POLOKWANE MUNICIPAL–WIDE BROADBAND IMPLEMENTATION – PPPF5

FEASIBILITY REPORT – EXECUTIVE SUMMARY
1. INTRODUCTION

This feasibility study report was prepared for the City of Polokwane, which is situated in the central part of the Limpopo Province within Capricorn District. The aim of the report is to assist the Municipality in determining the bankability of a Municipal Wide Broadband Connectivity project. This report takes the Municipality’s competing funding needs into consideration, and investigates the possibility of procuring the project through a Public Private Partnership. The format of the report is guided by the National Treasury Municipal Service Delivery and PPP Guidelines.

2. APPROACH AND METHODOLOGY

This project is not typical of other municipal services. As a result, the approach to the feasibility study was somewhat varied from the traditional PPP requirements.

The Scope of the feasibility study comprises of the following phases:

- Technical Solutions Options Analysis
- Legal Due Diligence
- Commercial Feasibility

**Technical Solutions Options Analysis**

The technical feasibility of the project entail assessing and quantifying the Municipality’s needs for broadband, technologies that can best address the needs, infrastructure rollout models suited to the Municipality (including a long-term vision), analysing the need and viability of incorporating the various broadband components (ECN/ECNS, etc.) within the value chain, and ultimately outlining
possible options available in rolling out the broadband project. The addition of aspects to make the project viable and attractive not only to the Municipality but to other potential customers formed an important consideration.

**Due Diligence**

A legal due diligence included identifying and analysing the legal risks associated with a municipal–wide broadband roll-out.

**Commercial Feasibility**

The project’s scope commercially entailed developing a financial model and assessing the commercial viability of the projects, as well as considerations of how best to support the viability of the project. Given that the project is not typical of a municipal service, and models in South Africa of where similar municipal projects have been rolled out do not provide for a public sector comparator, the value assessment was based on developing a single financial model, varied based on the options analysis models to motivate for the viability of the options considered.

**Output Specifications**

In undertaking the feasibility study, the TA kept in mind the following targeted outputs from the project:
To provide municipal–wide broadband connectivity, i.e. not only to provide connectivity in the central business district but the entire area covered by the Municipality

To enable the Municipality to roll out its other smart city projects such as the smart meter infrastructure

To enable the Municipality to enable provision of e-Government services such as connectivity for healthcare and education facilities at affordable rates

To improve the quality and levels of service delivery through connectivity for all the Municipality’s customers

To improve the competition landscape in ICT services to ultimately enable provision of affordable ICT services
3. MUNICIPAL & GOVERNMENT OBJECTIVES

The National Infrastructure Plan adopted by government in 2012 intends to transform the South African economic landscape while simultaneously creating a significant numbers of new jobs, and to strengthen the delivery of basic services. From the spatial analysis of the country needs, 17 Strategic Integrated Projects (SIPs) were identified. One of these SIPs, SIP 15, talks to the expansion of access to communication technology.

The IDP gives expression to the strategic thrust of the City of Polokwane to deepen democracy and promote good governance, ensure basic service delivery through various programmes such as electrification, road and storm water, water and sanitation programmes as well as to ensure financial sustainability.

The City of Polokwane’s vision is to be the ultimate in innovation and sustainable development. The City aims to do so by providing cost effective services which promote sustainable livelihoods through socio-economic development and governance as articulated in its vision.

“Forward looking in Economy, People, Governance, Mobility, Environment and Spaces. Comprehensive integration of critical infrastructure in its totality. Build collective intelligence of the City through connecting the physical, the IT, the social, and the
3.1. Strategic Integrated Project (SIP) 15 – Expanding Access to Communication Technology

Government aims to achieve 100% broadband coverage to all households by 2020 by establishing core Points of Presence (POP’s) in district municipalities, extend new Infraco (Broadband Infraco) fibre networks across provinces linking districts, establish POP’s and fibre connectivity at local level, and further penetrate the network into deep rural areas.

