



**Western Cape
Government**
Economic Development
and Tourism

BETTER TOGETHER.



**Western Cape
Broadband Strategic Framework**
June 2011

Western Cape
Provincial Department of
Economic Development
and Tourism

Previously adopted as the:
Provincial Telecommunications
Infrastructure
Strategic Framework

The study was conducted on behalf of the
Department of Economic Development and Tourism by:





CONTENTS



STRATEGIC FRAMEWORK

1. Background and contextualisation of the process followed	2
2. Strategic outlook for the economy and/or telecommunications infrastructure	4
3. The role of government and in particular the principles of provincial government involvement	5
4. Development of the Western Cape's strategic framework for broadband	8
5. Strategic Framework for Action	13
6. Vision and Mission	15
7. Other broadband strategic frameworks	16
8. Technology choices underlying the strategic framework	18
9. Short, medium and long-term key strategic thrusts	19
Acronyms	20



STRATEGIC FRAMEWORK

1. Background and contextualisation of the process followed

The Provincial Department of Economic Development and Tourism (DEDAT), with the support of the Department of the Premier, has initiated a process to develop a provincial Telecommunications Strategy in consultation with the entire range of stakeholders — provincial, national and local government, the wider public sector (SOEs and agencies), private investors and the public. This approach was endorsed by the Premier in her 2011 State of the Province Address:

“A growing economy must connect people through transport and technology. We have to learn from places like Kenya where an ICT revolution is driving strong economic growth. To emulate this, we are developing a telecommunications strategy, based on a fibre optic network infrastructure that connects government, citizens and the economy to improve productivity and access to new markets. The World Bank has calculated that the economy of a developing country grows by 1.38% for every 10% increase in broadband penetration. We cannot afford to get left behind.”

The initial task of this project was to develop a policy position paper as a consultative document setting out a proposed policy position about what the Western Cape Government (WCG) can do to spread telecommunications

infrastructure and affordable access to communications for business and society and to make sure that this contributes to the Province's social and economic development goals.

The position paper was then used as a basis for consultation with a cross section of internal and external stakeholders to obtain input, consensus and gauge support for a telecommunications and broadband strategy within the Province.

Highlights of the consultation with internal stakeholders

- All Departments have various ideas and initiatives related to how Information and Communication Technologies (ICT) can be used to assist them in their service delivery. Connectivity and Broadband was unanimously endorsed as being the single most important issue needing resolution identified by departments.
- There are already initiatives in place that, once aligned and integrated, could make a significant impact on the broadband landscape in the Western Cape, specifically as it relates to government service delivery, education and access of citizens, and economic development.
- There is already funding available for some of these initiatives and there exists a significant opportunity to strategically mould the existing and planned funding relating to tele-



STRATEGIC FRAMEWORK

communications into a single coherent funding stream that can be used to incentivise and direct telecommunications development.

Highlights of the consultation with external stakeholders:

- There was unanimous support for the prioritisation of the development of a well-functioning, robust, affordable and accessible telecommunications infrastructure for the Province of the Western Cape.
- There was unanimous support for Provincial Government involvement and intervention in the sector.
- Business clearly sees the linkage between the development of telecommunications infrastructure and economic growth. In the survey that we conducted, 100% felt that this would help access new markets, 95% felt that it would help create new jobs, 86% felt that it would help in growing skills and 82% felt that it would increase productivity. 82% of all respondents felt that it would have a direct positive impact on their businesses.
- There was strong support for a partnership with business around the development of the telecommunications infrastructure.
- International connectivity was identified as the area where greatest improvement was needed both from a cost as well as reliability perspective. It was also identified as the area of highest priority for industry. It was also the

area identified as a critical area for Provincial Government involvement.

Other areas of involvement identified included:

- Taking aggressive steps to reduce providers' investment costs (e.g. providing passive infrastructure – ducts, masts, etc.).
- Building open access network infrastructure (e.g. City of Cape Town fibre optic network).
- Investing in extending high speed broadband infrastructure to marginalised areas of high potential.
- Government taking the lead - connecting all provincial public offices, healthcare institutions (clinics, day hospitals, and hospitals), libraries, community centres and schools as a key catalyst in developing the telecommunications infrastructure for a connected province.
- Skills development and prioritising the connections of schools also emerged as top priorities for business.
- Access speeds of between 1Mbps and 10Mbps are needed by the majority of industry in the short term, while in the long term, access speeds up to 100Mbps and beyond are required. This has an implication for the type of technology investments that will need to be made.
- There was a strong view that “less talk and more action” is needed.



STRATEGIC FRAMEWORK

2. Strategic outlook for the economy and/or telecommunications infrastructure

This phase of the project, started on 10th February 2011 is aimed at moving from strategy into action. The strategic framework presented here, will be presented along with the Position Paper, to the Provincial Cabinet for ratification. This will be followed by a process that develops a coherent implementation plan.

The Western Cape economy is moving from one based principally around the production and distribution of physical goods to one driven primarily by the production and application of knowledge. The creation and nurturing of a knowledge-based society is essential to maintaining and enhancing the Western Cape's international competitiveness. In highly competitive regions in the global environment, high speed access to the internet for businesses and residents is available almost anywhere and at any time – providing the ideal enabling environment for the growth within commerce, industries, Small, Macro and Medium Enterprises (SMMEs) and entrepreneurship, stimulating innovation and the enablement of the growth of other economic sectors by communication technologies.

Grasping the opportunities afforded by the Information Age has to be at the heart of the Province's strategy. The readiness to adopt new technologies, an innovative capacity and first class infrastructure and services are essential if

the Province is to attract and retain inward investment, stimulate job creation and ensure a fully inclusive society.

An emerging vision for the Provincial Government is that of a Western Cape where every citizen in every town and village has access to a modern, robust and affordable high speed broadband environment (also known as broadband) that connects government, citizens and the economy to improve productivity and access to new markets.



