

Cross River State Super-Highway Project

(The 260 km integrated, dualized highway from Calabar to Katsina Ala)

Outline Business Case

January 2016

The Ayade Economic Revolution

“Fellow Cross Riverians, I am proud to announce to you today, that my team and I have crystallized our signature projects; the 260 kilometer super highway and Deep Sea Port construction work has since begun. This we shall accomplish because the wheels of progress have begun to turn. We have our hands and eyes focused on our collective aspiration with our legs on the pedals; drawing strength from the vitality of our youth and inspiration from God Almighty...”

-H.E. Senator (Prof.) Ben. Ayade (2015)





INTEGRITY | PASSION | QUALITY
CONTENTS



Map of Cross River State



INTEGRITY | PASSION | QUALITY

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Nigeria is located on the West Coast of Africa along the Gulf of Guinea with a total area of 923,768 km², and the most populated country in Africa with a total human population of 179 million¹, a labour force of 83 million and 55% of the population below poverty line as at 2014². Nigeria shares borders with Benin, Chad and Cameroon and has a coastline of about 853 kilometers. The name Nigeria (Niger Area) was taken from the Niger River running through the country. Nigeria is divided into 36 States and one Federal Capital Territory, and further divided into 774 Local Government Areas. Nigeria has varied ecological zones. The terrain of the country consists of southern lowland, plateau in the central region, mountainous surface in the south-eastern region and plains in the north. The south is defined by its rain-forest climate with rainfall of 60 to 80 inches (1,524 to 2,032 mm) a year. Coastal plains are found in the southwest and southeast. The most southerly point of the forest zone is the mangrove swamp. The north is the Sahel with almost a desert-like climate, where rainfall is less than 20 inches (508 mm) per year. Between the far south and the far north is the Savannah Region with an insignificant tree cover, grasses and flowers located between trees, and rainfall between 20 inches and 60 inches (508mm and 1,524mm) per year. GDP growth in September 2015 is estimated at 2.35% compared to 6.25% recorded in September 2014. Following the rebasing of the economy during 2014, Nigeria overtook South Africa becoming the largest economy in Africa with a size of USD510 billion. The World Economic Forum (2014) ranks Nigeria 19 out of 131 countries with respect to stability of the macroeconomic environment. Global oil production quota and prices have plummeted over the last 12-months causing severe socio-economic shocks to a number of oil dependent countries. Crude oil prices declined from USD94 per barrel in September 2014 to USD46 as at September 2015 (8-year low) prompting hard choices for the mono-product economy. The direct implications are a sharp drop in foreign reserves from USD38 billion to USD 30 billion and a drop in federation accounts allocation (FAAC) by 20% from NGN604 billion to NGN485 billion for the same period. The National Bureau of Statistics (NBS) reported that headline inflation rose 10bps from prior reading to a thirty month high of 9.3% yoy. The uptick in inflation reflects increases in both core and food inflation which respectively rose 20bps and 10bps yoy to 9% and 10.1%. Month on month, the headline reading in August 2015 eased 12bps to 0.6% from prior month largely underpinned by lower food inflation (-16bps to 0.63%) with core inflation largely flat over the period (+5bps). Stock market capitalization fell from NGN13.6 trillion in September 2014 to NGN10.3 trillion in the current year. Rising inflation and unemployment levels within the paradigm of the 2015 budget deficit (supported by NGN880 billion lifeline), the fiscal policy stance of the country became all the more interesting. With the pressure on the country's currency forex rate and manufacturing growth rate within the debate of a possible recession, the need for policy accommodation to support the economy took the centre stage with firmer measures from the apex bank and the economic team requiring policy responses that may imply proper transmission mechanism between monetary & fiscal policy, bank lending and economic growth. In this sense, the recent Treasury Single Account policy implementation of the government might be a blessing in disguise, first with a removal of the brokerage fees and rent-making outlet in FGN securities forcing banks to increase credit engagement with the broader economy and secondly, the pooling of NGN1.2 trillion with the apex bank with a plug on leakages.

¹ www.countrymeters.info

² www.populationmedia.org

Deliberate policy actions by the Buhari administration is the biggest cushion for the economy, suggesting a sustainable outlook. The seven game changing considerations and/or policy actions during the last four months which is expected to rewrite the narrative and jump-start the economy to the path of sustainability and growth are outlined below.

1. ***Integrity and Accountability Backed Leadership:*** This has been one of the missing link in our governance architecture and should hopefully increase the possibility of a level playing field, public trust and a more purposeful public service. We note as a matter of emphasis the shift towards a more responsible and compliant posture to the constitution/rule of law with the commitment to addressing past failures as exemplified with the Ogoniland clean-up directive. The shift towards accountability, if sustained across board should see a renewed relevance for the Code of Conduct Bureau/ICPC which we hope will be enhanced in years to come with a requirement for a tax compliance declaration by political office holders. This should provide the much needed validation of assets and complement the work of the Internal Revenue Service which now can be expected to increase annual federal tax revenues from about N4trillion to N10trillion.
2. ***Rebased GDP Slows Sharply:*** Nigeria recorded a 2.35%, GDP growth for Q2'2015. This is 3.65% lower than the 5-year average thus confirming that Nigeria is officially in an economic slowdown, a cycle before a recession as oil prices tumbled to a eight year low of \$46pb. According to a September 02, 2015 report by *FDC*, Nigeria is grappling with lower oil production with the oil-sector down by 6.79%. Oil is now 9.8% of GDP; manufacturing is down 0.07%, just as the services sector growth declined by 2.39% to 4.67%. Consequently, annual growth estimate for 2015 is now as low as 2% even as it must be said that Q2 2015 growth figures as released by the credible *National Bureau of Statistics* was impacted by the election cycle and consequential stagnation that occurred leading to a shrinking purchasing power. Notwithstanding, the manufacturing sector found consolation in thee reported spike in the national grid in August to 4,396MW just as the price of diesel is now down to N120 from N165 per liter in June 2015. In the short-term, the Nigerian standard of living index - determined by terms of trade, labour productivity, and government policies has seen trade decline by over 50%; labour productivity is low at \$3.16 and declining. This has impacted negatively on the "Misery Index" which increased by 9.5% to 35.7 for the period ended August 2015. It is hoped that the announcement of formation of a cabinet by the administration in October 2015 would reverse the tide and completely recalibrate the country's economic architecture.
3. ***A CBN at crossroads over Monetary Trilemma:*** A trilemma is either a choice among three unfavourable options, one of which must be chosen, or as a choice among three favourable options, of which only two are possible at the same time. A situation where the inflation rate continues to rise month-on-month, the economic growth rate slows down, and unemployment continues to rise steadily (*Q2 unemployed Nigerians increased by 0.7% to 8.2% while underemployed Nigerians increased also by 1.7% to 18.3%*) – would suggest an economy in stagflation. This raises a dilemma for economic, financial and monetary policy, since actions designed to lower inflation may exacerbate unemployment, and vice versa. The CBN is between the hard place and the rock currently. The capital dollar inflow in Q2, according to *CBN* is down to \$2.67bn; 50% down from \$5.8bn in Q2'2014 with external reserves slightly down in August by 0.2% to \$31.4bn. The divergence between the IFEM rate and the BDC rate shrank to N8.37 before slipping again to N20.03 – all this is happening as SME's and FCY e-commerce trades continue to struggle with the CBN policy on FX. According to *Nextonomics* "Stagflation, using the Taylor Rule shows that monetary policy is very tight with CRR @ 31% and MPR @13%, while GDP and job creation has slowed down or disappearing. Inflation (9.2%), foreign exchange (10% gap), liquidity (30%),

external reserves (\$31.4b), & capital importation down by 54% coupled with a slowing GDP requires lowering MPR, LR, & CRR to help provide credit to the private sector but could end up stoking inflation, banking liquidity, and capital flight. The chief headache for the CBN is what it does about depreciating the Naira which experts are agreed will encourage capital inflows but stoke inflation. At the same time, a relaxation of capital controls by the CBN would encourage capital inflows, but make exchange rates become more volatile.” With M2 down to N18.43trn in July, 2.05% lower than in June 2015, as against a CBN growth benchmark of 15.24% for 2015. Year-on-year inflation in July 2015 returned flat at 9.2% .2% due to favorable harvest and an abundance of rainfall which dampened food prices; just as core inflation rose to 8.8% driven by exchange rate restrictions which has led to a decrease in imported goods, reduced economic activity and lower inventory levels by firms – all indicating that August 2015 inflation figures are expected to increase to approx. 9.4% . Debt repayment will become difficult with a slide in oil prices despite the fact that some states have restructured previous debt obligations. How and what the CBN does hereon will have a significant bearing on the economy.

4. ***Implementation of the Treasury Single Account (TSA) policy:*** This policy (*a core reform requirement in the concluding observations of Nigeria’s 2013 and 2014 IMF’s Article IV Consultations*) was officially introduced last year by former President Goodluck Jonathan to block revenue generation leakages in phases, with about 42 MDAs in the first phase but was not fully effected even after a deadline was set for MDAs for February this year; perhaps due to election issues which affected many aspects of governance. Compliance is now taking place without another circular from government. The position has the singular capacity to allow for a proper capturing of government revenues, eliminate or reduce leakages and allow for a proper appraisal of the capital-recurrent mix of the Nigerian state. The impact of this singular policy should be seen in an increased revenue generation by FGN as MDA’s move their several revenue accounts from banks to the Central Bank of Nigeria (CBN), including offshore accounts maintained by them. Other consequential impacts will be the enhanced leverage this provides for the CBN to manage interest rates and announce a significant reduction in its Cash Reserve Ratio (CRR) requirement on private deposits; as well as enhance the fortunes of good and well-managed banks not built around public sector funds who would not suffer immediate liquidity challenges.
5. ***Revamped Security Architecture:*** Dealing with internal and external threats decisively should enhance planning, private sector participation and GDP growth. This cannot be over-emphasized as the risk element which had continually risen is beginning to witness significant decline with the commitment of the regional multi-national joint force and the international community..
6. ***Public Sector Shift towards Reform and Data-backed Administration:*** The decision to address the issues of “ghost workers” hitherto resisted by some MDA’s through the implementation of the Integrated Personnel and Payroll Information System in the public (IPPIS) gives an impetus to the possibility of a more structured, efficient and accountable public service. This shift towards the increasing deployment of data as an enabler in governance got a further boost with the harmonisation of the country’s various data banks hosted by different government agencies such as the Central Bank of Nigeria, the Nigerian Police, the National Population Commission, INEC, Customs, Immigration Service and others. The recalibration of the Oil Sector/NNPC will appear consistent with this new paradigm. This is a move towards a re-institution of the role, place and responsibility of the Nigerian civil service as the foundation for building institutions of governance which will most likely impact the roles, responsibilities and relationships of Ministers and Permanent Secretaries in governance; through a deliberate revert to a tried and tested administrative style that on paper, should reduce political interference and deliver efficiency. How

this eventually shapes up and is executed may yet be discerned. What is however clear is the new emphasis on due process which should trigger favorable multipliers in the planning, budgeting, procurement and financial architecture of governance in Nigeria.

7. ***Global Economic Risks and the Nigerian Economy:*** With oil prices reaching a 8-year low and future oil price path remains uncertain, the risks associated with volatility in financial markets and a possible hike in interest rates from the US coupled with China's slowing economic growth and 2% devaluation (*lower GDP growth in two major economic blocs--Euro-area and Japan*) the implications for Nigerian economy would appear clear-cut.

In the medium term, the macroeconomic outlook for Nigeria is strong and positive thanks to the renewed international confidence in the country and prudent economic reforms carried out that have remained the government's clearest and most impressive achievements particularly, since May 29, 2015. For instance, daily savings from fuel subsidy is reported by New Telegraph (2015, October 19) at NGN1.7 billion.

Cross River State in focus

- One of the States in the South-South Region of Nigeria
- Human population of 3.34 million
- Capital city – Calabar (population of 500,000) with urban cities in Obudu, Ogoja, Ikom and Ugep.
- Visionary and transformational leadership with catalytic signature projects in progress – 260 km super highway, deep sea port, haulage city, garment factory, integrated poultry farm and shea butter processing plant.
- Independent legislature and judiciary
- Functional PPP environment – Law, Policy, Master Plan & Governance (Parliament, State Executive Council, PPP Council & Administrative Secretariat)
- One stop investment shop, seaport and an international airport
- USPs – peaceful, focus on environmental sustainability, tourism & investment destination
- Recent inward investments – GE equipment plant (size : US\$1 billion); Wilmer (global leader in oil production); functional FTZ etc.
- Strong performing (sub national) economy in the country with GDP of NGN1.32trillion (National Planning Commission, 2010)
- Strong tourism assets & footprints – Annual Calabar Festival, Obudu Cattle Ranch, National Park + a number of tour sites.

Project Company	The project company shall be an SPV incorporated in Nigeria for the purpose of carrying out the mandate with shareholding from CRSG, toll systems partner(s), concessionaires and international finance institutions.
Project Description	<p>The project consists of the construction and tolling of a Super Highway (totaling 260 km) with six lanes including such unique features/offering as fiber cable (with WIFI service) through the entire evacuation corridor from Calabar to Obudu and Gakem , street lights; sub highway connecting all LGAs on the corridor, 24-hours ambulance and security patrol, gas stations, rest points and speed control devices. The project shall be executed under a concession period of up to 30 years based on the design, build, operate and transfer model. The construction period is five (4) years with three of the six toll plazas which accounts for 45% of toll revenue expected to be complete and operational after the end of the first 24-months with the remaining three (3) plazas expected to be completed six months and one year respectively thereafter. The total ramp up period has been estimated at six (6) years from start of construction. The project will consist of three phases. Phase I shall be completed in the two (2) years from financial close and will comprise the following works:</p>

- Designs and site possession, compensations, stakeholders’ engagement, engagement of project specialist team, adoption of environmental and social sustainability mitigation measures.
- Construction and installation of toll system equipments with pedestrian walkways, interchanges, footbridges and a central reserve.
- Construction of the coastal portion of the road to take advantage of the dry session in 2015/16 with option for further upgrade. Options for concretized cement roads to be explored with resistant asphalt to support the 30-year design life of particularly the coastal sections of the road..
- Achieve at least 40% completion on all sections of the project including furnishing and maintenance.

Phase II relates to the construction of the next 40% of the project and is projected for completion in a combined period of four (4) years from the financial close date.

The balance of 20% is projected for completion by end of the fifth (5) year.

Total Project Cost The project is estimated to cost about NGN550 billion.

Analysis of project alignment & legal complexity:

State/Country/Regional/Sector Strategic Alignment

The Calabar-Obudu-Gakem corridor toll road project will enhance the country focus by developing the transportation infrastructure and hence improve the lives of Cross Riverians and by extension Nigerians

by easing the appalling traffic situation on the corridor, reduce travel times for motorists thereby saving on petrol cost and reducing pollution levels, improving the land use activities along the Calabar-Obudu-Gakem corridor and creating much needed jobs to boost the local, country and regional economy. The project is closely aligned with Nigeria's transport sector strategy of improving transportation infrastructure on a steady basis in order to stimulate growth.

Legal Framework

The project company has negotiated a federal support agreement (FSA), which is a federal guarantee of credit support to mitigate default risk due to possible termination liabilities from debt and equity holders under the terms of the concession agreement. It also covers any material adverse government actions. Its terms and conditions have been made part of the concession agreement. The FSA is a tripartite agreement between concessionaires, CRSG and the Federal Government of Nigeria (FGN). The FSA incorporates a Federal undertaking signed between CRSG and the FGN authorizing the FGN to deduct 5.0% from the statutory monthly allocation of CRSG to cover termination payments should FGN be served with a request for termination payments due to either the lenders or the equity holders subject to the termination provisions in the concession agreement.

Regulatory Environment

The project is underpinned by the enactment of the Cross River State Infrastructure law (August) 2015 as well as the State PPP law (2010) passed respectively by Cross River State House of Assembly and assented to by the Governor. The law provides the legal and regulatory framework for PPPs in Cross River State. The law establishes Infrastructure Council and the PPP Council which is legally authorised to enter into concession agreements with private sector entities for the development of infrastructure projects within the State. It is on the basis of this law that Cross River State government is entering into the proposed concession agreement(s) with the respective concessionaire. Any revocation of the concession agreement by any future Federal or State government will immediately trigger termination compensation under the terms of the Federal Support agreement which is legally enforceable under Nigerian law.

Project Implementation

Implementation Responsibility

Cross River State Ministry of Works or any board in charge of roads and highways in Cross River State will be the executing Agency for the project in collaboration with Calabar-Obudu-Gakem corridor Concession company. It will be responsible for the management, monitoring and coordination of the project. Cross River State Ministry of Works will oversee the overall project implementation to ensure that the completed works comply with the requirements of the concession agreement.

Institutional Arrangements

Responsibility for managing the technical aspects of the work resides with the CRSG. This would include enabling controllable enabling conditions such as security arrangements for the project implementation. CRSG shall also work with the project team of Engineers and professionals who will work together with the appointed independent Engineer to ensure that the works are carried out to design specifications as agreed in the concession agreement and that the finished works are maintained in a fit and proper state.

Implementation and Supervision

The draft project implementation time table is under revision and shall be available post project ground breaking by President Mohammadu Buhari on Tuesday, October 19, 2015.

ANALYSIS OF OVERALL PROJECT MERITS

Project Strengths:

- Strong demand for additional roads as demonstrated by the feasibility studies report, supported by road users' willingness to pay tolls and realities of the external environment.
- High and increasing population density and traffic volumes with less than comparable growth rate in transport facilities, implying strong project cash flows.
- Strong security package, buttressed by the Federal Support Agreement.
- Federal support agreement which is a very strong mitigating measure against default risk by either concessionaire or CRSG.
- Huge developmental impact with a strong and positive economic value added.
- Tax holiday possibility of 5 years and other tax waivers
- Periodic upward toll adjustment framework (in accordance with the Concession Agreement to boost revenue.
- Strong federal government support for private sector participation in infrastructure development as evidenced the possibility of pioneer status.
- Favorable business environment in the country and the State.
- Strong management style with emphasis on turnkey contracts for key services.
- Strong positive environmental and social impact on the project.
- Project location and connection with the country promotes national unity, trade and cultural exchange.

Project Weaknesses:

- FX risk on non-Naira denominated loan due to possible future Naira/USD depreciation that may affect both the concession term and project profitability.
- Financial projections are based on an un-audited financial model.

The Financing Plan which is a combination of senior debt, mezzanine debt and equity is shown in the table below:

S/n	Nature	Participants	Proportion (%)
1.	Equity	CRSG, EPCM Contractor, Toll Systems Management Co., Institutional Funds (Blackstone, Macquarie etc), Concessionaire, LGAs	36%
2.	Subordinated debt	CRSG	7%
3.	Other funding	Revenue & interests during construction	2%
4.	Senior debt	IFIs including regional devt finance institutions, local banks etc	55%
Total			100%

Uses of Funds

Facility Provider	Amount (NGN' billion)	Percentage %
Capital Expenditure	335	61
Start-up Costs	66	12
Operational costs during construction	61	11
Pre-funding DSRA	22	4
Interest capitalized during construction	66	12
Total	550	100

Key Financial & Economic Indicators

30-year PAT	:	NGN2.7 trillion
ADSCR	:	1.36
IRR	:	143.37%
NPV	:	NGN7.9 trillion
Repayment period	:	23-years

Willingness to Pay

The traffic studies demonstrated that the average willingness to pay (WTP) ranges between 200 and 500 Naira per crossing depending on the type of vehicle. Furthermore, the projected traffic growth rates as used in the financial model was discounted by about 50% while the willingness to pay was also discounted by a similar proportion. This demonstrates that the cash flow projections are very conservative and hence mitigates the possible effect of traffic leakages in the future.

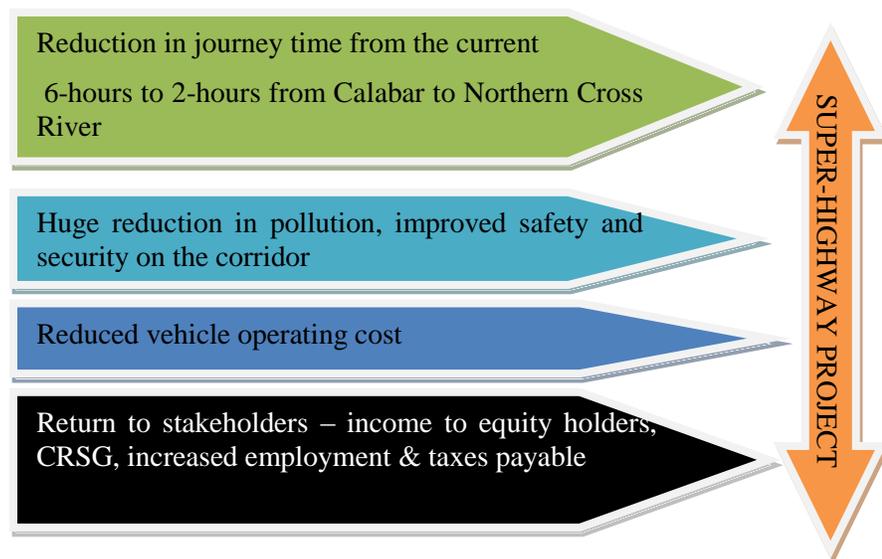
Toll Adjustment framework

The concession agreement provides a framework for periodic toll adjustment to mitigate the effect of inflation and other market risks. This instrument will be used to good effect by the concessionaire in order to stabilize income fluctuations with beneficial consequences for the project cash flows.

Developmental Impact

The results of the economic assessment of the proposed project indicate that the Super highway project on completion will bring huge positive externalities to the economy of Cross River State and by extension the country. The projected economic impact of the project is approximately NGNxxx billion using an economic cost of capital of 12% nominal. The main economic benefits of the project can be measured in terms of the additional consumer surplus generated for road users and stakeholders alike. Further benefits are by way of time savings in journey times, vehicle operating cost, increased security for road users and a huge reduction in air pollution.

The results of the stakeholder analysis show that the residents who live in the State, North Central and North East Nigeria including landlocked countries of Niger, Chad and the Central Africa Republic will benefit the most from the completed toll road and the main benefits are highlighted as follows:



Positive Impacts on the environment

A number of key potential positive impacts were identified during the assessment. These impacts include:

- i. Employment opportunities for non-skilled local residents during construction period.
- ii. Increased cash flow during construction, arising from the patronage of food vendors and other local wares by construction workers;
- iii. Possible financial prosperity for local contractors who may be contracted to provide services such as transportation, supply of sand and other construction materials
- iv. Possible financial inflows for property owners who may let out rooming apartments to construction workers;
- v. Significant reduction in travel time when the project is operational. This will in turn lead to an improvement in air quality, since emissions from vehicles that are normally trapped in traffic snarls will be significantly reduced.

Market Environment & Competition

Current realities on the project demonstrates that notwithstanding the risks faced in the market place particularly the existing (competing) roads that are likely to erode traffic from the toll road in the future, the Calabar-Obudu-Gakem corridor toll road project financial model shows strong positive free cash flows (FCF) going forward. The competition is weak as the alternative routes are in very terrible condition, very poorly maintained and riddled with potholes and insecurity. Consequently, the toll road project will remain viable for the foreseeable future. Furthermore, the concession company based on the proposed agreement has the right to increase tolls under the toll adjustment framework which is part of the concession agreement. This action will increase the toll revenue directly.

