



Rapid urbanization of Ikorodu town and the implications on the metropolitan form and space

Adenaike Folahan Anthony^{1*} and Kosoko Rukayat Abidemi²

¹Department of Architecture, Lagos State University science and Technology, Ikorodu, Nigeria

²Department of Urban and Regional Planning, Lagos State University science and Technology, Ikorodu, Nigeria

Correspondence Author: Adenaike Folahan Anthony

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Abstract

The urban form of Ikorodu Town has been changing rapidly since the 1990s. This may be due to the evolving socio-economic configurations of the contiguous Lagos metropolis, which is rapidly integrating the Ikorodu town into its domain. This study was carried out to determine the effects of the rapid urbanization of the town on the landscape, the open spaces, the building clusters and the public spaces. The research was carried out by collecting primary and secondary data directly from the field and previous publications on Lagos state urban structure and projections. Four hundred questionnaires were also administered to determine the socio-environmental acceptability of the evolving form in comparison with the indigenous morphology of the town. Current cityscapes are depicted in photographs obtained from location by the authors. There is enough evidence to conclude that the core of the town is now congested. Apart from the major road network, there were no development plans to accommodate the rapid urbanization. The new layouts being developed by the state authorities are on the fringes of the town and have failed to address the undesirable metropolitan form and space. Development Control may be very challenging to enforce due to the customary holds on property unless there is an execution of eminent domain or state assisted gentrification on the heavily congested areas. Only then, can the urban systems become sustainable. The spatial dysfunctionality can then be gradually addressed. The paper suggests the assessment and documentation of the city layout and land use with a view to developing a sustainable master plan that can be implemented. The organic urban form needs to be corrected and modernized. If there is need to adjust the existing land use pattern. It should be carried out to save the town and make it a sustainable city. All state efforts to improve the urban form must be inclusive.

Keywords: urbanization, development, urban form, sprawl, sustainability, urban systems

1. Introduction

The unicentric development of Ikorodu town was altered by the population pressure on the whole area on one hand and opening up of the transportation routes that connect it to the surrounding settlements. The congestion from the city center and development of market sprawl led to more people settling in the surrounding areas. Majority of the population is swelled by the ranks of immigrants. Clustered development along the roads that lead out of the surrounding towns led to the rapid urbanization and the extension of the limits of development. The farmlands that surrounded the city were quickly taken up by mostly residential development. The development along the major roads eventually turned to commercial ventures that have linked up the settlements on the fringes of the city. The city continues to urbanize with centers outside its geographical limits. Over the years, the spaces between the clusters have been filling up from the city center radially. The limits of the town in some areas have become blurred as no buffer spaces exist between it and the next towns. Fortunately, boundary disputes are rare since Local Government Administration. The chiefdoms and traditional enclaves are delimited by unconventional markings rather than land forms or natural boundaries.

The rapid urbanization of Ikorodu town is caused mostly by migration. Between 1991 and 2006, the population of the town

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increased from 184,674 to 535,619. The concept of urbanization itself has been entrenched all over West Africa and has caused rapid growth of cities in the subcontinent. The intensity varies from city to city [Pacione 2001] ^[21]. Lagos metropolis is growing at a rate of 5.6% per annum [Njoh 2003] ^[18] so many reasons can be adduced to this phenomenon. Generally, state policies play a large role in the current state of rapid urbanization of some cities in sub-Saharan Africa [Lipton 1977, Stren 1989, Dumont and Mottin 1983] ^[17, 24, 11]. When resources and growth stimulating infrastructure are channeled to and concentrated in some cities, the cities tend to pull investment and population from the surrounding areas. As the city grows in population and concentration of physical structures beyond its own bearing capacity, a trend of dysfunctionality starts to set in, this is often referred to as over-urbanization [Smith 1987] ^[23] or pseudo-urbanization. Over-urbanization or pseudo-urbanization must be differentiated from compact urban form. Jabareen [2006] ^[14] argued that densification of the urban form encourages and promotes social interactions, conserves resources and constitutes a type of compact development which is sustainable. By containing sprawl in urban areas, connectivity and contiguity are promoted. Maintenance of a compact built environment as a widely accepted precondition for achieving a sustainable urban form [Wheeler 2000] ^[27]. Imhanfidon, Mohammed and

Adepoju [2015] identified an alarming decrease in vegetation, cropland and water body in Ikorodu town between 1984 and 2014. The built-up area increased by 68% on the contrary.

