



**NATIONAL STRATEGY ON UNIVERSAL SERVICE &
ACCESS – CONSULTATIVE DOCUMENT**



CONSULTATIVE DOCUMENT ON THE ASSESSMENT OF ACCESS GAPS IN THE COUNTRY

1. The Universal Service and Access Agency of South Africa (herein after to as "the Agency") has conducted a serious of studies in terms of section 82(4)(a) and (b) of the Electronic Communications Act, 2005 (Act No. 36 of 2005) (the "ECA") in order to assess and quantify the access gaps in the country.
2. The Agency seeks to align the closing of access gaps in the country by aligning to broader national government priorities detailed in the National Development Plan and New Growth Path Frameworks.
3. The view of the Agency is to develop programmes aligned to the objectives of the Universal Service and Access Fund (the "Fund) in order to ensure to national government priorities in the National Development Plan which seeks to attain universal access to broadband by 2020.
4. The enclosed consultative document on assessment of access gaps has been developed outlining the process on assessment and quantification of access gaps and the strategy to close the access gaps thereof.
5. Interested persons are invited to submit their written representation on the consultative document by the 7th of November 2011 by hand delivery, facsimile transmission, or electronically for attention of :

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6. Licensees or interested parties may request a meeting with the Agency on a one-on-one basis to discuss any matter relating to this consultative document. The Agency intends to meet such interested parties between the period of 28 October 2013 to 6 November 2013.
7. On the 14th of November 2014, the Agency intends to convene a workshop at its premises.

APPROVED BY


.....
Mr. Zami Nkosi
Chief Executive Officer
USAASA
Date: 23 October 2013





CONTENTS

1.	Introduction	6
2.	Objectives of the National UAS Strategy Consultation Process	6
3.	Contextualizing Universal Service and Access	7
4.	Legal and Policy Context.....	7
5.	The South African ICT Environment.....	8
6.	Underlying Principles for the Development of Universal Service and Access Strategy.....	10
7.	Identifying the Need: Market Gap Analysis	12
7.1	Basic 2G Mobile Telephony.....	13
7.2	Public Broadband Access.....	14
7.3	3G Mobile Broadband.....	16
8.	USAASA's Primary Objectives	17
9.	USAASA's Operating Programmes.....	19
9.1	Programme 1: Community and Institutional Broadband Access.....	19
9.2	Programme 2: Universal Basic Mobile Telephone Service	22
9.3	Programme 3: ICT Training and Capacity Building Support	23
9.4	Programme 4: ICT Content and Applications.....	23
9.5	Programme 5: Universal Access to Broadcasting.....	24
9.6	Programme 6: Affordable ICTs.....	25
9.7	Access and service programme for people with disabilities ("PWD")	25
10.	Implementation of National UAS Strategy.....	26
11.	Conclusion	28



1. Introduction

The Universal Service and Access Agency of South Africa (“USAASA”) has embarked on the development of a National Universal Access and Service Strategy (“National UAS Strategy”). In line with its mandate as set out in the Electronic Communications Act (“ECA”) broadly, and in sections 82(4)(a) and (c) in specific, USAASA has investigated the National UAS Strategy as a matter which is central to its functions, and in so doing has surveyed and evaluated the extent to which universal access and service (“UAS”) has been achieved in the country.

As part of the strategy development process, USAASA has decided to undertake a consultative process and in so doing to engage with public and private sector stakeholders. The purpose of this discussion document, as described in greater detail in Section 2 of this document, is therefore to solicit views to inform the Five Year National Strategy on Universal Access and Service. The outputs of the consultation will guide USAASA as it finalises the National UAS Strategy within the ambit of its mandate and its obligations to amongst others the Ministry of Communications, Department of Communication (“DoC”), the Independent Communications Authority of South Africa (“ICASA”) and the Information and Communications Technology (“ICT”) industry.

2. Objectives of the National UAS Strategy Consultation Process

The purpose of this consultation document is to inform and solicit inputs from stakeholders on the strategy formulated by USAASA on the delivery of ICTs to underserved areas and communities. It seeks to:

- solicit inputs and views from key stakeholders on UAS towards the development and finalisation of a 5 year National UAS strategy for South Africa which can be effectively implemented;
- identify and discuss perceived challenges/blockages/gaps from the ICT landscape that might constrain the achievement of the goals of universal service and access;
- confirm various stakeholders’ roles in promoting and advancing UAS in South Africa
- align and coordinate current and future UAS efforts across the ICT sector;
- provide a platform to debate issues and offer suggestions, options, possible interventions and/or solutions.

The overriding goal of this discussion document is to facilitate mutually beneficially collaboration among USAASA, the Department of Communications, the Independent Communications Authority of South Africa, relevant Government organizations, the ICT industry and civil society that contribute to the effective implementation of a National Universal Access and Service Strategy.



3. Contextualizing Universal Service and Access

The concept of universal access to telephone service has been a part of telecommunications industry objectives for the better part of a century. Many national governments have issued policy statements directed at promoting universal service and access. The era of telecommunication sector liberalisation and reform and the challenge of competition to incumbent national monopolies also brought about some attempts to achieve a universal telephone service. Although universal access to mobile services is increasingly becoming a reality globally, most developing countries still grapple with access to fixed line and mobile services in rural and remote areas. An even greater challenge in recent years is that of achieving wide access to basic Internet and broadband.

Access to ICT's has been a key priority in South Africa since the early 1990's. Accessibility, availability and affordability of communications (initially split into three distinct sectors namely postal services, telecommunications and broadcasting services), has consistently been a national priority and has been seen as a means of improving socio-economic development, increasing economic productivity and increasing social cohesion, amongst others. Despite this, universal access to ICT's remains a challenge for the majority of South African citizens.