Cross River Super Highway Project Matrix

Hierarchy of Objectives	Expected Results	Reach	Performance Indicators	Means of Verification	Assumptions/Risks
<p>Broad Goal:</p> <p>To improve the standards of living of Cross Riverians by supporting the construction and maintenance of transport infrastructure and in the process create jobs and positive externalities for the State economy</p>	<p>Longer-Term Outcomes</p> <p>Better and congestion-free expressway to serve the people of Cross River and to facilitate growth along the Calabar-Obudu-Gakem corridor of Cross River which has strong potential to be the fastest growing corridor outside Lagos in West Africa</p>	<p>Beneficiaries</p> <ol style="list-style-type: none"> 1. People of Cross River and in particular, the residents along the Calabar-Obudu-Gakem corridor. 2. Cross River State government from multipliers ,tax revenue collected & concession fees. 3. Landlocked states in the North east, North Central, South East and the regional economies of Chad, Niger, Central Africa Republic etc. 	<p>Indicators</p> <ol style="list-style-type: none"> 1. Significant reduction in journey time by 4-hours from Calabar to Northern Cross River State. 2. Reduction in: accident rate by 80% on crime rate by 60% and pollution by 55% along the Calabar-Obudu-Gakem corridor 3. Availability of a properly maintained expressway and 100% preventative & routine maintenance compliance 4. 70% reduction in vehicle operating cost. 	<p>Verifiable indicators</p> <ol style="list-style-type: none"> 1. Finished toll road in place and operational. 2. Project Supervision & periodic compliance assessment reports 3. Quarterly financial statements 4. Independent Engineer’s report. 	<p>Assumptions</p> <ol style="list-style-type: none"> 1. Traffic volumes are assumed to grow at a rate of 12% per annum from 2018 given impact of the integrated development strategies of the current administration. 2. At worst, traffic volumes will grow at 7% per annum
<p>Project Objective:</p> <ol style="list-style-type: none"> 1. Build and maintain a safe, secured and hassle free super highway in order to provide access to the State and open up the state economy 2. Contribute to reduce pollution, vehicle operating cost, improve security and safety of motorists along the Calabar-Obudu-Gakem corridor . 	<p>Medium/Short-Term Outcomes</p> <ol style="list-style-type: none"> 1. Construction of 1 260 km toll road and 10 inter-connecting roads to LGAs on the corridor with 24-hour security/ambulance patrol services, speed camera, rest points, accident care centre etc 2. Create much needed consumer surplus for the local economy. 3. Reduction in crime rate caused by existing bad road on the axis, travel times. 4. Creation of consumer surplus for toll payers and operators alike. 5. Creation of employment for local residents. 6. Construction of toll gates. 	<p>Beneficiaries</p> <ol style="list-style-type: none"> 1. Cross River State government through revenue from taxes collected. 2. Local community through reduction in pollution, reduction in journey times, creation of employment and increased security for road users. 3. Opening up the cross river economy and feeder opportunity for the integrated signature projects of the current administration – Deep Sea Port, garment factory, Poultry Farm, Shea butter plant and industrial starch factory. 	<p>Indicators</p> <ol style="list-style-type: none"> 1. Consumer surplus created by the project for its stakeholders is estimated at NGN200 billion 2. Net positive externalities of NGN880 billion created over the life of the project 3. Reduction in air pollution 4. Reduction in journey times 5. Reduction in vehicle operating cost. 	<p>Verifiable indicators</p> <p>Finished toll road in place and operational.</p> <p>Independent project technical supervision reports</p> <p>Independent Engineer’s report.</p> <p>Regular debt service payments.</p> <p>Quarterly financial statements & audits</p> <p>Footbridges, pedestrian walk ways, central reservation and strengthened under bridge along the highway.</p> <p>Mid-term review</p>	<p>Assumptions / Risk</p> <ol style="list-style-type: none"> 3. Achieve financial close before the long-stop effective date of the concession agreement. 4. Traffic volumes are assumed to grow at a rate of 12% (worst case: 7%) per annum from 2018 given impact of the integrated devt strategies of the current administration. 5. Default risk mitigated by the Federal Support Agreement.

The project competitiveness – Porter’s 5-forces model

Table 10: Five Forces Model for Super Highway Project and infrastructure delivery under PPPs in Nigeria (based on the Porters 5-forces model)*		
Elements	Ranking	Comments
Threats of New Entrants	Low s	<p>Entry barriers in infrastructure business in Nigeria are generally high, making it less vulnerable to fierce competition. This confirms huge untapped opportunities for the Super Highway project.</p> <ul style="list-style-type: none"> ▪ Procedures and conditions for granting approvals for start-up in the construction business including PPP procurement process is quite cumbersome. ▪ High seed capital required for initial start – up and maintenance of infrastructure plant & equipment. ▪ The entry barriers to PPPs provide huge opportunity guaranteed high margin for the business.
Suppliers’ Bargaining Power	High	<p>Supplies of infrastructure stock via PPPs in Nigeria are dominated by major players both internationally and locally</p> <ul style="list-style-type: none"> ▪ Demands for wide range of infrastructure PPP items of various types outstrip supply. Suppliers most and generally have firm grip over PPP pricing and concession period in spite of standardization and the increasing response to international competitive bidding.
Buyers Bargaining Power	Low	<p>Service users in PPPs have little or no influence on pricing of quality construction services. Thus, buyers bargaining powers are inconsequential. This is notwithstanding the influence of Chinese in public infrastructure delivery in the country.</p> <ul style="list-style-type: none"> ▪ There is no construction prices protection board on centrality of pricing given differences associated with location, geographic factors and specific country risks perception.
Competitive Rivalry	Medium	<p>Competition in terms of the supply of PPP infrastructure generally falls below demand in Sub Saharan Africa, Nigeria inclusive.</p> <ul style="list-style-type: none"> ▪ Accessing longer maturity finance at competitive pricing for construction business and in particular, PPPs in Nigeria is cumbersome given the longer maturity nature of infrastructure;
Threat of Substitutes	Low	<p>The reality of public sector failure in infrastructure delivery in Nigeria’s history and the increasing PPP experience of value for money and project delivery discipline appear to reduce the threat of substitution to PPPs in infrastructure to near zero.</p>

Project competitiveness – SWOT analysis

Strength <ol style="list-style-type: none"> 1. Grantor (CRSG) is willing and able to provide availability payments 2. Strong appetite by IFIs to participate on project 3. Strong business case as project is linked to the sub-regional integrated infrastructure development plan 4. Grantor’s reputation as an investment friendly & predictable destination 5. Grantor’s functional institutional arrangement and governance 	Weakness Dearth of local skilled manpower
Opportunities <ol style="list-style-type: none"> 1. VfM synergies from the PPP opportunity 2. Competitiveness & cost reduction through transparent procurement & PPPs. 	Threats <ol style="list-style-type: none"> 1. Difficult construction terrain (thick rain forest, coastal nature etc) 2. Local compensation and resettlements costs

The project risk considerations and mitigants are outlined in the below schedule:

No	Risk	Description	Consequence	Mitigation
1.	Design & Construction risk	The risk that the construction of the physical structures is not completed on time, budget or to specification	Cost and delay	Concession company would engage reputable contractors not necessarily the household name. Contracts appropriate structuring and, mitigating features embedded based on competitive and transparent program.
1.1	Cost overruns	Increase in the cost of materials, labour and overheads over and above the budget	cost	Fixed price contract terms with EPCM contractors including ‘skin in the game’ engagement for key stakeholders (toll system company + EPCM).
1.2	Time overruns	Increase in construction costs as a result of delay	Delay resulting in additional cost	Concession company would not make full payment until completion of project by contractors
1.3	Upgrade cost	Increase in the construction cost if the planned facility is not sufficient and additional capacity needs to be added.	Cost of upgrades	Minimize likelihood by ensuring specifications meet desired objective and, careful planning.
2	Operating risks	The risk that required inputs cost more than anticipated; are of inadequate quality or are unavailable	Cost increases and may impact on quality of services	Issues foreseen and adequately covered in the project technical designs.
3.	Performance risks	Risk that services may not be delivered to specification	Service unavailability. Alternate arrangements may need to be made to ensure service delivery with additional cost	Concession company would carry out due diligence on existing plants. Guarantees & assurances by contractors. Penalties for underperformance. Termination of agreements.

4.	Maintenance Risk	Risks that design/construction is inadequate and results in higher than anticipated maintenance costs. Higher maintenance costs generally.	Cost increase	Concession company to enter long term supply agreements with contractors.
5.	Technology risks	Risk that technical input may fail to deliver required output, specifications or technological improvements may render the technology inputs in the project out-of-date	Cost increases	Obligation to suppliers, vendors or contractors in some instances to refresh technology. Penalty deductions for failure to meet specifications.
6.	Exchange Rate risk	The possibility that exchange rate fluctuations will impact on the envisaged costs of imported inputs required for the construction or operations phase of the project.	Cost increase	Forward contracts
7.	Inflation risk	The possibility that actual inflation rate will exceed the projected inflation rate.	Cost increase	To be addressed as the project progresses
8.	Interest rate risk	These are factors affecting the availability and costs of funds	Cost increases	Fixed rate loans etc
9.	Demand, volume or market risk	The possibility that the demand for the various facilities generated by the proposed project may be less than projected	Substantial losses	Conservative assumptions in the project financial model including relevant sensitivity analysis.

TEN REASONS TO INVEST IN CROSS RIVER STATE

Flowing from the external environment review, the following ten reasons to invest in Cross River State are incontrovertible:

S/n	Reasons	justifications
1.	Abundant Resources	Cross River State has enormous resources, most of which are yet to be fully exploited. They include mineral, agricultural and human resources.
2.	Large Market	Cross River State offers a market with a current population in excess of 3 million and huge potential for leapfrog to a 'mega-state' over the next 10 years. This combined with its land area of xxxx remains an uncommon opportunity.
3.	Political Stability	The state is not only politically stable but considered as the safest and most hospital location in the country.
4.	Free Market Economy	The government has created a favorable climate for business and industrial venture within its sub-national status. Administrative and bureaucratic procedures have been greatly streamlined. The government has put in place policies and programmes that guarantee a free market economy, transparency & whistle-blowing, rule of law & respect for contract and fiscal responsibility.
5.	Robust Private Sector	The State has a dynamic private sector, which has assured greater responsibilities under the new economic environment.
6.	Attractive Incentives	A comprehensive package of incentives has been put in place to attract investments to the State.

7.	Fast Growing economy	There is a well developed growth and development strategy including integrated development plan which is fast redefining the economic and social architecture of the State.
9.	Skilled & Low Cost Labour	There is an abundance of skilled labour at an economic cost, resulting in production costs, which are among the lowest in not just the country but the continent.
10.	Infrastructure	Rapid development of physical and industrial infrastructure, in terms of transportation, communications, electricity and water supply is underway.

On a high level, the country and infrastructure outlook portends the following:

- Positive economic outlook suggesting political and socio-economic growth of the country and Cross River state over the next 8 years and beyond;
- Positive forecast / projected economic indicators heralding high probability of political stability and prosperous socio-economic growth of the country for the foreseeable future;
- Project fits into the national economic blue print (vision 20: 2020 7 the Nigeria infrastructure action plan) and the regional connectivity strategy of the African Union, and respective regional institutions for the one Africa;
- Government interventions over the years in the infrastructure space in Nigeria is yet to yield the desired outcome;
- Growth in human population without corresponding growth in infrastructure stock portends danger for the socio-economic development of the country and hence, the justification for the various signature projects of the Ayade administration in Cross River State;
- Clear indications of a ready market for the proposed signature projects (super highway, deep sea port, etc) including the obvious catalytic effects both within and outside the state;
- Marketing and product marketing of the various projects may not be necessary beyond fund mobilization as demand for project far outstrips supply;
- The urgent need for strategic alliances for successful delivery of project in spite of the identified project critical success factors.
- The Calabar-Obudu-Gakem corridor toll road project aims at improving the lives of the people of Cross River by alleviating the traffic situation along the axis thereby, improving on travel times, vehicle operating costs, reducing air pollution and crime rate;
- The results of the appraisal carried out and the detailed assessments made show that the project is both financially and economically viable.
- The cost benefit analysis also shows that overall the economic contribution to the local economy as demonstrated by the high EIRR over and above the economic cost of capital (10%) is huge thereby demonstrating the economic value added by the completed project.
- The stakeholder analysis carried out also shows that the value added by the toll road to the local economy is huge thus justifying the bank's intervention in this project.
- The environmental impact assessments carried out further shows that the project will alleviate the traffic situation in the Calabar-Ogoja-Gakem corridor and improve people's lives by reducing travel times, pollution levels, improve security for road users and save on vehicle operating costs.

Commercial & economic justification for the Integrated Transportation Projects (Superhighway + Bakassi Deep Sea Port)

The economic and commercial justification for the projects is highlighted below:

- ✓ The growing interest by potential users of the port facility i.e. Chad Republic (for a bonded warehouse facility – annexure 5), the Nigerien Government and Mexican Consortium for the Cross River banana project. The Group projects to ship not less than 400 containers of agricultural produce monthly through the Bakassi Port to Europe and beyond;
- ✓ Bakassi Port's natural cost efficient evacuation corridor for shipment of solid mineral, in particular, from the largest iron ore deposit points in Kogi, Taraba and Nasarawa States. The

Bakassi Port provides the shortest and most convenient maritime corridor to these States, for purposes of shipment to Europe, the United States of America and the Far East;

- ✓ Substantial coal deposit in neighboring Benue, Kogi and Enugu States, making the Bakassi project; the outbound Port of choice. This includes substantial deposit of other mineral resources in the listed States. The recent liberalization of the sector by the Federal Government of Nigeria to allow sub nationals explore solid minerals without encumbrances from the central government;
- ✓ The recent major finds of massive hydrocarbon deposit in Obudu, Yala and Otukpo in Cross River and Benue States respectively the highest oil & gas strategic reserve opportunity on the terminals of the Bakassi Deep Sea Port;
- ✓ The recent massive find of highest grade granite for production of granite floor provides a natural opportunity for the Bakassi Deep Sea Port;
- ✓ Bakassi Deep Sea Port's competencies as the most efficient for shipment of agricultural products. Cross River State is the potentially home to the biggest cocoa estate in Nigeria through the entire stretch of Boki, Ikom, Etung and Obudu complexes.
- ✓ uncommon maritime opportunity for commerce & industries from the Bakassi Deep Sea Port with the following captive industrial areas – Onitsha, Aba, Nnewi and Awka;
- ✓ proximity advantage to neighboring countries – Chad basin, Cameroun, Gabon, Equatorial Guinea including opportunities for waterfront economic development in the Gulf of Guinea;
- ✓ the massive investment of Cavenco of Spain and investment in poultry for the export of poultry and poultry products in Cross Rive State provides an uncommon and unique opportunity for the Bakassi Deep Sea Port given the evacuation corridor with unencumbered haulage opportunity;
- ✓ the location of the biggest garment & fabric factory in sub Saharan Africa in Calabar with massive export potential under the African Growth & Opportunity Act (AGOA) program for textile & garment export to Europe and America as supported by outgrower cotton farms is a strong window for the Bakassi Deep Sea Port;
- ✓ The Thai Rice City multi-million dollar program in Cross River State is a natural sweetener for the Bakassi Port viability. The initiative entails production and processing rice for export; and,
- ✓ The Bakassi Port's strategic importance from a national defense point of view, diversifying maritime opportunities in the country.

With the above considerations in mind, Bakassi Deep Sea Port would have sufficient haulage and outbound consignment from the port.

TABLE OF CONTENTS		PAGE
Executive Summary		i
Main Report		5
Chapter I	Macroeconomic Review	6
Chapter II	Nigeria’s Road Infrastructure Landscape Analysis	20
Chapter III	Project Concept & Structure	40
Chapter IV	Project Financing, Competition & Viability	46
Chapter V	Project Risk Management	69
Chapter VI	Legal, Regulatory, Environmental & Social Sustainability Assessment	74



INTEGRITY | PASSION | QUALITY
MAIN REPORT



CHAPTER ONE: Macroeconomic Review

Nigeria is located on the West Coast of Africa along the Gulf of Guinea with a total area of 923,768km². Nigeria shares borders with Benin, Chad and Cameroon and has a coastline of about 853 kilometers. The name Nigeria (Niger Area) was taken from the Niger River running through the country. Nigeria is divided into 36 States and one Federal Capital Territory, and further divided into 774 Local Government Areas. Nigeria has varied ecological zones. The terrain of the country consists of southern lowland, plateau in the central region, mountainous surface in the south-eastern region and plains in the north. The south is defined by its rain-forest climate with rainfall of 60 to 80 inches (1,524 to 2,032 mm) a year. Coastal plains are found in the southwest and southeast. The most southerly point of the forest zone is the mangrove swamp. The north is the Sahel with almost a desert-like climate, where rainfall is less than 20 inches (508 mm) per year. Between the far south and the far north is the Savannah Region with an insignificant tree cover, grasses and flowers located between trees, and rainfall between 20 inches and 60 inches (508mm and 1,524mm) per year. There are three categories of the Savannah - Guinea Forest Savannah – A plain with tall grasses interrupted by trees. This is the most common vegetation across the country; Sudan Savannah - Similar to the Guinea Forest Savannah but with shorter grasses and shorter trees; and, Sahel Savannah – Patches of grass and sand found mostly in the northeast. The country is the most populous country in Africa with a total human population of 179 million, a labour force of 83 million and 55% of the population below poverty line as at 2014³. GDP growth in September 2015 is estimated at 2.35% compared to 6.25% recorded in September 2014. Following the rebasing of the economy during 2014, Nigeria overtook South Africa becoming the largest economy in Africa with a size of USD510 billion. The World Economic Forum (2014) ranks Nigeria 19 out of 131 countries with respect to stability of the macroeconomic environment. Global oil production quota and prices have plummeted over the last 12-months causing severe socio-economic shocks to a number of oil dependent countries. Crude oil prices declined from USD94 per barrel in September 2014 to USD46 as at September 2015 (8-year low) prompting hard choices for the mono-product economy. The direct implications are a sharp drop in foreign reserves from USD38 billion to USD 30 billion and a drop in federation accounts allocation (FAAC) by 20% from NGN604 billion to NGN485 billion for the same period. The National Bureau of Statistics (NBS) reported that headline inflation rose 10bps from prior reading to a thirty month high of 9.3% yoy. The uptick in inflation reflects increases in both core and food inflation which respectively rose 20bps and 10bps yoy to 9% and 10.1%. Month on month, the headline reading in August 2015 eased 12bps to 0.6% from prior month largely underpinned by lower food inflation (-16bps to 0.63%) with core inflation largely flat over the period (+5bps). Stock market capitalization fell from NGN13.6 trillion in September 2014 to NGN10.3 trillion in the current year. Rising inflation and unemployment levels within the paradigm of the 2015 budget deficit (supported by NGN880 billion lifeline), the fiscal policy stance of the country became all the more interesting. With the pressure on the country's currency forex rate and manufacturing growth rate within the debate of a possible recession, the need for policy accommodation to support the economy took the centre stage with firmer measures from the apex bank and the economic team requiring policy responses that may imply proper transmission mechanism between monetary & fiscal policy, bank lending and economic growth. In this sense, the recent Treasury Single Account policy implementation of the government might be a blessing in disguise, first with a removal of the brokerage fees and rent-making outlet in FGN securities forcing banks to increase credit engagement with the broader economy and secondly, the pooling of NGN1.2 trillion with the apex bank with a plug on leakages.

Deliberate policy actions by the Buhari administration is the biggest safeguard and protection for the economy against any short term economic recession, suggesting a sustainable outlook. The seven game changing considerations and/or policy actions during the last four months which is expected to rewrite the narrative and jump-start the economy to the path of sustainability and growth are outlined below.

1. ***Integrity and Accountability Backed Leadership:*** This has been one of the missing link in our governance architecture and should hopefully increase the possibility of a level playing field, public trust and a more purposeful public service. We note as a matter of emphasis the shift towards a more responsible and

³ www.populationmedia.org

compliant posture to the constitution/rule of law with the commitment to addressing past failures as exemplified with the Ogoniland clean-up directive. The shift towards accountability, if sustained across board should see a renewed relevance for the Code of Conduct Bureau/ICPC which we hope will be enhanced in years to come with a requirement for a tax compliance declaration by political office holders. This should provide the much needed validation of assets and complement the work of the Internal Revenue Service which now can be expected to increase annual federal tax revenues from about N4trillion to N10trillion.

2. ***Rebased GDP Slows Sharply:*** Nigeria recorded a 2.35% GDP growth for Q2'2015. This is 3.65% lower than the 5-year average thus confirming that Nigeria is officially in an economic slowdown, a cycle before a recession as oil prices tumbled to a eight year low of \$46pb. According to a September 02, 2015 report by *FDC*, Nigeria is grappling with lower oil production with the oil-sector down by 6.79%. Oil is now 9.8% of GDP; manufacturing is down 0.07%, just as the services sector growth declined by 2.39% to 4.67%. Consequently, annual growth estimate for 2015 is now as low as 2% even as it must be said that Q2 2015 growth figures as released by the credible *National Bureau of Statistics* was impacted by the election cycle and consequential stagnation that occurred leading to a shrinking purchasing power. Notwithstanding, the manufacturing sector found consolation in the reported spike in the national grid in August to 4,396MW just as the price of diesel is now down to N120 from N165 per liter in June 2015. In the short-term, the Nigerian standard of living index - determined by terms of trade, labour productivity, and government policies has seen trade decline by over 50%; labour productivity is low at \$3.16 and declining. This has impacted negatively on the "Misery Index" which increased by 9.5% to 35.7 for the period ended August 2015. It is hoped that the announcement of formation of a cabinet by the administration in October 2015 would reverse the tide and completely recalibrate the country's economic architecture.

3. ***A CBN at crossroads over Monetary Trilemma:*** A trilemma is either a choice among three unfavourable options, one of which must be chosen, or as a choice among three favourable options, of which only two are possible at the same time. A situation where the inflation rate continues to rise month-on-month, the economic growth rate slows down, and unemployment continues to rise steadily (*Q2 unemployed Nigerians increased by 0.7% to 8.2% while underemployed Nigerians increased also by 1.7% to 18.3%*) – would suggest an economy in stagflation. This raises a dilemma for economic, financial and monetary policy, since actions designed to lower inflation may exacerbate unemployment, and vice versa. The CBN is between the hard place and the rock currently. The capital dollar inflow in Q2, according to *CBN* is down to \$2.67bn; 50% down from \$5.8bn in Q2'2014 with external reserves slightly down in August by 0.2% to \$31.4bn. The divergence between the IFEM rate and the BDC rate shrank to N8.37 before slipping again to N20.03 – all this is happening as SME's and FCY e-commerce trades continue to struggle with the CBN policy on FX. According to *Nextonomics* "Stagflation, using the Taylor Rule shows that monetary policy is very tight with CRR @ 31% and MPR @13%, while GDP and job creation has slowed down or disappearing. Inflation (9.2%), foreign exchange (10% gap), liquidity (30%), external reserves (\$31.4b), & capital importation down by 54% coupled with a slowing GDP requires lowering MPR, LR, & CRR to help provide credit to the private sector but could end up stoking inflation, banking liquidity, and capital flight. The chief headache for the CBN is what it does about depreciating the Naira which experts are agreed will encourage capital inflows but stoke inflation. At the same time, a relaxation of capital controls by the CBN would encourage capital inflows, but make exchange rates become more volatile." With M2 down to N18.43trn in July, 2.05% lower than in June 2015, as against a CBN growth benchmark of 15.24% for 2015. Year-on-year inflation in July 2015 returned flat at 9.2% .2% due to favorable harvest and an abundance of rainfall which dampened food prices; just as core inflation rose to 8.8% driven by exchange rate restrictions which has led to a decrease in imported goods, reduced economic activity and lower inventory levels by firms – all indicating that August 2015 inflation figures are expected to increase to approximately 9.4% . Debt repayment will become difficult with a slide in oil prices despite the fact that some states have restructured previous debt obligations. How and what the CBN does hereon will have a significant bearing on the economy.

4. **Implementation of the Treasury Single Account (TSA) policy:** This policy (*a core reform requirement in the concluding observations of Nigeria's 2013 and 2014 IMF's Article IV Consultations*) was officially introduced last year by former President Goodluck Jonathan to block revenue generation leakages in phases, with about 42 MDAs in the first phase but was not fully effected even after a deadline was set for MDAs for February this year; perhaps due to election issues which affected many aspects of governance. Compliance is now taking place without another circular from government. The position has the singular capacity to allow for a proper capturing of government revenues, eliminate or reduce leakages and allow for a proper appraisal of the capital-recurrent mix of the Nigerian state. The impact of this singular policy should be seen in an increased revenue generation by FGN as MDA's move their several revenue accounts from banks to the Central Bank of Nigeria (CBN), including offshore accounts maintained by them. Other consequential impacts will be the enhanced leverage this provides for the CBN to manage interest rates and announce a significant reduction in its Cash Reserve Ratio (CRR) requirement on private deposits; as well as enhance the fortunes of good and well-managed banks not built around public sector funds who would not suffer immediate liquidity challenges.
5. **Revamped Security Architecture:** Dealing with internal and external threats decisively should enhance planning, private sector participation and GDP growth. This cannot be over-emphasized as the risk element which had continually risen is beginning to witness significant decline with the commitment of the regional multi-national joint force and the international community.
6. **Public Sector Shift towards Reform and Data-backed Administration:** The decision to address the issues of "ghost workers" hitherto resisted by some MDA's through the implementation of the Integrated Personnel and Payroll Information System in the public (IPPIS) gives an impetus to the possibility of a more structured, efficient and accountable public service. This shift towards the increasing deployment of data as an enabler in governance got a further boost with the harmonisation of the country's various data banks hosted by different government agencies such as the Central Bank of Nigeria, the Nigerian Police, the National Population Commission, INEC, Customs, Immigration Service and others. The recalibration of the Oil Sector/NNPC will appear consistent with this new paradigm. This is a move towards a re-institution of the role, place and responsibility of the Nigerian civil service as the foundation for building institutions of governance which will most likely impact the roles, responsibilities and relationships of Ministers and Permanent Secretaries in governance; through a deliberate revert to a tried and tested administrative style that on paper, should reduce political interference and deliver efficiency. How this eventually shapes up and is executed may yet be discerned. What is however clear is the new emphasis on due process which should trigger favorable multipliers in the planning, budgeting, procurement and financial architecture of governance in Nigeria.
7. **Global Economic Risks and the Nigerian Economy:** With oil prices reaching a 8-year low and future oil price path remains uncertain, the risks associated with volatility in financial markets and a possible hike in interest rates from the US coupled with China's slowing economic growth and 2% devaluation (*lower GDP growth in two major economic blocs--Euro-area and Japan*) the implications for Nigerian economy would appear clear-cut.