3.2. The National Broadband Policy

The National Broadband Policy emphasizes the need for access to broadband applications in order to achieve the goals of economic development and social inclusion for all communities. The policy was approved by cabinet on 4 December 2013. The Department of Telecommunications and Postal Services is responsible for coordinating the implementation of the objectives set forth in the policy, across all three spheres of government.

3.3. The Project’s Alignment to the Municipality’s objectives

Broadband will serve as an enabler to the Municipality’s Smart City objectives, and to service delivery. Other projects currently underway by the City, such as the expansion and refurbishment of the municipal infrastructure require broadband infrastructure to function effectively. In addition, this project is aligned to the national Government objectives and strategic infrastructure plans to provide broadband connectivity as expressed in SIP15, as well as the National Broadband Policy.
4. TECHNICAL SOLUTION OPTIONS ANALYSIS

4.1. Options Considered

The three main parts of broadband infrastructure that the Municipality may invest in, or implement through a PPP, include:

- Passive/Physical Network Infrastructure;
- Active Core and Backhaul/backbone Network Infrastructure; and
- Active Access Network Infrastructure

Infrastructure to provide international connectivity may also be desirable for the Municipality, especially given that Limpopo province also serves as a strategic gateway to the Eastern, South and Central African region.

4.1.1. Passive or Physical Infrastructure

Passive infrastructure forms the lowest layer (Layer ‘0’) within the broadband network value chain. Its key components include ducts, cables, masts/towers, premises and other physical infrastructure. Passive infrastructure is typically characterised by high capital expenditure (CAPEX), low operational expenditure (OPEX), low economies of scale, stable returns from low rates over a long period, and is highly local, hard to duplicate and inherently subject to ex-ante regulation due to its ‘natural monopolistic characteristics.

Some of the market players owning passive infrastructure include Telkom (by far the largest and dominant player), Dark Fibre Africa (or “DFA”), Broadband Infraco (a state-owned entity), as well as the Mobile Network Operators including Vodacom.
and MTN. Traditionally, the passive infrastructure was deployed by each of these players for own use. When DFA entered the market, they deployed both passive and active the infrastructure for lease to any of the players that do not have the required connectivity. The model has since evolved such that these players utilize own network and lease capacity where required from companies such as DFA and other similar entities.

### 4.1.2. Active Core and Backhaul/backbone Network Infrastructure

Backhaul and core networks provide links between network nodes to allow connectivity over large distances. Typically core networks link towns and cities across the country (also known as the backbones) and backhaul networks connect local exchanges to core networks and can also be ‘scaled–down’ to a Municipality area. Depending on the connectivity requirements, budget constraints and local conditions, optical fibre cable, microwave links and even satellite links are the commonly used technologies for backhaul/core network implementation due to their relatively high capacities.

### 4.1.3. Active Access Network Infrastructure

An access network provides the connectivity between end users and the nearest network node (e.g. the local exchange or central office) at which the access network connects with the core network. Various options are available for providing broadband connections in the access network, including the transmission technologies listed above. Market players in the access network include companies
such as Conduct. This company provides fibre to the business and was recently acquired by DFA to forward integrate in the broadband value chain.

4.2. Evaluation and Assessment of Each Option

The current situation in Polokwane with regards to broadband network investments is that little fibre is currently invested with a large portion of this focused on national backhaul and backbone connectivity rather than access use. There is also relatively very little investments in copper sub-loops (low penetration) with relatively low DSL broadband penetration rates. Most of the broadband services within Polokwane are delivered via wireless access technologies and at a wholesale level— fibre backhaul/backbone connectivity.

To ensure affordability of the broadband network architecture, there is a need to balance a trade-off between cost and performance. Given the limited rollout of both fibre optic and copper and the high cost and limitations of the wireless technology, we have explored the option of a fibre-optic-centred broadband network. By ensuring that the network provides open access at the relevant ‘network layers’ the other technologies can augment the fibre, which forms the ‘backbone’ of the broadband network.

The current and planned investments in broadband networks by the existing players could play a role in the provision of municipal broadband connectivity but their role is likely to be very limited unless there are fundamental changes within the market.
structures through the deployment of a broadband network such as the one planned by the Municipality.