This paper attempts to identify the direct effects of this rapid urbanization on the urban form of Ikorodu town and suggest some possible solutions to the dysfunctionality that is trending from the city untrue. The surrounding settlements like Ijede, Igbogbo, Ibeshe, Ipakudo and Odogunyan are being encroached upon by the situation that started out from the city center.

2. Research methodology

This qualitative research is based on primary data and secondary data. The primary data is obtained from field observations and interviews of space technocrats and community leaders who provided firsthand information on the context. The information is supported with scenic capture of real time situation in photographs and sketches. Landmarks and other natural formations in the area were also used to verify information from oral interviews. Secondary information was obtained from published articles and conference proceedings on relevant and related topics. Data from some of the articles are also quoted in this text to substantiate some positions. Being qualitative research with spatial interferences aerial data from satellite searches from other articles were also relied open to come to conclusion on the subject matter.

Apart from the population records from the national population commission website, the data and information on previous situation in the area could not be verified. The last census was carried out in 2006. Population figures for the time of research are mere estimates and postulations which cannot be relied upon. The situation is less credible for the spatial data on the limits of development, the cityscapes and the urban forms. There are very few records which were taken from extant sources. The local government offices and the representatives of the community administration could not substantiate their position on the spatial patterns hitherto. These setbacks made the research more challenging. More interviews had to be carried out to confirm salient issues that arose from initial set of interviews

3. Antecedents of the current urban space and form of Ikorodu

The indigenous spatial patterns in Ikorodu were finite and well organized. The original Ikorodu town had about 17 "Ituns". The Ituns were compact settlements of homesteads and family units that functioned as a sub-unit under a chief who reports to the king of the town [Anyangburen].

The Ituns had well defined boundaries which are still in existence in some parts of the town. There were also 'Itas' which were the town squares for social activities. Each "Ita" was maintained and kept vegetation free by the surrounding "Ituns".

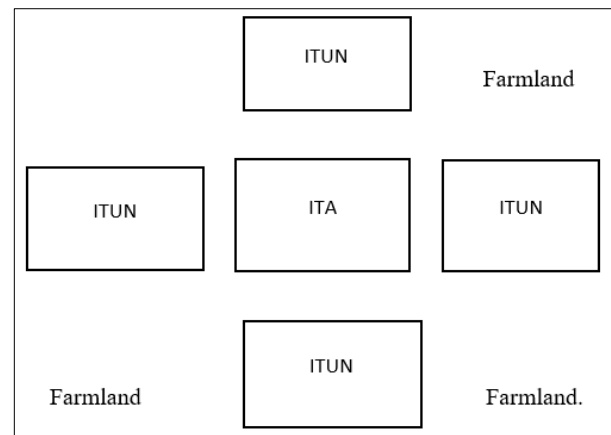


Fig 1: Typical layout of traditional settlements in Ikorodu

The Yoruba architecture and urban form were prevalent and the Ituns were composed of interlinked family units which were around a central courtyard. The Ituns did not have a common courtyard. The links between the family steads were narrow walkways that linked up to a wider walkway usually leading towards an "Ita" or to the farms. An agrarian community of Ijebu-farmers thrived in this spatial pattern till the end of the 19th century. Ikorodu town itself did not stretch beyond Oju Ogbe, Ireshe, Ojubode and the present Ikorodu Garage. The present metropolis is a result of annexation of surrounding settlements along the major transportation routes that connect the town to other areas.