STRATEGIC FRAMEWORK

3. The role of government and in particular the principles of provincial government involvement

The role of government and the principles of government involvement are dealt with in some length in the position paper.

However, to recap, the position paper highlights that government leadership, in concert with business and community leadership, is essential to accelerate broadband deployment and use. Government needs to play a leading role in this process concentrating on both supply side as well as demand side initiatives.

3.1. Government in general

The table below summarises key policies, regulatory environment, and programmes (matched with stages of market development) that various governments have used to develop their broadband ecosystems.

Component	Early stage: Promote	Mass market: Oversee	Universal service: Universalise
Networks	<ul style="list-style-type: none"> • Develop an enabling environment through policies and regulations that promote investment and market entry; • Reduce administrative burdens and provide incentives and subsidies for R&D, pilots, and network rollout; • Create certification systems for cyber buildings; and • Allocate and assign spectrum for wireless broadband services. 	<ul style="list-style-type: none"> • Consider infrastructure sharing, including unbundling the local loop; and • Re-allocate spectrum to increase bandwidth. 	<ul style="list-style-type: none"> • Using public/private partnerships as appropriate deployment of open access broadband networks in high-cost or remote areas; and • Co-ordinate access to rights of way.



STRATEGIC FRAMEWORK

Component	Early stage: Promote	Mass market: Oversee	Universal service: Universalise
Services	<ul style="list-style-type: none"> • Provide broadband networks to schools, government, etc. (government as an anchor tenant); and • Standardise and monitor service quality. 	<ul style="list-style-type: none"> • Create an enabling environment for intra- and intermodal competition; and • Ensure non-discriminatory access for service, application, and content providers. 	<ul style="list-style-type: none"> • Consider expanding universal service obligation to include broadband.
Applications	<ul style="list-style-type: none"> • Undertake government-led demand aggregation; • Government agencies as early adopters and innovators; • Provide e-government and education applications; • Promote creation of digital content; and • Develop local content and hardware sector. 	<ul style="list-style-type: none"> • Support secure, private, reliable e-commerce transactions; and • Implement intellectual property protections. 	<ul style="list-style-type: none"> • Develop advanced e-government programmes; and • Offer grants to community champions and broadband demand aggregators.
Users	<ul style="list-style-type: none"> • Provide low-cost computers and other user devices, for instance in education; and • Develop digital literacy programmes for citizens. 	<ul style="list-style-type: none"> • Establish ethical guidelines for information use. 	<ul style="list-style-type: none"> • Expand universal service programmes to underserved communities; • Create community access centers; and • Subsidise user devices for poor households.

Table: Key policies and programmes for building the broadband ecosystem



STRATEGIC FRAMEWORK

3.2. South African Government

From a South African perspective, the National Broadband Policy approved by National Cabinet in June 2010 recognises broadband as a major industrial resource for a modern country which delivers substantial economic growth, increased employment and vast societal benefits. The policy distinguishes the roles of the different spheres of government.

3.2.1. National Government

- Investment in the provisioning of electronic communication network services towards increasing access to and improving affordability of broadband services;
- Provisioning of an infrastructure platform for facilitating public access points towards increasing access to broadband services;
- Connecting government and its entities through broadband services at all levels for enabling e-government services, towards increasing uptake and usage of broadband services;
- Investing in the development of local content and broadband awareness to support uptake and usage of broadband services;
- Promote access to SMEs, co-operatives, rural areas and private households, and bridge the digital divide including through community and workplace access facilities; and
- Promote and advance economic development goals through infrastructure

build as well as in broadband provision by the public and private sectors. These goals include opportunities to grow employment and identify local industrial opportunities, rural development and strengthening the knowledge based economy;

- National Government will, by means of policy, direct the Authority to create an enabling regulatory environment for the private and public sector to develop infrastructure, services and applications towards the increase of access to and affordability of broadband services; and
- The Department of Communications, as the custodians of ICTs in South Africa, will be ultimately responsible for the implementation of the policy as a whole.

3.2.2. Provincial Government

This policy acknowledges the different ICT initiatives in provincial government as well as the unique requirements of the different provinces.

The role of the provincial government is to:

- implement and align existing policies with the national Broadband Policy;
- define the requirement for broadband services in the Province to enable the provisioning of access;
- develop and align existing broadband strategies in line with the National Broadband Policy;
- ensure the provision of electronic communication network services in the



STRATEGIC FRAMEWORK

Province by requesting the required services from the relevant State-owned Enterprise (SOEs);

- connect the provincial government and its entities with broadband services and enabling the distribution of e-government services to drive the demand for broadband and promote uptake and usage; and
- invest in the development of local content and broadband awareness to support uptake and usage of broadband services.

4. Development of the Western Cape's strategic framework for broadband

4.1. The process and methodology/rationale for the approach

The approach being proposed is the development of a framework based on empirical data combined with the results of an exhaustive consultation process (detailed earlier in this document).

It is apparent when looking at the various strategic frameworks from various countries, regions and cities that various key elements are shared by all these strategies. It would therefore be a relatively simple matter to develop a "best practice" based strategic framework for the Western Cape. However in the vein of the Province's MEDS reports, the project team felt that a WCG strategic framework should be grounded in empirical data. Data should drive

the key activity areas and our exhaustive consultation process and understanding of local conditions should drive the key initiatives in the key areas.

The resulting framework from this data and consultation-driven approach could then be tested against "best practice" to see if any critical elements had been omitted.

4.2. Global Information Technology Report and Networked Readiness Index (NRI)

The empirical data utilised should contribute to understanding South Africa's strengths and weaknesses with respect to broadband and the broader use of ICT for social and economic development, identifying where intervention is needed and informing the creation of a strategic framework.

