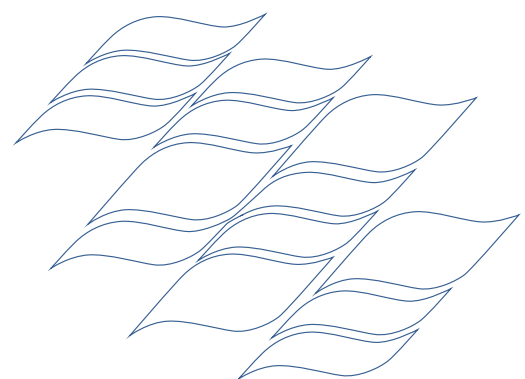


# Appendix 4

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## Information Communication Technology Expenditure 2006–2030 (SMS Consulting Group Ltd)



# **Gladstone Area Water Board**

## **Information Communication and Technology Expenditure 2006 - 2030**

Final Report

September 2009

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## Acronyms

<b>ICT</b>	Information and Communication Technologies. All related hardware, software and support services.	<b>ISSP</b>	GAWB's Information Systems Strategic Plan
<b>IS</b>	Information Systems or Information Systems team supporting ICT	<b>Sharepoint</b>	Microsoft workgroup collaboration software
<b>GAWB</b>	Gladstone Area Water Board	<b>AGMIO</b>	Australian Government Information Management Office
<b>SMS</b>	Systems Management and Technology and Systems Management Consulting Group	<b>GFP</b>	Gladstone Fitzroy (Pipeline) Project
<b>QCA</b>	Queensland Competition Authority	<b>GIS</b>	Graphical Information Systems
<b>CAPEX</b>	Capital expenditure(s)	<b>eDocs</b>	Electronic Document Management System
<b>OPEX</b>	Operating expenditure(s)	<b>FTE</b>	Full Time (or Equivalent) Employee
<b>ERP</b>	Enterprise Resource Planning system (Navision)	<b>GITC</b>	Government (Qld) Information Technology Contracting Framework
<b>GL</b>	General Ledger (Navision)	<b>ABS</b>	Australian Bureau of Statistics
<b>HR Payroll</b>	Human Resources and Payroll Information System		
<b>VoIP</b>	Voice over Internet Protocol. In this context VoIP refers to a relatively new telephony technology		

### SMS Management & Technology

## Executive Summary

The Gladstone Area Water Board commissioned SMS Management and Technology to review and benchmark its Information Communications and Technology expenditure in support of its QCA pricing submission.

Central to the justification of any ICT expenditure is GAWB's compliance with Queensland Government Information Standards as these enforce the rigour required to ensure all ICT investments are suitably justified and aligned with the business.

We found sufficient artefacts associated with ICT capital works projects to conclude that GAWB not only complies with these Standards but also complies with State Government ICT procurement guidelines and utilises GITC, the Queensland Government best practice ICT contracting framework. GAWB also has its own rigorous approval processes that ensure the justification for capital expenditure is appropriately articulated in a formal business case and/or project plan.

Details of how this governance framework has been applied to major ICT expenditures can be found in Appendix A. We believe GAWB has an appropriate and sustainable method of ensuring all ICT expenditure is suitably justified.

We also benchmarked past, present and future ICT expenditure by interrogating the General Ledger and attributing expenses to standard cost metrics aligned with industry benchmarks. While these benchmarks are not intended to justify the expenditure, they demonstrate that GAWB's ICT expenditure levels are comparable with other Government agencies and organisation in the Utilities sector.

Figure 1 illustrates a breakdown of GAWB's ICT expenditure classified as *running*, *growing* or *transforming* of the business; metrics frequently used to identify the focus and direction of ICT function.

Business Alignment of 2009 ICT Expenditure

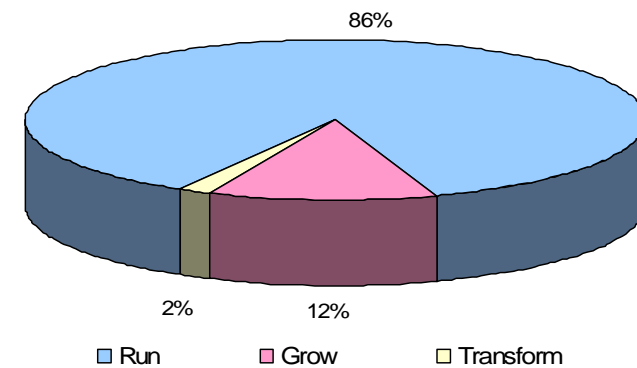


Figure 1 – Business Alignment of 2009 ICT Expenditure

The alignment of ICT expenditure to the operational imperatives of the business is often used as a high level indicator of its relevance and value to the organisation.

In FY2009 GAWB spent 86% of its ICT budget on day-to-day operations, 12% on supporting the organic growth of the business i.e. new systems and technology to support existing or expanded operations, and 2% in support of business transformational activity such as new projects, markets, products or services.

Other expenditure and ICT productivity benchmarks analysed and presented later in this report include:

### **ICT Expenditure as a Percentage of Expenses**

This benchmark is often used as indicator of overall ICT performance and varies significantly from sector to sector. In FY2009 GAWB's expenditure rose well above both the Government and Utilities sector benchmarks as a consequence the ICT redevelopment program initiated in 2007.

However the scale of GAWB's operations compared with other sizable Utilities will influence operating efficiency and this benchmark result. An example of this is the productivity benchmark (revenue per FTE) in Australian water, gas and electricity utilities was approximately \$970,801 per FTE<sup>1</sup> in 2008-2009 compared with GAWB at approximately \$622,024 per FTE.

### **ICT Expenditure per Employee**

GAWB's Average ICT expenditure per FTE over the past four years is \$12,579 and within range of the Government and Utilities sector benchmarks. However it increased expenditure significantly in FY2008 and FY2009 to redress previous years of underspending. In FY2009 ICT expenditure rose to \$23,420 per FTE and is expected to remain high in 2010 and then moderate as the ICT redevelopment programme matures.

### **ICT Staffing Ratios**

Expressed as a percentage; ie. *Direct ICT FTE / All FTE* or as a ratio, this benchmark is often regarded as a measure of ICT Support productivity. GAWB's performs very well in this benchmark, at today's staffing levels and over four years. It also has the capacity to improve as the organisation grows as it is envisaged ICT headcount is not expected to increase in the near future. GAWB's ICT staffing ratio is around 22:1. Larger organisations can achieve ratios of over 100:1.

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<sup>1</sup> IBIS World Industry Report (4 March 09) – Electricity, Gas, and Water Supply in Australia

## **SMS Management & Technology**

### **ICT Spending by Technology Portfolio**

The distribution of ICT spending on various technologies is consistent with Government benchmarks and reflective of GAWB's ISSP development programme (Appendix A). This programme was constructed after broad stakeholder consultation and was designed to bridge the ICT capacity and capability gap discovered in earlier studies.