In specific terms, the Buhari administration's response to the economic realities and possible cushion for the economy are further heightened below.

- Aggressive anti-corruption war to discourage or curb corruption with a view to improving the country's perception internationally, provide critical infrastructure and guarantee national prosperity
- Addressing the challenge of Boko Haram insurgency in the North East and kidnapping in southern Nigeria
- Ensuring transparency and national consciousness in the privatization of state owned enterprises; such that no citizen is left behind, deliberately unaccounted for in the pursuit of private sector efficiency

- Trade and currency liberalization, creating ease of transferring funds within and out side the country and easing the process of obtaining certificates of capital importation for foreign direct investments
- Foreign exchange reforms
- Transparent and professional management of the country’s foreign reserves to build a strong base necessary to support and strengthen the Naira.
- Managing the high dependence on imports with policies directed at encouraging and supporting local production.

Structure of Nigerian Economy Before the Oil Boom

Nigeria has a vast area of arable land, diversified ecological zones, abundant water resources and adequate rainfall, all of which are favorable for agriculture. Also Nigeria has a wide array of mineral resources including oil and natural gas, coal, bauxite, gold, tin, iron ore, limestone, lead and zinc. Structurally, the Nigerian economy can be classified into three major sectors: (i) primary sector – agriculture and natural resources; (ii) secondary sector – processing and manufacturing; and (iii) tertiary sector – services sectors. The economy is characterized by structural dualism. The agricultural sector is a mixture of subsistence and modern farming, while the industrial sector comprises modern business enterprises which co-exist with a number of large, medium and small enterprises, including cottage and handcraft industries, operating mostly in the informal sector.

Throughout the 1950s and 1960s, and the early part of the 1970s, agriculture was the core activity in Nigeria followed by manufacturing and mining activities on a very low scale. Agricultural commodities dominated the country’s export trade, exporting agricultural products like groundnuts, cocoa, palm oil, coconut, citrus fruits, maize, millet, cassava, yams and sugar cane, while manufacturing items dominated imports. By the time of independence, in October 1960, agriculture was the mainstay of the Nigerian economy contributing about 70 percent of GDP, employing about 70 percent of the working population, accounting for about 90 percent of foreign exchange earnings, over 70 percent of Federal Government revenue, and over 90 percent of all new investments (Adedipe, 2004, p. 1; Ezirim et al., 2010, p. 58). However, the industrial sector grew rapidly and the contribution of the manufacturing sub-sector to the GDP increased from 3.9 percent in 1960/61 to about 7.5 percent in 1970/71 (Ezirim et al, 2010, p.60). The pattern changed when oil became a commodity of strategic importance to the world economy.

Structure of Nigerian Economy After the Oil Boom in the 1970s

Oil was first discovered in Nigeria in 1953 in Oloibiri in the Niger Delta. Crude oil production began on a modest scale in 1957 (about 230,000 barrels) and its export started in 1958. Production rose rapidly thereafter, and reached over 110 million barrels by the mid-1960s (World Bank. August, 2014, p. 10). After an interruption during the Nigeria civil war, output grew rapidly reaching one million barrels a day (1 mbd) in 1970, 2 mbd in 1973 and 2.26 mbd in 1974. With the quadrupling of oil prices in 1973-74, Nigeria’s resource picture changed fundamentally and the oil and petroleum sector became the mainstay of the Nigerian economy. The sharp increase in oil revenues that accompanied the oil price increases in 1973/74 and again in 1979/80, had a pervasive effect on the Nigerian economy. Government oil revenue almost quintupled from the late 1973 to mid 1974. The Nigerian Government found itself with much more revenue than it had anticipated. The Nigerian leaders found themselves with new resources that could be used to accomplish their economic, political and social objectives.

The revenues were used to finance ambitious public investment programs aimed at translating the rising oil revenues into infrastructure development and improved productive capacity to foster diversified growth and development. The rapid growth in the public sector and the construction boom resulted in high wage and price increases which altered the pattern of relative prices and wages and the underlying structure of the Nigerian economy. The increase in wages and prices increased the demand for non-tradable goods and depressed the demand for non-oil tradable goods like the agricultural goods. Resources were drawn from the tradable sector into the non-tradable sector thus increasing the output in the non-tradable sector and decreasing the output in the tradable sector – i.e. the Dutch Disease. The impact was particularly pronounced in the agricultural sector. By 1980, agriculture's share in the non-oil GDP had fallen to 30 percent of GDP from about 50 percent in the early 1970s (World Bank, 1988, p.3). With the rising oil revenue and the accompanying increase in domestic expenditure particularly from the construction boom, the domestic currency, the naira, appreciated to a level stronger than the US dollar, and resulted in a sharp deterioration in international competitiveness. A system of licenses and quantitative controls were used to protect domestic industries from foreign competition. The high value of the naira encouraged import-oriented consumption which turned Nigeria into a net importer. The dramatic rise in oil income occurred when Nigeria was ranked among the world's poorest countries and had a predominantly agricultural economy with manufacturing accounting for less than 10 percent of GDP (World Bank, 1981, p. iii). With the rising oil revenue and the accompanying increase in domestic expenditure, GDP grew rapidly averaging about 8.3 percent through 1974. The growth was due mainly to the rapid expansion of petroleum products and the recovery of construction and industrial output in response to pent-up local demand following the civil war years. The recovery process was facilitated by excess productive capacity and increased import capacity resulting from expanded petroleum production.

State of the Nigerian Economy After the Collapse of Oil Price in the 1980s

In the early 1980s, the international price of oil fell sharply causing a lot of imbalances in Nigeria. For example, in 1983, the oil export revenue fell to US\$ 10 billion compared to US 26 billion in 1980 (World Bank, 2013, p.3); the external current account deficit reached 6 percent of GDP and the fiscal deficit, 12 percent of GDP (World Bank, 2014, p.3) To finance its domestic deficit, the Government relied on borrowing from the banking system and on money creation; and to finance the foreign deficit, the Government drew down on its reserves. To reduce the country's financial imbalance, Nigeria introduced tight fiscal policy measures. Economic activity contracted leading to high unemployment. However, the Government maintained an artificially high value of its currency in an attempt to contain inflation. Despite that, inflation increased. Local food prices increased, and the reduced availability of foreign exchange caused import prices and domestic costs to increase. Foreign exchange controls and import licenses were used to support the over-valued exchange rate.

In 1985 and early 1986, the world oil markets contracted once again, putting additional pressure on the Nigerian economy. The Nigerian economy was on the verge of crisis. The Government introduced the Structural Adjustment program (SAP) from July 1986 to June 1992, to address the underlying structural problem in the Nigerian economy and new challenges posed by a further collapse of oil revenues. The objective was to help promote economic efficiency and private sector development as the basis for long-term economic growth. The SAP combined exchange rate and trade policy reforms aimed at revitalizing the non-oil economy with stabilization policies designed to restore equilibrium in the balance of payments and stabilize prices. The program included efforts to reduce the size of the public sector and improve the management of public assets. Under the SAP, import licenses were eliminated, marketing boards were dissolved, price controls were lifted, public enterprises were privatized and the banking system deregulated. Under the SAP, Nigeria's GDP grew by about 5 percent per annum between 1986 and 1992 primarily due to the recovery of agriculture and manufacturing (World Bank, 1994, p. ix). Production

switched from imported to local products, particularly in agro-processing and textile manufacturing. Furthermore, following a shift in relative prices in favour of traditional food crops and cash crops, agricultural output grew at a rate of 4 percent (World Bank, 2009, p. ix). Inflation fluctuated under the SAP. In 1986, inflation stood at 16 percent and fell to 7 percent in 1990. By the end of 1992, inflation was approaching 50 percent (World Bank, 2013, p. ix). The accelerated inflation reduced the purchasing power of Nigerians and exacerbated their dissatisfaction with the program. Throughout the SAP era, except in 1990, Nigeria ran a large trade surplus but a current account deficit, reflecting its large payments for interest rate and other services. Nigeria's net transfer was persistently negative averaging about 5 percent of GDP per year (World Bank, 1994, p. x). Nigeria's stock of public and publicly guaranteed long-term external debt increased from US\$ 19.2 billion at end-1985 to US\$ 29.3 billion at end-1992 (World Bank, 1994, p. x). SAP revived Nigeria's economic growth. However, the growth could not compensate for the huge drop in purchasing power. The GDP grew at 5 percent per annum and the population at 3 percent per annum, meaning that per capita income was growing at 2 percent per annum. At that rate it would have taken Nigeria about 30 years to recover its peak living standard obtained in 1981. In real terms, consumption and income were a little higher than they were in the early 1970s before the oil boom. The urban middle class, primarily civil servants and workers in import-substituting industries bore the cost of the adjustment to the downturn in oil markets and the collapse of the foreign exchange earnings. Small scale farmers were the primary beneficiaries of the SAP. The Nigerian economy was generally sluggish under the SAP policy reforms.

Growth of the Nigerian Economy in the Last Decade and the Relevance of Vision 20:2020

Between 1999 and 2009, the Nigerian economy performed remarkably well with an average annual GDP growth of 5.8 percent. The economy grew almost twice as fast as the estimated population growth of 3 percent, implying that a real per capita growth of 2.8 percent (National Planning Commission, Dec. 2009, 9.17). The economic growth was driven by growth in the non-oil sector which averaged about 9.3 percent during the period compared to an average growth of about 2.27 percent in the oil sector. Growth in the non-oil sector was largely the result of growth in the agricultural sector, and the service sector (wholesale and retail trade and communication). While growth in the non-oil sector was steady over the period, growth in the non-oil sector fluctuated widely over the period, stagnating and contracting at some points. The Nigerian economy grew at an average of 7.85 percent in 2010. Despite the robust growth of the Nigerian economy, unemployment rate remains fairly high. According to the latest figures from the National Bureau of Statistics, (2009), national unemployment rate is estimated at 19.7 percent. Unemployment for the 15 to 24 age group is estimated at 41.6 percent (49.9 percent in urban areas and 39.6 percent in the rural areas) in 2009. Furthermore, with about 58 percent of the Nigerian population living below US\$ 1.25 a day, the incidence of poverty in Nigeria is also fairly high. These statistics clearly show that the robust economic growth did not translate into job creation; neither did it lead to an improvement in the well-being of Nigerians at large. Thus, the rapid economic growth further is exacerbating the pervasive income inequality in Nigeria. From the analysis above it becomes imperative that Nigeria needs a holistic transformation strategy to put the country on a path of sustained social and economic progress to improve the living standards of its people. This is the underpinning rationale for the Vision 20:2020.

The Dream Economy Under Vision 20:2020

Based on a comparative analysis of the Nigeria's potential growth rate vis-à-vis the growth rate of the top 40 economies in the world, Nigeria projects a Gross Domestic Product of US\$ 900 billion by 2020 from its current level of US\$ 194 billion, and a per capita income of not less than US\$ 4000 per annum compared to US\$ 920 currently. This implies that the Nigerian economy would have to grow at an

average rate of 13.8 percent annually during the time horizon compared to its growth of 7.85 percent (National Planning Commission, Dec. 2009, p. 8). With this envisioned quantum leap in the economy, the structure of the Nigerian economy would have to be transformed from the predominantly primary product oriented economy (agriculture and crude-oil production) to industrial, manufacturing and services oriented economy. Nigeria aspires to have an economic structure where the share of agriculture in the GDP would be between 3-15 percent (compared to the current share of about 42 percent), the share of industrial activity in the GDP would be between 30-50 percent (compared to the current share of 24 percent), and that for services would be between 45-75 percent (compared to the current share of 34 percent). The strategy for the structural transformation is anchored on three overarching thrusts (National Planning Commission, Dec. 2009, p. 10).

- (i) addressing the major constraints to Nigeria's economic growth and competitiveness.
- (ii) developing the fabric of the envisioned economy by:
- (iii) developing and deepening the capability of Government to translate national strategic intent into actions and results by instituting evidence-based decision making in Nigeria's public policy space.

Domestic Constraints to Growth and Development

There are some domestic constraints that have hindered sustainable growth and development in Nigeria over the years which need to be addressed in order for Nigeria to realize its dream of being among the top 20 economies by the year 2020, i.e. Vision 20:2020. These constraints include: (National Planning Commission, Dec. 2009 pp. 18-19).

Poor and Decaying Infrastructure

Nigeria's infrastructure base remains inadequate to meet the needs of the economy. The transport system comprising road, rail, air, water, is largely under-developed and decaying. The inter-modal system has not been developed making the movement of goods and persons within the country costly and difficult. Although the telecommunication system has improved, lots still need to be done for meeting the Vision 20:2020.

Erratic Power Supply

Inadequate power generation and inefficient transmission and distribution of power characterize Nigerian Power Supply. The installed generation capacity of 6,000 megawatts is grossly inadequate for the needs of a country of over 140 million people.

Weak Coordination between Fiscal and Monetary Policy

The periodic recourse to the Ways and Means Act inhibits coordination between fiscal and monetary policy.

Fiscal Dominance

Fiscal dominance is the major driver of base money and inflation in Nigeria. Public sector borrowings crowd out private sector, forcing banks to become risk averse in their financing of the private sector.

Pervasive Rent Seeking Behaviour by Private and Public Agents, including Corruption

This behavior distorts price signals and induces preference for short-term and speculative investments which do not augur well for the development of the real sector. An environment of corruption and pervasive rent-seeking is not conducive for economic growth and poverty reduction.

Weak Institutions and Regulations

The recent problems in the financial sector point to the need for regulatory and supervisory reforms in the country. Effective and pro-active institutions with the capacity to create the enabling environment for growth, especially, respect for the rule of law, are essential for achieving the Vision 20:2020.

Policy Reversals and Lack of Follow-through

Policy inconsistency and lack of continuity is a big hindrance to growth in Nigeria. Measures to ensure sustainability of policies and their effective implementation are desired to achieve the goals and objectives of the Vision.

Heavy Dependence on the Oil Sector for Government Revenue/Expenditure

The Nigerian Government continues to depend heavily on crude-oil revenue. Crude-oil accounts for over 80% of total revenue. Measures to diversify the economic and resource base are imperative.

Disconnect Between the Financial Sector and Real Sector

Nigeria's financial sector has been financing economic activities that have minimal risks. These include, trading in government debt instruments, trading in foreign exchange, as well as wholesale and retail trading. They have not been able to finance the real sector optimally. In particular, the focus on collateral security instead of cash flow has denied small and medium scale enterprises access to bank credit. Also, the prevalence of high interest rates has restricted access to credit.

Exchange Rate Instability

The Nigerian economy depends heavily on imports. Exchange rate instability is a big hindrance to business planning and growth of the economy. It also contributes to price volatility and inflation.

Insecurity of Lives and Property

Insecurity of lives and property has arisen from ethnic/religious disturbances, kidnapping, and armed robbery. It should be mentioned that economic growth, driven by the private sector, requires a conducive environment characterized by security of lives and property, prevalence of the rule of law, sanctity of contracts and respect for property rights. No meaningful investment and economic development can be sustained in a chaotic situation.

Need for Infrastructure Development

As earlier indicated, a major constraint to economic growth and development in Nigeria and consequently in achieving Vision 20:2020 is the state of the socio-economic infrastructure, including power, transport, telecommunication, information and communication technology (ICT) and water.

Power: The current power generation of less than 2000 Megawatts is about a third of the country's installed generating capacity and about a fifth of the estimated demand (National Planning Commission, Dec. 2009 pp. 78). This is grossly inadequate. The country is therefore faced with an acute problem of supply of electricity which has hindered its development. Power generation facilities are either in poor shape or have inadequate gas supply. Also, the transmission and distribution networks are poorly maintained and inefficiently operated, making it difficult to move power from generation sites to consumption sites. Nigeria would need to generate 35,000 Megawatts of electricity to support the

aspirations of the Vision 20:2020. The overall target for the power sector is to improve power generation from 6000 Megawatts currently to 20,000 Megawatts by 2015 and 35,000 Megawatts by 2020 (National Planning Commission, Dec. 2009 pp. 79).

Road Transport: On the road sub-sector, the major problem is the lack of maintenance at all levels (Federal, State, and Local Governments), and the absence of national planning and road investment system based on economic criteria. Nigeria's road network is poorly maintained and overused as alternative modes of transport are not well developed. The Federal Roads Maintenance Agency (FERMA) and the Highways Department are responsible for oversight on the Federal Roads Network. The Highways Department is charged with the design and construction of new highways and the rehabilitation and reconstruction of badly damaged highway, while FERMA is responsible for maintaining the highways at acceptable levels. Many rural areas with high agricultural potential, abundant natural resources and other rural enterprises, remain cut off due to inadequate or unrealistic transport facilities and services. Developing rural access roads will help improve rural livelihoods and alleviate rural poverty.

Railways: The length of the railway network is about 3,505 kilometers running from North to South with a narrow gauge (1.067 m) and single track (National Planning Commission, Dec. 2009 pp. 80). The current share of the transport tonnage for the railway network is less than 5% compared to over 60% before the 1960s (National Planning Commission, Dec. 2009 pp. 80). The railway network has deteriorated over time. The rolling stock is in very poor condition; for example in 2004, 54.5% of the wagons available were defective and could not be used, and carriages and locomotives were also in poor condition. Locomotive failures resulting in reduced number of unreliable services. In 1999, only 19.6% of the 115 locomotives were functional and only 46% of the 2,744 wagons were in use. The deterioration in the railway network has been due to lack of sufficient budget provision by the Federal Government coupled with poor management of the Nigeria Railways Corporation (NRC). Furthermore, uncoordinated purchase of equipment made interchange of arts impossible.

Inland Waterways: Nigeria has inland navigable waterways of about 3,000 kilometers with an extensive coastline of about 852 kilometers (National Planning Commission, Dec. 2009 pp. 80). With the waterways traversing 20 out of the 36 States, there is a great potential for the movement of goods and passengers from the coast to the interior. Before 1960, the river barges transported between 100,000 to 200,000 tonnes of cargo annually, and in the 1990s, up to 125,000 tonnes of construction materials were carried annually between Warri and Ajaokuta. Currently, only 1% of the total cargo of Nigeria's ports is transported along the Bight of Benin where inland waterways are the only available mode of transportation. This form of transporting bulk freight is less costly and environmentally friendly.

Air Transport: Nigeria has 21 international and domestic airports and 62 private airstrips (National Planning Commission, Dec. 2009 pp. 81). The airports are managed by the Federal Airports Authority of Nigeria (FAAN). Government also has the responsibility for aircraft regulation, air traffic control and navigation aids through the Nigeria Airspace Management Agency (NAMA). Much of the equipment is obsolete. Only three of the airports cover their operating costs.

Water Transport: After the oil boom and the sharp increase in imports, the country's ports at Lagos, Port Harcourt, Warri, and Calabar, were over stretched. The Government carried out a massive investment plan which increased the capacity of the ports by 300% between 1975 and 1980. All together, the ports facilities have a total cargo handling capacity of over 35 million tonnes. The ports mainly handle imports ranging from between 31.6% and 6.7% for general cargo, 53.5% and 44.5% for bulk cargo, and 23.6%

and 22.6% for containerized traffic (National Planning Commission, Dec. 2009 pp. 81). Overall cargo throughput increased from 20 million tonnes in 1998 to 30 million tonnes in 2000. The Government has completed a programme for concessioning the operation of the ports in conjunction with fundamental reforms in structure, institutional arrangements and operational modalities. The Nigeria Ports Authority (NPA) has granted build, operate and transfer (BOT) contracts for port improvements. Six inland container depots have also been constructed as BOT projects (National Planning Commission, Dec. 2009 pp. 81).

Information and Communication Technology: To ensure that Nigeria is not left out in the technological age, there is the need to develop the local capacity to meet the needs of the ICT sector in an industrial based economy and ensure the availability of affordable ICT infrastructure and services. This would help prepare the nation to take advantage of global opportunity leading to enhanced global competition.

An Evaluation of the Vision 20:2020

The Vision 20:2020 is a very well intended and expertly formulated comprehensive strategy to address the economic, social, political, and institutional problems in Nigeria. A Plan or Strategy of this caliber is not new in Nigeria. Nigeria has over the years embarked on various National Development Plans beginning with The First National Development Plan (1962-68); The Second National Development Plan (1970-74); The Third National Development Plan (1975-80); The Fourth National Development Plan (1981-85); The Structural Adjustment Programme (SAP) (1986-89); the Three year Rolling Plan (1990-92); the Vision 2010 (1996); and the National Economic Empowerment Development Strategy (NEEDS), a four year program initiated in 2003 (Ugwu Julius Onwuma, pp 8-11). The Development Plans promised wealth creation, employment generation, poverty alleviation, elimination of corruption, and a general improvement in the living standard of Nigerians.

The Development Plans have failed to achieve the expected objectives. Past Government officials have been less committed to the development policies of their predecessors as a result of which the Nigerian landscape is literally littered with uncompleted projects. Discontinuity of development programs by predecessors is a common phenomenon in the governance or mis-governance in Nigeria, and Nigeria's underdevelopment could be attributed more to the poor implementation of projects and programs than the lack or absence of development vision and programs. The question then is: judging from the poor implementation of Development Plans and the past experience of abandoning good policies and programs of past governments, what is the likelihood of the Vision 20:2020 being realized? On this, four factors lend credence to the realization of the Vision 20:2020. First, the current administration has given every indication that it is committed to the realization of the Vision 20:2020. Three other factors also present a new approach to ensuring the success of the Vision 20:2020. First is the promulgation of a Development planning and Project Continuity Bill that makes the continuation of Development Plans and Projects compulsory. Second is the implementation of the Plan in Three Phases: the First National Implementation Plan (2010-2013); the Second National Implementation Plan (2014-2017); and the Third national Implementation Plan (2017-2020). The different phases of the Plan have specific objectives which would culminate in the realization of the Vision 20:2020. Third is the tracking of the implementation of the Plan to ensure efficiency in project implementation assigned to the National Monitoring and Evaluation Department.

For the realization of Vision 20:2020, Nigeria's Gross Domestic Product would have to increase from its current level of US\$ 194 billion to US\$ 900 billion by the year 2020; and per capital income to increase from the current level of US\$ 1090 to US\$ 4000 by 2020. This would require the Nigerian economy to

grow at an average rate 13.8 percent during the time horizon. With economic growth hovering between 3-8 percent for the past 30 years, a 13.8 percent growth may seem overly ambitious. However, even if economic growth is sustained at its current level of 8 percent, and translated into employment generation, Nigeria might not realize the Vision 20:2020 in totality, but definitely would have accomplished a lot towards improving the socio-economic conditions of the people of Nigeria.

With an overall unemployment rate of about 19.7 percent, youth unemployment rate of about 46 percent, about 54 percent of Nigerians living below US\$ 1.00 a day; Nigeria like most developing economies was unable to meet the millennium development goals as at the target year 2015; the state of infrastructure in Nigeria, particularly power, energy and transport is in total disrepair; and corruption is still a menace in the country; the vision of becoming one of the leading economies in the world in the year 2020 would be an arduous task. However, the problem would have to be tackled, and it should start at some point. The achievement of any minor objective would contribute immensely to the realization of the principal objective.

The Vision 20:2020 has a total investment size of 32 trillion naira (US\$ 206.45 billion) with the Federal Government and State Governments contributing 10 trillion naira (US\$ 64.51 billion) and 9 trillion naira (US\$ 58.06 billion) respectively, and the private sector contributing 13 trillion naira (US\$ 83.87 billion). About US\$10 billion (1.56 trillion naira) is required annually to address the infrastructure deficit alone in the country. Definitely, the amount of investment required to realize the Vision 20:2020 is enormous and the Nigerian authorities have admitted that funding is a major problem for both the Federal and State Government. One may question the rationale for developing such an ambitious plan knowing very well that financing would be a problem. On that issue of financing, the Nigerian authorities have indicated that they would rely on public-private partnership arrangements for projects and programs in the Vision 20:2020, and also embark on reforms to enhance domestic revenue mobilization.

CROSS RIVER STATE IN FOCUS

- ✓ One of the States in the South-South Region of Nigeria
- ✓ Human population of 3.34 million
- ✓ Capital city – Calabar (population of 500,000) with urban cities in Obudu, Ogoja, Ikom and Ugep.
- ✓ Visionary and transformational leadership with catalytic signature projects in progress – 260 km super highway, deep sea port, haulage city, garment factory, integrated poultry farm and shea butter processing plant.
- ✓ Independent legislature and judiciary
- ✓ Functional PPP environment – Law, Policy, Master Plan & Governance (Parliament, State Executive Council, PPP Council & Administrative Secretariat)
- ✓ One stop investment shop, seaport and an international airport
- ✓ USPs – peaceful, focus on environmental sustainability, tourism & investment destination
- ✓ Recent inward investments – GE equipment plant (size : US\$1 billion); Wilmer (global leader in oil production); functional FTZ etc.

- ✓ Strong performing (sub national) economy in the country with GDP of NGN1.32trillion (National Planning Commission, 2010)

Strong tourism assets & footprints – Annual Calabar Festival, Obudu Cattle Ranch, National Park + a number of tour sites.