The World Economic Forum's (WEF's) Network Readiness Index (NRI) was chosen as the instrument for this analysis. The NRI has been published annually since 2001, and measures the capacity of countries (economies) to fully leverage ICT for increased competitiveness and development. It utilises a mixture of hard data collected by international organisations such as the International Telecommunication Union (ITU), the World Bank, and the United Nations, and survey data from the Executive Opinion Survey, conducted annually by the World Economic Forum in each of the economies included in the Report. The NRI 2009–2010 covers



STRATEGIC FRAMEWORK

133 developed and developing economies all over the world, accounting for over 95 percent of the world's Gross Domestic Product (GDP).

The NRI is composed of three component indexes which assess:

- the environment for ICT offered by a given country or community;
- the readiness of the economy's key stakeholders - individuals, business and governments; and
- the usage of ICT among these stakeholders.

The NRI Framework is based upon the following premises:

- There are three important stakeholders to consider in the development and use of ICT: individuals, businesses, and governments;
- There is a general macro-economic and regulatory environment for ICT in which the stakeholders play out their respective roles; and
- The degree of usage of ICT by (and hence the impact of ICT on) the three stakeholders is linked to their degrees of readiness (or capability) to use and benefit from ICT.

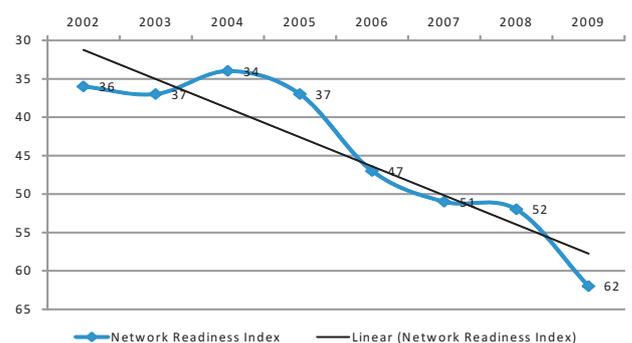
Therefore, the NRI Framework represents an effort to untangle the underlying complexity behind the role of ICT in a nation's development. They claim that the framework and its components not only provide a model for computing the relative development and use of

ICT in countries, but also allows for a better understanding of a nation's strength and weaknesses with respect to ICT. Therefore the NRI for South Africa can be regarded as a useful measure of the effectiveness of the use of ICT for social and economic development in South Africa.

4.3. NRI Data and analysis

We have collected data about South Africa's ranking in the NRI over the past eight years. This aids us in understanding the effectiveness of the use of ICT for social and economic development over a period of time. We then analysed and graphed the results of this data, and produced some very concerning results. The research shows that over time, South Africa is slipping in the rankings i.e. getting worse, not better.

Network Readiness Index - South Africa 2002 - 2009



In trying to understand what conditions (variables) have an influence on this index; it is important to unpack the model underlying the NRI in more detail. The Networked Readiness Framework, which underlies the NRI, has

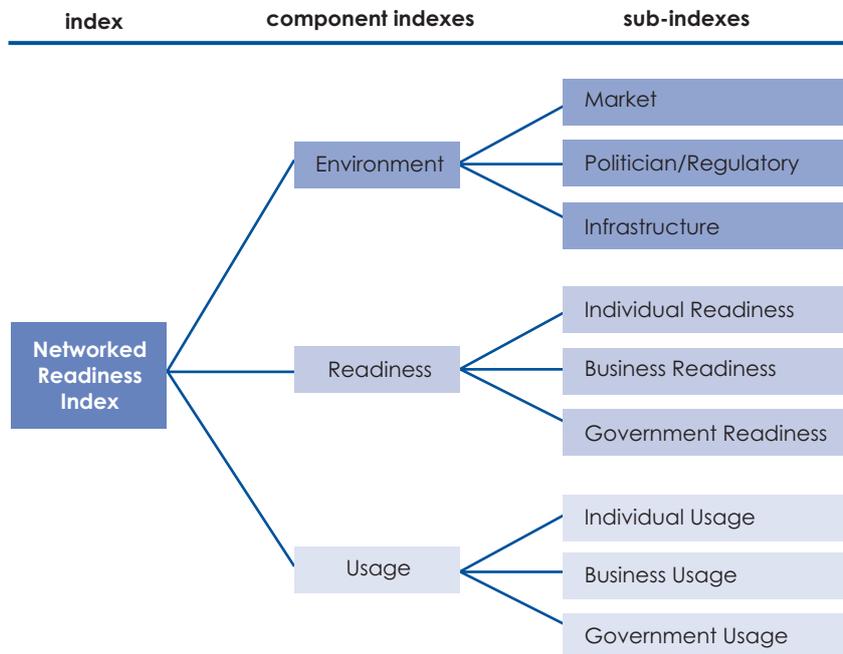


STRATEGIC FRAMEWORK

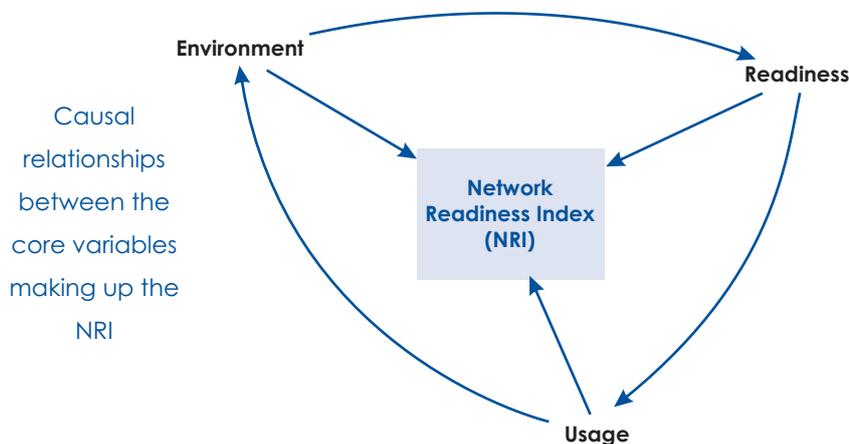
remained unchanged since 2002, and assesses:

- *Environmental Factors*: the presence of an ICT-friendly and conducive environment, by looking at a number of features of the broad business environment, some regulatory aspects, and the soft and hard infrastructure for ICT;

- *Readiness factors*: the level of ICT readiness and preparation of the three main national stakeholders — individuals, the business sector, and the government; and
- *Usage Factors*: the actual use of ICT by the above three stakeholders.