As it stands there are a number of players within the Polokwane Municipality that have invested in Broadband and ICT infrastructure but, even taking into consideration future expansion plans as has been outlined above, without any significant investments in new broadband capacity and changes in market structure, these investments are currently inadequate to help meet the Municipality’s long term broadband connectivity objectives.

The table below illustrates the key existing investments and their broad strategies with respect to broadband connectivity, specifically in relation to Polokwane Municipality

<table>
<thead>
<tr>
<th>Market Players</th>
<th>Access Network Investment</th>
<th>Backhaul and Core Network</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telkom</td>
<td>Very Limited Investment, mainly in Urban Areas - DSL Focus, FTTx Plans for future</td>
<td>Good Provincial, Regional, National and International Connectivity. Municipality investment limited to main urban centres</td>
</tr>
<tr>
<td>Broadband InfraCo</td>
<td>No Investments – open to invest in future</td>
<td>Good Provincial, Regional, National and International Connectivity. Very Limited Metro coverage</td>
</tr>
<tr>
<td>Neotel</td>
<td>Limited Investments</td>
<td>Very Limited Metro only coverage</td>
</tr>
<tr>
<td>DFA</td>
<td>Limited Investments</td>
<td>Limited Metro coverage, Urban/commercially focused</td>
</tr>
<tr>
<td>Mobile Operators</td>
<td>Urban focused Investments</td>
<td>Very Limited, focused Metro coverage</td>
</tr>
<tr>
<td>ISPs/ASPs</td>
<td>Limited Investments</td>
<td>Very Limited Metro only investments</td>
</tr>
</tbody>
</table>

*Table 1: Market Players in Polokwane*

**Having considered the gaps, as well as the need to provide broadband connectivity that suits the demographics and economic profile of the Municipality’s end users,**
and the need for broadband to enable economic development in the Municipality, we recommend the implementation of a broadband project that would have services and applications relevant for the targeted end users, and a broadband connectivity that enables the Municipality to achieve its smart city objectives and other e-Government objectives.

4.3. Infrastructure Type

The Municipality’s decision on the choice of investment infrastructure to invest in will determine a number of key factors including:

- Ability to meet its strategic objectives
- Ability to positively impact the market
- Ability to implement a viable network that is fundable

The infrastructure investment options thus considered for the Municipality were evaluated on 3 dimensions including:

- The scope of the network
- The performance of the network, and
- The ability of the network to support competition

In order to balance performance versus required investment and operating costs and due to its robustness and overall cost-effectiveness, it is recommended that a ‘Ring-based’ topology be utilized in the implementation of both the metro backbone network as well as the metro area (backhaul) with Polokwane.
It is also recommended that the municipality implements the metro backbone network as well as the metro area (backhaul) as a single contiguous network in order to reduce handovers and also ensure the “openness” of the fibre optic network right up to the access level.

Connectivity external to the Municipality is an essential component of the broadband network and typically is provided via the regional (e.g. intra-provincial) as well as via national (inter-provincial) networks that amongst other things aggregate and distribute traffic – regional and national backbone networks. Telkom, Broadband Infraco and Dark Fibre Africa (DFA) are three network operators that already have substantial investments in this segment of the market and can provide the necessary interconnectivity to the planned Municipal Broadband network. Hence direct investment in this segment has been excluded from the scope of municipality broadband network.

Infrastructure to provide international connectivity is also very desirable for the Municipality, especially given that Limpopo province also serves as a strategic gateway to the Eastern, South and Central African region. Similar to the regional and national connectivity, companies such as Telkom and Broadband Infraco already have necessary investments in this segment of the market and can provide the necessary interconnectivity to the planned Municipal. Hence direct investment in this segment has been excluded from the scope of municipality broadband network.

Further detailed qualitative evaluation was made in order to reach the relevant recommendation to the municipality in terms of which access infrastructure to deploy for the access network. *Given the diverse characterizes of the different infrastructures and also given the diversity in the type and location of the municipal*
broadband customers, it is inevitable that a combination of technologies would likely be the best option for access technology implementation, especially since this would allow for an 'open-access" broadband network.