IMPLICATION OF EVENTS IN THE EXTERNAL SECTOR ON THE NIGERIAN ECONOMY

High likelihood of:

- rapid infrastructural development;
- emergence of the middle income class and reduction in poverty levels;
- 40% – 55% literacy level within the next eight years;
- investment in the country by at least 43% of Nigerians in Diaspora;
- enhanced credit risk profile;
- easier access to funds in the international market;
- improved confidence of Nigerian trading partners in the country’s ability to meet obligations;
- conducive economic, social and political environment for doing business.

TEN REASONS TO INVEST IN CROSS RIVER STATE

Flowing from the external environment review, the following ten reasons to invest in Cross River State are incontrovertible:

S/n	Reasons	Justification
1.	Abundant Resources	Cross River State has enormous resources, most of which are yet to be fully exploited. They include mineral, agricultural and human resources.
2.	Large Market	Cross River State offers a market with a current population in excess of 3 million and huge potential for leapfrog to a ‘mega-state’ over the next 10 years. This combined with its land area of xxxx remains an uncommon opportunity.
3.	Political Stability	The state is not only politically stable but considered as the safest and most hospital location in the country.
4.	Free Market Economy	The government has created a favorable climate for business and industrial venture within its sub-national status. Administrative and bureaucratic procedures have been greatly streamlined. The government has put in place policies and programmes that guarantee a free market economy, transparency & whistle-blowing, rule of law & respect for contract and fiscal responsibility.
5.	Robust Private Sector	The State has a dynamic private sector, which has assured greater responsibilities under the new economic environment.
6.	Attractive Incentives	A comprehensive package of incentives has been put in place to attract investments to the State.

7.	Fast Growing economy	There is a well developed growth and development strategy including integrated development plan which is fast redefining the economic and social architecture of the State.
9.	Skilled & Low Cost Labour	There is an abundance of skilled labour at an economic cost, resulting in production costs, which are among the lowest in not just the country but the continent.
10.	Infrastructure	Rapid development of physical and industrial infrastructure, in terms of transportation, communications, electricity and water supply is underway.



CHAPTER TWO: NIGERIA'S ROAD INFRASTRUCTURE LANDSCAPE ANALYSIS

Introduction

As Nigeria attempts to achieve the aims and objectives of the Vision 20:2020, a key policy thrust is to develop a world class infrastructure network which is efficient, affordable, and reliable. This could be achieved through the rehabilitation of existing economic infrastructure and the addition of new capacity to

meet the existing and future demand in both urban and rural areas. This is the motivation for the NGN260 billion Super Highway Project of the Ayade administration.

1.1 **Infrastructural Supply in Nigeria:**

Infrastructure is defined as part of a structure; material or economic base of a society or an organization. Therefore, infrastructure can be seen as the basic structure that fosters the good performance of cities', states' or countries' essential services. In this sense, for a country to have a good logistics infrastructure system in transportation, power, water, health, education, road, ICT, etc constant investments from both public and private sectors are needed.

Nigeria aspires to be one of the 20 leading economies in the world by the year 2020, with a Gross Domestic Product Growth target of not less than \$900bn and a per capita income of \$4,000 per annum. The deplorable condition of Nigeria's infrastructure requires that the Federal Government must spend N2.25tn (\$15bn) annually to improve it to an acceptable level. The huge gap in infrastructure is easily noticed in critical sectors of the nation's economy such as power, transportation, education, housing, water supply and health. But owing to poor infrastructure, the country is poorly rated in the business environment and the global competitiveness index. The high cost of doing business due to poor infrastructure has impacted negatively on the nation's economy as investors seeking greener pastures have been relocating to neighboring countries even as mortality rate for industries, especially Small and Medium-Scale Enterprises, has been on the increase in the last few years.

According to the First Vision 20:2020, Medium Term Implementation Plan, the dearth of critical infrastructure is a major constraint to achieving Nigeria's desired economic growth and development. The document noted, Poor infrastructure as one of the major constraints to economic development through its debilitating impact on productivity, investment in-flows, competitiveness, cost of doing business and people's confidence in the government and the economy. Achieving the GDP target by 2013 is directly linked to the ability to overcome the infrastructure challenge and lay a solid foundation for growth and sustainability in priority sectors of the Nigerian economy.

Government's attempts at providing critical infrastructure to drive industrialization, economic growth and development have been stymied by massive corruption and subversion of due process in the award and execution of projects. According to the report of the **Presidential Projects Assessment Committee on Federal Government Projects**, 11,886 infrastructural projects embarked upon by the government have yet to be completed due to subversion of due process by ministries, departments and agencies of government, resulting in avoidable loss of billions of naira. Specifically, the report stated: 'There are 11, 886 ongoing capital projects being executed by the Federal Government. The estimated cost of these projects is N7.78tn. Out of this amount; N2.69tn had been paid to contractors. However, there is evidence of large scale and widespread institutional mediocrity, deficiency of vision and lack of direction in the project management. This has resulted in avoidable losses of billions of naira. 'In addition, corruption in the handling of projects by many self-seeking and inept public officers and contractors has led to massive inflation of costs and undermined the legitimacy of their monitoring and supervision responsibilities. There was subversion of the normal project cycle. The committee established that almost all ongoing projects have not been subjected to, and taken through the normal project conceptualization, planning, design and procurement, contract execution and maintenance stages.' The report further noted, 'There were numerous cases where the process of selecting contractors for a bid appeared to have subverted the procurement process. There are also cases of revocation of 'No Objection Certificates' issued by the same body without any clear justification. 'There were also cases of disqualification of duly pre-qualified contractors in questionable circumstances, including the mutilation and substitution of bid documents, thereby rendering such bids non-responsive. In many situations, contractors were allowed to draft agreements, which, not unexpectedly, they did in their favour against the Federal Government.'

Hence Infrastructure as defined above can be understood as the basic structure directly responsible for the efficient functioning of the transport, education, healthcare, sanitary, security, communication, energy systems and others that support a country's economic development. Thus, the fundamental factors to

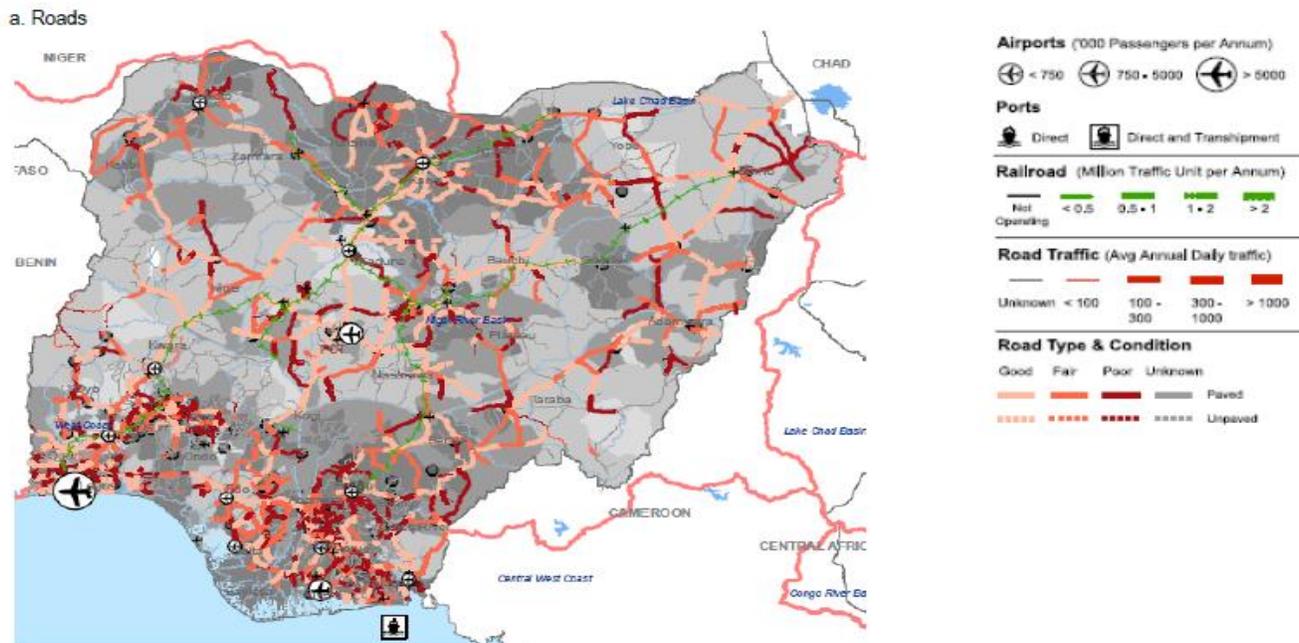
competitiveness are established by economic performance, government, business and infrastructure efficiency.

Infrastructure Demand as Against Inadequate Supply

As observed, a major constraint to economic growth and development in Nigeria including sub-nationals in achieving Vision 20:2020 is the state of the socio-economic infrastructure. This outline business case provides justification for the Cross River Super Highway Project, a vision of the administration of His Excellency, Professor Ben Ayade, The Governor of Cross River State, hence, the focus on road infrastructure below.

Road Transport: The major challenge with the road sector is the near absence of maintenance culture is the lack of maintenance at all levels (Federal, State, and Local Governments), and the absence of national planning and road investment system based on economic criteria. Nigeria’s road network is poorly maintained and overused as alternative modes of transport are not well developed. The Federal Roads Maintenance Agency (FERMA) and the Highways Department are responsible for oversight on the Federal Roads Network. The Highways Department is charged with the design and construction of new highways and the rehabilitation and reconstruction of badly damaged highway, while FERMA is responsible for maintaining the highways at acceptable levels. Many rural areas with high agricultural potential, abundant natural resources and other rural enterprises remain cut off due to inadequate or unrealistic transport facilities and services. Developing rural access roads will help improve rural livelihoods and alleviate rural poverty. Road transport contributes about three percent to the GDP and represents more than 90 percent of the transport sector’s total contribution. on Nigeria roads include agricultural product which are transported from farm areas to market centre, industrial products transported from manufacturing centre to consumption areas, and imports and exports which are transported on interstate highways between ports and consumption/production centers. Since nearly four decades, the Federal Government plans to set up a National Roads Authority to be adequately funded by a Roads Fund. Detailed draft road sector reform bills were presented to the public in 2008. If the two ideas had been translated into reality, there probably would be less bad roads today.

Nigeria Infrastructure Road Network Coverage



Road Sector History and Overview

The national road network grew from its total length of 6,500 km in 1960 (independence) to 10,000 km in 1970. For the Third National Development Plan Period (1975-80), the Federal Military Government took over 17,000

km of roads from the 12 states at the time, bringing the network to 28,000 km considered to be of strategic importance for social integration, economic development and defense access. It was realized long ago that there were enormous challenges for funding and administration of the vast network of federal roads. Thus, in 1971, the Federal Military Government led by Gen. Yakubu Gowon (and having Lt. Gen. Olusegun Obasanjo as Minister of Works) set up a Special Commission to study the administration of roads in five selected countries. The Commission submitted a report in 1972 recommending the setting up of a Federal Highways Authority. There was serious debate as to whether the proposed Authority would be in the Ministry of Transport or Ministry of Works at the time. The Committee recommended the Ministry of Transport. The Federal Executive Council deliberated on the recommendation but decided in 1973 that the Federal Government could “adequately cope with the funding and administration of the Federal Highway network of 11,000 km” at the time. However, when the network increased to 29,000km in 1974, there was need to re-visit that decision. Since then, there have been many attempts to set up the Federal Highways Authority. In 1981, a Bill was presented to the National Assembly for setting up the Federal Highway Authority. The Draft Bill was still being considered at the Committee stage when there was a change to military rule in 1984. Many Non-Governmental Organizations, like the Nigerian Road Federation, the Nigeria Society of Engineers and the Federation of Building and Civil Engineering Contractors of Nigeria, continued to call on the Federal Government to set up a Federal Highways Authority. In 1988, military President, Gen. Ibrahim Babangida was keen to establish the Authority before the transition to democratic rule took priority in his administration. The Federal Government took bold steps to develop the interstate network to international standards. The ambitious construction programme involved 239 highway projects, consisting of 13,000km of new construction, 5,000km of asphaltic concrete overlay, and six major dual carriageway bridges with a combined length of 8,053 metres over five rivers (Niger, Benue, Cross and Katsina Ala). It also included completion of the design of the 1,100km of original federal highways, and the development of one-third of the 17,000km (taken from the states) to Federal standards. The road development programmes was financed exclusively from extraction from government and foreign loans from international development agencies, such as the World Bank and the African Development Bank. It was the golden age of road construction in Nigeria. However, by 1980, with the downturn in the global economy and inflation, many of the road projects could not be completed due to lack of funds. In 1990, there existed about 108,000 km of roads, of which 30,000 kilometers were paved, 25,000 kilometers gravel; and the rest was unimproved earth roads. Most state capitals and large towns were accessible by paved road. The 2003 road network of roads, estimated at 193,200 km, was shared among the three tiers of government as shown below:

Structure of road ownership and length of network (km)

	Federal Roads	State Roads	LG Roads	Total	%
Paved main roads	26,500	10,400		36,900	19%
Unpaved main roads	5,600	20,100		25,700	13%
Urban roads			21,900	21,900	11%
Main rural roads			72,800	72,800	38%
Village access roads			35,900	35,900	19%
TOTAL	32,100	30,500	130,600	193,200	100%
%	17%	16%	68%	100%	

Source: Federal Ministry of Works and Housing / Central Bank on Nigeria (2003)

Most of Nigeria's road infrastructure was built during the oil boom of the 1970s without any systematic maintenance plan. With proper maintenance most roads will outlast their design lifetime by generations. But without routine maintenance even the best built roads will fail once their design life of 25 to 30 years has elapsed. In 2003 the road replacement value was estimated at US\$ 25 billion.

In 1982 the National Council of Works approved route identification symbols for Federal, State and Local Council / Government roads. With private roads and an ever-expanding network in towns, the total length of all roads in Nigeria is put at almost 200,000km. This extensive length of roads poses significant challenges for funding, maintenance and management. By 1995, most of the roads which were constructed in the 1970s had reached the end of their design lifetime and had failed. The rehabilitation of failed roads is extremely expensive and with no maintenance plan a repaired road will fall back into the failed state over time. As at 2007, 65% of Federal roads in Nigeria had either failed or were in very poor condition.

Condition / State of Federal Roads Infrastructure

Road condition	Previous	Target
----------------	----------	--------

	2003	2007	2012	2015
FAILED	50%	35%	21%	9%
POOR	35%	30%	9%	3%
GOOD	10%	20%	12%	6%
VERY GOOD	5%	15%	60%	82%

Source: FERMA / UBA (2011)

In 1990, civilian president, Chief Olusegun Obasanjo was determined to set up the Roads Authority. However, the government extracted an aspect of the draft decree and established the Federal Roads Maintenance Agency (FERMA), as rehabilitation was to have been the first priority of the proposed Federal Highways Authority. At the outset, funding of FERMA's activities was a challenge, and for this, an aspect of the proposed road fund was pursued, i.e. the road user contribution of a percentage of the price paid for premium motor spirit and diesel. Much effort has gone into trying to effect the road user contribution from fuel, for the FERMA. In anticipation of this, in October 2003, the government noted that "tolls on federal roads could be done away with, if fuel tax was instituted." However, the National Assembly ruled that its prior approval was required before the commencement of collection of funds from the pump piece of fuel. Yet, in all recommendations for the funding of roads (from 1973 to 2008), road user contributions had always consisted of a percentage of the price of fuel, tolls, concessions on federal roads and other sources. In January 2004, the Federal Government dismantled tolls on federal roads. Establishing the road fund will require the consideration of all existing laws on federal highways. These are the Federal Highways Act 1971, the Federal Road Safety Commission Act of 1988 and the FERMA Act of 2000. This approach is similar to Ghana's experience where various agencies for roads were set up before bringing them together in 1974 as the Ghana Highways Authority. In recognition of the increasing funding gap, the government set up the the National Road Fund and the Federal Roads Authority each with its own board. The Federal Road Safety Commission (FRSC) will be represented on the board of the Federal Roads Authority, along with other stakeholders from government departments and the private sector. The 36 states and the 774 local Council areas would be required to set up an equivalent Agency at their tier of government. Ogun State had already passed a law in 2005 for her State Roads Board whose template has been requested by some of the other states. The inauguration of the Road Fund Board (in the Ministry of Finance) and the take-off of Federal Roads Authority was scheduled for May 2009. The stakeholders also discussed modalities for expediting the passage of the bill through the Executive and Legislative arms of government. In the meantime, Nigeria had embraced the idea of concessioning infrastructure including roads. The first Federal road concession, the Lagos-Ibadan Expressway, was awarded to an indigenous private company in April 2009. However, major road widening and upgrading works have still not commenced. The experience is likely to serve as a reference for future concessions in Nigeria and other countries of Africa. The Calabar-Obudu-Gakem corridor-EpeToll Road Concession by the Cross RiverState government and co-financed by the AfDB's Private Sector Department is also a common reference with regards to the origination and portfolio management issues of toll roads in Nigeria. The establishment of a Federal Roads Authority in Nigeria, because of the confidence arising from the fact that such a corporate entity can raise funds from financial institutions based on an assured regular flow from road user sources. In March 2011, the Infrastructure Concession Regulatory Commission (ICRC), with participation of key stakeholders such as FMW, FERMA, State PPP Units, the African Development Bank (AfDB), World Bank, Nigeria Infrastructure Action Facility (NIAF), private concessionaires etc. conducted a Stakeholders Meeting on the Development of a National Tolling Policy.

Headline issues around the road transport sector in Africa

The transport sector faces an array of challenges that need to be addressed if the objectives of Nigeria's Vision 20:2020 are to be achieved. The most significant ones are listed below:

- Transport services on the African continent in general and in Nigeria in particular cost more than twice those in other developing regions primarily due to inefficient operating practices related to internal transport policies, fiduciary abuses, lack of regional transport policy harmonization and deferred maintenance of transport infrastructure.
- Most transport fleets are old and inefficient with long waiting time reducing profitability and resulting in high transport costs. Trucks mileage is typically only about 30,000 to 50,000 km per year compared to 300,000 km in Europe; rail-rolling stock availability ranges from 5 to 10% compared to 90% in Europe;

- The transport network exhibits poor connectivity (e.g., internal air connectivity and port connectivity) that contributes to high costs, long transit times and unreliable services;
- Intermodal transport services are very limited compared to other regions due local and regional transport policies that restrict the use of containers and major operational problems for railways, which affect both freight and passenger intermodal transfers;
- Trade flows between countries are severely restricted by formal and informal barriers at border posts, lengthy and high cost transit through neighboring countries and port capacity/cargo handling/customs constraints;
- An effective strategic framework for transport system improvement still has to be adopted (although existing already for some sub-sectors such as ports) including harmonization of procedures and regulations.

The transport sector is one of the key elements of the country's needs and contributed about 2.4 % to real GDP in 2004, with road transport alone accounting for nearly 86 % of the transport sector output. In 2005, Nigeria's transport system consisted of some 195,000 km of roads of which about 60,000 km are paved, 3,775 km of railways, 4 international and 78 domestic airports as well as 13 major sea and river ports. Roads are the country's dominant mode of transport carrying more than 90% of cargo and passenger traffic. Over the 2004-2007 period, the transport sector played a key role in Nigeria. It contributed between 0.8% and 3.2% to the GDP. Nigeria has the largest road network in West Africa and the second largest south of the Sahara. In 2007 Nigeria had a total road network of about 195,000 km. This network constitutes a combination of Federal, State and Local Government roads. The Federal trunk roads are the principle vectors of the system and have a total length of 32,100 km (16%) of which the majority is paved. State roads account for 30,900 km (16%) while the Local Government road system comprises approximately 132,000 km (68%). As provided in the Constitution of Nigeria, the three levels of Government have independent responsibilities for the planning, construction, financing and maintenance of their respective road networks. The Federal road network carries about 70% of freight in the country. Road transport is the most commonly used mode of transportation in Nigeria and its contribution to the Gross Domestic Product (GDP) is estimated at 3%. The road network density of 0.21 km per sq.km is more than that of the West and Central African average (0.06 km per sq. km.). About 30 percent of the total road network is paved. It is estimated that the share of paved Federal roads is 83%, State roads 49% and only 10% for the Local Government roads.

In 2005, about 60% of the Federal roads were asphaltic concrete (AC) paved, 23% surface dressed (DBST) and 17% unpaved. In 2008, the total length of the classified Federal Highways network was estimated at 36,183 km.

Table 4: LENGTH OF FEDERAL ROADS (CLASSIFIED) -2008 (km)

State	Length of Trunk Routes	Length of Secondary Routes	Length of Branch Routes	Length of Border Spur	Total Length
TOTAL (km)	17,380	18,379	344	74	36,183
Percent	48%	51%	1%	0%	100%

The length of Nigeria's Federal Road Network is given in Table 3 below (2005 data):

State	Kilometers			Total Length	Percent
	Paved		Unpaved		
	Asphaltic Concrete	Surface Dressed	Gravel Earth		
Abia	373	226	8	607	1.8%
Adamawa	691	214	411	1316	3.8%
Akwa Ibom	348.9	213	40	601.9	1.8%
Anambra	400.4	122	32	554.4	1.6%
Bauchi	814	240	226	1280	3.7%
Bayelsa	67	-	100.8	167.8	0.5%
Benue	1237	87	287	1611	4.7%
Borno	1040	379	788	2207	6.4%
Cross River	807.35	163.8	104.04	1075.19	3.1%
Delta	657.5	37	38	732.5	2.1%
Ebonyi	176	222.8	104	502.8	1.5%
Edo	781.5	135	-	916.5	2.7%
Ekiti	114	253.2	-	367.2	1.1%
Enugu	533	300	25	858	2.5%
Gombe	437	18	44	499	1.5%
Imo	473	126.5	-	599.5	1.7%
Jigawa	591	80	80	751	2.2%
Kaduna	1530	150	8	1688	4.9%
Kano	743.5	165	-	908.5	2.6%
Katsina	495	292	55	842	2.5%
Kebbi	248.4	273	341	862.4	2.5%
Kogi	500	401	232	1133	3.3%
Kwara	421	236	387	1044	3.0%
Lagos	675.86	-	-	675.86	2.0%
Nassarawa	522	123	242	887	2.6%
Niger	969.2	807	401	2177.2	6.3%
Ogun	1001.8	70	-	1071.8	3.1%
Ondo	577.4	147	-	724.4	2.1%
Osun	438.9	185	4.6	628.5	1.8%
Oyo	440.3	409.2	211	1060.5	3.1%
Plateau	401.5	264	313.5	979	2.9%
Rivers	417.8	157	82.2	657	1.9%
Sokoto	153	346	83	582	1.7%
Taraba	566	357	701	1624	4.7%
Yobe	378	347.4	152	877.4	2.6%
Zamfara	273	454	308	1035	3.0%
FCT, Abuja	158	-	78.6	236.6	0.7%
TOTAL:	20452.31	8000.9	5887.74	34340.95	
Percent	60%	23%	17%	100%	

Source: Federal Ministry of Works

Federal Priority Road Network

In 2010/4, the Federal Government identified the following road priority projects for financing under the 2010 Federal Ministry of Works total capital budget allocation of over NGN 221.3 billion (US\$ 1.5 billion) without consideration to the Gakem - Obudu – Calabar stretch; thus justification for the project:

Nationwide Works:

- Presidential Initiative Projects (PIPS) of over NGN 55 billion across the country
- Zonal Intervention Projects (ZIPS) of over NGN 50 billion across the country
- Federal Roads Authority Take-off Funding
- Engineering design of new roads
- Rehabilitation of bridges
- Highways rehabilitation and construction
- Rehabilitation road works in all 6 geopolitical zones
- Rehabilitation and new projects under procurement across the country.