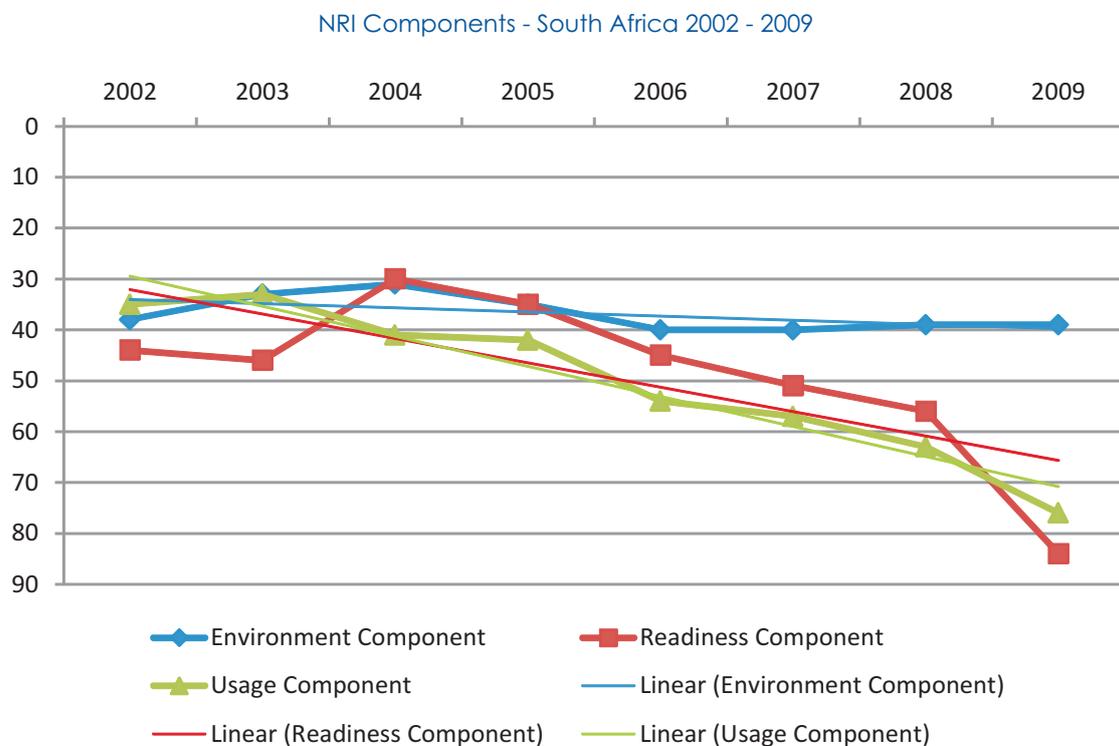
The causal relationships between these variables were considered and are mapped below.





STRATEGIC FRAMEWORK

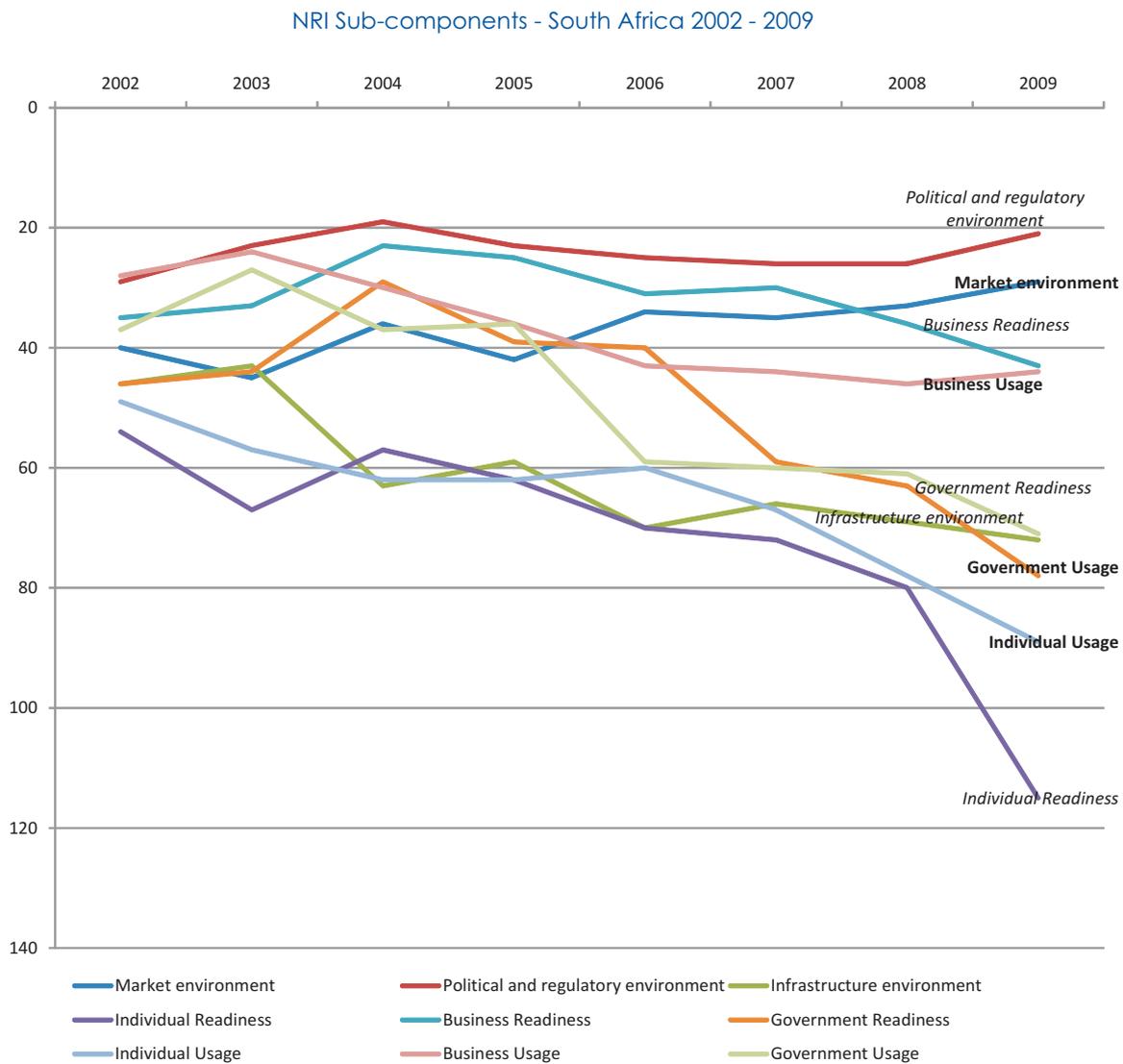
This diagram (above) indicates that the degree to which the environment is enabling or not, will drive the degree to which business, government and individuals have the means to use the technology (i.e. it is affordable, available, they have the skills, etc.). These readiness factors themselves will determine the degree to which people use the technology (i.e. they can't use it if the readiness factors are not there). However, more people using technology creates a bigger market, which is part of the enabling environment.