The original Ikorodu town had a fairly dispersed urban form that was sustainable. The landscape which rolled on gently undulating land forms was fairly even with well-maintained open areas. No extraneous efforts were identified in cultivating the landscape but evidence of neighborhood vegetable garden implies that there was a fairly well-organized landscape pattern that inverts into the town square [Itas]. Vertical developments did not come into the town until the late 1940s or 1950s when aspects of Brazilian architecture were being imported by traders who settled into the town and the richer indigenes. The circulation spaces were not thorough as very short stretches of roads meandered within the settlements. The routes out of town to the river crossings and other towns were however more defined. The monumental forms did not stand out in terms of form but of ornamentation and spatial hierarchy that defined their functions. Ikorodu was a walled city. This encouraged a compact urban form [Asomani-Boateng 2011] ^[5].

There was no leapfrog development beyond the town limits until the mid-1900s when urbanization pushed the town beyond its initial boundaries. The city layout of indigenous communities in Yoruba land were designed to be compact with concentric circles of development radiating from the center which housed the ruler of the town or the market. Amankwa – Ayeh (1995) ^[3] believes that the circular development with a focus on the center which housed the traditional ruler was based on a structured hierarchy of urban form which allowed equal access to the center and excludes any form of marginalization or alienation of the masses. The access roads also radiated from the center to the fringes of the town. This concept is evident in

the structure and urban form of Ikorodu town. The open courtyard system for the family units within the “Ituns” was typical and widespread all over The Sudan [Andersen *et al* 2006] [4].

3.1 Urbanization of Ikorodu town

Urbanization is a concept that is subjective in definition. It is a process that is only evident in its output. A settlement of a few housing units may witness growth and development. This process of growth and development is not labeled as urbanization until the settlement attains a threshold of an urban center. Only then is the process labeled as “urbanization”. When urbanization proceeds at a very high speed, it is labeled “rapid urbanization”. This means urbanization had progressed over a very short period of time. The impact of such a process should not be assessed quantitatively or in demographic terms alone [Aluko 2010] [12].

The growth of Ikorodu town from a small settlement on a plateau to a major urban spread, consuming all the surrounding towns and settlements within a three-mile radius was exponential. The “push and pull” theory of migration is well exhibited in the phenomenal growth of the town [Jiboye 2011] [16]. Ikorodu town was a trading hub and stop over for traders moving between Lagos and other commercial centers like Ibadan and Ijebu-Ode.



Fig 2: Present Ikorodu city core along the major roads

The fusion of customs of peoples from Shagamu, Ijebu-Ode, Benin and the Egba towns generated a cosmopolitan outlook in the town. This is the main catalyst for development and urbanization of the town. The opening up of country roads from Lagos through Ikorodu to Shagamu brought about more trade and eventual settlers.

The rapid urbanization started in the 1990s during the post-gulf war economic boom in the country. The rapid expansion of the Nigerian economy brought about an increase in land speculation in the major urban centers. The Lagos metropolis filled out completely and there was increased pressure on the contiguous cities like Ikorodu, Mowe and others [Brimoh and Onishi 2007, Agbola *et al* 2009] [6, 1]. These cities witnessed a phenomenal growth in population and physical development which was neither controlled nor planned [Lawanson and Odumbaku 2013]. Spontaneous development from the fringes in all directions and densification of the original city with commercial development assisted by rapid population growth changed the outlook of the city within a decade. By 2010, the core of the city was already congested. Areas outside the city

core witnessed rapid urbanization but were mostly built up with residential units.

The urbanization of Ikorodu is currently underpinned with a skewed type of development. While the buildings are coming up, very little infrastructure is being laid out to support the urban systems. The original city has a tarred road network. The roads are narrow with drains that are not covered. The appendages that have been merged with the city are yet to have enough roads and drainages. The municipal services like water supply, central sewage system, electricity lines and transportation lines are either nonexistent or are in their rudimentary stages. This situation denies the town of the modern outlook that a city with so many recent buildings should have.