Zonal Intervention Road Projects across all 6 Geopolitical Zones are as follows:

North-Central

- Reconstruction of Vom-Manchoki Road
- Construction of Bida-Sacci-Nupeko Road
- Construction of Nasarawa-Toto-Abaji Road
- Construction of Langtang-Lalin-Tunku-Shendam Road

North-East

- Potiskum-Udobo-Gamawa-Gamayin Road
- Rehabilitation of Numan-Guyuk-Biu Road
- Rehabilitation of Bauchi-Kari Road
- Completion of the Construction of Mararaba-Bali Road

North-West

- Rehabilitation of Kaura Namoda-Shinkafi-Sabon Birni Road
- Rehabilitation of Funtua-Gusau-Sokoto Road II
- Rehabilitation of Funtua-Gusau-Sokoto Road III
- Rehabilitation of Funtua-Yashi-Dayi-Kano

South-East

- Dualisation of Onitsha-Owerri Road
- Rehabilitation of Ekwulobia-Okoko-Ibinta Road
- Rehabilitation of Adoru-Nsukka-Adani Road
- Oji River-Achi-Awgu Road

South-West

- Rehabilitation of Oshogbo-Ilesha-Elesun-Odebude-Iragbiji Road
- Construction of Sango Otta-Winners Chapel Road
- Dualisation of Ibadan-Ilorin Road
- Rehabilitation and Construction Ijebu-Igbo-Araromi-Ife Road

South-South

- Construction of Itigidi Bridge along Abba Omega-Edibanugep Bridge
- Rehabilitation and Asphalt Overlay of Benin-Shagamu Expressway
- Rehabilitation of Obudu-Obudu Cattle Ranch Road
- Itu - River Bridge

Secondary Road Network: State Feeder Roads

Nigeria's rural transport infrastructure has been identified as a crucial component for the economic development of the country by linking the rural communities to the urban areas. Most of the rural roads are in poor condition, and impose significant cost to the national economy especially to the agricultural activities due to increased vehicle operating costs and travel times. As a result of this, the Federal Government of Nigeria (FGN) has given priority to the provision of adequate transport facilities to meet the needs of the rural population. Realizing the importance of the rural transport, in early 2004 the Government launched a new policy blueprint, viz. the "National Economic Empowerment and Development Strategy" (NEEDS). The development strategy aims at interventions in the rural infrastructure, health, housing and employment sectors. Its two key objectives are to (i) improve the transport infrastructure and (ii) promote agricultural development. In the road sub-sector, its focus is on the construction and maintenance of road infrastructure to improve accessibility and to facilitate movement of agricultural commodities. As a follow up of the NEEDS, the "State Economic Empowerment and Development Strategy" (SEEDS) was developed at the States' levels. Furthermore, through the Rural Travel and Transport Programme (RTTP), a National Policy on Rural Travel and Transport (NPRTT) was prepared by the Federal Government. The Federal Ministry of Agriculture and Water Resources (FMAWR) is responsible for the overall coordination of the RTTP in the country through the Federal Project Management Unit (FPMU) of the Federal

Department of Rural Development (FDRD). The Rural Access and Mobility Projects (RAMP) on-going in several Nigerian States (such as Cross River and Kaduna) is to implement this policy that is aimed at improving rural access and mobility.

The prioritization of States for development interventions was based on commitment to reforms, good performance in policy, budgetary and fiscal management, service delivery, communication, transparency and agricultural potential. Following joint preparation missions in 2005 and 2006, the AfDB selected Cross River State while the World Bank had chosen Kaduna State for the RAMP pilot phase. After performance results are assessed in these two states, similar RAMP projects would be implemented in other states as well. In February 2007, a joint mission of the World Bank and the African Development Bank visited Nigeria. The Bank appraised the components of the RAMP in Cross River State, while the World Bank simultaneously pre-appraised in Kaduna state. Cross River State (CRS), for example, has a total road network of about 6,100 km, of which 74% are unpaved and most of these are in poor condition. More than 80% of the CRS road network is managed by the States and Local Governments and the remaining 20% by the Federal Government. Insufficient funds for maintenance and lack of axle load control measures are the main reasons for the serious deterioration of the road network. This in turn led to increased expenditure requirements for maintenance and rehabilitation.

Vehicle fleet

Transport services in Nigeria are provided by an estimated fleet of some 10 million vehicles. The number of vehicles increased at an average annual rate of 17%, from 1.3 million in 2000 to 2.8 million in 2005. In 2007, the vehicle fleet was estimated at about 7.6 million, with about 60% four wheeled motor vehicles, about 40% motorcycles and less than 1% trucks. Assuming an average annual growth rate of about 7% (the average GDP growth rate over the past years), the 2011 vehicle fleet should be close to 10 million. More precise figures are not available as motor vehicle registration is carried out by States. Unfortunately not all States report their vehicle registration statistics to the National Bureau of Statistics that is therefore unable to publish comprehensive data for the Federation. The level of motorization following the emergence of the middle class during 2003 and 2013 has increased from 65 vehicles per 1,000 inhabitants as at 2000 to about 106 per 1,000 inhabitants on the average. Motorcycles play an increasing role in mobility and are predominant in rural areas. They constitute 40 percent of the vehicle fleet and provide low-cost transport services for both passengers and goods. There is high preponderance of over aged vehicles resulting in high vehicle operating costs and excessive urban pollution level. The tax regime is still prohibitive for private vehicle ownership in Nigeria encouraging many to buy old vehicles. The Nigerian market for cars and trucks has grown significantly in the past 20 years, averaging an estimated 10% annually. In the car category, Japanese brands hold a major share reaching up to 60% while American brands account for less than 5%. However, the United States generally controls the used car market with up to 60% of all used car imports. Used truck imports are also a growing phenomenon with the United States significantly leading. Used cars entering Nigeria must not be more than 5 years old except for trucks and buses which have no age restrictions. The import tariff for automobiles generally is 30%. Nigeria is the largest market for used cars, trucks and spare parts in sub Saharan Africa. Given the still low average per capita GDP, new cars are beyond the reach of a vast majority of the population. Low household incomes have thus given rise to the demand for used automobiles. Imported used cars and used spare parts popularly known as “*Tokunbo*”, have recorded significant sales since the 1980s. In 2009, for example, *Tokunbo* cars accounted for about 80% of all used car import. Economic improvements, which Nigeria has recorded since it returned to democracy in 1999, have slightly raised the purchasing power of especially the middle class so that they can now afford new vehicles.

Traffic

About 90% of the total transportation volume of goods and passengers is handled by the road network. Large traffic volumes originate from the ports of Cross River and Port Harcourt. The Master Plan for Integrated Transportation Infrastructure assumes that by 2020 traffic volumes will be twice as high as in 2000. The average annual growth rate of passenger transport is between 1.6% and 2.7%. Little information is available for traffic loads on State level rural feeder roads. It is generally assumed that current traffic is less than 50 vehicles per day (vpd) for most of the network that would fall into the ORN 31 T1 lowest traffic class.

Road Transport Sector Institutions

Four Federal Ministries and one Commission are currently involved in the planning and implementation of transport sector projects at federal, state and local government level:

1. National Planning Commission (NPC): all sub-sectors

2. Federal Ministry of Works (FMW): Federal road transport sub-sectors
3. Federal Capital Territory Administration (FCTA): urban and rural roads sub-sectors within FCT
4. Ministry for Niger Delta Affairs (MNDA): federal and state roads sub-sectors in the Niger Delta region
5. Federal Ministry of Agriculture and Rural Development (FMARD): rural transport sub-sector – State feeder roads (through its Rural Access & Mobility Project Federal Project Management Unit – RAMP FPMU) and NPAFS - Local Government feeder roads

Nigeria's National Planning Commission (NPC) has primary ownership of the core goals and objectives of the NEEDS at federal level that comprises setting global development targets. At the State level, the State Economic Empowerment and Development Strategy (SEEDS) have been developed by the State Planning Commissions to complement NEEDS. Certain States such as Cross River State SEEDS has set specific targets for road sector development. The FMWHUD's responsibilities include the planning and coordination of the classified Federal Road Network, while the State Ministry of Works (SMW) are responsible for the State Road Networks and the Local Government Councils for the Local Road Networks. Until 2006, the Federal Ministry of Works (FMW) was responsible for administering the Federal roads in the country, while the Federal Ministry of Agriculture and Rural Development (FMARD) were in charge of rural feeder roads. With the reforms in the Road Sector and with the 2006 merger of the Federal Ministries of Transport and Works into the Federal Ministry of Transportation (FMT), all Federal road transport infrastructure activities were controlled by the FMT. Its responsibility included administration, planning and control, development, construction and maintenance of the Federal roads and their related facilities. In 2008, the merger of the Ministries was reversed and the FMW and FMT were reinstated. Thirty-six State Ministries of Works (SMW) are in charge of implementing state and local government level urban and rural road projects. Most States have merged the Ministries of Transport and Works in order to constitute one Ministry that is responsible for all transport issues of the State. The State administrations have their own technical staff to manage the roads sector portfolio. However, generally the State Ministries of Works are poorly equipped, understaffed for senior positions and often lack funding, skills as well as motivation. At the Local Government (LG) level, the Department of Works is responsible for the management of LG roads. The authorities are ill equipped with no human resource capacities for management of roads, and mostly the local communities undertake occasional spot repair on a part of the unclassified road network, consisting of local roads, tracks and paths. The proposed Super Highway would bring a new dimension to the coloration of road assets ownership in the country. There is some overlap in responsibilities that has led to conflicts between State Governments and Federal Ministries, such as the case of the Badagry Expressway in Cross River State that is expanded under Cross River State funding although the highway is part of the classified Federal network (and a section of the multinational Lagos-Ibadan Highway) that falls under the authority of the FMW. There are similar conflicts existing within FCTA that has awarded the Abuja Expressway project although the road is part of the Federal Network under FMW jurisdiction. A World Bank study concentrated on average figures for the whole of Sub-Saharan Africa and concluded⁴ that about 1.7% of GDP needed to be devoted to road maintenance and 2.2% to investment in network strengthening and expansion, for a total of 3.9 percent. **As at 2013, total desirable expenditure on roads over a decade was estimated at about US\$ 37 billion, requiring an average annual expenditure of almost US\$ 4 billion. A total feasible expenditure on roads over a decade was estimated at about US\$ 27 billion, requiring an average annual expenditure of almost US\$ 3 billion.** In February 2011, the Central Bank of Nigeria (CBN) indicated that a capital injection of N300 billion (**USD 2 billion**) would be required by the Federal Government to put Nigeria roads in satisfactory conditions. According to the CBN governor, the state of infrastructure in Nigeria currently does not meet the requirement for economic growth. The Infrastructure Technical Working Group (the ITWG reports to the Vice President and is headed by ICRC's Director General) in its December 2010 Report on "Critical Infrastructure" estimates the transport sector investment required to meet Nigeria's Vision 20:2020 targets in key sectors as follows:

- Railways: rehabilitate existing lines and build new lines: US\$13 billion required
- Ports: develop a deep Sea Port and improve services in existing Ports: US\$5 billion required
- **Roads: Coastal road and other key Highways: US\$ 3.5 billion required**

⁴ Estache, Antonio (2005) "What do we know about Sub-Saharan Africa's Infrastructure and the Impact of its 1990s reform?" Draft working paper, World Bank.

It is acknowledged that the required investment is far beyond public sector resources and this is a further case for the PPP model envisaged for the Cross River Super Highway project. Regarding the road transport sub-sector, the MTIP states:

“The major programme is the recovery of not less than 30 per cent of the existing federal roads (7,677 km) by 2013. Strategies that will be employed to achieve the desired result include: direct rehabilitation and reconstruction of the major trunk roads; concessioning of major and viable routes; and securing funding arrangements from both the private and public sector for the remaining 40 per cent of the bad federal roads.”

State Road Networks

State and LGA expenditure on roads may well have been running in 2010-13 at 0.9-1.7% of GDP. The three states of Enugu, Kaduna and Cross River account for nearly 10% of all Nigeria’s classified roads. Table 12 below presents the key information about their budgeted and actual spending, out of their State Budgets, on roads between 2001 and 2004.

State Road Expenditures in Three States 2001-04 (NGN millions)

	2001		2002		2003		2004	
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual
Enugu	1,245	916	2,438	936	2,163	491	2,380	1,415
Kaduna	8,900	5,400	5,900	2,600	6,800	2,600	7,800	7,000
Lagos	-	2,000	-	2,000	-	3,700	-	3,700
Total		8,316		5,536		6,791		12,115

Although expenditures were often much below budget, they generally maintained a steadier and more substantial level than many other states had reported. Cross River State in Southern Nigeria as well as Bauchi State in Northern Nigeria are focal states with regard to investment in road infrastructure in the country.

Cross River State: In Cross River the State capital expenditure for roads was NGN 1.36 billion (USD 10.2 million) in 2005 or 93% of total expenditure on roads. In comparison to the 2002 figure (see Table 13 below), this represents an increase of 70%.

Cross River State Expenditure on Roads (NGN billion)

	2000	2001	2002	Total	Percent
Maintenance					
Operations	0.4	0.3	0.3	1.0	36%
Investment operations	0.8	0.5	0.5	1.8	64%
Total	1.2	0.8	0.8	2.8	100%

Currently, the State Government is using the following sources for funding the road sector: (i) Budget allocation; (ii) Ministry of Niger Delta Affairs funding; and (iii) external funding from development partners (e.g. ADF funding for RAMP). For road maintenance, additional resources generated through the proposed fuel levy or which 40% of the total revenue would be allocated to States, would be used to supplement the existing allocations. In 2010, the Cross River State Government (CRSG) has pledged to co-finance the on-going State Feeder Roads Upgrading Programme known as “Rural Access and Mobility Programme” (RAMP) with a contribution to the road works of 65%, whereas the African Development Fund (ADF) would finance 35%. The cost of upgrading 474 km of degraded feeder roads to engineered standard with asphaltic concrete (AC) pavement was believed to cost NGN 19.1 billion in 2010 and is currently estimated at NGN 20.3 billion (US\$ 136 million). State Government contribution would therefore, increase to about NGN 13.7 billion (US\$ 91 million) or 67% of the total cost. For 2011, the CRSG has pledged to budget an amount of NGN 5 billion in its State Budget. This would amount to about 5.6% of its total annual budget of NGN 89 billion or 31% of the 2011 budget allocation for roads, bridges, water and public transport.

The unit cost for upgrading of feeder roads to all-weather AC standard (6m width, 1m shoulders, high rainfall zone) is about NGN 43 million per km (US\$ 0.3 million/km). The above case study shows that the CRSG has sufficient financial muscle to fund the annual upgrading of 117 km of State Roads (NGN 5,000 million / 43 million).

The average length of the States' classified feeder roads network is about 850 km per State (30,500/36). In the case of CRS, the total network length is estimated at about 2,000 km. Assuming the current capital budget allocations for feeder roads were sustained, it would take about 17 years (2,000/117) to upgrade all State Feeder Roads. By 2020, about 1,170 km of State feeder roads could be upgraded.

Bauchi State: Bauchi State's approved 2010 budget of NGN 84.5 billion (US\$ 563 million) comprises 49% recurrent and 51% capital expenditure. The *Ministry of Works and Transport's* total budget allocation is NGN 3.9 billion (US\$ 26 million, equivalent to almost 5% of the total budget) of which about NGN 3.3 billion (US\$ 22 million) or 85% of the Ministry's budget is for road capital expenditure. The unit cost for upgrading of State feeder roads in the North and Central regions to 33% DBST paved & 67% laterite gravel standard is estimated at about NGN 21 million per km (US\$ 0.14 million/km). Bauchi State Government could therefore fund the annual upgrading of 157 km of State Roads (NGN 3,300 million / 21 million). Assuming the length of the States' classified feeder roads network at about 1,000 km and assuming the current capital budget allocations for feeder roads were sustained, it would take 6 to 7 years (1,000/157) to upgrade all State Feeder Roads. By 2020, the entire network of State feeder roads could be upgraded.

Further rural roads estimates are provided under the *Ministry for Rural Development* budget. These are supposedly unpaved Local Government (LG) feeder roads. The capital expenditure estimate for these roads is NGN 3.5 billion (US\$ 23.4 million). The unit cost for rehabilitation of LG feeder roads to "FADAMA" unpaved gravel standard is estimated at about NGN 3.1 million per km (US\$ 0.02 million/km). Bauchi State Government could therefore fund the annual upgrading of 1,130 km of LG Roads (NGN 3,500 million / 3.1 million). Assuming the length of the State's Local Government (LG) feeder roads network at about 3,630 km (130,600/36 States) and assuming the current capital budget allocations for LG feeder roads were sustained, it would take 3 to 4 years only (3,630/1,130) to upgrade all LG Feeder Roads. By 2020, the entire network of LG feeder roads could be upgraded. Unit capital cost data for rehabilitation, reconstruction, upgrading, dualization and new construction / network expansion is presented in the Table below:

It is often claimed that road construction costs in Nigeria are significantly higher than in other countries. It is difficult to substantiate this claim with evidence due to unavailability of comparative road construction unit cost data from Sub-Saharan Africa. The following table (below) compares road construction unit cost (in US\$/km) for two toll road projects in Nigeria with the estimates for a remotely similar toll road project in South Africa. The type of works comprise dualization/widening of paved and heavily trafficked Federal / primary expressways, including toll plazas, alternative routes and miscellaneous works.

TOLL ROAD UNIT CAPITAL COST DATA FOR NIGERIA AND SOUTH AFRICA

S/N	Primary Dual Carriageways - Toll Road Concessions	Country	Concessionaire	Year	Current ADT (vpd)	Length (km)	Lanes	Total Cost (million NGN)	Total Cost (million US\$)	Unit Cost (million US\$/km)
1	Lekki-Epe Toll Road, Lagos State	Nigeria	LCC	2008	> 40,000	49.5	6	45,900	427	8.6
2	Lagos-Ibadan Toll Road, Lagos & Ogun & Oyo States	Nigeria	Bi-Courtney	2009	10,000 - 50,000	141	6	89,500	609	4.3
3	Wineleand Toll Road N1 & N2, Cape Province	South Africa	<i>tbd</i>	2007	10,000 - 50,000	176.1	4-6		590	3.4

Sources: AfDB - PAR for Lekki Toll Road (2008); Daily Trust (16 April 2009); ICA - Winelands Toll Road South Africa (2007)

Whereas the unit km cost for links 2 and 3 (inter-urban highways) are in a similar range, the unit cost for link 1 is about twice as high (urban expressway). Two major urban expressway upgrading projects are currently on-going in the FCT (Abuja), the Airport Expressway and the Outer Northern Expressway. The Table 17 below compares their contract costs with cost estimates. It is evident that actual costs exceed the estimated costs by a significant margin (+19%):

Reconstruction and Expansion Cost of Urban Dual Expressways in FCT (Abuja)

FCT: Reconstruction & Expansion Cost of Urban Dual Expressways
incl. flyovers, etc.

Year	Link	Length (km)	Lanes	Road Construction Cost					Contractor
				Contract Amount (million NGN)	Contract Amount (million US\$)	Unit Cost (million NGN/km)	Unit Cost (million US\$/km)	Unit Cost (million US\$/lane km)	
	<u>Abuja Airport Expressway Lots 1 & 2</u>								
2009		38	10	108,424	723	2,853.3	19.54	1.95	Julius Berger (Nig.) Plc
2010		38	10	108,318	722	2,850.5	19.00	1.90	NIP estimate
	<u>Outer Northern Expressway (Mutala Mohammed Expressway North)</u>								
2009	Lot 1	19.5	10	66,831	446	3,427.2	23.47	2.35	Danatata & Sawoe Constr. Co. (Nig.) Ltd
2010	Lot 1	19.5	10	46,664	311	2,393.0	15.95	1.60	NIP gross underestimate
2009	Lot 2	19.9	10	81,914	546	4,116.3	28.19	2.82	C.G.C. (Nig.) Ltd
2010	Lot 2	19.9	10	60,777	405	3,054.1	20.36	2.04	NIP gross underestimate
TOTAL		77.4		257,169	1,714				
AVERAGE FCT (ABUJA) :			10			3,322.6	22.76	2.28	

Max 28.19 2.82
Min 15.95 1.60

Sources:

NIP = Nigeria Vision 20:2020 The 1st NV20:2020 Medium Term Implementation Plan 2010-2013 (May 2010), draft
FMW = Federal Ministry of Works, Housing and Urban Development
BPP = Bureau for Public Procurement
FCTA = Federal Capital Territory Administration

The following possible reasons are explanations for high road construction cost in Nigeria which the Cross River Super Highway Project shall mitigate against as may be applicable :

- Many road construction materials and much equipment are imported, such as cement, asphalt, steel and machinery. Inefficient import procedures lead to frequent delays and high cost.
- The cost of asphalt in Nigeria is very high by international standards at around \$150/tonne (all inclusive of manufacture, haulage, laying and compacting). For comparison, the cost of asphalt in India is less than \$40/tonne (2007 prices).
- Annual budgeting of FMW capital expenditure for road construction, budget underestimates, late budget approvals and delayed release leads to budget under-performance. FMW capital budgets are fluctuating widely from year to year. Claims can therefore not be paid as and when due. The cumbersome payment certification procedures lead to additional delays. Many road projects that could be implemented within 3 years are implemented during periods two to three times longer. The FMW estimates that it currently owes road contractors around NGN 60 billion (US\$ 400 million). Delayed implementation results in additional claims for de- and re-mobilization to site, price adjustment due to inflation and interest on delayed payment.
- Uncertainty about payment and uneven workloads for contractors: With the establishment of the Road Fund it is hoped that a more steady work stream will be created with a significant increase in the amount of asphalt works. Together with a better guarantee of timely payment it might be expected that asphalt prices will gradually fall in real terms.
- The past preference for “selective tendering” or direct negotiation of large road contracts has minimized competition and contributed to excessive unit construction cost.
- Some road and bridge contracts were awarded without following the conventional project cycle of feasibility study, detailed design study and, based on an independent engineer’s confidential cost estimate and comprehensive bidding documents, a competitive bidding process. Direct supervision by FMW or SMW’s staff instead of contracting supervision services out to private sector independent and experienced supervision engineers has further contributed to inefficient cost control.

- Certain road contracts were awarded to contractors following the lowest cost principle, without due regard to pre- or post-qualification criteria. This resulted in the selection of incompetent contractors which in the worst cases necessitated contract termination and a new bidding process, resulting in delays which in turn lead to inflationary pressure on rates as well as additional reconstruction cost due to accelerating road failure.

Financing Needs for Road Maintenance

ECORYS Nederland BV in association with CPCS Transcom, in its report “*Setting up Nigerian Roads Board, Road Fund and the Federal Roads Authority*” prepared for the Bureau of Public Enterprises and the World Bank in 2008, estimated the Total Network Maintenance Cost for the entire road network at NGN135 billion (a little over **US\$1 billion**) per year at 2007 prices. However, a comparison of ECORY’s unit cost estimates with FERMA’s actual unit costs for routine and periodic maintenance as well as apparently excessive periodic maintenance intervals (of 15 years for re-surfacing vs. “textbook” ideal intervals of 5 years for AC paved roads) reveals that unit and consequently total costs are apparently severely underestimated.

Nigeria – Cost for Road Maintenance

NIGERIA - COST FOR ROAD MAINTENANCE				
Type of Works	UNIT COST	Length	TOTAL ANNUAL COST	
	(2010 *)		(million US\$ p.a.)	(million NGN p.a.)
	(million US\$/km)	(km)		
1. Federal Highways - Primary Road Network		36,176	3,096	464,410
Routine Maintenance Cost (annual):				
Highly Trafficked Roads (Trunk Routes - Primary Corridors)	0.097	4,624	449	67,369
Highly Trafficked Roads (Trunk Routes - Secondary Corridors)	0.075	3,369	252	37,866
Average Trafficked Roads (other Trunk Routes)	0.053	9,387	495	74,249
Average Trafficked Roads (Secondary Routes)	0.033	18,379	601	90,184
Low Trafficked Roads (Branch Routes)	0.013	417	5	795
Periodic Maintenance Cost (every 5th year):				
Pavement Strengthening (full overlay) & Repair	0.179	36,176	1,293	193,948
2. State Roads - Secondary Feeder Roads Network		30,500	209	31,386
Routine Maintenance Cost (annual):				
DBST paved	0.0017	14,945	25	3,811
unpaved (laterite)	0.0073	15,555	114	17,033
Periodic Maintenance Cost:				
DBST paved every 3rd year	0.0072	14,945	36	5,380
unpaved (laterite) every 4th year	0.0089	15,555	34	5,162
3. Local Government Roads - Tertiary Feeder Roads Network (unpaved)		129,580	616	92,326
Routine Maintenance Cost (annual):	0.001	129,580	130	19,437
Periodic Maintenance Cost (every 4th year):	0.015	129,580	486	72,889
TOTAL ANNUAL MAINTENANCE COST		196,256	3,921	588,122

Sources: * 2010 - AfDB calculations based on BPP's and other on-going contract data and estimates

Total annual requirements for optimum road maintenance is about **US\$ 3.9 billion**. The Federal networks (FERMA) requires US\$ 3.1 billion p.a., the States need US\$ 0.2 billion p.a. and the Local Governments should mobilize US\$ 0.6 billion p.a. Over the past three years, FERMA obtained only about **US\$ 330 million p.a.** for road maintenance expenditure, i.e. 11% of what were necessary for optimum road maintenance.