The diagram above illustrates that while South Africa's environmental component is relatively flat over the eight year period, the readiness and usage component appears to be declining in comparison with the other countries surveyed. However, this does not broaden our understanding of the problem sufficiently, so we looked further at the sub-indices.



STRATEGIC FRAMEWORK



What the above diagram seems to indicate is that the areas requiring the greatest intervention are those of:

- Infrastructure;
- Individual readiness & usage;
- Government readiness & usage; and
- Business readiness & usage. .

Therefore, the research indicates that targeted interventions in these areas are likely to bring us closer to our vision of a connected Western Cape.

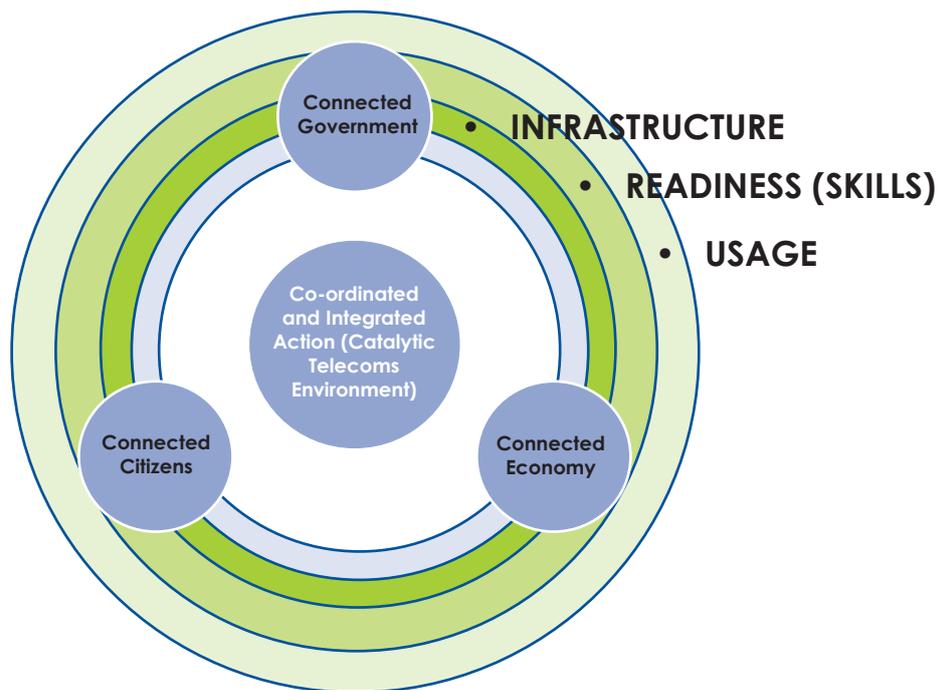


STRATEGIC FRAMEWORK

5. Strategic Framework for Action

The Strategic Framework for Action with respect to the development of robust, high speed, affordable telecommunications in the Western Cape is therefore built on the idea of a catalytic telecommunications environment driving co-ordinated and integrated action across three programme areas viz. Connected Government,

Connected Citizens and Connected Economy with three key objectives i.e. the development of infrastructure, ensuring readiness to be able to utilise the infrastructure (skills and services) and driving usage of the infrastructure and services. This is reflected diagrammatically below, with the elements of the framework described in more detail after the diagram.



5.1. A catalytic telecommunications environment for change

The backbone of our proposed strategy is co-ordinated and integrated action to create a catalytic telecommunications environment for change. This requires that vision and leadership across all sectors of society needs to be created.

A big bold, unifying goal needs to be created and all sectors of society need to be engaged to align their contributions and activities towards achieving this goal. The policy and regulatory environment must be geared towards creating an environment for change. Various activities in society by government, business, communities,



STRATEGIC FRAMEWORK

etc. should be integrated and directed at the creation of the core/strategic infrastructure and services needed. New and novel funding models will have to be developed to secure funding. All forms of funding – government programmes, grants, private sector investments, etc. will need to be leveraged.