Currently, the migration continues and the migrant population are moving beyond the immediate limits of the greater town to surrounding settlements like Ijede, Parafa, Odogunyan and Ibeshe. All these surrounding settlements have already fused with the larger Ikorodu along the highways. In March 2017, the Lagos State Government announced its decision to develop and implement a new regional master plan for the town. This may be a step towards resolving so many issues that surround the urban systems like transportation and drainage. The uncontrolled and unplanned land-use pattern may now be documented and resolved. The agencies of the government announced that the annual spatial growth rate of Ikorodu is now 1171.6 percent annually since 2015. This can be compared with a documented growth rate of 118.3% percent which was recorded 1990. The new regional master plan has an implementation period of 20years [2016-2036]. The majority of the population are oblivious of the intentions of the State Government and are only concerned about amenities like wider roads, parking and pipe borne water. The technocrats interviewed during the study support an overhaul of the city center and implementation of a master plan for the city to curb the dysfunctionality that threatens the city in the near future. There is no viable transportation system within the city.

3.2 Urban space and form of Ikorodu

An aerial view of Ikorodu greater town reveals a fragmented urban form [Jenks *et al* 2013] [15]. Being an African town, it may be possible to explain the form of the town in the African concepts. Asomani-Boateng (2011) [5] identified two distinct typologies in African urban form. The circular and the grided layouts. Both are based on the layout of the city with respect to the origin. The circular layout as depicted in the Zulu Kraal with two concentric rings of development is a radial pattern of flows from the center of the city to the fringes. The grided pattern is less indigenous to Africa and is mostly seen in planned cities across the continent. Some ancient cities like Benin City and Dahomey have grid-based layout and the reason for this can be extrapolated from the historical antecedents of the city development. Such simplicity in urban form description of modern cities, even where they have evolved over centuries is rare. The urban form of a city is very difficult to define. It may be less cumbersome to operationalize the term to improve its applicability. Davoudi and Sturzaker [2017] [8] proposed a condensation of the discourse of urban form definition into three clusters of characteristics. Land use pattern, transportation system and urban design. Jabareen (2006) [14] had the layout of public spaces, street design, land

use pattern and density among others as indices for depicting the urban form of a city in general terms. Burton *et al* [2003] [7] favored the use of “density”, “centricity” and “efficiency” in the definition of the form of a city. In some general terms, physical components of the built city that repeat themselves, cluster or form a pattern can be used to describe the urban form in line with any of the postulations in the discourse.

4. Discussion

The core city of Ikorodu has a neo-traditional development. The greater city is more modern in outlook with contained housing estates and grid-based layouts that depict the high style sub-urban settlements which is common in Southwest Nigeria. The whole town is sprawled which is only halted by the lagoon and the major stream that runs North-South along the Eastern fringes of the core city. The sprawl continues after the stream in more modern houses. Beyond the town, the sprawl is evident in developed clusters of buildings along the major roads leading into the town.

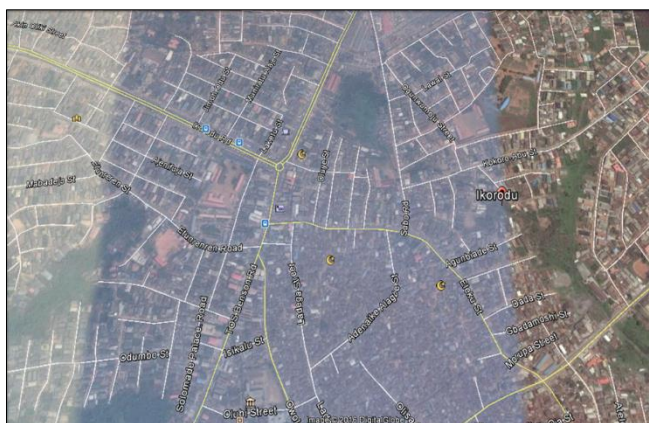


Fig 3: Aerial view of Ikorodu, showing the dense city core and the sprawled contiguous areas

Land use pattern

The land use is typical of what obtains in sub-urban towns of Southwest Nigeria. It is basically residential. The city core is generally being transformed into a market sprawl with a dysfunctional setting as the race to set up enterprise in the city center intensifies among business. Beyond the city core, the commercial uses line up the streets but diminish into mixed uses as they move farther from the center. The land use along the major roads is not fully residential. The areas abutting the thin line along the roads to the end of each block are filled with residential development. Underdeveloped portions of land appear as green areas in the deeper valleys around the plateau while swamps and streams make development difficult.