South Africa, a nation with significant infrastructure development and a strong economy relative to its regional peers, nonetheless faces challenges in light of a significant component of the population being low income earners. The cost of electronic communications remains a concern; national access to radio and television signals and relevant content remains a challenge; and viability of postal services is still a priority. As the ICT sector develops, and as the nation faces the challenge of not just a 'digital divide' but a 'broadband divide', additional issues such as e-literacy, e-skills and "awareness" of the use of and benefits of communications, despite the platform, becomes key. A clear picture is therefore needed of the access gaps – i.e. the "haves" and the "haves not," where they are (geographically) and the reasons for their inability to take advantage of ICTs. Thereafter a focused strategy, the National Universal Access and Service Strategy, with measurable objectives and targets, is required to deal with the identified access gaps across the postal, broadcasting and electronic communications sectors.

4. Legal and Policy Context

Accessibility, availability and affordability of communications has consistently been a national priority since the mid 1990's and has been seen as a means of improving socio-economic development, increasing economic productivity and increasing social cohesion, amongst others. Increasingly, as the country focuses on increasing broadband penetration and uptake, "awareness" and "advocacy" are becoming key to the delivery of UAS.

The importance of access to ICTs and its impact on economic development is evidenced in the policy environment in South Africa, which provides a framework for redressing this inequality. This



framework includes legislation that prioritises universal service and access and the transformation of the ICT sector. It also includes regulations and license conditions that facilitate the rollout of broadcasting, postal and telecommunications services across the country. It furthermore includes the establishment of institutions such as the sector regulator (the Independent Communications Authority of South Africa) and a specialised agency to deal with universal service and access (Universal Service and Access Agency of South Africa) and to manage a Universal Service and Access Fund (“USAF”). These measures are critical building blocks and central to the successful achievement of national targets and goals. This legal and policy framework underpins the National UAS Strategy, which in no way seeks to make policy; rather it seeks to complement existing policy and regulatory initiatives.

In complementing existing policy and regulation, the National UAS Strategy seeks to support the National Broadband Policy (2010). It is furthermore aligned with the objectives of the National Development Plan (“NDP”) in its efforts to achieve UAS it seeks to achieve 100% broadband penetration by 2020 (at speeds >2mbs) and seeks to do so through intergovernmental co-ordination and public and private sector co-ordination. It also seeks to support the NDP’s objective of the deployment of a full range of government, educational, informational services by 2030.. Finally, the National UAS Strategy also seeks to feed into and augment efforts/initiatives to be executed under the Presidential Infrastructure Coordinating Commission’s SIP 15: (Expanding Access to Communication Technology).¹

The National UAS Policy recognises the on-going policy and regulatory developments which also contribute to improving UAS in the country; this strategy seeks to complement other initiatives in the ICT sector and to assist government in achieving its goals as they relate to increasing affordability, availability and accessibility of ICTs in the widest sense, i.e. including electronic communications, postal and broadcasting services, as per USAASA’s mandate.

5. The South African ICT Environment

South Africa has achieved mixed results over the past two decades in as far as the attainment of Universal Access and Services is concerned. The country has been fairly successful in achieving some of the Universal Access goals, most notably achieved through the efforts by the private sector and in particular the mobile sector, whose achievements are well documented globally. This success

¹ Key thrusts of SIP 15 include National backbone infrastructure will be established including core Points of Presence in district municipalities, extending fibre networks across provinces linking districts and, rural and under-served areas; Coordination of communications infrastructure activities within SOCs, private entities, provinces and local government; Prioritised connectivity to rural and under-served areas including e-health, e-schools and e-government; and Broadband connectivity to rolled out in Dinaledi schools, and district schools.



is also evident in the postal sector, which has significant coverage and reach across rural and remote areas of the country. It is also seen to varying degrees in the community radio broadcasting sector which is one of the most successful in Africa. However, a number of developments, including the restatement of goals and redefinition of targets, and the alignment of policy, regulatory and institutional arrangements aimed at UAS must still take place before the initial UAS policy goals are fully attained.

At a high level, the South African ICT sector consists of two national fixed-line operators, Telkom and Neotel; five mobile operators: Cell C (Pty) Limited, MTN (Pty) Limited, Vodacom (Pty) Limited, Telkom Mobile and virtual network operator Virgin Mobile. There are also several Internet Service Providers (“ISPs”), Wireless Application Service Providers (“WASPs”), and value-added service providers. The environment includes broadband wireless ICT providers such as Wireless Business Solutions (Pty) Limited who offers iBurst.

In addition to this, South Africa has a vibrant broadcasting sector, consisting of three tiers of broadcasting services, namely commercial, public and community television and sound broadcasting services. Public and commercial broadcasting services provide services at both a national and regional level. Commercial services are further structured in the form free-to-air and subscription services, while community broadcasters provide services to both geographic and interest communities.

Finally, the South African ICT sector also includes the postal services sector which includes reserved services provided by the SAPO and unreserved courier services provided by a number of courier companies. Increasingly SAPO is experiencing competition from traditional telecommunications service providers, mainly those operating in the mobile space who offer basic Short Message Service (“SMS”), Multimedia Messaging Service (“MMS”) and voice services as well as more advanced broadband and internet services – often used as a substitute for postal services.

While there is a prevalence of service providers, in terms of usage and access devices, about 62 % of households have radios, 78% have televisions, 24% have computers and only 18% have access to the internet.² In light of this, the UAS Strategy seeks to provide a realistic approach to increasing the availability of ICT networks and services, as well as their accessibility and affordability. This is informed by a detailed Market Gap Analysis as well as secondary research which has been conducted by USAASA.

² ICASA Indicators Database, 2013 and Nationally representative Household Survey conducted by Research ICT Africa



It also recognised that with advances in technology such as the developments of broadband services, Next Generation Networks (“NGN”) and convergence, the strategies to achieve universal access in South Africa must be expanded. Specifically they should include awareness in addition to availability, affordability and accessibility; and the strategic approach must take on a more economic nature and must consider supply and demand side factors. With these developments whereas historically supply side interventions were the main approaches to ensuring affordability, availability and accessibility of services, now strategies to drive demand become critical to the uptake and usage of ICT infrastructure and services – a more people-centred approach to UAS is needed. Therefore, the envisaged UAS Strategy incorporates issues that were previously considered ‘peripheral’ such as the development and dissemination of relevant local content, e-skills and e-literacy, and e-governance as a means of stimulating demand.