GAWB performs well in this benchmark as it often highlights the discrepancy in size and scale of ICT operations. GAWB achieves good results because it has a multidisciplined IS Manager that can also attribute time to *Help Desk* and *Applications Support* when required.

### **Forecast Expenditures**

We reviewed CAPEX and OPEX budgets for FY2010 and benchmarked them as previously discussed. The results were consistent with our earlier findings as they reflected the programme of works which is consistent with the ISSP and for which project plans are currently being drafted (Appendix B).

We also populated the CAPEX forecast with projects likely to occur beyond FY2010 and the current ISSP on the assumption that these projects will be subject to the routine rigour consistently applied to all ICT capital projects.

### **Conclusion**

Overall, we found the processes GAWB has in place to justify ICT expenditure to be rigorous, compliant and best practice thereby assuring its investment in ICT is sustainable and aligned with the needs of the business. Our benchmarking demonstrates the past, present and future level of ICT investment to be appropriate for an organisation the size of GAWB.

## Background

GAWB is currently drafting submissions to the QCA for a price review and it has therefore looked at its operating and capital expenditure from 1 July 2005 (FY2006) planned expenditure to 30 June 2010 (FY2010) and forecast expenditures for the next 20 years (FY2030).

As ICT is an integral part of the infrastructure required to sustain operations, GAWB commissioned SMS Management & Technology to review and benchmark GAWB's past, present and planned ICT expenditure.

## Scale of Operations

GAWB's revenue in 2009 was approximately \$29M and it now has approximately 55 FTE primarily located in Gladstone, Queensland. While GAWB's ICT investment is commensurate with its size, the regulatory environment in which it operates and critical infrastructure that it maintains places unique requirements on its ICT operations.

The ICT team consists of an Information Systems Manager and one Systems Administrator. The team is responsible for the planning, procurement, implementation and support of all ICT systems required to support GAWB's commercial operations.

## ICT Governance Framework

The Queensland Government requires its agencies to comply with its *Information Standards* to ensure good governance of its ICT resources.

*IS 2 - ICT Resources Strategic Planning*, mandates and provides guidance on how agencies are to conduct ICT resources strategic planning to ensure alignment to business needs, value for money and compliance with State legislation and Government policy.

## ICT Expenditure Approval Process

In 2007 GAWB commissioned SMS Management and Technology to develop an Information Systems Strategic Plan (ISSP). The ISSP identified a number of key programs designed to support the business objectives outlined in Appendix A.

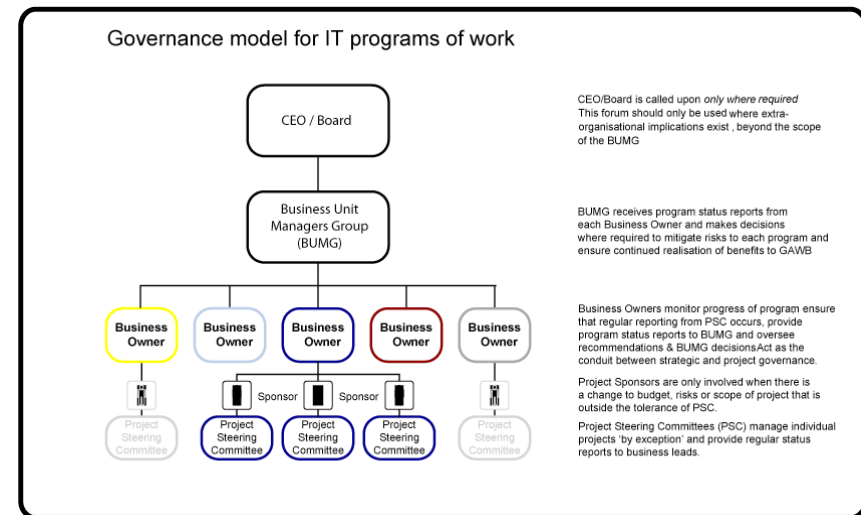


Figure 2 – ICT Expenditure Approval Process

The ISSP is a Management approved document that has prioritised and directed GAWB's ICT expenditure since 2008.

The process used to govern these programs of work and justify this expenditure is illustrated in Figure 2 above.

## Approach Taken

We benchmarked GAWB's ICT expenditure levels for the following periods:

- 1 July 2005 to 30 June 2009 (Past expenditure)
- 1 July 2009 to 30 June 2010 (Budgeted expenditure)
- 1 July 2010 to 30 June 2030 (Forecast expenditure)

For the purposes of benchmarking, all ICT expenditure was categorised as CAPEX or OPEX falling into one of the following categories:

- Finance and administration
- IT Management
- Applications support
- Help desk (Systems support)
- Voice network (Telephony)
- Data network
- Desktop and peripherals
- Data centre (ICT facilities, e.g. computer room)

In addition, the **reason** for the expenditure was attributed to one of the following; that required to *run* day-to-day operations, *grow* the business organically or *transform* the business.

## Past Expenditure

This information was sourced from GAWB's general ledger and while ICT expenditure is coded differently to the categories opposite, all detailed transactions were captured, modeled in a spreadsheet and attributed to one of these categories.

## Budgeted Expenditure

ICT CAPEX expenditure budgeted for FY2010 included a number of application software acquisitions; HR/Payroll Systems, Compliance Management and Reporting System, Water Quality Management System, Contract Management System and an allocation to integrate these systems with GAWB's Navision ERP and Sharepoint systems.

The major ICT hardware investment identified in the 2010 budget was the replacement of GAWB's aged telephony switch.

GAWB's OPEX expenditure budget for FY2010 was derived from FY2009 expenditure levels increased by 2.5% for CPI. As a similar process was used to estimate the adopted FY2010 ICT budget, the figures are comparable.

## Forecast Expenditure

The spreadsheet model also captured the estimated life of the asset and the likely frequency of OPEX. The short term forecast (5 yrs) was constructed with the knowledge of GAWB's ICT needs and its capacity to take-up the technology. The long term forecast was constructed by replacing CAPEX or replenishing OPEX at the frequency described earlier.



## Key Findings

GAWB’s combined CAPEX and OPEX for the financial years 2006 to 2030 is illustrated in Figure 3. Forecast expenditure is based on historical expenditure patterns with an annual CPI increase of 2.5%.

In FY2006 GAWB’s total ICT expenditure was \$249,463. In FY2009 this figure rose to \$1,030,495 (see Appendix C for details) and is budgeted to rise further to \$1,336,049 in FY2010. We anticipate this will almost double in real terms by FY2030.