Transportation

Transportation within Ikorodu town is by road. There are ferry services from the outskirts of the town through the Lagoon to Greater Lagos. An Expressway comes in from the Lagos metropolis in the west and heads northwards to Ogiyo/Shagamu at the major round about which sits just outside the Northwest boundary of the original city. The original city for most part of

it is almost impenetrable. The roads are very narrow and almost invincible from the satellite imagery. The rest of the town which is the greater Ikorodu is serviced by grided road layouts with fairly straight roads that interconnect.

Public spaces

The traditional squares which were open spaces have been fully developed. Institutional structures like schools and Local Government offices and in some cases. Commercial developments like market stalls are now on the squares. The only reference to the existence of the squares are the names of the areas. By modern standards, the squares were not extensive, hardly taking up the space of more than 200m². The limits of such squares are hardly defined within the sprawl. The names of such areas depict the existence of a square which cannot be seen in the present development. The present Town hall sits on a former square and may be the only organized public space that remains from the old era. Even the palace of the traditional ruler has been moved from the centre of the city to a new layout due to lack of space and dysfunctionality in the core city. The sprawl has diminished the open areas, the landscaping and the farmland that once surround the town. The public buildings are constantly being relocated away from the city core.

Density

The city core is very dense. There is a concentration of closely built structures and a higher population of dwellers in the area. There is no tendency to embark on vertical development. Most of the houses are single storey structures that were renovated from bungalows. There is very low presence of state infrastructure in the city core. The greater city has lower population density as the houses are sprawled extensively with better adherence to planning standards of setbacks and land use percentage. There is no high rise building in the whole town. The crowded markets that are noticeable during the day are fed by population from within the city and surrounding settlements who will normally retreat after business hours. The dense city core is less than 10% in land area of the greater city. In more general terms, the town cannot be described as a dense city. It is sprawled with leapfrog developments that are being closed up by the sprawl over time.

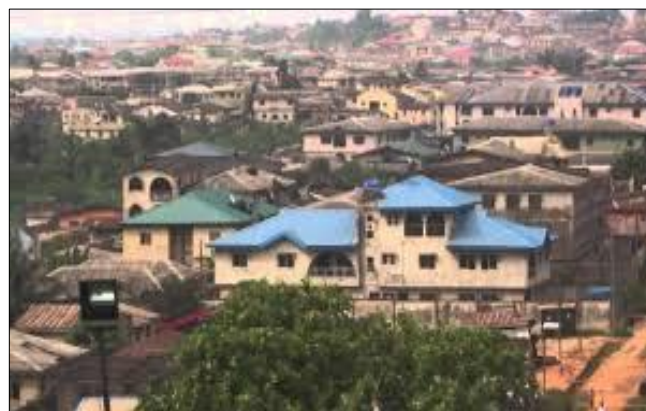


Fig 4: The sprawl in the greater city is evident in dispersed low development

Table 1: Urban growth and population density of Ikorodu (1975-2015)

Year	Population	Population density pers/sq.km	Urban area (ha)	Annual urban change rate
1975	154,377	389	419	00
1984	170,535	430	2,252	229.13
1990	182,654	461	2,961	118.30
2000	390,620	985	4,587	162.52
2006	527,917	1,331	7,506	486.52
2011	946,722	2,388	9,085	316.26
2015	1,510,594	3,810	13,772	1,171.16

Source: Dekolo *et al.*, 2015

Street design

Traditional Yoruba towns have a compact form. There were no cars and no other means of transport apart from trekking. There was no imperative to make the street wide. The hierarchy of courtyard forms may come with large spaces and the town squares may be wide. This phenomenon did not transcend towards the street layout. The communal lifestyle also encouraged the closer location of houses. This may be the reason why the city core in many Yoruba towns remain dense and crowded with very narrow streets.