This inevitably leads to the need to forge strategic partnerships across sectors in order to ensure that ICTs have the desired impact on socio-economic development and on tackling what government has termed the “triple challenge” of unemployment, poverty and inequality.

6. Underlying Principles for the Development of Universal Service and Access Strategy

This section summarises the guiding principles that underpin USAASA's decisions concerning its strategic objectives, priority programmes and funding of projects. These principles are driven, for the most part, by the Agency's mandate which is outlined in the Electronic Communications Act (“ECA”), which calls on USAASA to promote the goals of universal access and universal service. They are also driven by the current and future context and goals of South Africa, which include the current focus on providing universal access to broadband, rather than just basic telephony. These guiding principles include the following:

- **Prioritise the most “Needy Persons”** - In keeping with its mandate, USAASA will identify and prioritise those in the most unserved and underserved communities.
- **Sustainability** – USAASA will only seek to support interventions and initiatives that will facilitate the sustainable provision of ICT services to South Africans. In providing access to underserved areas, USAASA will use its subsidy model to stimulate the uptake of services in the non-economic areas.
- **Encourage free and fair competition** – In collaboration with ICASA, USAASA will encourage free and fair competition in the market, ensuring its interventions are only targeted to those areas in which market failure has occurred, or market players deem



unviable. In keeping with this principle, infrastructure rolled-out with the support of USAASA will be operated on an open access and non-discriminatory basis.

- **Evidenced based decision-making** – USAASA interventions and initiatives will be determined following the collection and in-depth analysis of robust qualitative and quantitative data about South African ICT sector and service provision.
- **Transparency and Accountability** – USAASA will remain highly transparent and accountable to the citizens of South Africa and its partners in government, the private sector, and civil society. To that end, alongside the Strategy, it will develop a Fund Manual.
- **Inclusiveness** – USAASA will work to ensure all South Africans, regardless of geographical location race, creed, religion, gender, age, or political affiliation, are members of the information society and knowledge economy.
- **Technology neutrality** – USAASA appreciates the need to achieve ambitious targets in the shortest possible time by fast tracking the deployment of the context specific and appropriate high-speed data infrastructures. Therefore, it will not have a technology bias; however in making decisions it will seek to support the use of the most appropriate proven technologies.
- **Dual Focus on Demand and Supply Side** – Realising the deployment of broadband infrastructures and services is only one part of the equation; USAASA will also seek to stimulate demand for services. This will be done in partnership with licensed ICT operators, schools, government departments and other relevant institutions.
- **Partnerships, Collaboration, and Coordination** – USAASA recognises there are many stakeholders in South Africa's effort to achieve universal access and service. Therefore, USAASA will seek to build and engage in multi-stakeholder partnerships and effectively collaborate. This collaboration should facilitate the high-level of coordination required and prevent a fragmented approach that has undermined previous efforts to increase broadband access and usage. Specific focus will be on the partnerships with state owned companies ("SOCs") in delivering universal access and service. The multi-stakeholder approach will provide USAASA with capacity to achieve universal access and service in areas where there is access gap.



7. Identifying the Need: Market Gap Analysis

The analysis which informs USAASA's proposed National UAS Strategy is based upon the widely established concepts of Access Gap Theory as applied to telecommunications networks and services. This theory is illustrated by the following graphic in Figure 1:

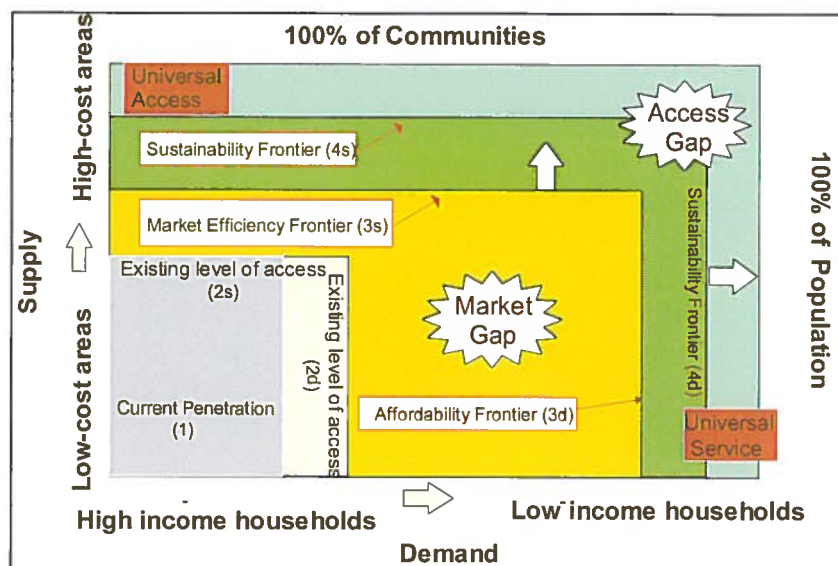


Figure 1: Access Gap Analysis Theoretical Framework

In summary, the theory asserts that there are several different levels of "access" to any given telecommunications network or service, at any particular moment in time, within a designated geographic market area (e.g., region, province, or entire country). The most pertinent elements of this concept, for purposes of this study, include the following:

- **Existing level of access:** This portion of the overall market represents those locations, and users, that already have access to the service in question. Along the Y-axis (supply) this consists of the areas of geographic coverage, or other physical access parameters, while along the X-axis (demand), this represents actual service penetration as a proportion of total potential users. For this exercise, we are concerned primarily with the supply-side.
- **Market Gap and Market Frontier:** The Market Gap represents those areas where the service is not yet available, but where market forces should be capable of filling these gaps, without outside subsidies. In sum, the potential revenues to be earned from serving these areas should exceed the economic costs of deploying the services. The reasons why service is not yet available may arise from regulatory, political, or other non-



economic factors, which may impede market-based expansion; or, commercial interests may simply not have reached these areas yet, but will do so in the near future. The Market Frontier is the theoretical limit to purely market-based expansion, beyond which it would be unprofitable for commercial operators to expand on their own.