Financing needs for Dualization of Primary and Secondary Road Corridors

The table below summarizes financing needs for dualization of primary (“Unity Roads”) and secondary road corridors:

The Cost for Dualization of Road Corridors

NIGERIA: THE COST FOR DUALIZATION OF PRIMARY AND SECONDARY ROAD CORRIDORS					
Primary Corridors Requiring Immediate Dualization Phase I (2011-2015)	Lanes	UNIT COST (2010)	Length	TOTAL COST	
		(million US\$/lane km)	(km)	(million US\$)	(million NGN)
• Lagos-Abidjan Corridor (Lagos-Badagry-Seme/Border with Benin Republic)	6	0.89	75	402	60,344
• Western Corridor (Lagos-Shagamu-Ibadan-Ilorin-Abuja-Kaduna-Zaria-Kano)	6	0.89	1,149	6,163	924,465
• Southern West-East Corridor (Abeokuta-Shagamu-Benin City-Asaba-Owerri-Umuahia-Uyo-Calabar)	4	0.77	764	2,347	352,046
• Eastern Corridor I (Onne-Port Harcourt-Aba-Umuahia-Enugu-Makurdi-Jos-Zaria-Gusau-Sokoto)	4	0.77	1,218	3,742	561,246
• Lagos-Abuja Western Corridor (Ibadan-Akure-Okene-Lokoja-Abuja)	4	0.77	645	1,981	297,212
• Northern West-East Corridor (Katsina-Kano-Dutse-Damaturu-Maiduguri)	4	0.77	773	2,375	356,193
Total Phase I Dualization:			4,624	17,010	2,551,506
Secondary Corridors for Dualization Phase II (2015-2020)		UNIT COST (2010)	Length	TOTAL COST	
		(million US\$/lane km)	(km)	(million US\$)	(million NGN)
• Nigeria-Cameroon Corridor (Enugu-Abakaliki)	4	0.77	82	252	37,785
• Eastern Corridor II (Makurdi-Katsina Ala-Yalingo-Yola-Mubi-Maiduguri)	4	0.77	930	2,857	428,538
• Eastern Corridor III (Calabar-Ekang-Ikom-Ogoja-Katsina Ala)	4	0.77	321	986	147,915
• Central West-East Corridor (Abuja-Jos-Bauchi-Gombe-Yola)	4	0.77	704	2,163	324,399
• Central Connector Corridor I (Minna-Abuja-Nasarawa-Makurdi)	4	0.77	440	1,352	202,749
• Central Connector Corridor II (Ilorin-Minna-Kaduna)	4	0.77	597	1,834	275,094
• Southern West-East Niger Delta Corridor (Benin City-Warri-Yenagoa-Port Harcourt)	4	0.77	295	906	135,934
Total Phase II Dualization:			3,369	10,349	1,552,413
Total Phases I & II Dualization:			7,993	27,359	4,103,919

Sources: The Nigerian Transportation Masterplan (2006); AfDB own estimates

The dualization cost for the Primary Corridors of US\$ 17.0 billion will be spread over the period 2011-2020. The dualization cost for the Secondary Corridors of US\$ 10.3 billion will be spread over the period 2015-2024. Total dualization cost is **US\$ 27.4 billion**.

Financing needs for Greenfield / New Construction / Network Expansion road projects

The federal network connects all the major centres in the country and there is little need for network expansion beyond reclassifying some State roads as Federal. There is a lack of trunk roads in areas where their construction is extremely difficult, mainly the Delta Region. The network is deficient in the rural areas. Nigeria has a comparatively low road density, especially in terms of population.

The schedule below attempts to display the road density of Nigeria and selected countries in Africa and Asia. In terms of area and population it is equivalent to Indonesia but lower than Tanzania and India and far behind South Africa.

Road Density – Nigeria and Selected Countries (2007)

Country	Road Density (km per km²)(km per 1,000 population)	
<i>Nigeria</i>	<i>0.21</i>	<i>1.45</i>
South Africa	0.30	8.47

Tanzania	0.09	2.46
India	1.01	3.16
Indonesia	0.18	1.46
Brazil	0.20	9.48

Although agriculture is still a major sector of the economy it underperforms and one of the stimulants to increasing agricultural production is adequate road access. To reach the road/population density level of India would require doubling the length of the road network – constructing 200,000km of rural roads. At a likely cost of NGN 3million/km for a Local Government unpaved gravel road the total cost of this would be NGN 600 billion (**US\$ 4 billion**). Such a construction programme could not be carried out by the LGAs but would require the establishment of an agency dedicated to rural road construction and improvement at federal level. However, for the purpose of this report, it is assumed that the rehabilitation and upgrading of the **existing** State and LG network will be prioritized over network densification.

Related mega road projects in Nigeria – PPPs and traditional budgetary finance

The Niger Delta Coastal Highway

In 1998, the Niger Delta Development Commission (NDDC) proposed the construction of a East-West coastal road. The international conference on the development of the Niger Delta Region held in Port Harcourt in 2001, under the aegis of NDDC and UNDP, concluded that without the proposed road, no meaningful development would likely take place in the region. The Niger Delta region holds about 26 % of the country’s population, yet only 17.6 % of the country’s length of roads situate in the region. Therefore, the construction of a coastal road from Epe (Cross River State) to Calabar (Cross River State) was proposed in the Niger Delta Regional Development master plan. According to the different sources, works cost estimates for the planned greenfield Niger Delta Coastal Highway vary widely between **US\$ 4.1 billion** for a single carriageway road (726 km, AfDB own calculations), **US\$ 6.4 billion** (NGN 1 trillion) for a dual 4 lane carriageway (Egbagbe, 2011) and **US\$ 12.1 billion**(NGN 1.8 trillion) for a dual 6 to 10 lane carriageway (shortest link, 704 km, ITWG). Implementation of the project would take at least 6 years.

Cost Estimate for a Single Carriageway Niger Delta Coastal Road

Primary Corridors Federal Network Expansion (2013-2018)	Lanes	UNIT COST	Length	TOTAL COST	
		(2010)		(million US\$)	(million NGN)
		(million US\$/lane km)	(km)		
Construction Cost for the Niger Delta Coastal Federal Highway (single carriageway) *	2	2.84	726	4,118	617,642
Total Network Expansion:			726	4,118	617,642

Source: * 2010 - AfDB calculations based on BPP’s and other on-going contract data and estimates

It is not clear whether a thorough bankable feasibility study comprising realistic traffic projections and economic analysis exists. There is doubt as to whether the alternatives to the coastal road have been properly studied, such as the upgrading of the existing east-west “Unity Roads” linking the State Capitals Lagos, Benin City (Edo State), Warri (Delta), Yenagoa (Bayelsa), Port Harcourt (Rivers), Aba (Abia), Ikot-Ekpene (Akwa Ibom) and Calabar (Cross River). There would also be modal competition for freight and passengers with the simultaneously planned east-west railway link. More importantly, the most logical and least cost alternative of modernizing the inland waterways transport system in the Niger Delta has apparently not been considered. Improving river ports, landings, jetties and providing scheduled ferry, speed boat, water taxi and freight barge services to the riverine population could improve transport services almost immediately and at a far lower cost.

In 2008, a conceptual design study for the 704 km road project has been commissioned by the NDDC to Messrs Pearl Consultants, an indigenous firm. Other sources estimate project length at 731km road with about 50km in bridges. The consultant had proposed a 4 lane dual carriageway with provision for future expansion to 6 lanes. Bridges would be built to 6 lane standard. About 106 km of the road would run through difficult terrain such as mangrove and fresh water swamps. About 160 bridges would have to be

constructed. Two cable-stayed as well as two very long suspension bridges are planned. Detailed design studies have only been commissioned in early 2011 and will presumably become available in early 2012. The following consulting firms have been selected to carry out the detailed design:

Selected Design Consulting Firms for the Niger Delta Coastal Road

Lot	Section	Design Consulting Firms for Niger Delta Road	Contract Amount		Unit Cost
			(NGN million)	(US\$ million)	(US\$ million/km)
1	Ibaka/Oron (Cross River) to Ikot Abasi (Akwa Ibom)	AIM Consultants Ltd	1200	8.0	
2	Ikot Abasi (Akwa Ibom) State Boundary) to Kula (Rivers)	Worley Parsosns Resources/Delta Afrik	1276	8.5	
3	Kula (Rivers) to Akassa (Bayelsa)	Ove Arup & Partners (Nig.) Ltd	1176	7.8	
4	Akassa (Bayelsa State Boundary) to Forcados (Delta)	Srei Infrastructure Finance Ltd/TDCI	1670	11.1	
5	Forcados (Delta) to Delta/Ondo State Boundary	Siraj Consulting Engineers/Nathan Associates	1179	7.9	
6	Delta/Ondo States Boundary to Awoye to Aiyetoro to Araromi to Epe	Siraj Consulting Engineers/Nathan Associates	1238	8.3	
	TOTAL / AVERAGE:		7739	51.6	<i>0.07</i>

Source: BPP

The Second Niger Bridge at Onitsha

The Second Niger Bridge in Delta and Anambra States features as one of the major Federal Government priority bridge construction projects. The new bridge shall replace the existing old steel truss bridge that, although recently rehabilitated to extend its useful life, is of doubtful structural stability. The bridge is the essential link between the South-West and the South-East and provides the shortest connection between two large cities, Benin City and Enugu, and forms part of the Nigeria-Cameroon Highway. Construction cost for the about 1,760 m long 6 lane bridge is estimated at about NGN 80 billion (**US\$ 533 million**). The cost estimate comprises access ramps and toll facilities. The most cost efficient bridge is likely to be a pre-stressed reinforced concrete cantilever structure (continuous box girder type bridge of variable height) on deep pile foundation. It is not known whether a bankable feasibility study exists. Detailed design studies are not yet available.

The New Benue River Bridge – A new North-South Road Corridor

The New Benue River Bridge corridor project is to provide the shortest connection between the Northern States of Nigeria and the South-East / South-South geopolitical zones through Abuja, on the following route: Abuja-Keffi-Nassarawa-River Benue Bridge-Ankpa-Otukpa-Enugu-Port Harcourt.

Part of the current traffic volume that uses the existing corridors of (i) Lokoja and Ajaokuta; and (ii) Makurdi and Otukpa, would be redirected to the new route. Compared with these two existing corridors, the promoters claim that the New Benue River Bridge would reduce the average distance between Abuja and Enugu by over 200 km which would result in a time saving of over 2 hours. However, the *Nigeria Masterplan for an Integrated Transportation Infrastructure* (NITT, AS&P, Julius Berger Nigeria Plc, 2002/2006) does not consider the new bridge/road corridor for its proposed priority road network development by 2020.

The Federal Ministry of Transportation 2005/06 traffic counts on the alternative road corridors gave the following traffic loading (rounded, from SSI Axle Load Study, 2007):

	Total (vpd)	Heavy vehicles (vpd)
(i) Central Corridor:		
Lokoja-Abuja	10,000	1,000
(ii) Eastern Corridor:		
Makurdi-Akwanga	7,000	700
Akwanga-Otukpa-Enugu	4,000	1,000

Although the new corridor would become the major corridor linking the Northern States of Nigeria and the South-East / South-South geopolitical zones, its potential for traffic diversion and attraction would

also depend on the state of the two competing corridors. The Lokoja-Abuja road is currently one of the heavily trafficked trunk road corridors. Its state is poor and the link suffers from abnormally high accident rates. However, dualization works have commenced on this section. Once the works are completed, it is expected that traffic flow will significantly improve and the link will attract high traffic volumes. The competing Eastern Corridor road link from Keffi to Makurdi is in a reasonable state. There is currently no information available on the state of the Makurdi-Akwanga-Otukpa-Enugu link.

Option 1 – The Loko-Oweto Bridge Site: The Loko-Oweto Bridge (Loko-Weto Bridge) over the Benue River features as the second major Federal Government priority bridge construction project. Construction cost for the about 1,300 m long 4 lane bridge is estimated at about NGN 54 billion (**US\$ 360 million**), excluding access roads. The cost estimate, however, comprises access ramps and toll facilities. The most cost efficient bridge is likely to be a pre-stressed reinforced concrete cantilever structure (continuous box girder type bridge of variable height) on deep pile foundation.

Additional cost will have to be budgeted for significant access road upgrading:

- Northern access: Keffi - Nasarawa – Loko in Nasarawa State (114 km)
- Southern access: Oweto-Iga Okpava in Benue State (60 km)

It is not known whether a bankable feasibility study exists. Detailed design studies are not yet available. Due to the possibility of generating high traffic volumes on the North-South Abuja-Enugu-Port Harcourt corridor, the project has potential for PPP as a toll bridge concession and might attract private investors.

Option 2 – The Guto-Bagana Bridge Site: In 2008, the AfDB has been approached by the promoters (Digital Toll Company Ltd. - DTCL) of a similar bridge project over the Benue River at a site about 25 km downstream from the above Loko-Oweto site. The construction project consisted of approximately 60 km of single carriageway link roads, approximately 5 km of dual carriageway approach roads at the bridge approaches as well as a 1.5 km long toll bridge over the River Benue. The total project cost as proposed by the sponsors was approximately NGN 27 billion (about **US\$ 230 million** in 2008). This covers the engineering, procurement, and construction contracts, the supply and installation of tolling equipment, operation, and maintenance costs, interest paid during construction, and other ancillary costs. The cost for the 1.5 km long Benue River bridge was estimated at NGN 8 billion (US\$ 69 million).

The submitted documentation was silent on the condition and classification (Federal or State Roads) of the existing access roads from Keffi to Nasarawa (approx. 50 km) and from Bagana to Ankpa (approx. 85 km). Secondary Federal as well as State Roads have in the past suffered from neglect and insufficient maintenance and are not able to support heavy traffic loading. The cost for upgrading of these crucial access roads to Federal Unity Road Standards will have to be considered in the overall project cost. Upgrading/reconstruction unit cost for a single carriageway road would be in the range of US\$ 1.4 million per km for reconstruction. For a total access length of 135 km, this “hidden” cost is significant and could be up to **US\$ 190 million**.

The project promoters failed to carry out bankable feasibility studies, environmental and social assessments and detailed engineering studies. The project was to be carried out under a 25-year concession agreement (CA). It was negotiated and signed on 21st May 2007 by Nigeria’s former President and the public and private partners. It is not clear whether the Federal Executive Council (FEC) has approved the CA. Due to the absence of convincing feasibility studies and doubtful traffic projections on which the CA is based, the project has stalled.

The Admiralty Way – Alexander Road (Calabar-Obudu-Gakem corridor-Ikoyi Link) Toll Bridge in Lagos

The 1358 m long bridge was planned by the Cross River State Government (LSG) to help decongest the existing Calabar-Obudu-Gakem corridor-Epe corridor which is being improved by Calabar-Obudu-Gakem corridor Concession Company (LCC) by moving traffic direct from Ikoyi to the Peninsula without having to drive through the usually congested Falomo Bridge via Ozumba Mbadiwe Avenue in Victoria Island. The length of the approach road from at Ikoyi will be 338 m while on the Calabar-Obudu-Gakem corridor end, it will be 311 m. Walkways on both sides of the bridge are 2.3 m wide. The bridge is conceived as a dual carriageway of 4 lanes, each lane is 4 m wide. Total deck width is 20.6 m. The structure comprises a 700-meter full-span approach bridge. Connected to this is a segmental bridge of more than 650 meters in length, at the center of which is a 91-meter high “landmark” pylon supporting

the cables for the central 170 m long cable-stayed span. Following a “selective tendering” process, the bridge design and build (turnkey) contract was awarded in March 2009. An initial 6 months design phase comprising the study of alternative alignments and geo-technical investigations was awarded for NGN 1.85 billion (US\$ 12 million). The works contract of NGN 30.1 billion (US\$ 201 million) comprises the bridge, toll gate, approach roads and two roundabouts. The works are funded by LSG. The high construction unit cost of about US\$ 7,200 per square meter deck is explained by the high cost of the central cable-stayed span (the “landmark” pylon), poor subsoil conditions requiring piling of up to 80 m depth, the inclusion of access roads and toll gate works and possibly the tendering method. Currently, works progress is about 50%. The bridge works are likely to be completed by March 2013.

Port Harcourt Ring Road (PHRR)

Port Harcourt Ring Road Co Ltd (PHRR Co) was formed as a Special Purpose Entity to develop and operate a motorway around the Niger Delta City of Port Harcourt in Rivers State. The City has an estimated population of 2 million. Rivers State Government promoted the company as principal sponsors of the road project. The project is structured as public private partnership (PPP) initiative. Equity stake in the company is reserved for private investors that are expected to participate in the project.

The Port Harcourt ring road project spans 107 km (according to another source 127 km) of 6-lane dual carriageway highway. It transverses 6 local government areas of the state, including Port Harcourt City, Ikwerre, Obio/Akpo, Okrika, Eleme and Ogu/Bolo Local Government Areas. It straddles various parts of the metropolis and links critical economic and industrial objects, such as: Port Harcourt International Airport, proposed campus of Rivers State University of Science & Technology (UNITECH), New Port Harcourt City - to the North; University of Port Harcourt (UNIPORT) - to the West. Port Harcourt Harbor, Bonny River and several Petroleum Tank Farms - to the South. Federal Ocean Terminal/Onne Free Trade Zone, Port Harcourt Refinery, Port Harcourt Petrochemical Plant, Notore Fertilizer Company (formerly National Fertilizer Company - NAFCON) and proposed Energy City - to the East. At the southern axis of the ring road will be a cable-stayed bridge that is designed as an architectural landmark. Another source claims the ring road will have two cable stayed bridges of 55m vertical height clearance, six rotary intersections, 3 flyovers, 14 minor bridges of 40m span and below totaling 4071 m in length.

Financing Strategy & Operating Model: Given the scale of the project, the Port Harcourt Ring Road could become one of the single largest road and infrastructure endeavors in Nigeria. The project is structured as a public-private partnership that will be developed through combination of equity financing from the principal sponsor (Rivers State Government) and equity/debt funding from private local/international investors and lenders, including private equity funds, multilateral organizations and financial institutions. In 2008, the African Finance Corporation (AFC) had signaled interest in co-financing the project. Upon completion, the project will become a toll-road operated on commercial basis under 30-years concession agreement between the sponsors and special purpose entities to enable investors recoup their capital with reasonable return. Thereafter the road will revert to public ownership or be operated under a new management contract. Related amenities will be developed alongside the road project to enhance the revenue potential of the project.

Major expected benefits are:

- Fast and easy access for motorists between critical points within greater Port Harcourt metropolis (airport, seaports, factories, government offices and residential areas).
- Seamless inter-connectivity of several local government areas (within the upland and riverine parts of the state) to the capital city through a single highway.
- Ease traffic congestion and transportation from densely populated parts of Port Harcourt township to sparsely populated and new residential and commercial districts.
- Ability for commuters to cut travel-time and by-pass the city-center and local roads during peak-periods and rush-hour.
- Alleviate vehicular traffic-burden on existing highways and thoroughfares within Port Harcourt city.
- Provide alternative route and improve upon logistical efficiency for light and heavy commercial traffic (trucks, buses and tankers) currently congesting city streets and highways.

- Divert intercity, inter-state and regional vehicular traffic from local roads and internal highways to the ring road located on the outskirts.
- Provide public recreational, travel-center and rest-area amenities along the highway.
- Create tourist attraction for inhabitants and visitors to view the new cable-stayed bridge.

Phase 1 of the project is designed to open up the South-West Industrial Corridor of Port Harcourt, where there is heavy activity and commercial traffic by oil-gas and affiliated companies operating in the state. The southern flank of Port Harcourt Township is already quite densely populated whereas the northern sector has been designated as new Port Harcourt City, which is being anchored by the Greater Port Harcourt City Development Authority (GPHCDA). Phase 1 of the Ring Road project will serve as a vital outer-limit link-up between these two critical points of the metropolis. Spanning about 53 kilometers, Phase 1, will connect Port Harcourt International Airport (Omagwa) with Port Harcourt Seaport and Onne Federal Ocean Terminal/Free Trade Zone, where the proposed Rivers State Energy City project is located. The cable-stayed bridge will allow for continued easy access by container vessels to Port Harcourt Seaport.

A feasibility study and environmental impact assessment has been carried out by the UK based consulting firm Messrs Roughton International. Design work was done by a Port Harcourt-based engineering design firm, Pearl Consultants Ltd. A US based investment advisory firm, Dinosaur Securities LLC, is structuring the financial model for the project. Domestic and international marketing and fund-raising for the project is on-going. In 2008 it was reported that Rivers State Government has entered into a Memorandum of Understanding (MoU) with China Harbour Engineering Construction Company (CHEC), described as the fifth largest construction company in the world, over the project.

Total construction cost is estimated at about **US\$ 1 billion**.

PPPs and Concessions

The financing of transport infrastructure in Nigeria has primarily been done through traditional forms of award of contracts by government through budgetary allocations. The responsibility for operation and maintenance of the infrastructure rested with the public authority. In cases of cost overruns, the public authority was responsible for payment from a fixed budget. Since about a decade, Government has sought to involve the private sector in infrastructure development via a process of privatization, thereby moving from the direct provider of services to one of enabler and regulator of the private sector. The process of privatization has meant the transfer of ownership of public asset to private sector. Little attention has so far been given to solutions with regard to rehabilitation, upgrading and construction of greenfield projects through involving private finance initiatives without the public sector relinquishing ownership of public asset. The Nigerian Government believes that greater involvement of private sector provides opportunities to ensure better and improved quality of service, maximizes efficiency and innovation, provides better value for money for the taxpayer and ensures adherence to better standards. The modalities to rehabilitate, upgrade and construct new projects via the process of granting of concessions are still novel and remain unclear to the Nigerian populace in general. The Act establishing the Infrastructure Concession and Regulatory Commission (2005) has provided a significant part of the required enabling environment for thriving Public Private Partnerships.



**CHAPTER THREE:
PROJECT CONCEPT &
STRUCTURE**

Introduction

The economic fundamentals driving the vision of the Ayade administration are expected to trigger unprecedented levels of growth and development in the State following the various proposed signature projects and in particular, the Calabar – Obudu - Gakem corridor. This is expected to geometrically leapfrog the current average daytime traffic of 495 persons per km² to about 1,000 persons per km² in the coming years. This and other statistics have led to the new Cross River within the new economic revolution being classified as the country's next opportunity

zone. The State’s population of 3.338 million (as at 2011)⁵ and annual growth rate of 2.8% places her currently as the 27th most populous state in the country. This metric is expected to change with the inward flows arising from a number of deliberate policy interventions of government which is expected to alter the macroeconomic architecture of the State. The bundling of the deep sea port project expected to be the most commercially & geographically feasible connection between a maritime opportunity and landlocked Nigeria states in the north central, north east, south east and regional markets of Chad, Niger, Central African Republic and Northern Cameroun would empty a daily traffic of not less than 450,000 on the Super Highway corridor. The population (growth) spike is also supported by ongoing initiatives with completion period of 24-months in the state such as the Garment Factory, a private university project in Calabar sponsored by a reputable faith based institution, the full value chain poultry farm in Ikom to be operated under public private partnerships with a Spanish interest and the Shea butter processing and marketing plant in Bekwarra. The population of Nigeria continues to grow at a rate of 2.8% per annum which is the underlying assumption for the three years ended 2018 in the project financial model and within the above realities shift upward to 12% potentially hitting daytime mega-city status (Calabar) from 2026. This growth projection is much faster than the corresponding growth in transportation infrastructure and carrying capacity of Calabar Metropolis. This is the rationale for the Calabar haulage City project, not only as an evacuation hub from inner Calabar city but a highly sought after and competitive integrated settlement of choice (residential, industrial, terminus, airport, rail junction) within the associated new town component of the (haulage city) project.

Table 1 Cross River State Population Growth Projection

Population Growth Driver	Impact on inward human traffic (annual)	Effective year
Cross River Deep Sea Port, Akpabuyo	10,000,000	2017
Private (Covenant) University Calabar	3,000,000	2018
Garment Factory Calabar	500,000	2016
Poultry (value chain) Farm, Ikom	100,000	2016
Shea butter processing plant, Bekwarra	80,000	2017
Industrial starch plant, Ogoja	25,000	2017
Obudu Cattle Ranch mini-Disney world	2,000,000	2017
International Convention Centre, Calabar	4,000,000	2016
Reinvigorated Calabar Festival	1,000,000	2016
Reinvigorated Leboku, Ugep	300,000	2016
Total	20,050,000	

To address the impact of the multipliers arising from the chain interventions and in particular, widen the economic base of the State within the vision of the current administration, Cross River State Government (CRSG) initiated an unprecedented and radical step at constructing a greenfield 260 km super highway by mobilizing resources through Public Private Partnerships (PPP). The project is billed for ground breaking by the President of the Federal Republic of Nigeria, His Excellency, Muhammadu Buhari on Tuesday, October 20, 2015. Consequently, CRSG invited tenders using selective tenders⁶ from potential concessionaires for the three sections of the project. Tenders were received from five (5) bidders namely, (i)xxx (ii) vvv and (iii) zzz; out of which three (3) were considered responsive⁷. The first stage non-committal negotiation was concluded with the preferred bidders to for purposes of due diligence & KYC. The second and binding negotiation phase is expected to happen on procurement of the project implementation team including lenders and EPCM. The three preferred bidders⁸ for each of the three (3) sections of the project under discussion are: (1)jjjjj (2) kkkk (3) ggggg. The concessionaire shall be retained based on the requirements of the State Public Procurement Law and subject to

⁵ : www.populationofcrossriverstate.com

⁶ : As advised by the interim project committee, choice of selective tenders is informed by the technicality of the project and the urgency involved. Details of this decision covered in section xxx of this business case.

⁷ : Project front end engineering designs (FEEDS) and relevant procurement documentation including due process interim ‘no-objection’ available for inspection subject to execution of NDA.

