1.2 Caloundra City Council Search Enquiry Estimates - Category 2

LOCAL GOVERNMENT	
<ul style="list-style-type: none"> Category 2 Existing Properties (City of Caloundra) 	
Estimated activity occurs over 10 % of 33,000 properties (Source: Caloundra City Council)	3,300 (per year)
3) Assume 3,300 enquiries per year	13 (per day)
4) Of the 128 data items listed for the six Property Interests Information Products, an estimated 25 would be used routinely per enquiry on category 2 activity; serviced by Local Government business units. <ul style="list-style-type: none"> - Rates - Engineering - Town Planning - Environment 	325 (per day)
No. of data items accessed for existing Caloundra properties and dwellings per year (x 5 days x 50 weeks x 25 data items)	81,250 (per year) - (B)
Projected enquiries for 19 LGA's in South East Queensland	
Properties in Caloundra as a % of SE Queensland properties (32,956 / 966,268 =)	3.4 %
5) Assume projection for SEQ is similar to lot / dwelling activity in Caloundra	2,389,705 (per year)- (E)

Table A1.3 Caloundra City Council Search Enquiry Estimates - Category 3

LOCAL GOVERNMENT	
<ul style="list-style-type: none"> Category 3 - Internal Enquiries: (Source: Caloundra CC) 	150 (per day)
Of the 128 data items listed for the six Property Interests Information Products, an estimated 5 would be used routinely per enquiry on category 3 activity; serviced by Local Government business units. <ul style="list-style-type: none"> - Rates - Engineering - Town Planning - Environment 	
6) Assume 5 Data Items accessed for each enquiry (5 x 150 per day)	750 (per day)
No. of data items accessed for internal enquiries per year (5 x50)	187,500 (per year) - (C)
Projected enquiries for 19 LGA's in South East Queensland	
Properties in Caloundra as a % of SE Queensland properties (32,956 / 966,268 =)	3.4 %
7) Assume projection for internal local government enquiries for 19 LGA's in SEQ is similar to activity in Caloundra	5,514,705 (per year) - (F)

Table A1.4 Caloundra City Council Search Enquiry Estimates - Summary Categories 1 - 3

SUMMARY - Local Government - Categories 1 - 3	
Enquiries per year	
Category 1 (A) - new development	97,750 (per year)
Category 2 (B) - existing	81,250 (per year)
Category 3 (C) - internal enquiries	187,500(per year)
Caloundra Total (A+B+C) Data Items per Year	366,500
SUMMARY - SE Queensland Projections	
Category 1 (D) - new development	2,867,647 (per year)
Category 2 (E) - existing	2,389,705 (per year)
Category 3 (F) - internal enquiries	5,514,705 (per year)
SE Queensland Projection Total (D+E+F) Data Items per Year	10,772,057 (43,088 data items accessed per day)

Table A1.5 Caloundra City Council Search Enquiry Estimates - Category 4

CATEGORY 4 - OTHER USERS	
Category 4 Private Sector / Utilities / State Govt / Community enquiries	
8). Assume the following 18 potential market sectors (listed below) have an enquiry rate equal to that of local government (mainly created by utilities demand for information) - (Source: from QSIS User Needs Workshops:	
Utilities	- Electricity - Water - Sewerage - Telephone - Gas
Private Sector	- Surveyors - Developers - Valuers - Financial Institutions - General Community
State Government	- DLGP - DNR - DOE - DT/MR - DES - Health - Education
Community (public enquiries)	
For Caloundra (New lot / dwelling enquiries per year = 3,000)	3,000 (per year)
For existing development (at 10 % of total properties)	3,300 (per year)
Total enquiries per year (Caloundra) - Other Users	6,300 (per year) 25.2 (per day)
8). Of the 128 data items listed for the six Property Interests Information Products, an estimated 5 would be used routinely per enquiry on category 4 activity; enquiries by other users (Utilities, State Government, Private Business Sector, Community). Assume 5 Data Items accessed for each enquiry (5 x 25.2 per day)	126 (per day)
No. of Data Items accessed per year (items per day x 5 x 50 (Caloundra))	31,500 (per year) - (G)
Estimated revenue - Other Users ; 5 data items / screen; \$ 10 / screen	\$63,000
Projected enquiries for 19 LGA's in South East Queensland	
Properties in Caloundra as a % of SE Queensland properties (32,956 / 966,268 =)	3.4 %
Projection for SEQ based on similar new and existing development activity	926,470 (per year) (H) 3,705 (per day)

Table A1.6 Caloundra City Council Search Enquiry Estimates - Summary Category 4

SUMMARY - Other Users Categories 4	
Enquiries per year	
Category 4 (G) (Caloundra) Total	31,500 (per year)
Category 4 (H) (SE Queensland) - Total	926,470 (per year)