- **Access Gap:** Sometimes called the “true” Access Gap or the “Economic Gap,” this portion of the market represents those locations in which the service in question cannot be realistically provided on a commercially viable basis, without some amount of outside subsidy or other support. Here, the average costs of delivering service will exceed the expected revenues from new customers. (This segment is sometimes also divided into “sustainable” and “unsustainable” areas: i.e., locations where a one-time subsidy will allow the service to be sustained thereafter by the market, versus areas that may require permanent, on-going subsidies. In this study, segments that may be unsustainable are not included.)

USAASA conducted a Market Gap Analysis study to enable it to determine the status and potential of the various market segments within South Africa according to this schematic. The analysis was important in enabling USAASA enable to understand the likely evolution of the market, and where subsidy funds should be strategically targeted.

The results of the Market Gap Analysis study and modelling exercise, including sensitivity analysis of the input and assumption variables, provide considerable insight into the status of the current ICT sector in South Africa, and the strategic options for USAASA to consider. The model which was developed is an internal USAASA working document which USAASA has used it to guide its initial view on the development of its strategy. At this time, USAASA will not make the model publically available as it contains sensitive pricing information and assumptions which may inform future tender processes. While the model informs the overall strategy, USAASA will do additional modelling on a project by project basis to inform its assumptions with respect to any project in a specific underserved or underserved area or community – in the interests of transparency, the industry and other affected stakeholders will be invited to provide additional comments at that time.

The following discussion summarizes the most salient findings and implications arising from the analysis:

7.1 Basic 2G Mobile Telephony

With regard to basic 2G mobile voice telephony, the existing gaps are quite small, and the areas that appear to be outside the market frontier are limited to areas in just a few provinces. The analysis indicates that commercial operators should be able to expand their coverage further to reach a large majority of those locations and population centres where 2G service is not yet fully available. There



may be some other (non-economic) barriers that have impeded network development in some areas, which should be addressed on a case-by-case basis. USAASA believes that this (i.e. focusing on operators' ability to fill access gaps.) is an area that can be explored in greater detail as part of this stakeholder consultation process.

In those areas where the analysis does suggest that there are significant access gaps in the 2G mobile market, the main factor driving these gaps is the income level of the local population and possibly the reluctance of operators to roll out their network to areas they deem "unviable". The two provinces exhibiting substantial gaps, Northern Cape and Limpopo, are those with the lowest per-capita incomes, and where spending patterns on ICTs have consequently also been the lowest in the country.

Undoubtedly, the summary findings of the model's calculations mask some specific locations in various provinces where the market equation is not as favourable as the average District-level results indicate. Certainly there are smaller and more distant population centres where extending mobile network coverage (building a tower, establishing a Base Transmitter Site, providing adequate customer service) would not be in the commercial interest of a purely competitive operator. For example, the results for Kwa Zulu Natal province imply that, despite the fact that current 2G mobile access only covers 76.5% of the province, virtually the entire remaining territory is within the market frontier, and should be covered by market forces alone. However, if the specific conditions in each local municipality in that region were examined in more detail, as can be done when it is time to implement the strategic framework and relevant programme/s, there will likely be a number of areas where those conditions do not hold, due to population distribution, terrain and other factors.

Similarly, there are various small settlements, dispersed population groups, and sparsely settled areas that may not have mobile network coverage, and which would also not be financially viable for the market. As mentioned, the model does not attempt to calculate net costs for all such areas. For overall planning purposes, therefore, the model's results are useful, and inform the strategy, but it is important to keep in mind that these higher-level results must be further investigated during USAASA planning and project development.

As a strategic matter, USAASA intends to devote targeted resources toward helping to close specific gaps in access to basic 2G mobile services, by identifying the precise locations where such service is not

7.2 Public Broadband Access

The market and access gap picture for public broadband access throughout South Africa is quite interesting, and presents important opportunities and challenges. Current coverage of broadband network access at the local level is in the range of about 50% of the country. The exact numbers of



towns and villages in which some form of public broadband is available – whether in schools, in MPCCs or other public centres, in government offices, etc. – are difficult to specify, but it appears likely that some such facilities are available in about half the population centres of the country, at least at the local municipality level. Moreover, the analysis suggests that there is room for the market to expand such public broadband coverage to at least another 25% of the country.

The challenge for USAASA in this area is to design programs and projects that, on the one hand, will help ensure that the projected market-driven expansion of public broadband in fact takes place, and will also provide needed support to extend access further, to the remaining 25% that would otherwise be left out of the broadband “footprint”.

In examining the underlying factors influencing the size and cost of these gaps, it is evident that backbone network connectivity has the most significant influence on the market status. To deliver any broadband level service at the local municipal or town level requires a high capacity backbone connection into each such location. Where fibre optic technology is the assumed approach, the costs of extending fibre networks to all population centres, especially the most distant and dispersed areas, can be extremely high.

Beyond backbone connection, there are additional costs for local access connections, equipment, and service operations associated with local public broadband services. Where such service is provided via a public telecentre or MPCC, there are on-going management and facility costs; where school or government connections are provided, similar internal operating, equipment, and management costs are required.

Collectively, these combined costs are only offset by the level of revenues that such public services can provide. Where local or national government contributes to paying the costs, such as in schools or public offices, this support helps make public broadband more viable. But in many areas, there is not a large enough volume of potential demand and revenue available to ensure that public broadband can be commercially profitable and sustainable without USAASA or other subsidies.