**Key Recommendation on the Technical Solution**

A Point-to-Point (p2p) end-to-end fibre optic implementation with a ‘ring-type topology’ for the backbone/backhaul network is recommended as this would enable for an network that is open at many different layers and that is also compatible with other technology implementations that can be used by the service providers in the delivery of broadband connectivity.

### 4.4. The Customers

Polokwane Municipality has chosen to implement broadband network connectivity to service all its residents, importantly including both urban and rural businesses and residents. The scope of the broadband network thus covers the entire geography and demographic areas of Polokwane.

#### 4.4.1. Key Customers

The Municipality has a number of customers, each with distinct broadband connectivity needs, whom can be holistically targeted in order to achieve a network that is both commercially viable and able to meet the Municipality’s service delivery objectives.

*Table 2: Potential Customers Profile*
<table>
<thead>
<tr>
<th>CUSTOMER</th>
<th>POTENTIAL ROLE</th>
<th>BROADBAND NETWORK IMPACT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
<td>The Municipality – Ideal Anchor Client</td>
<td>Broadband network provides ideal platform to manage Smart City Services in both Urban and Rural environments and manage internal ICT services needs</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>Local Government and Government Institutions</td>
<td>Broadband network provides ideal platform to manage internal ICT service needs and provide connectivity between government institutions and parastatals</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>Government &amp; Municipal Institutions – Schools, Clinics, Community Centres</td>
<td>Broadband network provides ideal platform to manage service delivery projects and general ICT connectivity requirements</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>‘Urban’ Residents of the Municipality</td>
<td>Broadband network provides ideal platform to manage municipal service delivery and general ICT connectivity requirements</td>
</tr>
<tr>
<td><strong>B</strong></td>
<td>‘Urban’ Private Businesses within the Municipality</td>
<td>Arguably Most Profitable</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>‘Rural’ Residents of the Municipality</td>
<td>Arguably Least commercially attractive market</td>
</tr>
<tr>
<td><strong>D</strong></td>
<td>Fixed Line operators</td>
<td>Potential Wholesale clients</td>
</tr>
</tbody>
</table>

**CUSTOMER POTENTIAL ROLE**

**A** The Municipality – Ideal Anchor Client

**B** ‘Urban’ Residents of the Municipality

**C** ‘Rural’ Residents of the Municipality

**D** Fixed Line operators

**BROADBAND NETWORK IMPACT**

**A** Broadband network provides ideal platform to manage Smart City Services in both Urban and Rural environments and manage internal ICT services needs

**B** Broadband network provides ideal platform to manage internal ICT service needs and provide connectivity between government institutions and parastatals

**A** Broadband network provides ideal platform to manage service delivery projects and general ICT connectivity requirements

**B** Broadband network provides ideal platform to manage municipal service delivery and general ICT connectivity requirements

**B** Arguably Most Profitable

**C** Arguably Least commercially attractive market

**D** Potential Wholesale clients

**Potential for reduced investment at backhaul/core network level**
Due to the differing services and broadband data requirements, the selected combination of the above potential customers has a significant impact on the options available for the Municipality in terms both the design and the technologies for the planned broadband network.

By virtue of the Municipality’s specific objectives, the Municipality has selected all the above (A, B, C, D and E) client segments as those that will need to be covered by the broadband network. This then has a significant impact on the type of broadband network, its extent, and relevant technologies that can be implemented.

The following are some of the objectives (previously confirmed in the “Needs Analysis” phase) that have been considered in this Technical analysis phase to support the customer selection.

- Broadband connectivity for public institutions such as schools, health facilities, and safety and security facilities.
- Better services delivery through broadband. To contribute to its policies, as well as Government’s, the City wishes to increase broadband adoption and usage within its Municipal area (especially in the rural areas).
Achieving Polokwane’s Smart City objectives by using broadband as an enabler.

Using broadband infrastructure to expand and refurbish municipal infrastructure.

Providing broadband connectivity as expressed in SIP15.

Although the customer groups targeted are clear and holistic by virtue of the Municipality seeking to make broadband available to all its constituencies, it was still important to analyse various customer configurations that could also be considered by the Municipality.