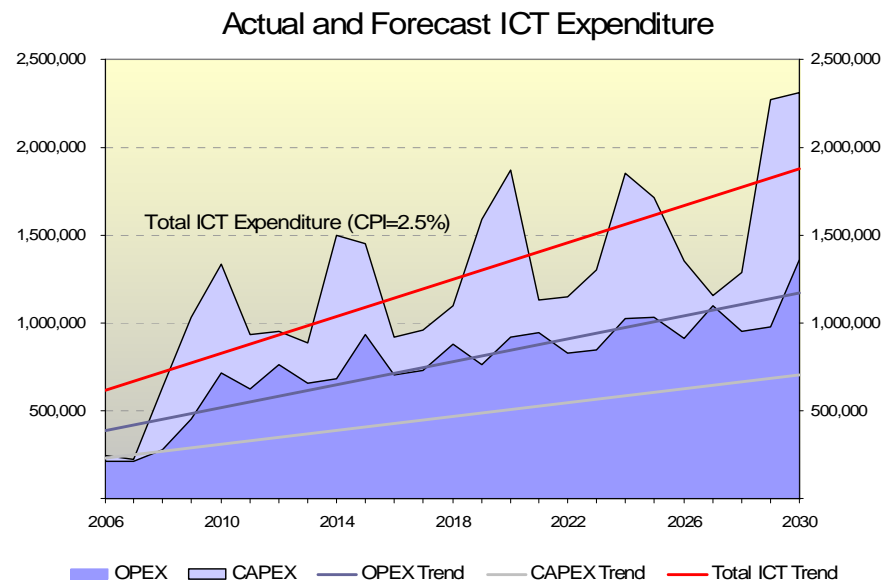


Figure 3 – ICT Expenditure as a percentage of expenses

### ICT Expenditure FY2006 – 2009

the *Information Systems Baseline Review* conducted early in 2007 found that the IS function was not supporting the business as it should.

As business units were procuring and implementing their own solutions, ICT costs were not accurately recorded or attributed to the IS budget. This partly explains the exceptionally low level of ICT expenditure evident in Figure 3 during 2006.

As can be seen opposite, ICT expenditure in FY2006 was mostly OPEX directed at maintaining the status quo. Following Management approval of the ISSP in 2008, GAWB began reinvesting in information systems and technologies to address a number of improvement initiatives relating to financial management, information management and productivity.

In 2009, CAPEX rose significantly following the successful implementation of a number of significant information systems. These systems included:

- ERP (Navision) Upgrades \$107,546
- Electronic Document Management Systems (eDocs) \$160,000
- Microsoft Sharepoint Portal \$58,014

All of the above expenditure was programmed and approved in accordance with GAWB’s Authorities and Delegations Manual. Application for funding is a formal process requiring a project plan and for higher levels of expenditure, a business case detailing the request and justification for the expenditure. In each of the above cases the justification was consistent with achieving the objectives of GAWB’s ISSP and Performance Plan.

## ICT Expenditure Benchmark Comparisons FY2006 – 2009

GAWB's past ICT expenditure levels were found to be comparable or lower than Government and Utilities sector benchmarks. In particular we found:

- GAWB's average ICT expenditure over the past 4 years is 4.8% of the operating budget which is significantly less than the 7.0% Government benchmark however in FY2009 it rose to 7.7%.
- GAWB's average ICT expenditure per employee is \$12,579 pa. While this is higher than the Government average of \$10,100 pa, it is below the Utilities sector benchmark of \$14,000 pa. However in 2009 this expenditure rose to \$23,420 per FTE as a consequence of the ISSP catch-up programme.
- GAWB's ICT staff support ratio in 2009 was approximately 22:1 or approximately 4.5% of all FTE staff. This is well below all applicable benchmarks due in part to the disparity in size between GAWB's ICT operations and the typical benchmark organisation. It should be noted that the *Information Systems Baseline Review* conducted in 2007 found low levels of ICT support a contributing factor to poor performance of GAWB's ICT investments.
- The distribution of spending on ICT technology and services is generally in line with Government benchmarks. Spending on IT Help Desk (desktop, PC laptops printer support) and Finance Administration was found to be higher and once again, this is partly attributed to the size of GAWB's operations compared with the scale of the benchmark group.
- On average GAWB's ICT spending priorities, i.e the proportion of the spend directed to *running, growing or transforming* the business, is in line with Government and Utility sector benchmarks. However the 4

year average masks a history of under-funded operations in 2006. During this period ICT expenditure was largely directed towards *running* or *growing* the business with little evidence of *transformational* expenditure.

ICT CAPEX and OPEX expenditure ratios are also in line with industry benchmarks. The Government spends approximately 83% on OPEX, 17% on CAPEX. On average GAWB spends approximately 68% and 32% which is between the Government benchmark and the Database average of 71% and 29%.

## Budgeted ICT Expenditure FY2010

GAWB's OPEX is set to increase in real terms in 2010. CAPEX is also expected to increase significantly as GAWB rolls out the programme of information systems improvements required to support the business improvement objectives set out in GAWB's Performance Plan.

## Forecast ICT Expenditure FY2011 - 2030

Forecasting ICT expenditure is difficult as the impact of new technologies can dramatically change ICT service delivery, support and cost models. Technologies such as *cloud computing* may have a dramatic effect on ICT infrastructure costs in future.

However, the model used to forecast ICT expenditure for the next twenty years assumes the current level of CAPEX and OPEX will be required to *run, grow* and *transform* the business in future. This assumption is based on the knowledge that the level and distribution of expenditure remains in line with industry benchmarks and that these benchmarks have not changed dramatically over the years.

## Benchmark Analysis

### ICT Expenditure FY2006 – 2009

We benchmarked GAWB's IS expenditure levels for this period using industry metrics sourced by Gartner, Inc. Gartner is the world's leading information technology research and advisory company. It provides technology-related insight to senior executives and IT leaders in public and private sector agencies.

Gartner purportedly has the largest repository of IT performance data in the industry with over 5,000 benchmarks performed annually throughout North America, Europe, Middle East, Latin America and the Asia Pacific regions.

SMS Management & Technology subscribes to Gartner Research to support ICT expenditure reviews of this type. We also source benchmarks from IBIS World, publically available sources and our own engagement experience.

The benchmarks used to review GAWB's IS expenditure levels include:

- ICT Expenditure as a % of operational expenses and revenues
- ICT Expenditure per FTE (Full Time Equivalent/Employee)
- ICT Support FTE as a % of all staff (FTE)
- ICT Expenditure by Technology Portfolio

ICT expenditure is inclusive of all CAPEX and OPEX and includes the cost of outsourced services, contractors and consultants.

### More about benchmarks

It is often difficult to source benchmarks from comparable organisations and while much of Gartner research focuses on much larger institutions, we were able to correlate their data sets with data sourced from *Australian Government Information Management Office (AGIMO)* and its review of Government spending derived from the *2002-2003 ABS Government Technology Survey*. The AGIMO review extrapolates from the 2002-2003 ABS report to arrive at government ICT expenditure estimates for 2007-2008. We note that these are in keeping with those expressed by Gartner in its report titled *IT Key Metrics Data 2008: Government Analysis*.