On the other hand, there are measures that USAASA and collaborating stakeholders can take to help stimulate greater demand for public broadband access facilities and services, and thus to reduce the size and cost of these gaps. Programs that emphasize affordability of computers, smart phones, and other end-user equipment can help bring down costs while allowing more users to experience the benefits of broadband. Initiatives to expand the scope of available ICT applications and content that are of interest to local populations, including private, locally developed apps as well as e-government, e-health, and e-education services, can also have a significant effect. And general training and capacity building components of any universal access program are an essential element to generate effective utilization and benefits.



Also, the introduction of public access broadband services in smaller towns and villages can allow for a wider dissemination of such access beyond fixed facilities. By attaching the broadband point-of-presence to a local wireless transmission network, whether WiFi or a short-range microcell service, can permit users with smart phones, laptops, dongles, or other personal equipment to obtain broadband connectivity in nearby homes and businesses, and even on a mobile basis within their communities. This type of approach can multiply the benefits of public broadband deployments many times, moving well along the path toward truly universal broadband access.

According to the analysis conducted, the requirement would be to move from the baseline 78% market frontier to 100% public broadband coverage. Based on the analysis, the net subsidy costs required to bring public broadband into unserved, and economically non-viable, locations across South Africa would be quite high, but not necessarily overwhelming. About three-fourths of those costs would again be incurred in the two lowest income provinces of Northern Cape and Limpopo, which have already reached the market frontier for public broadband. On a per-town basis, the estimated subsidy nationwide would also be very high – and a total of approximately 250 municipalities and towns would be targets. It is important to note that the largest portion of these costs are for the broadband backbone extensions into each of these areas, which would ultimately benefit more than just public broadband access.

Consequently, it appears that there is substantial opportunity for USAASA to undertake a number of inter-related programs aimed at extending public broadband throughout South Africa. Providing targeted support for backbone network expansion would be a starting point, which might be pursued in tandem with other stakeholders in the context of national broadband policy initiatives. Designing community-level public broadband programs, to build off backbone connections as they become available, would be a key element of the strategy, including access in schools and various other public buildings. Further expansion of the MPCC program, perhaps with some adjustments such as adding local WiFi services, would also be relevant in this context. Also, there could be a range of demand-oriented projects to help support and encourage affordable equipment, socially beneficial applications and content, and essential ICT awareness and capacity building for new and potential users in areas where broadband connections will become available.

7.3 3G Mobile Broadband

The data on the 3G mobile broadband market in South Africa paints a fairly clear picture of a market segment that has already expanded quite far, most likely beyond its near-term limits in terms of profit potential for the investing operators. According to the analysis, in only two provinces is there further room for 3G services to grow, and these are the wealthiest areas of the country (Western Cape and Gauteng). Everywhere else, the market frontier is equal to the current level of access, indicating that profit margins in those areas are likely very thin already, if not negative. Nationwide, while there is 65% coverage of 3G services, the market frontier only reaches to 70% access.



Moreover, these limitations appear to be quite firm relative to current market conditions. Varying the assumptions to produce significantly lower costs for 3G upgrades, and/or higher spending and penetration of broadband, does not significantly shift the access gap findings. In essence, the 30% of the country where 3G services are not yet available represent locations that both would be very costly to serve, and would generate small incremental revenues to operators.

Consequently, the subsidy cost estimates to achieve virtually 100% coverage of mobile broadband are extremely high.

Given this market status, it seems that it would be prudent for USAASA to defer including 3G mobile broadband services in its subsidy and development strategies, as this market continues to evolve. Concentrating on public broadband options, including extension of broadband via WiFi throughout local communities, can help deliver broadband access to a large majority of unserved and underserved areas and users, where it would otherwise be prohibitively expensive to provide 3G mobile service. As demand conditions grow, backbone network access increases, and technology costs decline, the opportunity to help push 3G coverage further out into the countryside will likely become more realistic. USAASA seeks to consult closely with mobile operators to follow developments in this market, and to consider options for helping to accelerate its natural growth in the near-term.

8. USAASA's Primary Objectives

Bearing in mind the Market Gap Analysis summarised in the section above, and also based on research conducted on the broadcasting and postal services sectors, the following represent the key objectives that USAASA seeks to achieve through strategic intervention and collaborative financing, as laid out in the propose National UAS Strategy:

Objective 1: Ensure Universal Accesses to Basic Mobile Communications

Despite official penetration rates of over 100%, it is widely acknowledged that there remain some South Africans who have no access to basic mobile communications. USAASA will seek to close this last remaining access gap through subsidy; ensuring 100% of the South Africa population have access to basic mobile telephony.

Objective 2: Support the Provision of Broadband Backbone Infrastructure in Unserved and Underserved Areas

USAASA will identify those underserved and unserved towns and villages that do not have access to broadband backbone infrastructure and support the rollout of open access backbone infrastructure to



encourage universal access and service. In fulfilling its mandate in terms of the ECA, USAASA will form partnerships with the licenced operators for the purpose of providing subsidy for closing the access gaps.

The current dearth in backbone infrastructure in many parts of South Africa undermines its effort to reach many of its socio-economic development goals. These include, amongst other things, the creation of 5 Million jobs by 2020, and the establishment of South Africa as an e-literate society by 2030. Moreover, it creates national digital-divides between South Africans with access and those that do not, further undermining development efforts.

Objective 3: Develop Sustainable Community and Institutional Broadband Services.

At present, the overwhelming majority of South Africa's schools, health facilities and local government offices remain unconnected to broadband Internet. This is especially true for the outlying areas in more than fifty percent of the provinces. This lack of connectivity undermines the South African government's policy objectives in respect of e-education, e-health, and e-governance and therefore, its overarching socio-economic development goals as outlined in the National Development Plan 2030.