**The feasibility study findings** was that Polokwane Municipality’s choice of customers to be covered by the broadband network are reasonable and aligned to its overall strategic objectives as a municipality, ultimately its role in both local and national government from a service delivery perspective. **The customer selection would also support the implementation of a “carrier-grade” broadband network that would be robust and provide connectivity to a multitude of stakeholders and strategic partners.**

### 4.5. The Business Model

Some of the questions that need to be addressed when deciding on the business model are:

- Which layers of the value chain should the municipality participate in?
– Should the participation be direct or indirect?
– Should the participation be driven from a single vertically integrated entity, or from a number of ring-fenced entities participating in different layers of the value chain?
– If so, what should the commercial terms be between the entities and with external parties?
– How should the Municipality manage the risks associated with participation in each layer whilst driving towards the broad municipal broadband connectivity objectives?
– How should the Municipality maximize openness of the network and balance cost and performance at each layer of the value chain?

The table below outlines four common approaches to broadband network deployment that are relevant to the Municipality of Polokwane and gives an example of classifications of the players involved according to a particular strategy taken. It is important to note that by virtue of the ownership of its current passive infrastructure (e.g. Ducts, Land, Buildings, Roads, Rights of Way, etc.) the Municipality of Polokwane is already a player within the ICT/Broadband value chain as it stands at present.
Table 3: Players within the Broadband Value Chain

<table>
<thead>
<tr>
<th>VALUE CHAIN LAYER</th>
<th>GENERAL BROADBAND COMPETITIVE LANDSCAPE BASED ON BUSINESS MODEL ADOPTED BY THE MUNICIPALITY OF POLOKWANE</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICATIONS AND CONTENT</td>
<td>ASPs</td>
</tr>
<tr>
<td>ISP, SERVICES AND IT HOSTING</td>
<td>Carriers, ISPs, etc.</td>
</tr>
<tr>
<td>RETAIL COMMUNICATIONS AND SERVICES (Voice and Data)</td>
<td>Carriers, Wholesale Co.</td>
</tr>
<tr>
<td>WHOLESALE ACCESS SERVICES</td>
<td>Carriers, e.g. BBI, Telkom, MTN</td>
</tr>
<tr>
<td>CORE ACCESS NETWORK (NATIONAL, REGIONAL, LOCAL, ETC.) INFRASTRUCTURE, e.g. Switches, BTS</td>
<td>Carriers, e.g. Telkom, MTN, Neotel</td>
</tr>
<tr>
<td>CORE NETWORK BACKBONE INFRASTRUCTURE (NATIONAL, INTERNATIONAL, REGIONAL)</td>
<td>Carriers, e.g. BBI, Telkom, MTN</td>
</tr>
<tr>
<td>PASSIVE NETWORK INFRASTRUCTURE, e.g. Fibre, Copper DUCTS, FACILITIES ACCESS</td>
<td>1. PASSIVE INFRASTRUCTURE ONLY (Dark Fibre Company)</td>
</tr>
</tbody>
</table>

Each business model has its own merit and also its respective impact on the competitive market, cost of the broadband network/s subsequently built, and other factors.
### Table 4: Roles and Implications for the Municipality’s participation in the Value Chain