Gartner also published a report in December 2007<sup>2</sup> which is sensitive to *size of operations* and includes metrics for organisations with operating budgets of less than \$50M (GAWB is approximately \$16.0M). These data sets correlate closely with the broader research used.

Although Gartner affirms that its benchmarks are statistically accurate, it also notes that care should be taken as to how these benchmarks are used. Benchmarks provide a high level view on Industry spending and should not become the sole basis for making decisions regarding IS operations or expenditures.

SMS has normalised or mapped GAWB's IS expenditure so as to get an *apples to apples* comparison however this process is only as accurate as the financial data provided.

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<sup>2</sup> IT Key Metrics Data 2008: Key Industry Measures: Current Year: Government Analysis

## ICT Expenditure as a Percentage of Expenses

ICT Spending expressed as a percentage of operational expenses is normally a good indicator of the role and priority ascribed to the ICT function. It is also often a measure of expectations placed on ICT particularly where it is used as a strategic business enabler. For this reason the banking and finance, government and media sectors spend the highest proportion of their operating budgets on ICT.

Australian Government agencies including the ABS conduct independent reviews of Government ICT expenditure. The latest of these was conducted in FY2008. There is a close correlation between their findings and the Gartner research used below.

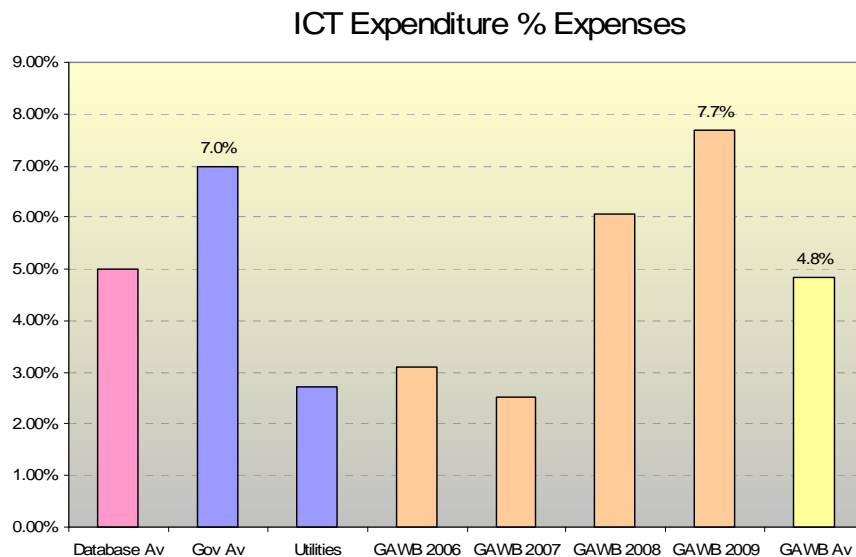


Figure 4 – ICT Expenditure as a percentage of expenses

In FY2008 the Banking and Finance sector spent a massive 11.7% of its operating budget on ICT. While this sector is scarcely relevant to GAWB, it demonstrates the important role that ICT has in electronic service delivery and the contribution it can make to corporate performance.

In 2009 GAWB's ICT expenditure was \$1,030,495 or 7.7% of its operating expenses. This expenditure is budgeted to rise to 8.0% in 2010. It is noted that GAWB's average ICT expenditure over the past 4 years was 4.8% or 66% of the Government benchmark.

The *Information Systems Baseline Review* conducted in 2007 indicated that GAWB's Information Systems were under performing. The reasons for this were mainly attributed to the loss of the IS Manager and the consequential loss of direction and IS management that followed.

In 2006-2007 nearly all GAWB's ICT costs were OPEX and very little was spent in 2006 on new projects or asset replacement. It was not until the *Information Systems Project Plan* was refreshed in 2008 that the performance and outlook of GAWB's ICT investment began improve.

GAWB appointed a fulltime IS Manager in July 2007 to manage this programme and achieve positive outcomes for GAWB's ICT investment.

As can be seen from Figure 4, an early part of the rebuilding programme required a remedial investment in systems and infrastructure to catch-up on such things as regulatory compliance and routine governance.

While ICT expenditure more than doubled in 2008-2009, it should be recognised this was from a lower than sustainable base and while roughly in line with the Database Average, it is still lower than the Government Average.

## ICT Expenditure per Employee

This benchmark illustrates the extent to which GAWB has invested in technology to support the workforce. This benchmark is often linked to productivity as it provides insight into the extent to which the organisation has invested in automation and technology to increase production or the output of the organisation.

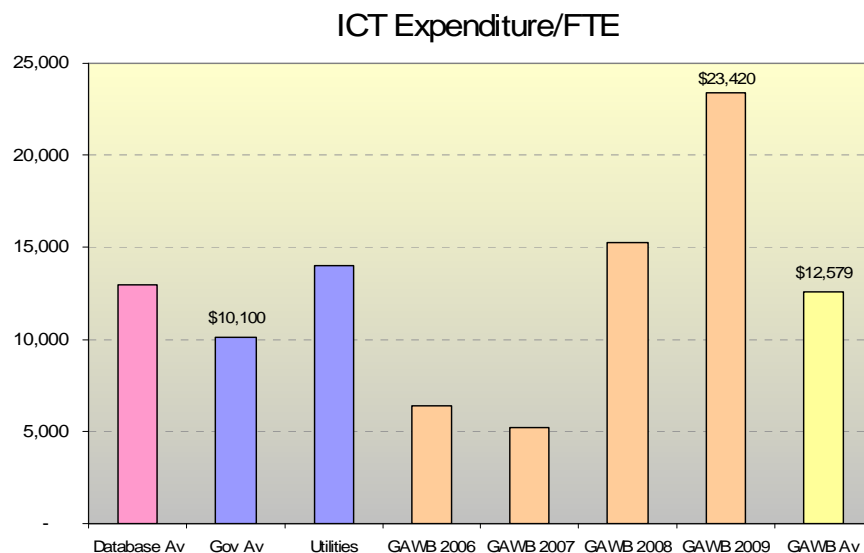


Figure 5 – ICT Expenditure per Employee

Year to year comparison of GAWB's ICT expenditure per employee follows similar ratios for the same reasons discussed in the previous benchmark.

While GAWB's ICT expenditure per employee reached \$23,420 pa In FY2009, it is expected to rise to \$24,292 this year based on FY2010 budget estimates. While these figures are higher than all benchmarks opposite, the 4 year average is in line with the Utilities Sector and the Database average.

Correlating the data provided in the *Electricity, Gas and Water Supply in Australia* report referred to earlier with Gartner's research, we estimate that one of Australia's largest retail water suppliers spends approximately \$9,200 per employee on ICT. This organisation's ICT spending as a percentage of its operating expenses correlates with the previous Utilities benchmark.

While the retail water supplier in question has a relatively low per capita ICT spend given the complexity of retail water operations and systems, it demonstrates the significant impact of scale on the ICT expenditures.