5.2. Connected Government

This programme area relates to government's role as a user of telecommunications and as an owner of infrastructure. Government's role as a regulator and policy-maker largely, but not entirely, falls within the programme area relating to creating a catalytic telecommunications environment.

One of the key objectives of this programme area is to use Government as a catalyst for the construction of regional and local backbone networks to all areas. Connecting all provincial and local government public offices, healthcare institutions (clinics, day hospitals, and hospitals), libraries, community centres, schools and other facilities must be used as a key catalyst in developing the telecommunications infrastructure for a connected province. This will achieve the construction of regional and local backbone networks, as well as some of the subscriber access infrastructure.

The second relates to undertaking government-led demand aggregation to boost innovation

and develop applications, content and hardware services within the regional economy – driving readiness (creation of applications, content and skills).

A third relates to the development and use of e-government, e-healthcare & e-education applications to drive the usage of ICT-based services by the population

5.3. Connected Citizens

This programme area looks at connecting citizens with the objectives of building infrastructure, driving readiness and ensuring usage. The initial focus is on building and extending public access to ICT across the entire province as a quick win. At the same time, the ultimate objective is the extension of infrastructure to facilitate service provision to households, and models to achieve this must be explored as part of this programme area. The provision of low cost computing devices and development of relevant local content will also help drive the usage and demand from citizens. Community safety, disaster management and other functions needing communications with citizens should also be integrated into the same infrastructure allowing for the creation of real fully-connected communities. Smart metering initiatives from municipalities should also be leveraged to create a single integrated infrastructure.



STRATEGIC FRAMEWORK

5.4. Connected Economy

This programme area focuses on ensuring that companies are connected to one another and the world. It relates to attracting more investment into the economy and ensuring that companies are competitive on a global scale. The core focus areas relate to:

- Supporting the development of open access network infrastructure and increasing competition in the marketplace;
- Leveraging public infrastructure and investment to reduce the cost of and speed up the deployment of broadband network access across the entire Western Cape – especially in marginalised areas;
- Reducing the cost of international connectivity; and
- Boosting innovation and capability within applications, content and hardware service providers within the regional economy.

6. Vision and Mission

Through the work with the position paper and the consultation with stakeholders, an emerging vision for the telecommunications environment in the province started to emerge. This reference to this initiative in the Premier's state of the nation speech also served to inform this emerging vision. Now that the strategic framework has been developed, the vision and mission should be finalised. A proposed vision and mission is outlined in this section.

6.1. Vision

The vision is that of a Western Cape where every citizen in every town and village has access to a modern, robust and affordable high speed telecommunications environment (also known as broadband) that connects government, citizens and the economy to improve productivity and access to new markets.

6.2. Mission statement

The mission is to ensure that every citizen of the Western Cape has access to affordable high speed broadband infrastructure and services, the necessary skills to be able to effectively utilise this infrastructure and does so as part of their day-to-day lives.

This will be achieved by creating an enabling environment for the creation of broadband infrastructure and skills that will be used to:

- improve provincial and local government service delivery (connected government);
- improve citizens' access to communications infrastructure, information and opportunities – broadening their participation in society (connected citizens); and
- increase access to new opportunities and markets, while making our business environment more competitive (driving productivity). Creating an environment for new kinds of service oriented businesses in the local, national and international space. (connected economy).



STRATEGIC FRAMEWORK

7. Other broadband strategic frameworks

As part of the methodology other broadband frameworks from across the world were analysed. These were compared against the data-driven strategic framework developed for the Western Cape to identify any key gaps. In the analysis, the team found some elements common to all broadband frameworks and concluded that the Western Cape Strategic Framework was broad enough and encompassed the key thrusts emerging from the "best practice" frameworks but had the added advantage of being rooted in data and aligned to an international framework (the NRI).

A subset of the frameworks considered is summarised below for information purposes.

7.1. South African Government National Broadband Strategy

In their Strategic Plan 2010-2013, the National Department of Communications (DoC) states their intention to implement National Broadband Legislation by 2012-2013.

"...it is precisely the role of the DoC to develop a common South African mindset that broadband and internet access are as important and essential service deliverables as housing, water, and electricity. This is so because of its developmental role making us more globally competitive, productive and keeping us abreast in a knowledge economy." DoC Strategic Plan 2010-2013

As part of this process, provinces and municipalities will be engaged in terms of their individual broadband guidelines. All broadband initiatives will be co-ordinated by the National Broadband Intergovernmental Implementation Committee.

"The intended critical by-product of this initiative is increased appetite for uptake and usage of communication services for individuals and businesses alike. This, therefore, makes it critical towards the race of making ICTs a central driver of development and is aligned with the priorities of economic development and sustained livelihood for all." DoC Strategic Plan 2010-2013.

The work of this project is therefore aligned with National Government's broadband policy and strategic imperatives.

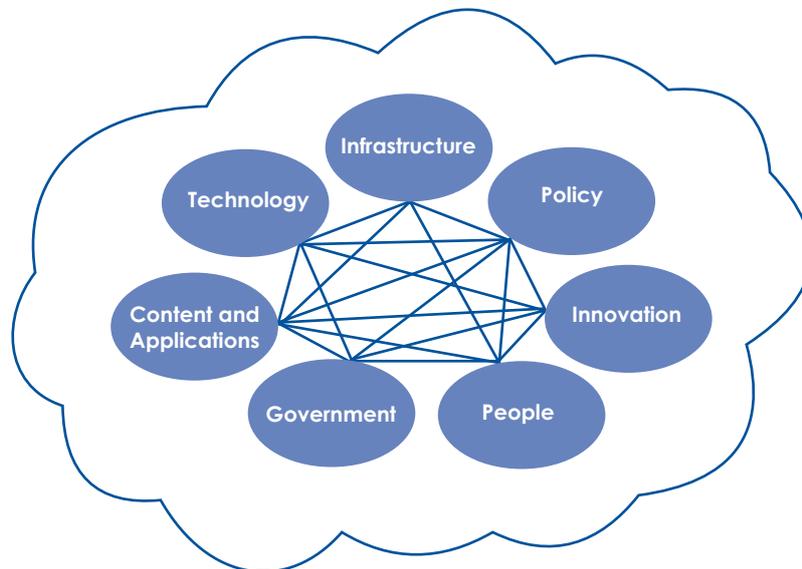
7.2. The Broadband Commission

The Broadband Commission, a joint International Telecommunication Union (ITU) and UNESCO initiative, identified seven key interrelated elements to their framework, as depicted below.