⁸ : three reserved bidders met the minimum technical score and are on stand-by just in case.

clearance by the Procurement Compliance (Due Process) Office. The concession right shall be granted respectively to the concessionaires under a 30 year concession agreement, to construct a toll-paying Super Highway (totaling 260 km) with six lanes including such unique features/offering as fiber cable (with WIFI service) through the entire evacuation corridor from Calabar to Obudu and Gakem , street lights; sub highway connecting all LGAs on the corridor, 24-hours ambulance and security patrol, gas stations, rest points and speed control devices.

The project is a PPP under a Design, Build, Operate and Transfer (DBOT) model. The successful concessionaires working in conjunction with CRSG shall incorporate three (3) distinct holding companies to implement the mandate. The respective holding companies in turn shall adopt a business strategy that allows it to deliver on the agreed concession terms for each of the sections as per contract agreement. The details of this interrelationship and stakeholder influences shall be firmed up during the project negotiation sessions. The project envelope for the three sections is estimated at NGN550 billion as indicated below:

Section /concessionaire	Description	Distance	Estimated investment cost including *RoW & compensations (NGN' billion)
A	Calabar – Biase (coastal with thick rain forest)	80 km	250
B	Biase – Boki (forest & long bridges)	80km	150
C	Boki – Obudu - Gakem	100	150
Total		260	550

*RoW = Right of Way

The project is being presented for participation by lenders and related stakeholders' on a limited or non-recourse finance basis by the sponsors.

PROJECT DESCRIPTION

Project Concept and objectives

The project consists of the construction and tolling of a Super Highway (totaling 260 km) with six lanes including such unique features/offering as fiber cable (with WIFI service) through the entire evacuation corridor from Calabar to Obudu and Gakem , street lights; sub highway connecting all LGAs on the corridor, 24-hours ambulance and security patrol, gas stations, rest points and speed control devices. The project shall be executed under a concession period of up to 30 years based on the design, build, operate and transfer model. The construction period is five (4) years with three of the six toll plazas which accounts for 45% of toll revenue expected to be complete and operational after the end of the first 24-months with the remaining three (3) plazas expected to be completed six months and one year respectively thereafter. The total ramp up period has been estimated at six (6) years from start of construction. The project will consist of three phases. Phase I shall be completed in the two (2) years from financial close and will comprise the following works:

- Designs and site possession, compensations, stakeholders' engagement, engagement of project specialist team, adoption of environmental and social sustainability mitigation measures.
- Construction and installation of toll system equipments with pedestrian walkways, interchanges, footbridges and a central reserve.
- Construction of the coastal portion of the road to take advantage of the dry session in 2015/16 with option for further upgrade. Options for concretized cement roads to be explored with resistant asphalt to support the 30-year design life of particularly the coastal sections of the road..
- Achieve at least 40% completion on all sections of the project including furnishing and maintenance.

Phase II relates to the construction of the next 40% of the project and is projected for completion in a combined period of four (4) years from the financial close date.

The balance of 20% is projected for completion by end of the fifth (5) year.

Contractual Framework

The contractual structure of the transaction shall be consistent with the traditional limited or non-recourse project financing framework for a toll road. This entails the execution of a concession agreement between the concessionaires and Cross River State Government.

The Concession Agreement

The project is being carried out under concession agreement (up to 30-years) between the Concessionaires and CRSG. Consistent with the limited recourse project financing structure adopted for this transaction, Concessionaires, CRSG and the FGN will negotiate and initial a Federal Support Agreement (FSA) that serves as a Quasi-Sovereign back stop guarantee of up to 25% of project finance by lenders and whose execution is a condition precedent to financial close for the transaction. Under the terms of the concession agreement, a concession fee amounting to 25% of the distributable profits becomes payable to CRSG by the concessionaire in any fiscal year when the real equity IRR is greater than 12%.

The Federal Support Agreement

The Federal Support Agreement (FSA) is an undertaking by the FGN under the terms of the concession agreement to make termination payments to lenders to the project if the concession agreement is terminated. To fund the termination payment account, both the FGN and CRSG have signed a Federal Undertaking wherein upon the occurrence of a termination event, the FGN automatically allocates 7.5% of CRSG’s monthly budget allocation to fund the termination liabilities. This undertaking empowers the FGN to further debit funds from other CRSG’s statutory liquid assets to ensure that any outstanding liability due to termination payments is fully discharged.

Termination of the Concession Agreement

Either the Concessionaire(s) or Cross River State Government which is the roads Authority for Cross River State may terminate the concession agreement or such termination treated accordingly as provided in the concession agreement. Termination payments upon termination of the concession agreement are made subject to the FSA and pursuant to relevant clauses of the concession agreement. Upon termination of the concession agreement, termination compensation to the various stakeholders is calculated based on the termination matrix below:

Matrix of Termination payments

Termination Payment Type	Default Due to		
	CRSG	Force Majeure	Concessionaire
Senior Debt	√	√	√
Mezzanine Debt	√	√	√
Other Subordinated Debt	√	√	√

Third Party Liabilities.	√	√	x
Equity Investment*	√	√	x
Equity Compensation**	√	x	x

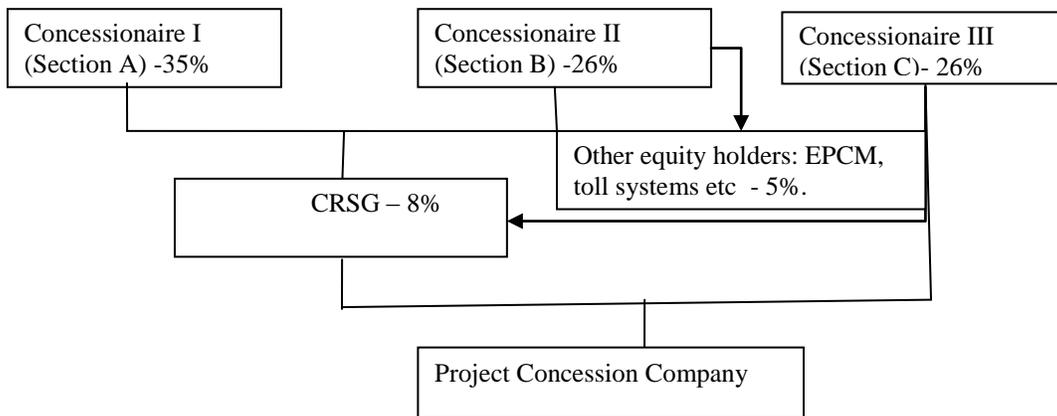
Table showing matrix of termination payments where √ indicates full compensation and x indicates no compensation.

* includes break costs, prepayment costs and any other liabilities arising due to the termination.

** Sum required so that ROE equates agreed financial model IRR for equity holders.

The Project Sponsors

The project is jointly sponsored by the concessionaires and CRSG; the concession companies being adequately incorporated by the corporate affairs commission (Nigeria) and licensed to carrying out the business of project management of turnkey projects in the public infrastructure sector. Both companies are incorporated in Nigeria as privately owned corporate entities. The proposed operational relationship between the parties is as shown below:



CONCESSIONAIRES Ownership Structure

The preferred bidders (combined) have total assets in excess of XXX under management and currently operate six (6) business units in the area of asset management, project and infrastructure finance and capital markets respectively. The respective companies are well structured and a profile of their senior management indicates good management depth. The management structure and operating efficiency of the companies also appears sound.

Corporate Structure and Project Management

The project concession company is a Special Purpose Vehicle (SPV) incorporated as the project company for the purpose of implementing the concession agreement with respect to the Calabar-Obudu-Gakem Super Highway Project. As indicated in the ownership structure above, the project concession company is jointly owned with array of stakeholders' engagement. Under the terms of the concession agreement (draft stage) concessionaires must pay concession fees to CRSG amounting to 5% of the distributable profits in any fiscal year (as first line charge) when the real equity internal rate of return (IRR) is greater than 12% including the government's 8% equity interest in the project company.

The concessionaire's management strategy will be to implement the terms of the concession agreement by executing turnkey EPC contracts for the design, construction and/or rehabilitation, equipment supply and installation and for the operation and maintenance of the finished toll road for the life of the concession agreement. It is envisaged that the EPCM contractors and the toll systems company would have marginal equity stakes on the project company just for sustainability and to ensure 'skin in the

game' in the project. The operational activities of the concessionaires will be controlled by an enlarged Board of Directors comprising: the Chairman, Managing Director/CEO, Finance Director, Technical & Operations Director and Shareholder's appointed Directors drawn from CRSG and other minority interest block.



**CHAPTER FOUR:
PROJECT FINANCING,
COMPETITION &
VIABILITY**

The Financing Plan

The project cost is approximately NGN550 billion and will cover the cost of the Engineering, Procurement and Construction Management (EPCM) contract, the supply and installation of tolling equipment, Operation and Maintenance costs and other ancillary costs. The financing structure is indicated in appendix I with a debt to equity ratio (D/E) of 55%:45%. when one considers the revenue generated during construction as part of equity. The plan envisages a loan with a grace period on principal of 5 years with interest capitalized during construction. The financing plan for the project is highlighted below:

S/n	Nature	Participants	Participation (NGN'billion)	Proportion (%)
1.	Equity	EPCM Contractor, Toll Systems Management Co., Concessionaires, CRSG & Institutional Funds LGAs	200	36%
2.	Subordinated debt (convertible)	CRSG (project preparatory & compensations)	40	7%
3.	Other funding	Revenue & interests during construction	10	2%
4.	Senior debt	Project debt from IFIs including regional development finance institutions, local banks etc as guaranteed by EPCM Contractor, Toll Systems Management Co., Concessionaires, CRSG & Institutional Funds LGAs	300	55%
Total			550	100%

The Financing Plan which is a combination of senior debt, mezzanine debt and equity is shown in the table below:

Sources of Funds

Facility Provider	Amount (NGN'billion)	Facility Type	Percentage %
AfDB/IFC/ECOWAS, local & regional investment banks	300	Senior Debt	55
Blackstone Rhino / Macquarie Bank/ Pension Funds, India EXIM & other equity holders	200	Equity	36
CRSG	40	Mezzanine Debt	7
Internally Generated	10	Toll Revenue/ways &	2

		means from the State Infrastructure Fund	
Total	550		100

Uses of Funds

Facility Provider	Amount (NGN' billion)	Percentage %
Capital Expenditure	335	61
Start-up Costs	66	12
Operational costs during construction	61	11
Pre-funding DSRA	22	4
Interest capitalized during construction	66	12
Total	550	100

Willingness to Pay

The traffic studies demonstrated that the average willingness to pay (WTP) ranges between 200 and 500 Naira per crossing depending on the type of vehicle. Furthermore, the projected traffic growth rates as used in the financial model was discounted by about 50% while the willingness to pay was also discounted by a similar proportion. This demonstrates that the cash flow projections are very conservative and hence mitigates the possible effect of traffic leakages in the future.

Toll Adjustment framework

The concession agreement provides a framework for periodic toll adjustment to mitigate the effect of inflation and other market risks. This instrument will be used to good effect by the concessionaire in order to stabilize income fluctuations with beneficial consequences for the project cash flows.

Project Competitiveness

The project's competitiveness appears sound and reliable. The project was subjected to SWOT analysis and the Porter's forces review as highlighted below to provide perspective on how the project stands comparatively.

Project SWOT Analysis

Strength <ol style="list-style-type: none"> i. Grantor (CRSG) is willing and able to provide availability payments ii. Strong appetite by IFIs to participate on project iii. Strong business case as project is linked to the sub-regional integrated infrastructure development plan iv. Grantor’s reputation as an investment friendly & predictable destination v. Grantor’s functional institutional arrangement and governance 	Weakness Dearth of local skilled manpower
Opportunities <ol style="list-style-type: none"> a. VfM synergies from the PPP opportunity b. Competitiveness & cost reduction through transparent procurement & PPPs. c. Strong business case for the project on the back of the integrated infrastructure development plan of the State. 	Threats <ol style="list-style-type: none"> a) Difficult construction terrain (thick rain forest, coastal nature etc) b) Local compensation and resettlements costs

ANALYSIS OF OVERALL PROJECT MERITS

Project Strengths:

- Strong demand for additional roads as demonstrated by the feasibility studies report, supported by road users’ willingness to pay tolls and realities of the external environment.
- High and increasing population density and traffic volumes with less than comparable growth rate in transport facilities, implying strong project cash flows.
- Strong security package, buttressed by the Federal Support Agreement.
- Federal support agreement which is a very strong mitigating measure against default risk by either concessionaire or CRSG.
- Huge developmental impact with a strong and positive economic value added.
- Tax holiday possibility of 5 years and other tax waivers
- Periodic upward toll adjustment framework (in accordance with the Concession Agreement to boost revenue.
- Strong federal government support for private sector participation in infrastructure development as evidenced the possibility of pioneer status.
- Favorable business environment in the country and the State.
- Strong management style with emphasis on turnkey contracts for key services.
- Strong positive environmental and social impact on the project.
- Project location and connection with the country promotes national unity, trade and cultural exchange.

Project Weaknesses:

- FX risk on non-Naira denominated loan due to possible future Naira/USD depreciation that may affect both the concession term and project profitability.
- Financial projections are based on an un-audited financial model.



**CHAPTER FIVE:
PROJECT RISK
MANAGEMENT**

Project Risk assessment

The main risks associated with the toll road project comprise project completion risk, regulatory and operational risks respectively.

Project Risk and Mitigation Measures

S/n	Potential project risk	Description	Mitigation
-----	------------------------	-------------	------------

1.	Project Completion	<p>Project completion risk may result from poor project management, underestimation of project cost, non-performance by contractors, contract variation, inflationary pressures, supply, installation and commissioning works resulting in sub-standard performance or in some cases, abandonment of contract. As a mitigating measure, both construction and toll equipment contracts have been awarded on a fixed price date-certain basis with performance guarantees secured against performance bonds. Risks resulting from delayed completion are mitigated through the imposition of liquidated damages on the contractors.</p>	<p>The Sponsors shall contract the services of reputable and well experienced international firms to act as project manager for the construction works and toll equipment provider on a turnkey basis.</p> <p>Furthermore, the concession agreement shall provide for an independent Engineer to independently supervise and certify the completed works and report to Concessionaire, CRSG and the lenders while also acting as an adjudicator to provide quick and effective means of dispute resolution between the parties.</p> <p>Given that completion risk may result in cost overruns, the concessionaire shall be expected to negotiate with the EPCM contractor to ensure that the risk rests with the respective contractors who have provided evidence to the concessionaire that they have the risk capital reserve base to absorb cost overruns on their own balance sheet, reinforced with performance bonds secured from respected financial institutions.</p>
2.	Operational and Maintenance	<p>Toll collection and other critical operational activities which include highway maintenance must operate unhindered</p>	<p>Mitigating measures in this respect to include turnkey toll collection facilities with built-in remote fault detection and maintenance capability, rigorous training program for all toll operators and a robust security system to be put in place. Concessionaire to negotiate a fixed price maintenance contract on a rolling 5 year basis with the maintenance contractor backed by performance bonds and the oversight role to be played by CRSG and the Independent Engineer.</p>
3.	Insufficient Traffic volumes	<p>The risk that the project will not attract enough traffic volumes and hence not earn enough revenue to service its debts is the key market risk facing the project. Other sources of risk will include public resistance to pay tolls, revenue leakages at toll plazas.</p>	<p>To mitigate this risk which could lead ultimately to a default by the concessionaires in respect of its debt service obligations to the project lenders, both the concessionaires, CRSG and the FGN shall negotiate a Federal support Agreement that mitigates and protects lenders in case the concessionaire defaults in respect of its debt service obligations.</p> <p>To further mitigate this market risk, an extensive traffic studies were</p>

			carried and the results obtained indicate that the average annual daily vehicular traffic count at the location of the proposed toll plazas will be significantly robust. These figures were determined assuming a 20% suppression of traffic on all three toll plazas locations. The expected traffic growth rates is estimated at 5%, 4% and 3% for the first 5 years of operation, the first 10yrs of operation and the first 15 years of operations respectively. This is expected to have a positive impact on the projected project cash flows.
4	Foreign Exchange Risk	The project's financing structure envisages financing in both Naira and Euros whereas revenues will be collected only in Naira.	To mitigate the foreign exchange (FX) risk, the concession shall implement a revenue hedge by first converting all non-Naira financing at the financial closing to Naira using a fixed exchange rate of 200 to the Euros and managing the NGN/Euros rate fluctuations in a rate adjustment account during the life of the concession agreement.
5	Force Majeure Risk	Appropriate clauses of the concession agreement shall address re-instatement costs arising as a result of a force majeure event which includes but is not limited to war, riots, terrorism, civil disturbances, or natural disasters. For instance, if the project is rendered substantially financially uneconomic due to a force majeure event, the parties are entitled to terminate the concession agreement and termination payments to the parties determined	

Project Risk Simulation and Probability Distribution

Risk Simulation

The project risk simulation has been submitted for independent evaluation using the Crystal Ball™ software. The simulation shall comprise 10,000 trials and three risk variables: traffic volume (fluctuates on annual basis), inflation rate, and investment costs overruns. The probability distribution for the traffic volume and investment costs overruns were taken from other similar projects. The simulation shall track the following project indicators: Financial Net Present Value discounted at 10% (FNPV), Financial Internal Rate of Return (FIRR), Annual Debt Service Ratios (ADSCR) for year 2016, 2017, 2018 and 2019, Minimum Debt Service Coverage Ratio (DSCR), Economic Net Present Value (ENPV) discounted at 12%, Economic Rate of Return (EIRR) and the present value of externalities arising to road users, government and labor.

Probability Distribution

A crystal ball simulation on the project sensitivity shall be carried out to determine the likely performance of the project during the concession period and the results obtained at the early test stage (see figures 2, 3 & 4 below) indicates the following distribution for the selected variables:

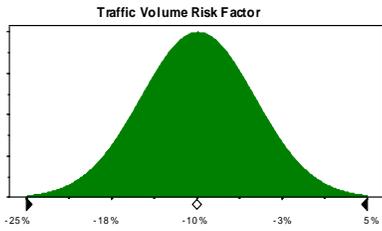


Figure 2

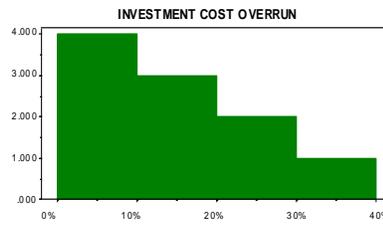


Figure 3

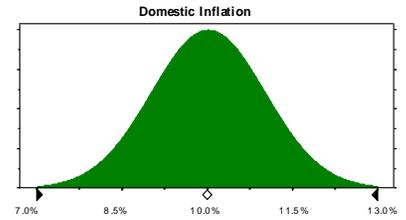


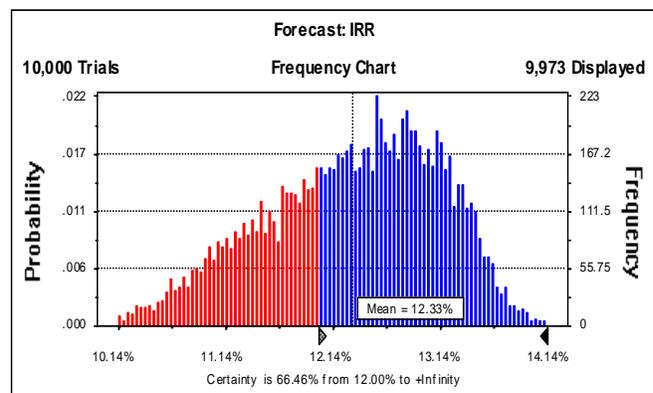
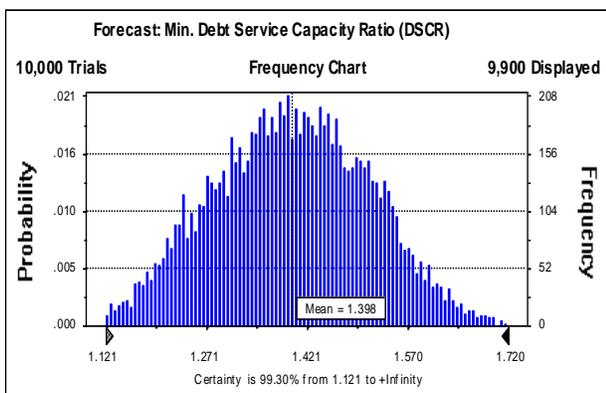
Figure 4

Analysis of Results obtained

The expected project risk stimulation early stage results (see table below and figures 5-6 below) indicates that the project may not be able to generate enough cash flow to service its debt in first three years of loan repayment i.e. 2018, 2019, 2020 and that bridge financing may be required as the project shows robust cash flows thereafter. The simulation imitates a real-life combination of traffic volume conditions and possible investment cost overruns. Even under the worst-case scenario, project’s financial and economic NPV and IRR are significantly higher than their acceptable thresholds.

Risk Simulation Results

INDICATORS	Base Case	Worst Case	Best Case	Mean (expected)	Prob. Un-acceptable Outcome
FNPV (NGN million)	14,242.00	1,144.00	11,897.39	6,934.58	0% (being below zero)
PROJECT FIRR	14.9%	9.69%	14.30%	12.33%	
ADSCR 2017	1.14	0.56	1.36	0.91	79.1% (being below one)
ADSCR 2018	0.87	0.47	1.02	0.70	99.8% (being below one)
ADSCR 2019	1.14	0.60	1.31	0.92	81.3% (being below one)
ADSCR 2020	1.50	0.83	1.67	1.21	3.9% (being below one)
Min. DSCR	1.77	1.05	1.85	1.40	0% (being below one)
Economic NPV (NGN million)	47,953	32,194	44,624	39,670	0% (being below zero)
EIRR	22.45%	17.68%	21.86%	20.05%	0% (being below zero)
PV Road Users Benefits	35,451	35,514	36,853	36,193	0% (being below zero)
PV Government Benefits	12,459	11,204	12,454	11,730	0% (being below zero)
PV Labor Benefits	1,107	1,107	1,135	1,118	0% (being below zero)





CHAPTER SIX:
**LEGAL, REGULATORY AND
ENVIRONMENTAL & SOCIAL
SUSTAINABILITY ASSESSMENT**

Introduction

This project is classified into environmental and social category 1 in accordance with the World Bank's Environmental and Social Impacts Assessment Procedures (ESAP, 2001). The Environmental and Social Impact Assessment Report (ESIA Report) is currently at completion stage with PGM (Nigeria) Limited, a reputable environmental assessment consultants. The draft ESIA Report provides an assessment of the potential impacts which the project may have on the social and natural environments along the right of way (RoW). The ESIA was based on the findings of extensive literature review, field sampling activities, laboratory and desk data analyses, as well as a comprehensive Social Impact Assessment (SIA) and public participation exercise (see engagement terms of reference on Appendix 1). Given that the completed toll road will affect the existing population along the corridor including RoW issues; a full Resettlement and Compensation Action Plan (RCAP) was also prepared (awaiting sign-off) showing the consultations with the respective stakeholders and the compensation package agreed together with the implementing modalities.

Executive summaries of the ESIA and the RCAP would be circulated to authorities including the Federal Ministry of Environment, civil society organizations and extract posted on national newspapers.

Legal and Administrative framework

The legal framework on the environmental and social impacts assessment in Nigeria was enacted by a presidential decree number 86 in 1992 and enshrined into law by an act of parliament, the EIA Act 86 of 1999. In order to meet the Bank's requirements (ESAP, 2001) as well as those of the EIA Act 86 of 1999, a full ESIA is being conducted.

Project Impacts

Positive Impacts

A number of key potential positive impacts were identified during the assessment. These impacts include:

- Employment opportunities for non-skilled local residents during construction period.
- Increased cash flow during construction, arising from the patronage of food vendors and other local wares by construction workers;
- Possible financial prosperity for local contractors who may be contracted to provide services such as transportation, supply of sand and other construction materials
- Possible financial inflows for property owners who may let out rooming apartments to construction workers;
- Significant reduction in travel time when the project is operational. This will in turn lead to an improvement in air quality, since emissions from vehicles that are normally trapped in traffic snarls will be significantly reduced.

Negative Impacts and Mitigation measure

The main negative impacts and the mitigation measures that would arise during the construction and operations phases of the project include:

- Strict road safety measures will be instituted to ward off increased traffic congestion due to construction activities with the attendant physiological stress occasioned by increased travel time.
- Increase in emission of noxious gases (particularly CO₂, CO, NO_x) from the combustion of fossil fuels by the various construction vehicles and machinery/equipment will be minimized by proper selection and operating practice for the equipment.
- Increased noise levels in the area due to construction activities cannot be avoided totally but operation of heavy machinery would be avoided at late night hours.
- Erosion control measures will be implemented throughout the project area where required and rehabilitation measures instituted by planting grass.
- Effective storm water management systems and structures will be put in place throughout the project area to prevent blockages of drains that could result in flooding.
- As a mitigation measure, laborers will be educated and trained to provide much needed skills that can be used on other projects elsewhere. Care will be taken that the short-term provision of work does not impact negatively on the local community when construction is completed.