By comparison, consideration should be given to the relatively small scale of GAWB's operations and the ICT investment levels required to sustain operations. One would expect the ratio of ICT expenditure per employee to be much higher than it is, due to GAWB's comparatively low staff numbers.

Overall ICT expenditure is expected to rise in the years to come, and given the expectation of a relatively static workforce size, it is anticipated that GAWB will remain at the higher end of this benchmark.

An increase in the size of the workforce will result in lower per capita ICT costs as we would not expect ICT expenditure to increase proportionally.

## ICT Staffing Ratios

ICT Staffing ratios provide an indication of overall ICT support productivity, however site specific issues such as the scale of the organisation, geographical location and the technology supported, all have a direct bearing on ICT support productivity.

This benchmark takes into account all FTE as it was determined that nearly all GAWB's staff are information workers and therefore users of ICT. There are benchmarks that discriminate between users and non users of ICT, eg in the mining and resources sector.

ICT FTE % of All FTE

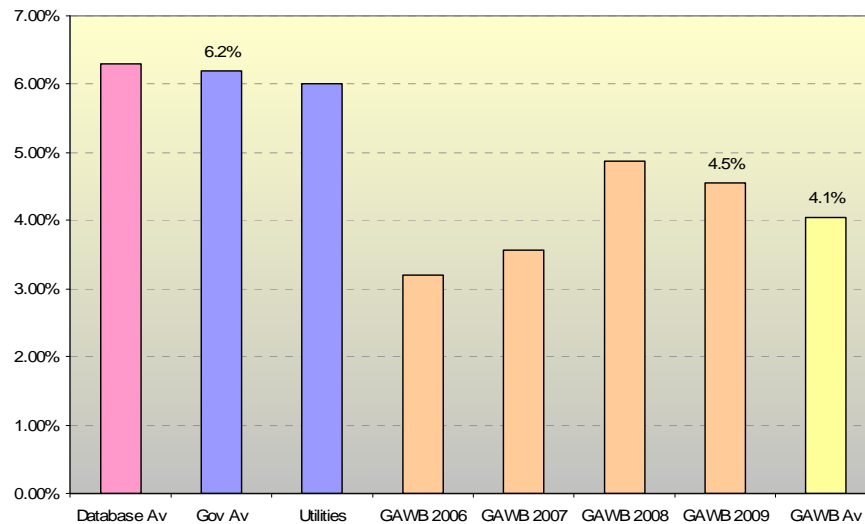


Figure 6 – ICT FTE as a Percentage of All FTE

GAWB currently employs approximately 55 FTE, most of whom have access to basic ICT systems such as internet, intranet, email and document management. Additionally GAWB supports approximately 60 desktops (PC's, workstations, laptops) which confirms that most of GAWB's employees are ICT users.

While GAWB's workforce has grown 41% since 2006 it is still relatively small compared with the average size of the benchmark group.

Description	FY 2006	FY 2007	FY 2008	FY 2009	Average
All FTE	39.00	42.00	41.00	44.00	41.50
<b>ICT Support FTE</b>					
Finance and administration	0.25	0.25	0.25	0.25	0.25
IT Management	0.25	0.25	0.50	0.50	0.38
Applications support	0.50	0.25	0.25	0.25	0.31
Help desk (Systems support)	0.25	0.75	1.00	1.00	0.75
<b>Total ICT FTE</b>	<b>1.25</b>	<b>1.50</b>	<b>2.00</b>	<b>2.00</b>	<b>1.69</b>

Table 1 – GAWB ICT Staffing Attribution

Table 1 illustrates the attribution of resources (FTE) to ICT support functions.

In 2006 GAWB ICT staffing levels were approximately half of the Government or Utilities benchmark. The *Information Systems Baseline* in 2007 identified low support ratios and lack of IS Management as factors contributing to poor ICT performance. Now that this situation has been redressed, support ratios are in line with the industry average.

Considering the scope of the portfolio, the limited tools and resources available, the project outcomes and performance improvements achieved in recent years, it is clear that GAWB's ICT Support performs much better than the industry benchmark indicates.

### ICT Spending by Technology Portfolio

The following graph is a breakout of GAWB’s average ICT expenditure from 2006 – 2009 by technology type and includes all CAPEX and OPEX expenses. This breakout is compared to the Government Average benchmark for the same period.

Technology based benchmarks of this type are useful in determining direct and indirect costs associated with ICT spending. They also indicate spending priorities which may vary over time, depending on the age, value and distribution of ICT assets.

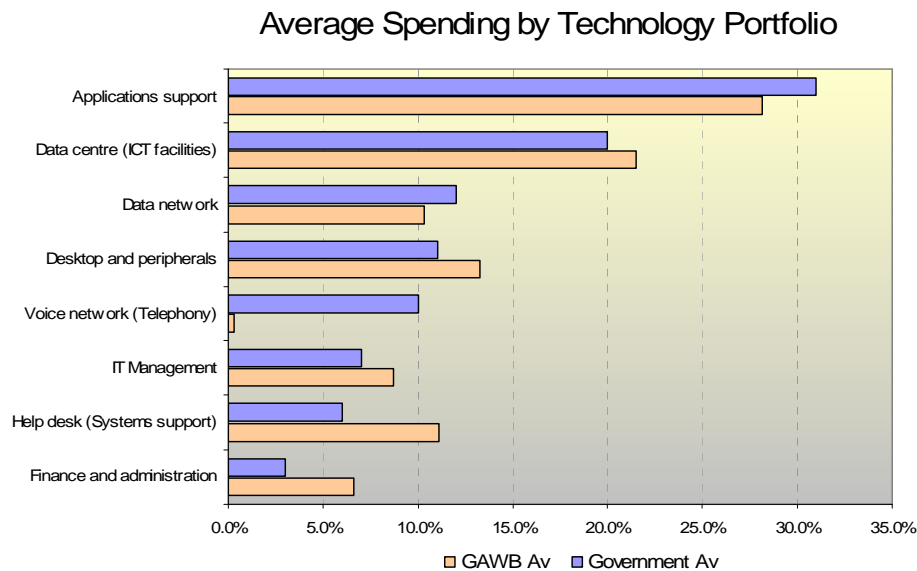


Figure 7 – ICT Expenditure by Technology Portfolio

Previous expenditure benchmarks show a consistent short fall in ICT expenditure in 2006 - 2007 followed by a higher than normal spending (catch-up) in 2008 – 2009. As the graph opposite references GAWB’s Average expenditure, it masks these annual variations whereas Table 2 provides the distribution of ICT spending by year.