STRATEGIC FRAMEWORK

Broadband Commission 2010: 23



7.3. Victoria, Australia

The government of Victoria in Melbourne, Australia has based its broadband framework on three principles:

- the strategic use of broadband to deliver community benefits;
- supporting market solutions; and
- complementing Commonwealth responsibilities (working with the Commonwealth Government to optimise the regulatory environment).

7.4. Republic of Korea

The Republic of Korea recognised the potential of broadband in the last 1990s, making it an early mover in this space. It has subsequently outperformed most countries in its deployment and use. It strategically executed competition policies, and a variety of supply-push and

demand-pull policies. An outstanding success factor for Korea was the creation of an enabling policy environment.

The Korean government's approach to promoting ICT in general and the broadband market in particular has been to formulate strategic development frameworks through the use of consecutive master plans that run over a number of years. Each framework has outlined the government's broad policy goals and laid out a number of supporting policies. Through its informatisation master plans, Korea has promoted broadband policies that can be categorised as follows:

Supply-Side Policy

- Infrastructure and application development policies;



STRATEGIC FRAMEWORK

- Content promotion policies;
- Industrial policies; and
- Regulation and competition policies.

Demand-Side Policy

- Aggregating demand for broadband among public bodies to provide an established initial market for services;
- Promoting e-commerce as a way to facilitate widespread adoption of broadband by businesses;
- Providing key public services online and encouraging the development of applications such as e-learning to promote widespread public use of broadband; and
- Implementing digital literacy initiatives to narrow the digital divide and ensure.

7.5. Common focus areas

We have distilled these and other broadband frameworks researched by us into three key focus areas:

- Connected government;
- Connected citizens; and
- Connected economy.

8. Technology choices underlying the strategic framework

Different technological solutions exist for the implementation of broadband. It is unlikely that one technology will be able to provide a reliable, robust and cost-effective solution, so the answer probably lies in a combination of what is available. Given the diverse nature of the Western Cape, in terms of economy, population, and infrastructure, the most strategic solution seems to be to not commit to any one technology but rather to deploy what best fits each situation.

“Depending on local conditions such as geographic location, economic prosperity, rural or urban environments and local terrain, there is a role for a host of different technological solutions in providing broadband access – from cable to fixed wireless; from satellite to microwave; from xDSL to mobile technologies; and many more. Policy-makers should seek to adopt a technology-neutral approach as regulation needs to accommodate new upgrades of current technologies, as well as future technologies which do not yet exist.”

Broadband Commission 2010: 29

The WCG position paper contains a section outlining the main technologies through which broadband are implemented. This can be referenced for information purposes. However, it is important to note that the strategic framework itself seeks to be technology neutral for the reasons discussed above.



STRATEGIC FRAMEWORK

9. Short, medium and long-term key strategic thrusts

This initiative is a long term programme with multiple dependencies and timelines. The key philosophy underlying the entire programme is that infrastructure development is a key catalyst and that Government's role has to be to facilitate and drive the development of broadband infrastructure in the Province. The following are high level short, medium and long term milestones for the project from an infrastructure perspective:

Short term (by 2014):

- 70% government buildings and 100% of public schools connected.
- All communities have access to public ICT facilities (in every ward).
- Large government buildings and specific targeted industries in the metropolitan area are connected via "fibre to the premises".
- Pilot wireless mesh network deployed in Khayelitsha, Mitchell's Plain and Greater Saldanha Bay as alternate last mile access infrastructure.

Medium term (by 2020):

- Every citizen in every town and village has access to affordable broadband infrastructure.
- Citizens in the metropolitan area have access to affordable broadband infrastructure at network speeds in excess of 100Mbps.

Long term (by 2030):

- Every citizen in every town and village has access to affordable broadband infrastructure in accordance with internationally accepted speeds and standards.

10. Related Reports

The following reports are support documents to this report and should be consulted if additional information is required.

- Telecommunications Position paper for WCG;
- Telecommunications project: High level analysis and review of past, existing and potential WCG and DEDAT activities, interventions, strategies and projects related to the development of a regional Telecommunications and Broadband Strategy; and
- Telecommunications project: Report on consultation process relating to the draft position paper.