Appendix 2

B1.1 Typical Property Information Search Enquiries

1	Common Information Requirements (ATS remains independent of Property Interests Product)	Source	Custodian
	Register Search of Title: -Unregistered document system -Note Search -Copy of original certificate of title	ATS ATS ATS	DNR
2	Recorded Interest In Land Local Govt interests - refer to LG Authority		
3	General List of Information 1. Enquiry Receipt No / Date (information provided when initial enquiry is lodged) 2. Title Reference 3. Owner Name 4. Address of Property 5. Local Government Area 6. Local Govt Address for Contact	Customer ID from PI enquiry system ATS ATS ATS / LG LG LG	
4	Item or Record 1. Mortgage (title) 2. Easement 3. Covenant 4. Lease / Licence 5. Conditions under repealed acts of Parliament (eg Building Acts / LGCP & E) ACT 6. Development Plan - Local Govt / State Government (Heritage Area Affecting Title) 7. Conditions under Integrated Planning Act (IPA) 8. Enforcement notices under the IPA (State / Local Govt) 9. Land Management Agreement - IPA → C of T 10. Requirement under IPA Act 11. Provisional registration under the Heritage Act 12. Stop Order under the Heritage Act 13. Restoration order under the heritage act 14. No Development Order' under the Heritage Act 15. Registration of interest Native Land Title (Aboriginal Heritage Act) 16. Heritage Agreements (Aboriginal Heritage, Heritage, Native Vegetation) 17. Direction under the Aboriginal Heritage Act 18. Refusal or condition of consent under the Native Vegetation Act. (inc native grasslands) 19. Road Widening (Transport Infrastructure Act) 20. Controlled Access - Highways Act 21. Mining Tenement Act 22. Mining Act (Private Mine) 23. Local Govt Act 24. Emergency order (under the Building Act) 25. Fire Safety Notice (under the Building Act)	ATS ATS ATS ATS ATS	LG DOE DLGP DLGP / LG DLGP DLGP / LG DOE DOE DOE DOE DNR DOE DNR DNR DT/MR DT/MR DME DME DLGP / LG DEMS / LG DLGP

1	Common Information Requirement	Source	Custodian
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1. Orders under the IPA Act		DLGP
2. Appeals & Enforcement under IPA		DLGP
3. Notices issued under the Local Government Act		DLGP
4. Notice or Declaration under the Housing Improvement Act		DPW
5. Notice under the Health Act		DH
6.		
7. Food Act		DH / LG
8. Country Fire Services Act		CFS
9. Animal and Plant Control Act (Control Commission, Control Boards, Local Govt)		DPI / LG
10.		
11.		
12. Fruit Protection Act		DPI
13. Agricultural Chemicals		DPI
14. Notices under Sewerage and Water Supply Act / LG Scheme		LG
15.		LG
16. Notices under Land Tax Act		State Revenue
17. Crown rates / Taxes Recovery Act		State Revenue
18. Caveat (Certificate of Title)	ATS	DNR
19. Lien - C of T (C of T)	ATS	DNR
20. Land Acquisition Act (C of T)	ATS	DNR
21. Divided Fences Act		DLGP / LG
22. Building / IPA Act		DLGP / LG
23. Other Charges (C of T)	ATS	DNR
Prescribed Matters		
Building Indemnity Insurance		
Sale of Strata Unit or Community Lot		
Asbestos in Buildings		
Court Tribunal Process		
Water Allocation for Irrigation Purposes		
Environment Protection		
Pastoral / Stock Act		
Planning & Environment Court		
Building and Development Tribunal		
For Information		
1. Pipeline Authority / Utility Easement		
2. Planning Refusal (site under enquiry) (within 1 Km) (search radius specified at \$ cost to enquirer)		
3. Proposed interests		
4. Other Interests		
Planning Permit Checklist		
Requires 1 3 copies of plans (1:100 - 1:200)		
-site plans		
-floor plans (not applicable to product)		
-elevation plans (not applicable to product)		
Site Plans		
- existing and proposed development		
- position in relation to boundaries and neighbouring developments		
- shows all structures on proposed site		
- features (vegetation) carparks, driveways		
- site levels		

1	Common Information Requirement	Source	Custodian
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- reestablishment and feature survey indicating whether present boundaries accord with title
- location of surrounding buildings
- conceptual landscape plan

Subdivision Checklist

- plans showing proposed lot configuration

Subdivision Of A Building

- Site plan showing existing site conditions
- building plans
- drainage plan (points of discharge from existing / proposed buildings)