Description	FY 2006	FY 2007	FY 2008	FY 2009	Average
Finance and administration	4.95%	7.40%	4.03%	10.12%	6.63%
Help desk (Systems support)	6.64%	19.09%	10.07%	8.74%	11.13%
IT Management	23.16%	6.27%	3.19%	2.11%	8.68%
Voice network (Telephony)	0.23%	0.00%	0.00%	1.05%	0.32%
Desktop and peripherals	16.19%	13.34%	17.39%	6.02%	13.24%
Data network	7.34%	6.60%	20.44%	6.89%	10.32%
Data centre (ICT facilities)	20.79%	16.73%	26.40%	22.22%	21.53%
Applications support	20.70%	30.56%	18.49%	42.85%	28.15%

Table 2 – GAWB Annual ICT Spending Distribution by Technology

The distribution of ICT spending is in line with Government benchmarks considering staff ICT support (Help Desk) ratios achievable in a relatively small organisation like GAWB. Larger organisations with critical mass can achieve much higher support productivity as their size effectively reduces IT Management overheads.

In 2006 IT Management, Help Desk and Finance represented approximately 35% of GAWB’s ICT expenditure. In 2009 these overheads came down to 21% due mainly to increased spending in other areas. While this is still significantly higher than the Government benchmark, many Government organisations achieve lower per capita overheads because of their size.

Figure 7 also indicates that GAWB’s spending on telephony is well below any industry benchmark. At the centre of this is GAWB’s telephone switch which is now more than seven years old.

## ICT Expenditure Priorities

Gaps in business alignment can be found by examining day-to-day ICT expenditure on *running* the business, organic growth (*growing* the business) and its support for major business transformation (*transforming the business*) ie. new products and services, new business models or markets.

The distribution of GAWB's ICT expenditure in recent years is illustrated below and is indicative of the past 4 years of operation.

### Spending on Running, Growing and Transforming the Business

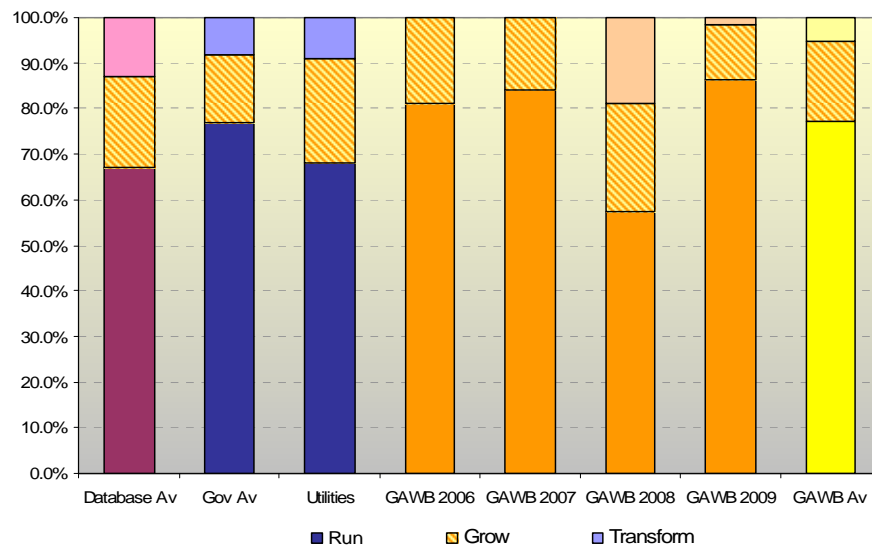


Figure 8 – Running Growing and Transforming the Business

In contrast to GAWB's spending illustrated opposite on *Run*, *Grow* and *Transform* priorities over the past four years, the industry average distribution on these priorities shown in Table 3, has remained relatively consistent over years. However it is expected that forward expenditures will stabilise and settle around the FY2009 benchmark once GAWB has regained ICT capacity and capability.

Description	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	Average
Run	64.00%	62.00%	68.00%	67.00%	66.00%	65.40%
Grow	22.00%	24.00%	19.00%	20.00%	21.00%	21.20%
Transform	14.00%	14.00%	13.00%	13.00%	13.00%	13.40%

Table 3 – Industry Average ICT Expenditure Priorities 2004 - 2008<sup>3</sup>

On average 77% of GAWB's ICT expenditure is directed towards running or supporting day-to-day operations. This is understandable given wages salaries represent the largest proportion of the total expenditure.

GAWB also spends (on average) 18% on ICT infrastructure and services to support organic growth; eg. a significant increase in staff. It has invested to support this growth with a number of acquisitions such as server upgrades, an ERP upgrade and Electronic Document Management to cater for future growth.

The significant increase in *transformational* expenditure that occurred in 2008 can be attributed to new projects or operations.

On average, GAWB's ICT expenditure priorities are in line with Government and Utilities sector benchmarks and reflective of its operations and growth. CAPEX is well planned (defined in the ISSP) and well managed.

<sup>3</sup> Illustrates historical industry trend as distinct from benchmark opposite



## Budgeted ICT Expenditure FY2010

GAWB's ICT Budget for FY2010 is \$1,336,049 and is based on OPEX and CAPEX expenditure required to continue the development of ICT in accord with GAWB's ISSP.

The Figure 9 illustrates how this budget is to be distributed.

Budgeted Spending by Technology Portfolio FY 2010

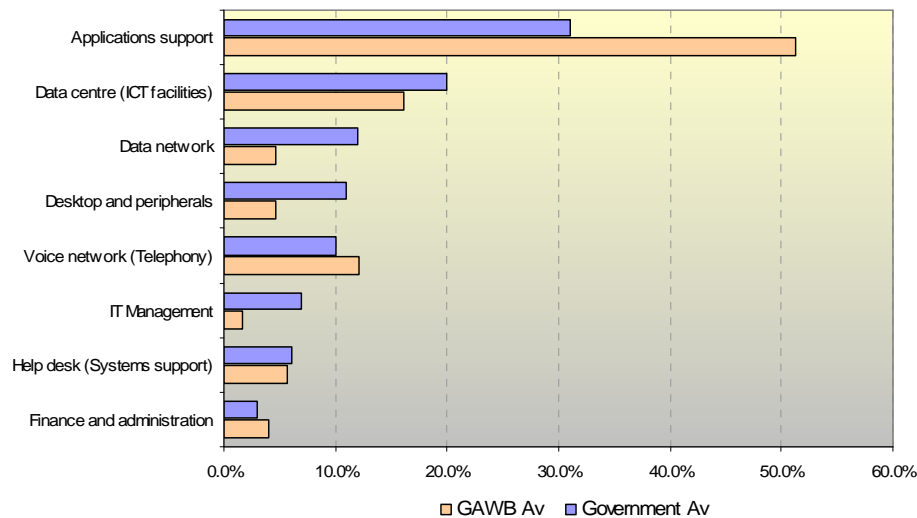


Figure 9 –ICT Expenditure by Technology Portfolio FY2010

GAWB's FY2010 ICT OPEX is estimated to be \$714,815 or 53.5% of the total ICT expenditure. As can be seen opposite, the IT Management and Help Desk costs have decreased in relative terms (refer Figure 7) providing further evidence of the historically low levels of overall expenditure that previously pushed these benchmarks above the Government average.