No major environmental hazards are expected from the project. However, a detailed Environmental and Social Management Plan, together with a Health and Safety Plan including Emergency Response Plan has also been prepared to effectively respond to any emergency such as fuel spill, fire and other road emergencies e.g accidents.

Social Impact Assessment

Potential social impacts

Potential social impacts for the project have been identified and mitigating measures discussed and agreed with the various stakeholders and will be duly implemented during the construction and operational phases respectively. A detailed Social Management Plan (SMP) has been prepared outlining mitigating and monitoring measures put in place and the detailed costing of the various actions to be taken and the associated institutional requirements. These are summarized in the executive summary of the Resettlement and Compensation Action Plan (RCAP) and shall be available for inspection by stakeholders and interested members of the public.

Implementation Framework

The Chief Environmental Officer appointed by the project proponent and a representative of the contractor will be responsible for monitoring the implementation of the Environmental and Social Management Program (ESMP) as follows:

- monitor compliance with all the mitigation measures and commitments in the ESIA report during the implementation of the proposed project;
- ensure best practices management as a commitment for continuous improvement in environmental performance;
- monitor compliance with legal standards and limits for wastes discharges; and
- provide early warning signals on potential environmental degradation for appropriate actions to be taken so as to prevent or minimize environmental consequences;

A detailed environmental and social monitoring program has also been prepared which would include the following:

- Monthly monitoring of ambient air quality during construction and quarterly monitoring during operations;
- Quarterly monitoring of soil quality during construction and half yearly monitoring during operations;
- Half yearly monitoring of vegetation and wildlife during construction and operations
- Socio-economic situation of the people, traders and businesses along the route.

Consultations with Stakeholders

Consultations with various stakeholders was a key component of this project. Accordingly, the Federal Ministry of the Environment (FMEnv) and the Cross River State Ministry of Environment are under consultation at various stages of the ESIA Study. The State Ministry Environment has already given a letter of no-objection to the project. The FMEnv is currently carrying out a technical panel review of the ESIA report and preliminary feedback appears impressive. With regards to other stakeholders, such as landowners, traders and other users of the road corridor, various levels of consultations were held with them and this is an ongoing process. The local communities in the project area openly welcome the project.

A total sum of about NGN2 billion has been estimated by CRSG for the implementation of the various environmental mitigation measures. While a total sum of about NGN 5.1bn is estimated for compensation of properties that would be affected along the ROW and a sum of NGN 1.5 billion to compensate the informal traders who will be provided assistance with relocation and establishment in a newly established market and vocational training center.

ANALYSIS OF LEGAL COMPLEXITY

Legal Framework

The project company has negotiated a federal support agreement (FSA), which is a federal guarantee of credit support to mitigate default risk due to possible termination liabilities from debt and equity holders under the terms of the concession agreement. It also covers any material adverse government actions. Its terms and conditions have been made part of the concession agreement. The FSA is a tripartite agreement between concessionaires, CRSG and the Federal Government of Nigeria (FGN). The FSA incorporates a Federal undertaking signed between CRSG and the FGN authorizing the FGN to deduct 5.0% from the statutory monthly allocation of CRSG to cover termination payments should FGN be served with a request for termination payments due to either the lenders or the equity holders subject to the termination provisions in the concession agreement.

Regulatory Environment

The project is underpinned by the enactment of the Cross River State Infrastructure law (August) 2015 as well as the State PPP law (2010) passed respectively by Cross River State House of Assembly and assented to by the Governor. The law provides the legal and regulatory framework for PPPs in Cross River State. The law establishes Infrastructure Council and the PPP Council which is legally authorised to enter into concession agreements with private sector entities for the development of infrastructure projects within the State. It is on the basis of this law that Cross River State government is entering into the proposed concession agreement(s) with the respective concessionaire. Any revocation of the concession agreement by any future Federal or State government will immediately trigger termination compensation under the terms of the Federal Support agreement which is legally enforceable under Nigerian law.

Project Implementation

Implementation Responsibility

Cross River State Ministry of Works or any board in charge of roads and highways in Cross River State will be the executing Agency for the project in collaboration with Calabar-Obudu-Gakem corridor Concession company. It will be responsible for the management, monitoring and coordination of the project. Cross River State Ministry of Works will oversee the overall project implementation to ensure that the completed works comply with the requirements of the concession agreement.

Institutional Arrangements

Responsibility for managing the technical aspects of the work resides with the CRSG. This would include enabling controllable enabling conditions such as security arrangements for the project implementation. CRSG shall also work with the project team of Engineers and professionals who will work together with the appointed independent Engineer to ensure that the works are carried out to design specifications as agreed in the concession agreement and that the finished works are maintained in a fit and proper state.

Implementation and Supervision.

The draft project implementation time table is under revision and shall be available post project ground breaking by President Muhammadu Buhari on Tuesday, October 19, 2015.

Market Environment

Current realities on the project demonstrates that notwithstanding the risks faced in the market place particularly the existing (competing) roads that are likely to erode traffic from the toll road in the future, the Calabar-Obudu-Gakem corridor toll road project financial model shows strong positive free cash flows (FCF) going forward. The competition is weak as the alternative routes are in very terrible condition, very poorly maintained and riddled with potholes and insecurity. Consequently, the toll road project will remain viable for the foreseeable future. Furthermore, the concession company based on the proposed agreement has the right to increase tolls under the toll adjustment framework which is part of the concession agreement. This action will increase the toll revenue directly.

ANALYSIS OF STRATEGIC ALIGNMENT

Development Impact

The contribution of the Calabar-Obudu-Gakem corridor toll road project in alleviating the traffic situation in Cross River will be very significant to the country and state's economy and create unprecedented externalities to both the internal and external stakeholders of the project.

The completed toll road will lead to lower travel times whilst improving road safety and security, lower repair costs of cars using the road on a regular basis and provide much needed and well maintained transportation infrastructure leading to an increase in business activities along the corridor. The project will create temporary and permanent employment and generate financial and economic benefits that will stimulate growth in the local economy.

State/Country/Regional/Sector Strategic Alignment

The Calabar-Obudu-Gakem corridor toll road project will enhance the country focus by developing the transportation infrastructure and hence improve the lives of Cross Riverians and by extension Nigerians by easing the appalling traffic situation on the corridor, reduce travel times for motorists thereby saving on petrol cost and reducing pollution levels, improving the land use activities along the Calabar-Obudu-Gakem corridor and creating much needed jobs to boost the local, country and regional economy. The project is closely aligned with Nigeria's transport sector strategy of improving transportation infrastructure on a steady basis in order to stimulate growth.

ANALYSIS OF COMMERCIAL VIABILITY

Business Model

The project's business model is based on the generally accepted and commercially proven Design, Build, Operate and Transfer (DBOT) in the case of new works or Rehabilitate, Operate and Transfer (ROT) which is the case for the Calabar-Obudu-Gakem corridor toll road project. This business model bases its cash flow projections on the traffic volumes and the ability over time to adjust toll rates in line with inflation and the project's performance targets.

The initial toll rates were determined on the basis of the value of time (VOT) studies which were conducted in order to gauge support for the business model in Cross Riverland demonstrated that road users are willing to pay tolls in exchange for faster and safer roads which will also bring additional benefits in terms of shorter journey times, increased security, savings in petrol and vehicle repair costs respectively.

Financial Viability Analysis

The results of the base case analysis evidences that the project is conceptually sound and modeled in line with best Engineering and financial modeling practice. The BOT business model on which the project is based is tried and tested in the industry and is considered to be of good credit standing. The toll collection mechanism and framework is also considered very robust. The project's internal rate of return (IRR) is unprecedented. Debt service cover ratios and free cash flows are very robust.

Feasibility Studies Data

The feasibility studies and traffic data on which the cash flow model and hence project revenues are based is to be audited by Steer Davies Gleeves, a reputed British transport consulting firm and independently verified by key stakeholders. Lenders and investors may elect at their discretion, to validate the model assumptions as possible. The results indicate that there is strong demand for the super highway project, the first of its kind in Nigeria to open up through access the economy of the State and the country, ease the traffic situation along the Calabar-Obudu-Gakem corridor.

Financial model Assumptions

In carrying out the financial and economic analysis, it was assumed that the traffic growth will be at 12% during a falling to 7% at year and staying constant throughout the concession period based on the outcome of the feasibility studies.. It was also assumed that operating cost overruns growth rate will not exceed the rate of inflation at 6% per annum throughout the concession term and that there will be no default on the debt service payments. Further, it was assumed that there will be a grace period on principal of 5 years, interest capitalized during construction and a tax holiday of 5 years under the terms of the concession agreement.

Economic Analysis

The results of the base case analysis carried out on the net project benefits shows how the project's economic internal rate of return is superior to the benchmark rate of 10% currently the economic cost of capital used in sub-Saharan Africa for discounting purposes. The project's equity net present value is estimated at NGN825 billion and economic net present value of NGN8 trillion which represents the benefits accruing to the various stakeholders including the local community and indicates that the project is economically viable with net positive benefits to society and equity investors respectively.

Sensitivity Analysis

Sensitivity tests were carried out in order to assess the stability of the project's financial and economic internal rates of return and the project's ability to service its debt, while earning acceptable return on investment for its shareholders. The tables below show the movements in the internal rate of return due to variation in the traffic volume, cost overrun, Euro/NGN inflation rate and the annual debt service coverage ratios respectively as follows:

Equity IRR	Development Cost (In Crores)								
	192.06%	70	80	90	100	110	120	130	140
Interest Rate (In %)	8.00%	522.28%	502.09%	484.82%	469.81%	456.57%	444.75%	434.11%	424.45%
	9.00%	522.28%	502.08%	484.82%	469.80%	456.56%	444.75%	434.10%	424.44%
	10.00%	522.27%	502.08%	484.81%	469.80%	456.56%	444.74%	434.10%	424.43%
	11.00%	522.27%	502.07%	484.81%	469.79%	456.55%	444.73%	434.09%	424.42%
	12.00%	522.26%	502.06%	484.80%	469.79%	456.54%	444.73%	434.08%	424.42%
	13.00%	522.26%	502.06%	484.79%	469.78%	456.53%	444.72%	434.07%	424.41%
	14.00%	522.25%	502.05%	484.79%	469.77%	456.53%	444.71%	434.06%	424.40%
	15.00%	522.25%	502.05%	484.78%	469.77%	456.52%	444.70%	434.06%	424.39%
Equity IRR	Vehicle Growth (in %)								
	192.06%	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	11.00%
Base Vehicle (PCU's)	120,000	83.14%	83.76%	84.38%	85.00%	85.62%	86.24%	86.87%	87.49%
	140,000	89.83%	90.43%	91.02%	91.61%	92.21%	92.81%	93.41%	94.01%
	160,000	95.88%	96.45%	97.02%	97.60%	98.17%	98.75%	99.33%	99.91%
	180,000	101.40%	101.95%	102.51%	103.07%	103.63%	104.19%	104.75%	105.31%

	200,000	106.49%	107.03%	107.58%	108.12%	108.67%	109.21%	109.76%	110.31%
	220,000	111.23%	111.76%	112.29%	112.82%	113.35%	113.89%	114.43%	114.96%
	240,000	115.66%	116.18%	116.70%	117.22%	117.75%	118.27%	118.80%	119.33%
	260,000	119.83%	120.34%	120.85%	121.37%	121.88%	122.40%	122.91%	123.43%
		Concession Period (in years)							
Equity IRR	192.06%	10	12	14	16	18	20	22	24
Base Toll Price (NGN)	0.80	-ve	-ve	-ve	-ve	-ve	-ve	4.31%	6.86%
	0.90	-ve	-ve	-ve	-ve	-ve	2.33%	5.53%	7.82%
	1.00	-ve	-ve	-ve	-ve	-ve	3.72%	6.53%	8.64%
	1.10	-ve	-ve	-ve	-ve	1.34%	4.84%	7.39%	9.35%
	1.20	-ve	-ve	-ve	-ve	2.68%	5.80%	8.17%	10.02%
	1.30	-ve	-ve	-ve	-0.09%	3.76%	6.61%	8.84%	10.61%
	1.40	-ve	-ve	-ve	1.26%	4.69%	7.37%	9.48%	11.17%
	1.50	-ve	-ve	-ve	2.34%	5.49%	8.02%	10.05%	11.67%

Stakeholder Analysis

Table 8 below shows the allocation of the project externalities among the relevant stakeholders, namely: road users, Cross River State Government and the local community. The main beneficiaries from the project are the road users who will enjoy an estimated present value of time savings benefit amounting to NGN 2.3 trillion plus an additional cost saving of NGN 65 billion due to a reduction in vehicle maintenance cost. The present value of externalities accruing to the government is estimated to be NGN 800 billion arising mainly from direct and indirect income taxes related to distortions on consumables used during the construction and operation phases of the project.

Allocation of Externalities (to be updated to the revised financial model)

	PRESENT VALUE @ EOCK				TOTAL OVER LIFE OF PROJECT		
	PV Externalities	Road Users	Government	Labor	Road Users	Government	Labor
Inflows							
Time Saving	8,169	8,169	0	0	89,240	0	0
Vehicle Maintenance Cost Saving	26,667	26,667	0	0	210,852	0	0
Advertising / franchises / land leases	-857	0	-857	0	0	-3,315	0
Change in Accounts Receivables	615	615	0	0	0	0	0
Total Inflows	34,594	35,451	-857	0	300,092	-3,315	0
Outflows							
Capital Expenditure							
Capital Expenditure	-1,521	0	-1,453	-68	0	-1,533	-72
Start-up Costs	-1,164	0	-1,112	-52	0	-1,114	-53
Operational costs during construction	-1,001	0	-956	-45	0	-1,098	-52
Pre-funding Debt Service Reserve Account	0	0	0	0	0	0	0
Interest Paid During Construction	0	0	0	0	0	0	0
Total Capital Expenditure	-3,686	0	-3,520	-166	0	-3,745	-176
Operating Costs							
Total labor cost	-1,255	0	-314	-941	0	-1,509	-4,528
Overheads	-1,166	0	-1,166	0	0	-5,606	0
Periodic Maintenance	-219	0	-219	0	0	-1,058	0
Card Production and Distribution	-346	0	-346	0	0	-2,714	0
Total Operating Costs	-2,986	0	-2,044	-941	0	-10,888	-4,528
Change in Accounts Payables	13	0	13	0	0	0	0
Change in Cash Balance	0	0	0	0	0	0	0
Tax	-7,765	0	-7,765	0	0	-80,779	0
Total Outflows	-14,423	0	-13,316	-1,107	0	-95,412	-4,704
Net Resource Flow	49,017	35,451	12,459	1,107	300,092	92,097	4,704

Value Added by the Toll Road

The completed toll road will contribute to improve the local economy given the huge financial and economic benefits that will accrue and jobs created. Returns in excess of 19% are paid to the local government as concession fees thereby adding value to the local economy. The toll road will improve on travel times, savings in vehicle operating costs, increased level of security, provision and maintenance of transportation infrastructure and lower pollution levels.

Conclusion and Recommendations

Conclusions

The Calabar-Ogoja-Gakem corridor toll road project aims at improving the lives of the people of Cross River by alleviating the traffic situation along the axis thereby reducing traffic jam, improving on travel times, vehicle operating costs, reducing air pollution and crime rate that is a direct result of traffic congestion which usually gives opportune thieves an easy target.

The results of the appraisal carried out and the detailed assessments made show that the project is both financially and economically viable.

The cost benefit analysis also shows that overall the economic contribution to the local economy as demonstrated by the high EIRR over and above the economic cost of capital (10%) is huge thereby demonstrating the economic value added by the completed project.

The stakeholder analysis carried out also shows that the value added by the toll road to the local economy is huge thus justifying the bank's intervention in this project.

The environmental impact assessments carried out further shows that the project will alleviate the traffic situation in the Calabar-Ogoja-Gakem corridor and improve people's lives by reducing travel times, pollution levels, improve security for road users and save on vehicle operating costs.

Annex I: Project financials

Base Toll price	500	per Km
Toll price	130000	per PCU
Base vehicle	800000	Passenger Car Unit, Includes all types of vehicle (commercial vehicle converted to PCU)
Vehicle Growth	12.00%	Per year growth of PCU
Display Advertisement	1200	Along Toll Road
Advertisement Growth	8.00%	Per year growth
Additional Revenue from other agencies (N'million)	100	For using infrastructure
Price escalation	6.00%	Per year (Would be applicable to all revenue and cost items)

Project Returns

Project IRR	143.37%	IRR based on project cash flows (revenue - expenditure- taxes - capex) and terminal value
Project NPV	79747690.59	NPV based on project cash flows (revenue - expenditure- taxes - capex) and terminal value discounted by WACC
Equity Sponsor IRR	192.06%	IRR based on equity cash flows (investments - dividend) and terminal value
Equity Sponsor NPV	82559680.96	NPV based on equity cash flows (investments - dividend) and terminal value discounted at Cost of equity

Equity IRR	Development Cost (In Crores)								
	192.06%	70	80	90	100	110	120	130	140
Interest Rate (In %)	8.00%	522.28%	502.09%	484.82%	469.81%	456.57%	444.75%	434.11%	424.45%
	9.00%	522.28%	502.08%	484.82%	469.80%	456.56%	444.75%	434.10%	424.44%
	10.00%	522.27%	502.08%	484.81%	469.80%	456.56%	444.74%	434.10%	424.43%
	11.00%	522.27%	502.07%	484.81%	469.79%	456.55%	444.73%	434.09%	424.42%
	12.00%	522.26%	502.06%	484.80%	469.79%	456.54%	444.73%	434.08%	424.42%
	13.00%	522.26%	502.06%	484.79%	469.78%	456.53%	444.72%	434.07%	424.41%
	14.00%	522.25%	502.05%	484.79%	469.77%	456.53%	444.71%	434.06%	424.40%
	15.00%	522.25%	502.05%	484.78%	469.77%	456.52%	444.70%	434.06%	424.39%
Equity IRR	Vehicle Growth (in %)								
	192.06%	4.00%	5.00%	6.00%	7.00%	8.00%	9.00%	10.00%	11.00%
Base Vehicle (PCU's)	120,000	83.14%	83.76%	84.38%	85.00%	85.62%	86.24%	86.87%	87.49%
	140,000	89.83%	90.43%	91.02%	91.61%	92.21%	92.81%	93.41%	94.01%
	160,000	95.88%	96.45%	97.02%	97.60%	98.17%	98.75%	99.33%	99.91%
	180,000	101.40%	101.95%	102.51%	103.07%	103.63%	104.19%	104.75%	105.31%
	200,000	106.49%	107.03%	107.58%	108.12%	108.67%	109.21%	109.76%	110.31%
	220,000	111.23%	111.76%	112.29%	112.82%	113.35%	113.89%	114.43%	114.96%
	240,000	115.66%	116.18%	116.70%	117.22%	117.75%	118.27%	118.80%	119.33%
	260,000	119.83%	120.34%	120.85%	121.37%	121.88%	122.40%	122.91%	123.43%

		Concession Period (in years)							
Equity IRR	192.06%	10	12	14	16	18	20	22	24
Base Toll Price (NGN)	0.80	-ve	-ve	-ve	-ve	-ve	-ve	4.31%	6.86%
	0.90	-ve	-ve	-ve	-ve	-ve	2.33%	5.53%	7.82%
	1.00	-ve	-ve	-ve	-ve	-ve	3.72%	6.53%	8.64%
	1.10	-ve	-ve	-ve	-ve	1.34%	4.84%	7.39%	9.35%
	1.20	-ve	-ve	-ve	-ve	2.68%	5.80%	8.17%	10.02%
	1.30	-ve	-ve	-ve	-0.09%	3.76%	6.61%	8.84%	10.61%
	1.40	-ve	-ve	-ve	1.26%	4.69%	7.37%	9.48%	11.17%
	1.50	-ve	-ve	-ve	2.34%	5.49%	8.02%	10.05%	11.67%

Annex II
GOVERNMENT OF CROSS RIVER STATE
Governor's office
Calabar

Calabar-Ogoja-Gakem Superhighway Project

Zero Draft Terms of Reference (ToR)
Consultancy services for Environmental & Social Impacts Assessment (ESIA)

(a) Introduction

Cross River State Government (CRSG) is desirous of constructing a Greenfield superhighway of up to 240km from Akpabuyo in the South to Obanliku & Gakem in the North. The project is part of the integrated infrastructural development plan of the administration comprising a deep sea port in the South, ultimately aimed at catalyzing economic growth & development. For ease of implementation, the project shall be undertaken in four sections of about 60km each.

CRSG appreciates that the beginning point in the project planning is the technical, economic and environmental feasibility of the opportunity, and is now seeking to procure an experienced firm or consortium of firms to assess the potential impacts that the proposed intervention may have on the social and natural environments. Preference would be given to bidders with international experience and affiliations, with track record in complex construction projects in difficult terrains.

(b) Scope of Assessment

The assessment will be based on the preferred bidder's statement of work as modified and approved by CRSG through the project implementing office. In broad terms, the deliverable shall derive from the project including proposed alignments based on the findings of extensive literature review, field sampling activities, laboratory and bench data analyses, as well as a comprehensive social impact assessment and public participation exercise. In specific sense, the outlines for the expected deliverable shall amongst others, include the following:

1. General background to the project & review engagement
2. Project Description and Justification
 - 2.1 Project Description
 - 2.2 Project Justification
3. Policy, Legal and Administrative Framework
4. Description of the Project Environment
 - 4.1 Climate and Meteorology
 - 4.2 Geology and Topography
 - 4.3 Hydrogeology and Groundwater
 - 4.4 Vegetation
 - 4.5 Wildlife and Endangered Species
 - 4.6 Air Quality and Noise Levels
 - 4.7 Soil Quality

- 4.8 Socio-economic and Cultural Setting of the Area
5. Project Alternatives
6. Potential Impacts and Mitigation/Enhancement Measures
 - 6.1 Positive Impacts
 - 6.2 Negative Impacts
 - 6.2.1 Negative Impacts of Construction Activities
 - 6.2.2 Negative Impacts of Operation Activities
7. Environmental Hazard Management
8. Monitoring Program
9. Governance, Public Consultation & Public Disclosure
- 10 Complementary Initiatives
11. Conclusion
12. References

(c) Methodology for producing the ESIA Report

The ESIA assessment will be based on desk review, field & laboratory investigation, benchmark analysis and public participation & protocol.

Deskwork will be used to review available literature on the project, designs and related high level policy documents & legislations of the Federal Republic of Nigeria, CRSG including international best practices. This shall also include meetings with other project consultants, civil society and relevant government offices such as the Ministries of Environment. The intention is to help deepen understanding on the level of detail on this assignment within the diverse stakeholder influences (international finance institutions, local & regional lenders, Federal & State Governments, civil society organizations etc) of the project.

Public participation shall include but not limited to coordination with regulatory institutions, civil society and the public along each of the four sections in thee project. The main thrust of this aspect of the assignment is to attract and retain inclusiveness in the project from

start to finish as much as possible. As part of the quality assurance process, the consultant would be expected to review and obtain CRSG sign-off on the communication packages including questionnaires in this phase of the task.

(d) Deliverables, Feedback & Reporting

The firm or consortium will undertake the project based on the approved statement of work keeping in the mind the considerations noted above. Feedback meeting between CRSG and key stakeholders on the project ESIA with the consultant(s) providing leadership and shall be held to seek feedback on the draft inception report which shall be submitted by firm/consortium within thirty (30) working days from the date of engagement.

The protocol for public participation and appropriate approval of the ESIA report shall be complied with and is expected to be detailed out in the statement of work to be submitted by bidders.

(e) Qualifications of the Consultant

The firm or consortium must have at least 10 years experience in related engagement and a good knowledge of the ESIA reporting template for international finance institutions and regulators. Knowledge of project management including cross border exposure of key team would be an advantage. The Consultant will also have a good command of the English Language as the ESIA report shall be in English.

(f) Duration of the Assignment

The estimated duration of the consultant's assignment is forty-five (45) working days from the date of the project commission.

(g) Procurement mode

The choice of the preferred ESIA consultant(s) shall be competitive and will be based on quality and cost selection. Owing to exigency of timing of the project and the specialized nature of the assignment, selective tender mode shall be applied in the procurement of the project ESIA consulting firm/consortium.

At the entry point, interested bidders must meet regulatory and statutory selection criteria for participation in government contracts and this may include accreditation or registration with relevant professional associations and regulatory agencies.

Qualified firms or consortia are encouraged to forward a statement of work detailing work plan, deliverables, methodology, profile and experience of the entity and cv of key staff (excluding financial estimate at this stage) not later than 10 working days from the receipt of this terms of reference to: crshighwayesia@crossriverstate.org.

Signed
Project Implementation Committee

Dated

Copied to:

1. The Director General
Due Process & Price Intelligence Bureau
Calabar
2. The Director General
Bureau of Public Private Partnerships
Calabar
3. International Finance Institutions (various)
4. Select institutional investors

- Annex III Map of Project Area
- Annex IV: Organizational Chart of Project inception team
- Annex V: Project Implementation Schedule
- Annex VI: Project front-end-engineering-design