Objective 4: Support Digital Migration and the Growth of Broadcasting

Radio and television remain highly relevant in the broadband era. Their extensive presence, as well as their ability to facilitate the sharing of information, improve social cohesion, and support wider development goals cannot be underestimate. As South Africa's works towards becoming an e-literate society and embraces digital switchover, USAASA will support subsidy of the set-top-boxes, antenna supply, and installation for the needy persons, including community broadcasting. This is in line with the DoC decision on subsidy for STBs and digital migration project.

Objective 5: Catalyse Local content and Applications development

USAASA appreciates that increased usage of broadband, and broadcasting services in particular, will be driven by the creation of relevant, context specific local content and applications. USAASA will support the development of local content and applications particularly focusing on the underserved communities and needy people.



Objective 6: Develop Effective and Sustainable Community Based ICT Centres

USAASA will work alongside other industry and government stakeholders towards ensuring broadband services are brought to the homes of all needy South Africans. However, the Agency appreciates that shared access, facilitated by the provision of broadband through traditional telecentres, remains relevant and necessary. Therefore, USAASA will take lessons learned from its community ICT centres programme to establish, following robust demand analysis, community telecentres and take measures, in collaboration with other stakeholders, to ensure their sustainability. Based on the lessons learned from the telecentre and cyberlabs programme, USAASA will develop a new programme and improved model of providing access to broadband in underserved areas in order to close access gaps. This is what we call broadband access centres ("BAC").

Objective 7: Postal Service Upgrading

USAASA will work with South African Post Office to expand reach of traditional postal services beyond current service offering. It will also strive to enhance the postal service by subsidising the provision of ICT facilities and services in those post offices that are unable to meet their respective communities' pent-up demand for services.

9. USAASA's Operating Programmes

This section defines the priority Operating Programmes that USAASA will implement during the five-year period covered by the National UAS Strategy. The programme descriptions below summarise the main features of each program, including overall goals, expected outputs, and strategic approach. More specific details of each program's components, and of the projects that will be designed and financed under them, will be developed by USAASA through research and consultations, and are likely to evolve over the course of each operating year. The parameters defined here represent the initial scope of the programmes for planning and budgeting purposes.

9.1 Programme 1: Community and Institutional Broadband Access

This will be the flagship USAASA program, with multiple components, aimed at bringing true broadband connectivity to unserved local communities throughout South Africa. As identified in the Access Gap analysis, the greatest need and opportunity for South Africans to take full advantage of ICTs is to ensure widespread access to high quality broadband networks and services in all towns and villages. To achieve this objective will require strategic coordination of inputs, resources, and planning not only by USAASA, but also by all stakeholders throughout the broadband ICT ecosystem. As explained below, USAASA will play a key complementary and collaborative role in financing



broadband infrastructure and service rollout, and supporting key public institutions in delivering ICT-based services to the public.

Goals: To bring broadband connectivity and ICT services to all unserved local communities, including connections and technical resources for local public institutions.

Outputs: Establishment of high-capacity broadband points-of-presence within currently unserved towns and villages, with last-mile broadband connections to local schools, post offices, health clinics, and government offices. Collaborative development of ICT facilities within each institution to ensure maximum public usage and benefit.

Strategic approach: The programme will be implemented via a series of inter-related component projects, which will deliver the combined infrastructure, services, equipment, and other resources needed to establish full-service broadband ICT facilities in each designated town. The expectation is that commitment of USAF resources to public institutions in these communities will help stimulate demand and reduce costs for wider rollout of public broadband services, to local homes, businesses, and individuals.

The project components are summarized as follows:

1(a) Backbone Network Extension

USAASA will invite competitive bids from network infrastructure providers to extend access to high-capacity backbone network connectivity into currently unserved towns and villages. Individual projects will be designed to connect all local communities within a designated geographic area. The contracting operator will establish a point-of-presence in each community, to which any commercial local electronic communications network services ("ECNS") or electronic communications services ("ECS") operator can connect on an open access basis, subject to agreed maximum tariffs.

1(b) Institutional Broadband Connectivity

Broadband network operators will be contracted by USAASA to provide last-mile broadband connections to specified institutional locations within designated communities (linking to the backbone extensions established under 1(a)). The contracting operator will be responsible for installing the connections and providing continuous broadband service to each user location, at agreed maximum tariffs. The operator will be free to sell additional communication services to any other users in these communities, on a commercial, competitive basis, leveraging these network facilities.

Institutions to be connected in each town will be identified in project Terms of Reference, and will include, at a minimum, local schools, post offices, health clinics, and government/municipal offices.



Each project will cover a specified number of towns within a given region. Operators may choose to subcontract or franchise delivery of local broadband services within different communities, provided that they ensure a guaranteed level of service quality and customer support. Note that a single, integrated operator could submit bids to provide both components 1(a) and 1(b) in any given region; however, procurements for each component will be conducted separately.

1(c) Broadband ICT for Schools

Upon connection of local schools to broadband networks under components 1(a) and 1(b), USAASA will collaborate with the Department of Education and local officials to establish ICT facilities and resources within each public school in the designated communities. USAASA will jointly finance approximately 50% of the projected costs of computer equipment and software, operating and maintenance expenses, as well as related ICT training and content/curriculum development.

It is anticipated that the Department of Education will take the lead in defining specific needs and priorities for each school and community, while USAASA will ensure coordination with infrastructure and service delivery.

1(d) Post Offices and Public Access

USAASA will collaborate with the South African Post Office (“SAPO”) to support broadband connectivity and ICT services within local post offices in the designated communities, including establishment of community access points for public Internet usage. USAASA will jointly finance approximately 50% of the projected costs of computer equipment and software, operating and maintenance expenses, as well as related ICT training for local postal officials. This will include the equipment and facilities needed to provide public ICT access, including local Wi-Fi or equivalent service.

It is anticipated that SAPO will take the lead in defining specific requirements for internal Postal Service ICT facilities, while USAASA will work with SAPO to define the parameters of public access services. USAASA will also ensure coordination of Post Office connectivity and services with internal resources and planning.