FY2010 ICT CAPEX supports a comprehensive programme of hardware and software projects mainly directed at *running* and *growing* the business. Major capital projects totalling approximately \$620,000 include:

- VMware software for disaster recovery \$15,000
- Managed switches for the data network \$25,000
- Additional Sharepoint Tools \$50,000
- Water Quality Monitoring System \$50,000
- Contract Management System \$50,000
- Compliance System \$80,000
- Payroll System for Navision \$80,000
- GIS System upgrade project \$120,000
- New Telephone System (VoIP) \$150,000

The justification for these projects lies within the rigour of GAWB's ICT project approval process. With the exception of the proposed investment in telephony and data networks, the CAPEX is weighted towards software solutions. This is consistent with the GAWB's ISSP that required the prerequisite ICT infrastructure to be in place before these solutions could be implemented.

## Forecast ICT Expenditure to FY2011 - 2030

As evidenced in recent years, information and communications technologies change rapidly making long term forecasts difficult to predict.

However we have modelled GAWB's future expenditure based on past and present ICT expenditure patterns and the trends reflected in historical benchmarks.

We have used GAWB's average CAPEX levels over the past five years as a baseline or proxy for future expenditure on the basis that ICT systems have a finite life and will eventually need to be replaced or replenished. We have also increased costs of replacement by 2.5% pa to take into account the impact of inflation, particularly on OPEX.

The underlying premise of these estimates is:

Average Spending by Technology Portfolio to FY2030

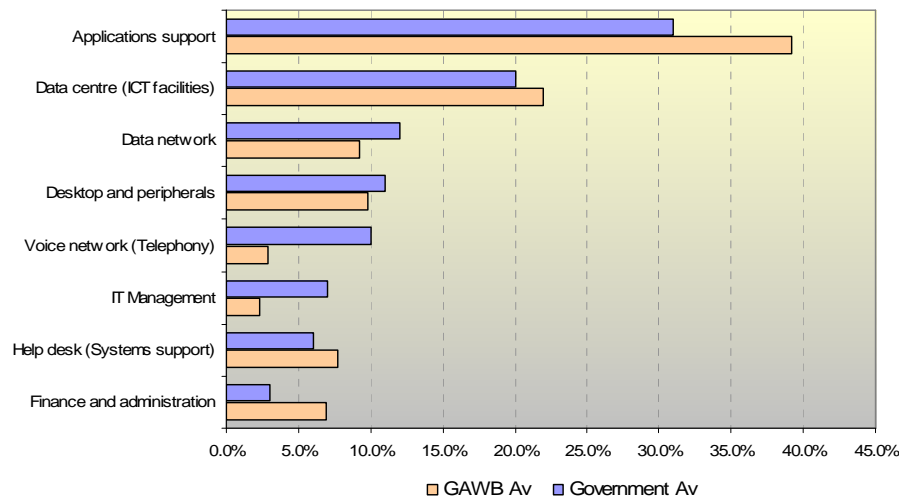


Figure 10 –ICT Expenditure by Technology Portfolio to FY2030

- Expenditure patterns and benchmarks should not change dramatically from year to year.
- GAWB's ICT operations continue to grow organically to keep pace with the growth of the organisation.
- There is no consideration given to a paradigm shift in GAWB's operations that would require a similar shift in ICT investment, e.g. merger or acquisition.
- There is no paradigm shift in GAWB's ICT service delivery model or technology that would require a similar shift in ICT investment e.g. outsourcing or cloud computing.
- ICT assets have a relatively short useful lifespan, requiring them to be upgraded or replaced periodically.

As it is difficult to speculate what GAWB's revenue, expenses and headcount will be in 2030, we can not use ICT as a percentage of expenses or ICT costs per FTE to benchmark the forecast expenditure in 2030. However we estimate the average spend per year to be \$1,199,503 pa, a bit less than the budgeted amount for 2010. ICT Expenditure in 2030 is estimated to be just over \$2.3M pa

Figures indicate the forecast ICT expenditure over the next 20 years to be consistent with Government benchmarks.

## Conclusions

We conclude the following from our findings and analysis of GAWB's past, present and forecast ICT expenditure.

### Past ICT Expenditure (FY2006 – 2009)

Benchmarks indicate ICT operations were underfunded in the early part of this period and we conclude this to have contributed to the poor performance of GAWB's information systems revealed in the *IS Baseline Review* conducted in 2007.

As a consequence of this review and the planning that has followed (ISSP), GAWB increased its ICT expenditure in the later part of this period to catch-up and reinvigorate ICT operations. Therefore in the last two years ICT CAPEX and OPEX levels have increased bringing the five year average in line with industry benchmarks.

The increase in OPEX during this period is largely attributed to the appointment of a fulltime IS Manager, a recommendation emanating from the *IS Baseline Review*. However, despite the increase in FTE attributable to ICT support, GAWB's ICT staffing ratios are well below industry benchmarks (Figure 9). As the organisation grows, we expect ICT support productivity levels to increase with the headcount. We also see evidence of improved processes and technology to contain its ICT support costs.

SMS conducted the initial *IS Baseline Review* and assisted GAWB develop its ISSP. It is therefore well placed to confirm the outcomes achieved to date. We can also confirm ICT CAPEX is rigorously justified and aligned with the needs of the business. ICT capital works projects implemented as a consequence of these reviews have been well managed and are contributing to GAWB's business transformation objectives.

### SMS Management & Technology

### Budgeted ICT Expenditure (FY2010)

In 2007 - 2008 GAWB invested in server and ERP system upgrades which provided minimal perceived benefit at the time. However these upgrades were not only necessary for operational reasons, i.e. capacity and reliability, they provide the platform required to deploy other strategic enterprise solutions.

In FY2010, GAWB plans to implement a number of these solutions; HR Payroll, Water Quality Management, Compliance Management, Contract Management to name a few. Consequently expenditure on *Application Support* will increase beyond the norm however this must be seen in context of the ISSP and the objectives of GAWB's Performance Plan. The rigour associated with ICT capital investments is such that each and every project is assessed on merit prior to gaining funding approval.

GAWB's ICT OPEX forecast for FY2010 is up 59.5% on FY2009 however this reflects the periodic nature of minor asset (below \$5,000) replacement or renewal; e.g. software licences and support fees. There is also a significant budget for and application development. The major fixed component of the OPEX (salaries) has remained relatively static.