STRATEGIC FRAMEWORK

Acronyms

ALC	Adult Learning Centre	DCAS	Department of Cultural Affairs and Sport
ABET	Adult Basic Education and Training	DEDAT	Department of Economic Development and Tourism
ADSL	Asymmetrical Digital Subscriber Line	DFA	Dark Fibre Africa
ALC	Adult Learning Centre	DGITO	Departmental Government Information Officer
APP	Annual Performance Plan	DHQ	District Headquarters
AP SWAN	Andhra Pradesh State Wide Area Network	DOC	Department of Communications
ARRA	American Reinvestment and Recovery Act	DOH	Department of Health
BCR	Benefit Cost Ratio	DOPW&T	Department of Public Works and Transport
BOT	Build, Operate and Transfer	DoT&PW	Department of Transport and Public Works
BPO	Broadband Project Office	DotP	Department of the Premier
C-ECS	Class Electronic Communications Services	DPE	Department of Public Enterprise
CAGR	Compound Annual Growth Rate	EASSy	EASSy is a 10,000km submarine fibre-optic cable system deployed along the east and south coast of Africa to service the voice, data, video and internet needs of the region.
CAPEX	Capital Expenditure	ECA	Electronic Communications Act
CBD	Central Business District	ECNS	Electronic Communication Network Services
CCTV	Closed Circuit Television	ECS	Electronic Communications Services
CEI	Centre for e-Innovation	EIA	Environmental Impact Assessment
CHIPAC	Telkom's Customer-Half IP Access Circuit	EPWP	Expanded Public Works Programme
CIO	Chief Information Officer	ExMO	Exchange Management Operator
CINX	Cape Town Internet Exchange	ExMOA	Exchange Management Open Access
CLC	Community Learning Centre		
CoCT	City of Cape Town		
COTS	Commercial off-the-shelf		
CPE	Common Platform Enumeration		
CSC	Common Services Centre		
CTICC	Cape Town International Convention Centre		
DBSA	Development Bank of Southern Africa		



STRATEGIC FRAMEWORK

Acronyms

FET	Further Education and Training	IRR	International Rate of Return
FTTH	Fibre to the Home	IRU	Indefeasible Right of Use
FTTH	Fibre to the Premises	IS&T	Information Services and Technology
GB	Gigabytes = 1000 Megabytes	ISAD	Information Society and Development
GB/s	Gigabytes per second	ISM	Industrial, Scientific Medical
GCIS	Government Communication Information Systems	ISP	Internet Service Provider
GDP	Gross Domestic Product	ISRD	Integrated Sustainable Rural Development
GEN3	Generation 3	IT	Information Technology
Ghz	Gigahertz	ITU	International Telecommunication Union
GIS	Geographic Information Services	Kbs	Kilobytes
GSi	Government Secure Intranet	Kbps	Kilobytes per second
HEI	Higher Education Institution	LAN	Local Area Network
HSPA	High Speed Packet Access	LBS	Location Based Services
I-ECS	Individual Electronic Communications Services	LCD	Liquid Crystal Display
ICASA	Independent Communications Authority of South Africa	LLU	Local Loop Unbundling
ICT	Information and Communication Technologies	LSM	Living Standards Measure
IDA	Infocomm Development Authority	LTE	Long Term Evolution
IDC	International Development Collaborative	MB	Megabytes = 1 000 kilobytes
IEC	Independent Electoral Commission	Mb/s	Megabytes per second
INR	International normalized ratio	MFMA	Municipal Finance Management Act
IP	internet provider or internet protocol	MFN	Multi-frequency Network
IPStream	IPstream is the most highly-used wholesale broadband Internet service	MHQ	Mandal Headquarters
		MIU	Mobile Internet Unit
		MOF	Microsoft operations framework
		MOF	Ministry of Finance
		MoU	Memorandum of Understanding
		MPLS	Multi-protocol Label Switching
		MS	Microsoft



STRATEGIC FRAMEWORK

Acronyms

MTEF	Medium term expenditure framework	PNC ISAD	Presidential National Commission on Information Society and Development
NBN	Nationwide Broadband Network	POGW	Optical Ground Wire
NBWM	National Broadband Wireless Network	POP	Point of Presence
NGO	Non-governmental Organisation	POTS	Plain Old Telephone Service
NHS	National Health Service	PPP	Public Private Partnership
NPO	Non-profit Organisation	PSO	Provincial Strategic Objective
NOC	Network Operation Centre	PTN	Private Telecommunications Network
NRI	Network Readiness Index	QOS	Quality of Service
NPV	Net Present Value	SEACOM	SEACOM is a privately owned and operated pan-African ICT enabler that is driving the development of the African internet. SEACOM's vision has been built on the backbone of open-access and equitable principles.
NU	Network User	SAIX	South African Internet Exchange
OECD	Organisation for Economic Co-operation and Development	SANReN	South African National Research Network
OPEX	Operation Expenditure	SAPS	South African Police Service
OPGW	Optical ground wire	SASSA	South African Social Security Agency
P-ECNS	Private Electronic Communications Networks	SDA	State Designated Agency
PC	Personal Computers	SDH	Synchronous Digital Hierarchy
PCMCIA	Personal Computer Memory Card International Association	SES	Strategic Economic Solution
PDA	Personal Digital Assistant	SHQ	State Headquarters
RENs	Research Education Networks	SITA	State IT Agency
RFI	Request for information	SLA	Service Level Agreement
RFID	Radio-frequency identification	SMEs	Small and Medium Enterprises
RLCP	Rural Libraries Connectivity Project	SOE	State-owned Enterprise
PGWC	Provincial Government of the Western Cape		
PIA	Public ICT Access		
PNC	Presidential National Commission		



STRATEGIC FRAMEWORK

Acronyms

SPV	Special Purpose Vehicle
STM	Synchronous Transport Module
SWAN	State Wide Area Network
TA	Transaction Advisor
TB	Terabytes = 1 000 Gigabytes
Tb/s	Terabits per second,
TENET	Tertiary Education & Research Network
UPS	Uninterrupted Power Supply
US	United States of America
USAASA	Universal Service and Access Agency of South Africa
USB	Universal Serial Bus
VAN	Value Added Network
VLE	Village Level Entrepreneur
VoIP	Voice-over Internet Protocol
VOWLAN	Voice-over Wireless Local Area Network
VPN	Virtual Private Network
VSAT	Very Small Aperture Terminal
VPUU	Violence Prevention and Urban Upgrades
WACS	West Coast Cable System
WAN	Wide Area Network
WCED	Western Cape Education Department
WCG	Western Cape Government
WiFi	Wireless networking technology
WISP	Wireless Internet Service Provider
WMN	Wireless Mesh Network



STRATEGIC FRAMEWORK

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