1(e) Broadband ICT for Health Clinics

USAASA will collaborate with the Department of Health to provide broadband connectivity and ICT services within local health clinics in designated towns. USAASA will co-finance approximately 50% of the projected costs of computer equipment and software, operating and maintenance expense, and specific e-Health applications and services.



It is anticipated that the Department of Health will take the lead in defining specific needs and priorities for each school and community, while USAASA will ensure coordination with infrastructure and service delivery.

1(f) Broadband ICT for Local Government

Once broadband connectivity is available in each designated community, USAASA will also collaborate with local government officials to help install appropriate ICT equipment and facilities within government offices. The exact scope, location, and configuration of such facilities will be determined jointly between USAASA and local officials, based upon available budget and priority needs. It is anticipated that USAASA funding will support purchase and operation of essential hardware and software, local networking, and broadband service connectivity, up to a maximum budget per town.

>Note on Institutional Connectivity Programs: The programme components described above for supporting establishment of ICT connectivity (1(b)) and facilities for public institutions (1(c)-(f)) are linked directly with the infrastructure rollout component (1(a)). That is, these programmes are not, at this time, envisioned to provide institutional ICT resources in locations where broadband network access is already available. This is due to budget and capacity limitations for USAASA in the near term. However, USAASA will be prepared to consider expanding the scope of these programme components to cover additional schools, post offices, etc., once the initial projects have proven themselves, and if additional funding becomes available.

9.2 Programme 2: Universal Basic Mobile Telephone Service

This programme will provide support for extending mobile network coverage into unserved and uneconomic areas where there is no current coverage of even 2G services. The gap analysis has revealed that there are some significant areas within some provinces without sufficient basic mobile service access, and there are likely small pockets in various locations with low population density that operators have not covered. USAASA will provide targeted subsidy support for projects designed to fill these gaps.

Goals: Virtually 100% coverage of mobile telephone signals throughout populated areas of every province. Adequate signal quality and access to customer support for users in all locations.

Outputs: New mobile network infrastructure, facilities, and service delivery in previously unserved and underserved locations.

Strategic approach: USAASA will implement this programme through competitive procurements open to all licensed mobile operators. Those proposing the lowest subsidy to expand network



access in each designated location will be awarded the contract.

9.3 Programme 3: ICT Training and Capacity Building Support

Under this program, USAASA will develop projects to provide a range of training and capacity building assistance to the public, to enhance ICT skills, awareness, utilisation, and socio-economic integration. Beneficiaries of such support may include individual citizens as well as public employees, and private entrepreneurs, wherever application of advanced ICT skills may be of value. Priority projects will be linked to USAASA's infrastructure and service access programs, to ensure that users in remote and underserved areas are able to obtain the benefits of newly available ICT facilities and services. Other projects may support national ICT training initiatives, in collaboration with training and educational institutions.

Goals: Broad awareness, uptake, and utilisation of advanced ICTs throughout South Africa, and increasing effective use of ICTs by citizens, institutions, and small and medium enterprises.

Outputs: Formal training courses, events, and capacity building initiatives tailored to the needs and interests of key underserved constituencies.

Strategic approach: Capacity building and training projects will be contracted with qualified ICT training institutions and organizations, through competitive procurement processes. Each project will have a unique design and set of goals, with emphasis on capacity building in locations that receive connectivity under Programme 1.

9.4 Programme 4: ICT Content and Applications

USAASA will provide support for projects that help create and deliver relevant ICT content and applications that are of value to underserved communities and populations.

Goals: To expand access to valuable ICT content and applications, particularly for marginalised and indigenous populations, and those with less familiarity with ICTs.

Outputs: Software applications (fixed and mobile), websites, information services, and other unique content initiatives.

Strategic approach: USAASA will collaborate with entrepreneurs, NGOs, public agencies, and other organisations involved in the development of ICT applications and content. Projects will be awarded according to the value and opportunity available from specific opportunities. It is anticipated that USAASA will follow a combination of strategic alliances and competitive procurements for ICT content



and applications projects.

9.5 Programme 5: Universal Access to Broadcasting

USAASA will support the transformation and expansion of the broadcasting sector, to complement the provision of universal access to multimedia forms of communication and information. There will be two related components to the broadcasting support program: Television Set-Top Boxes and Community Broadcasting.

Goals: To ensure universal availability of access to TV and radio broadcasting, and to expand access to community broadcasting.

Outputs: Set-Top Boxes for all needy South Africans, and new Community TV stations.

Strategic approach: This programme will be implemented through two component activities, as described below in 5 (a) and 5(b).

5(a) Television Set-Top Boxes

This project is a key focus area for the Department of Communications. USAASA has been mandated to disburse the subsidies for this project. The following need to be addressed when dealing with the STB subsidies:

- The definition of “needy persons” in the context of ICTs;
- The guidelines on how the subsidy will be given per STB;
- How to ensure that there is sufficient STB supply for all needy people;
- How “needy people” will prove their level of need; and
- What guidelines should be followed for providing the subsidy to different types of needy people.

USAASA will work closely with the Department of Communications to define all of these parameters of the program, and to develop and follow the procedures for implementing the programme in a timely manner. For budgeting purposes, it is assumed that USAASA will subsidise 75% of the average cost of a Set-Top Box (@ ZAR 600 per STB), while also supporting training for end users. There are expected to be some 5 million STB subsidies required based on the DoC pronouncements, which will be allocated mostly during the first two years of this Strategic Plan.

5(b) Community Broadcasting



Specific communities identifying a gap that can only be filled by providing localised broadcasting service drive community broadcasting. This is due to demand for broadcasting services in the languages of the local communities. This has worked well in the radio sector with many subsidy interventions provided by the DoC. The attempt by the public broadcaster is not sufficient due to programming time limitations and available capacity in the analogue domain. In the area of television broadcasting, communities have struggled to set up broadcast operations due to the high cost of providing establishing broadcast studios and transmission facilities. It is the objective of all provincial administrations to have a local/provincial community television channel. It would be possible in the digital era post ASO for all the nine provinces to receive community television channels. ICASA has provided 7 multiplexes for all broadcast requirements, which will be sufficient for the next 10 years for both standard definition (“SD”) and high definition (“HD”) services according to our projections. Therefore there will be sufficient capacity in the digital platforms to accommodate community broadcasters.