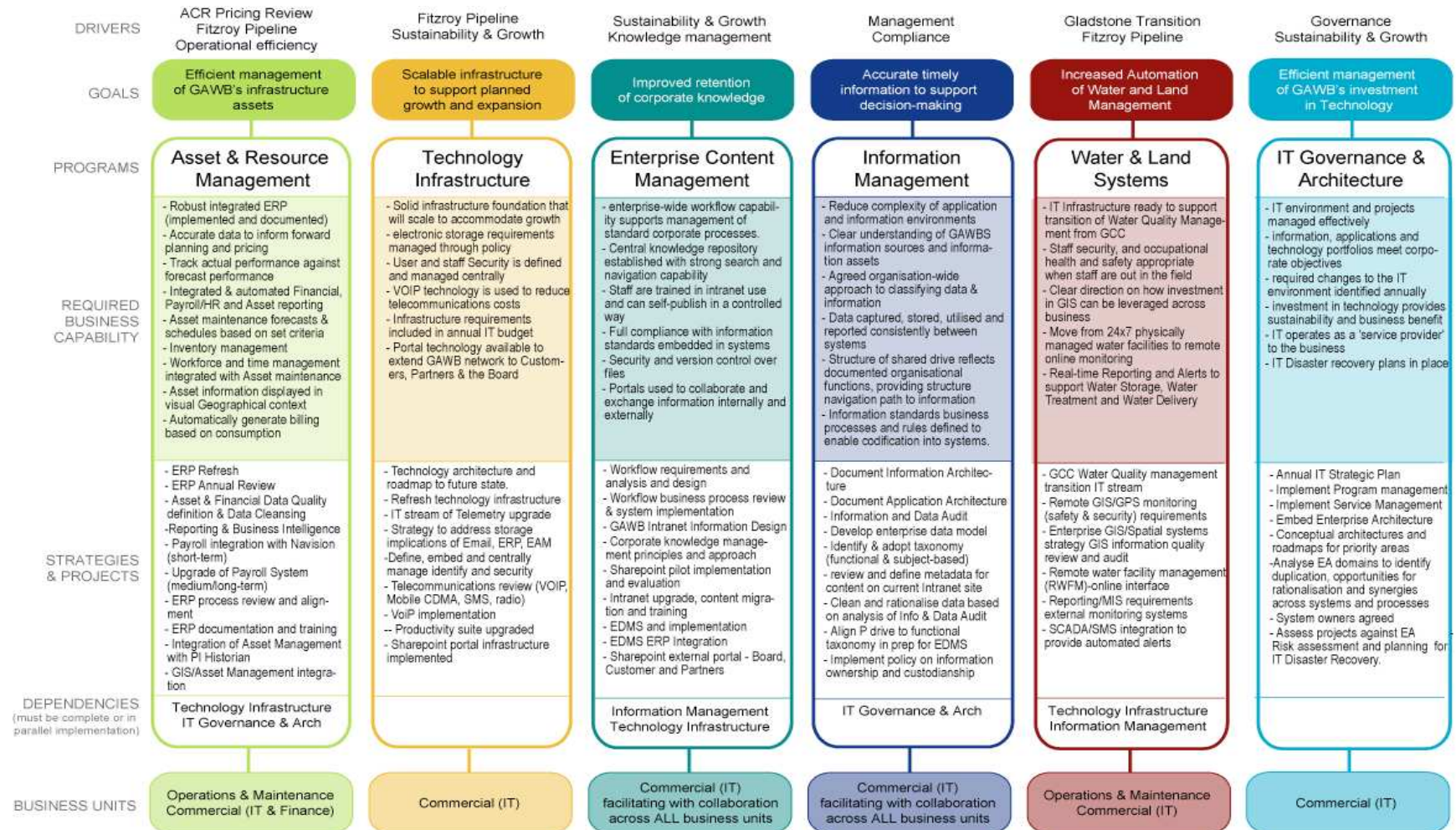
### Forecast ICT Expenditure (FY2011 – FY2030)

GAWB will shortly update its ISSP to identify more clearly the programmes and expenditure priorities for the next 5 years and while this expenditure forecast pre-empts that planning process we are confident future ICT expenditure will be subject to the same rigour as that previously described.

Rapid advances in technology reduce the accuracy and therefore the usefulness of such forecasts beyond the five year period.

# Appendix

## Appendix A - ICT Development Programmes



### SMS Management & Technology

## Appendix B - Governance of ICT CAPEX

Year	Project Description	CAPEX	Forecast	Defined in ISSP	Business Case	Funding Approval	Project Plan	Completed
2009	ERP (Navision) Upgrades	\$107,546	Yes	Yes	Yes	Yes	Yes	Yes
2009	Electronic Document Management Systems (eDocs)	\$160,000	Yes	Yes	Yes	Yes	Yes	Yes
2009	Microsoft Sharepoint Portal	\$58,014	Yes	Yes	Yes	Yes	Yes	Yes
2010	VMware software for disaster recovery	\$15,000	Yes	Yes	WIP	-	-	-
2010	Managed switches for the data network	\$25,000	Yes	Yes	WIP	-	-	-
2010	Additional Sharepoint Tools	\$50,000	Yes	Yes	WIP	-	-	-
2010	Water Quality Monitoring System	\$50,000	Yes	Yes	WIP	-	-	-
2010	Contract Management System	\$50,000	Yes	No	WIP	-	-	-
2010	Compliance System	\$80,000	Yes	Yes	WIP	-	-	-
2010	Payroll System for Navision	\$80,000	Yes	Yes	WIP	-	-	-
2010	GIS System upgrade project	\$120,000	Yes	Yes	WIP	-	-	-
2010	New Telephone System (VoIP)	\$150,000	Yes	Yes	WIP	-	-	-

Note: WIP – Work in Progress

## Appendix C – Cost Breakdowns and Estimates

Description	2006	2007	2008	2009	2010
<b>OPEX</b>					
Finance and administration	12,343	16,164	20,000	104,327	53,364
IT Management	57,784	13,700	20,000	21,696	22,500
Applications support	51,643	66,720	115,948	53,157	305,420
Help desk (Systems support)	16,554	41,684	63,149	71,345	75,000
Voice network (Telephony)	585			10,807	11,563
Data network	6,761	14,231	10,917	27,555	61,728
Desktop and peripherals	35,254	22,610	23,498	60,972	60,767
Data centre (ICT facilities)	30,662	36,541	28,684	98,213	124,470
<b>ICT OPEX</b>	<b>211,586</b>	<b>211,651</b>	<b>282,196</b>	<b>448,072</b>	<b>714,815</b>
<b>CAPEX</b>					
Finance and administration			5,275		
IT Management					
Applications support				388,445	380,000
Help desk (Systems support)				18,734	
Voice network (Telephony)					150,000
Data network	11,556	180	117,321	43,395	
Desktop and peripherals	5,127	6,522	85,573	1,090	1,234
Data centre (ICT facilities)	21,193		136,883	130,759	90,000
<b>ICT CAPEX</b>	<b>37,877</b>	<b>6,702</b>	<b>345,052</b>	<b>582,423</b>	<b>621,234</b>
<b>TOTAL ICT Expenditure</b>	<b>249,463</b>	<b>218,353</b>	<b>627,248</b>	<b>1,030,495</b>	<b>1,336,049</b>