<table>
<thead>
<tr>
<th>BUSINESS MODEL</th>
<th>ROLE OF MUNICIPALITY INVESTMENT AND CONTROL</th>
<th>IMPLICATIONS</th>
</tr>
</thead>
</table>
| Passive Infrastructure model [Model 1] | Ownership limited to passive infrastructure and dark fibre - which is then leased to other players higher up the value chain seeking access | – Significant investment required by Municipality in return for low margin business with little control in influencing reach of broadband network (to target market) at access level.  
– Municipality’s ability to influence and effect broadband service right to the customer is limited  
– This model requires a point-to-point fibre network (P2P) rather than a GPON. More capital investment is generally involved in a P2P network. |
| A "raw Ethernet" service (i.e. Layer 2 Interconnection) [Model 2] | Service Providers seeking Access interconnect with the operator and take raw data at the first point of Ethernet aggregation. | – Access is as deep as is possible within an active network. There is scope for multiple carriers to interconnect and to deliver services into each home/customer, although there will be only a few with scale sufficient to acquire directly from the Network Co.  
– May perpetuate the status-quo competitive environment |
| QoS (Quality of Service) based access [Model 3] | Access Seekers have a ‘suite’ of QoS (Quality of Service) based service standards. Interconnection is relatively high in the network and therefore less investment is required by the service providers. | – A larger number of service providers able to interconnect – increased competition due to reduced barriers to entry.  
– The degree of innovation and product differentiation is limited by the products that are made available.  
– Access can be provided either ‘house by house’ or there is scope for multiple service providers |
| Full active Access Co [Model 4] | The operator provides a full ‘white label’ telecommunications service, including CRM and billing services. | The only competition occurs at the application layer (i.e. application by application). |
**Recommendation**

*Based on the business models considered above, i.e. Model 1 to 4, we recommend select involvement by the Polokwane Municipality within each value chain, and this involvement is summarized in the table below. This involvement is linked directly to the objectives of the Municipality to encourage competition, innovation, and municipal-wide connectivity to all end users within the constituency of the Municipality, and also ensuring that the Municipality drives the e-Government objectives of the national Government.*

*Potential Participation by the Municipality within the Value Chain*

<table>
<thead>
<tr>
<th>VALUE CHAIN LAYER</th>
<th>POLOKWANE MUNICIPALITY INVOLVEMENT</th>
<th>NAME OF COMPANY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>APPLICATIONS AND CONTENT</td>
<td>None</td>
<td>n/a</td>
</tr>
<tr>
<td>ISP, SERVICE AND IT HOSTING</td>
<td>None</td>
<td>n/a</td>
</tr>
<tr>
<td>RETAIL COMMUNICATIONS AND SERVICES (Voice and Data)</td>
<td>Yes To be able to manage municipality services to each business, household, building, etc.</td>
<td>SERVCO</td>
</tr>
<tr>
<td>WHOLESALE ACCESS SERVICES</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>ACTIVE EQUIPMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CORE ACCESS NETWORK (NATIONAL, REGIONAL, LOCAL, ETC.) INFRASTRUCTURE, e.g. Switches, BTS</td>
<td>Yes</td>
<td>OPCO</td>
</tr>
<tr>
<td>CORE NETWORK BACKBONE INFRASTRUCTURE (NATIONAL, INTERNATIONAL, REGIONAL), e.g. Switches, Routers, etc..</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>PASSIVE EQUIPMENT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPECTRUM</td>
<td>Yes For Backhaul/Core (e.g. Microwave)</td>
<td>NETCO</td>
</tr>
<tr>
<td>PASSIVE NETWORK INFRASTRUCTURE, e.g. Fibre, Copper</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>DUCTS, FACILITIES ACCESS</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
4.6. Recommended Technical Option

It is recommended that the Municipality invest in all the three main parts of broadband network infrastructure, i.e.:

a. Passive/Physical Network Infrastructure
b. Active Access Network Infrastructure, and
c. Active Core and Backhaul/backbone Network Infrastructure

This recommendation is underpinned by the objective that this combination of infrastructure would enable the municipality to directly influence the reach of the network and thus greatly enhance its ability to delivery broadband connectivity to the entire constituency of the municipality.

The municipal broadband network would then achieve regional, provincial, national and international connectivity by interconnecting with service providers and network operators that already have such backbone network in place.

A fibre optic cable based network for both the access and backhaul portions of network infrastructure, implemented as a contiguous network in a ring-type topology (for the backhaul/backbone) with Point-to-Point (p2p) as the fibre technology of choice, is the recommended network and technology implementation architecture. This would enable a ‘carrier grade’, ‘future proof’ and cost effective network implementation which can be interfaced / interconnected to a wide variety of other broadband technology implementations as well as service and applications providers (ISPs and ASPs) at a number of levels/layers within the network, thus promoting both ‘an open access network’ and competition within the market.
The recommended business model for the Municipality of Polokwane involvement within the broadband network is Model 4, the ‘Fully Integrated’ model, whereby the Municipality would be involved in all layers of the value chain up-to and including the ‘ISP, Services and Hosting’ Services layer. The ‘Applications’ and ‘Content’ service provisioning would be delivered through multiple strategic partners.