It is for this reason that USAASA commits to support the establishing of community broadcasting at subsidy level for initial costs.

9.6 Programme 6: Affordable ICTs

USAASA will work with ICT industry suppliers to develop projects to decrease the costs and improve affordability of ICT devices, services, and applications. These projects will be researched and developed during the first two years of this strategy, and implementation is anticipated for Year 3.

Goals: Increased affordability, and higher levels of demand and utilisation for advanced ICT services throughout South Africa.

Outputs: Various specific projects resulting in higher subscription and usage for ICT services.

Strategic approach: To be determined through industry consultations.

9.7 Access and service programme for people with disabilities (“PWD”)

This programme focuses on the group of people who are ordinarily marginalised. As an initial step, USAASA will support schools and academic institutions for PWD. This is recognising the vast challenge faced by PWD compare to the rest of the population. The International Telecommunications Union (“ITU”) mentions that of the 7bn total world population about 1bn suffers from one form of disability or the other. For this reason, USAASA will make policy research into PWD ICT needs as one of the priority areas. Not only research but subsidies for deployment of ICT services for PWD will be prioritised. The programme for PWD covers the following:



- Backbone infrastructure
- Subsidy Mobile services
- Training for usage for PWD
- ICT content for PWD
- Community Broadcasting facilities for PWD
- Usage subsidy for PWD

These programmes assume that the backbone infrastructure does not exist. In addition, connections are targeted at all 482 special schools in RSA over 5 years;

Goal: increase access and affordability of ICTs for PWDs throughout South Africa;

Outputs: Project that will improve the awareness of ICTs for PWDs and rollout of access centres and infrastructure as well as applications for PWD.

Strategic approach: Continuous research and implementation of identified services suited for PWDs.

Based on the identified programmes, USAASA requested the public to provide comments and advice on how best these objectives can be achieved. On each programme, please advise on the manner in which it can best be implemented. USAASA also seeks input on any alternative programmes, and an indication of the scope and costing.

10. Implementation of National UAS Strategy

The finalisation of the National UAS Strategy which sets out the priorities of USAASA and the Universal Service and Access Fund (“USAF” or “Fund”) will be a major step towards the effective and efficient utilisation of the USAF to improve access, affordability and the availability of networks and services in the country. The National UAS Strategy has to be implemented – that is, once the programmes within the National UAS Strategy are agreed and projects are identified, USAASA must ensure that it is transparent, fair and consistent in its on-going evaluation of bids and proposals; it must furthermore be accountable to government, the industry and other stakeholders. The implementation framework for the National UAS Strategy therefore has to include:

- (1) Clear rules, procedures and operational framework (Fund Manual)
- (2) The human and other resources necessary (Organisation Development Strategy)

Regarding (1) in order to build and maintain the industry’s trust, and to encourage participation by interested parties in USAASA initiated bidding processes, the entire process – from Requests for Proposal to evaluation of proposals – must be properly detailed and must also be open to scrutiny.



The principles, of transparency, accountability and fairness must be demonstrated and adhered to in all the steps leading up to the disbursement of USAF funds. With this background, USAASA believes that broadly, a Fund Manual must be developed which:

- enables the Agency to comply with **good governance, accountability, fairness and transparency** in administrating the grants or subsidies in the Universal Service and Access Fund;
- provides clear and consistent **procedures and guidelines** for the USAF operations in disbursing grants and subsidies;
- provides **efficient and effective means of disbursing grants and subsidies** in the Universal Service and Access Fund;
- enables **effective auditing** of the Fund;
- provides **guidance to the public** on how to access the Fund and on how it is utilised
- provides **internal guidance** on how to deal with applications for subsidies and grants

With that in mind, USAASA is in the process of developing a Fund Manual which will be aligned with, amongst others –the National UAS Strategy, Schedule 3A of PFMA; Section 90 of the ECA (Competitive Bidding) and USAASA's medium and long term project planning. The Fund Manual amongst others includes

- General administrative rules and procedures (both internal and external) to provide an operational framework within which USAASA's staff should act when determining matters connected with the use of the USAF – this include matters from the RFP to the award and disbursement of grants and subsidies;
- Rules and procedures around the processes for Fixed Subsidy applications, and bids in response to beauty contests/ competitive bidding processes and least cost subsidies, as the case may be
- Guidelines and principles for documentation which will support the processes (pre-bidding documents; those needed during negotiations and evaluation, and post award)
- Subsidisation Guidelines specifying the type and extent of service to be provided, eligible bidders, and the key principles relating to the calculation of the subsidies

With respect to (2), USAASA is considering the human resources that are required in order to implement the strategy and would appreciate the public's views on whether USAASA is equipped to



implement the strategy from an organisational and human resource perspective; and what measures need to be put in place to ensure that the Agency is in a position to bring the strategy to life.

11. Conclusion

USAASA seeks the public's views on its proposed strategy which is still under development, and whose key points are summarised in this document. Comments are sought on all aspects of this document and in particular on USAASA's:

- underlying principles (section 6)
- analysis of market gaps (section 7)
- proposed objectives (section 8)
- proposed programmes to support its objectives (section 9)
- proposed strategic approach to Programme 6: Affordable ICTs (section 9)
- any additional information that may be available on costing of various initiatives and programmes (section 9)
- proposed approach to developing the Fund Manual to facilitate the implementation of the UAS Strategy (section 10) – in particular views on the Manual's legal approach and contents
- any institutional, process or procedural issues relating to the strategy

All the information received will inform the strategy USAASA is working on. Please submit your inputs in writing and be ready to present it to USAASA at a workshop to be convened in the next 3 weeks.