Subdivision Into Multiple Lots

Concept Plan Showing

- location of proposed lots
- roads
- public open space and other reserves
- how the subdivision is connected to surrounding streets
- adequacy of community services such as schools
- existing supply and demand for lots
- subdivisions consistency with strategic plans for the area
- the physical attributes of the land

Certifying Plan of Subdivision

- copy of planning permit
- copy of C of T for parent lot
- two copies of plan of subdivision (Council and referral authorities)

Building Permit Checklist

- proof of ownership (land and buildings)
- copy of planning permit
- connection to sewer or other drainage measures

17 Routine Operations of Local Government related to Land

Land and planning

Zoning and administration

Site plan review

Subdivision review

Permit tracking

Property Assessment and Rating

Facility siting

Engineering design

Inspections

Road and public utility (infrastructure) maintenance

Budgeting

Traffic Analysis

Street address creation

Vehicle routing
Legal notification (of applications, hearings)
Public information
Property acquisition and disposition

Principal Local Government Controls

Building Codes
Engineering / Public Works Standards

Planning Schemes Include

- Zoning (Not mandatory under IPA)
- Subdivision (Development Permit)
- Development (refer to page 29 of IPA)
- Planning & Development Certificates (page 225 of the IPA)

Appendix 3

From Bush Telegraph to Information Super Highway

(Justifying The Queensland Spatial Information Infrastructure - An Infrastructure Story)

The currently available infrastructure to deliver spatial information in Australia has many parallels with the state of the national road system as it was in the early 1960's - 'two lane, dangerous, dirty and slow' (RoyalAuto; February 1998). The ability to electronically transfer information between state and local government and the private sector still falls well short of modern technology capabilities, and in many instances is non-existent.

Recognising that roads are fundamental to our economic and social development, in 1974 the federal government accepted full financial responsibility for a National Highway System. In all states, there has been significant investment rebuilding modern and efficient freeway infrastructure.

In each state, the benefits of this initiative are impressive. The Melbourne - Sydney freeway statistics show that the freeway:

- carries goods worth \$100 billion annually.
- is used by 10 million people a year.
- **benefits the whole community** with savings in travel times, reliability of estimated times of arrival, safer conditions, reductions in fuel and other vehicle costs.

While the envisaged benefits (nor the costs) of such a significant national investment could not have been forecast accurately by the federal government in 1974, the national importance was recognised as a major public good initiative.

The spin-off benefits are also significant:

- 3,000 trucks per day serve industries along the corridor, contributing to the economy of country areas and creating employment.
- 1 million tourists per annum use the freeway to get to remote destinations
- increased public safety has cut fatalities by 60 percent, resulted in fewer injuries and reduced the number of minor accidents in town centres.

These benefits have arisen because the federal government accepted responsibility for developing a national road infrastructure as a 'public good' initiative.

Although the information infrastructure required to deliver economic and social benefits to Queenslanders may appear to be less defined (or visible) than a

freeway system, it is also important to state economic and social development. Like the federal government's role in the National Highway System, it is essential that the Queensland Government takes responsibility for putting in place the state information infrastructure which will allow the Property Interests Product (as one of 22 important state information products defined in the QSIIS Benefit Study) to be available as an electronic information service. Spin-off benefits of the information infrastructure include:

- growth of existing and new businesses able to access this information, contributing to the economy and employment.
- encourages investors and those surfing the 'Internet' to explore opportunities in Queensland.
- leads to a more informed, efficient; self regulating society, better placed to make decisions that affect their personal wellbeing, and that of the community.

Like a National Highway System, a state information infrastructure

- comprises infrastructure; and operators that work within the infrastructure.
- can be developed and operated using private sector resources.
- requires high design standards.
- needs a certain amount of regulation for all to enjoy the benefits.

Like a National Highway System, a state information infrastructure doesn't need:

- fragmented responsibility for development of state infrastructure.
- operators establishing duplicative infrastructure developed to different standards
- monopolies.
- access restrictions.
- discontinuity's.

Unlike the National Highway System initiative in 1974 (federal government assumed full financial responsibility), the Queensland Government has an opportunity to develop a state information infrastructure as a joint venture initiative with the private sector, sharing the risk and potential revenue of a system, that like the National Highway System, will be an inevitable part of delivering benefits to the community in the twenty first century.

References

- Alexander - Tomlinson, 1997. QLIS Benefit Study - for the Queensland Department of Natural Resources on behalf of the Queensland Land Information Council
- Alexander - Tomlinson, 1998. Property Interests Product Specification Report - Volume 1 (Draft Report); January 1998.
- Price Waterhouse, 1995 Australian Land and Geographic Data Infrastructure Benefits Study - for the Australian and New Zealand Land Information Council