5. VALUE ASSESSMENT

5.1. Budget Analysis

The Municipality’s budget was assessed, to gauge the ability to fund the project from municipal resources.

An analysis of the City’s budget proved the following:

- The City is in a healthy financial position indicated by its historic and budgeted income levels. The historic financial performance also indicate the high levels of receivables due to the Municipality.
- The broadband project is not included in the capital expenditure budget of the Municipality. The budgets of the Municipality suggest that this project is potentially not affordable for the Municipality as it has not been budgeted for.
5.2. Financial Model – Key Assumptions

CAPEX and OPEX estimates are based on a high level network design to connect 28 Municipal offices with approximately 238.32 km of fibre.

The key costs for the project are the capital expenditure for the backhaul and access network, as well as the operations expenditure. The projected costs exclude costs of handsets for end users.

5.3. Project Term

The project term was assumed at 15 years.

5.4. Unitary Fee

Assumptions on the unitary fee are, that the Municipality will commit its ICT expenditure to the project. Secondly that the Municipality secures additional customers to expand the provision of ICT services within the demarcations of the Municipality.

5.5. Economic Benefits

This project further has economic benefits in the following areas:

- Job creation
- Skills development
- SME development
- The development of e-Government services will also improve the quality of services provided and the primary beneficiaries will include schools and...
communities from applications and e-Government services to be rolled out in education and healthcare facilities.

5.6. Affordability and Value for Money Statement

The key test of value for money is whether:

- The project is affordable
- Transfers appropriate technical, financial, and operational risk to the private party

Based on the outputs of the financial model, the project is affordable on the basis that the municipality is an anchor customer and securing other customers for the long-term sustainability of the project.

6. SECTION 6: MARKET CAPABILITY AND APPETITE

The ability of the private sector to deliver the required project and services was also tested.

- There are similar projects that have been rolled out by the state at municipal and provincial spheres through a competitive bidding process, indicating that there is capacity for the private sector to deliver the service
- The prospective private parties are local, therefore enhancing the development of local industries
- Various BEE players in the ICT market can participate solely or in partnership with other established firms in bidding for this project
The output specification does not preclude some of the players in the market, therefore enhancing the competitiveness and fairness of the procurement phase of the project.

We are therefore confident that this project can be delivered on an external mechanism process that will deliver value for money to the Municipality while being attractive to the private party.

7. LEGAL AND REGULATORY CONSIDERATIONS

There are regulations that govern broadband and other telecommunications services. It is therefore pertinent to consider whether the Municipality has the competency in terms of the law to procure the project.

- Municipal Statutes that Govern PPP
- Municipal PPP Regulations, 2005
- Municipal Systems Act 32 of 2000 ("the MSA")
- Electronic Communications Act 36 of 2005 ("the ECA")
- The ICASA Act 13 of 2000 ("the ICASA Act")
- The National Broadband Policy
- Municipal Council Resolutions

Legislation reviewed does not seem to preclude the municipality from procuring the project through a private entity including a PPP. Further should the municipality proceed to procure the project through a PPP the MFMA and the Regulations to it
authorise the municipality to do so bearing in mind the requirements of BBBEE, BEE and preferential procurement.

8. PROCUREMENT RECOMMENDATION

- The institutional analysis identified that the City does not have the resources nor capacity to manage this project.
- Based on the institutional capacity of the Municipality, as well as the value for money analysis, we recommend that the Municipality procures this project through a PPP process.

9. RECOMMENDATIONS AND REQUIRED APPROVALS

The key approvals required are summarised herein:

i) That the Municipality approves the recommended procurement choice

ii) That the Municipality approves ringfencing its ICT project towards the broadband project

iii) That the Municipality formalises partnerships with various organs of state identified during the feasibility study