The core of Ikorodu town is just as dense. In some area, only a single lane of road that is about 4m wide run through some areas. These roads have been cut out of the old footpaths and the setbacks within the compounds. Some of them have no drains and the setback from the houses may be as little as 1m. To institute a modern street design within such a context can be very challenging. It will definitely involve a demolition of buildings that have such a high historic value. The city core is traversed more by alleys than streets. The greater town is gridded by single carriage roads that are about 7oms wide with drain. Due to the unplanned nature of majority of the areas, the traditional land owners did not leave space for sidewalks. Only the streets and the drains separate the properties. Urban renewal by the Lagos State Government in recent years brought in standard roads with sidewalks on the drains to the outlying areas of the town. The roads are straight and built with more resilient materials. Dual carriage ways also came in with the urban renewal program to ease access through the town for those who are travelling through the area. The dual carriage ways also have sidewalks apart from the courtyards that lead out of the town. The street design is rudimentary. There are no bicycle paths, no landscaping, no lay byes and other enhancements of standard streets that are community friendly and eco-compliment.



Fig 5: New layouts are opening up without requisite infrastructural layout. A new estate without drains.

Direct effects of rapid urbanization

The urbanization of Ikorodu could have progressed differently if the impetus of the overbearing push from the Lagos metropolis had not pushed the process beyond its limits. The lack of data and documents that could be referred to makes assessment a little more cumbersome. There are however, glaring implications that are only explainable by the rapid urbanization process.

One of the major effects of the rapid urbanization is the challenged physical planning enforcement. The space standards, setbacks and development limits for the area have not been fully enforced. The state government is represented by just 1 unit of town planning office for the whole area. The volume of the building plan approval has risen sharply and the office was recently moved to a more spacious location. Feedback from the field offices identified the city core as an intransigent area to monitor. A list of informal urban infill is taking place in the area. Since most of them are not permanent structures, they cannot be stopped by the authorities. Oduwaye [2009] [20] identified this illegal and informal land use as one of the challenges of sustainable physical planning in Lagos. The management of the urban spaces has become very challenging. The municipal authorities are handicapped by the sheer volume of development taking place at the same time. The Local government is also generating revenue from the commercial uses that form most of the urban infill. The need for a second and probably a third Town planning offices obvious in Ikorodu to tackle the enforcement problem. The informal and unplanned unit that have been brought about by the rapid organization and lack of enforcement have made the urban form amorphous in some areas.

Vulnerability and resilience are the two overlapping themes in sustainability science. The human-environment system requires a deeper understanding to determine the trade-offs of human and services outcomes for a balance [Turner 2010] [25]. The need to evolve resilient urban forms is expedient in the current world of development when cities develop faster than good planning precepts, there are likely to be lapses in the structural underlay of the city. The organization of the urban systems may be contingent.

Narrow roadways, drains that are not potent enough, spatially unbalanced development and land use all pave the way for vulnerability of the urban form. These indices cannot be dissociated from the rapid urbanization process that outran the necessary physical planning and infrastructural development. The densely populated city core makes urban upgrade more difficult [Wang *et al* 2015] [26].

Another effort of the rapid urbanization is the disjoint between the development programs and the targeted efforts on the city form. Most of the development programs by the authorities

appear like plausible solutions at the onset. By the time the schemes are completed, the demand would have exceeded the provisions of the scheme, creating the need for a fresh program. The fast pace of urbanization has been exceeding the extrapolations of the authorities in the recent past. The new regional master plan was proposed to address the problem.

The urban systems that are to support the form are always inadequate. This may have contributed to the stunted growth of the building clusters. Rather have vertical developments in some areas for a more sustainable environment, the whole city is a continuous sprawl of low buildings. In some areas, bungalows dominate the landscape.

Table 2: Satellite monitored changes in land cover of Ikorodu (1984 to 2014)

Land use type	Changes 1984 - 2000	% Age change	Changes 2000 - 2014	% Age change	Changes between 1984 - 2014	% Age change
Water body	-3.53	-1.7	0.42	0.2	-3.11	-1.5
Vegetation	-85.44	-27.8	-33.38	17.7	-118.82	-43.5
Crop land	77.1	38.7	-97.62	-54.7	-20.52	-20.5
Built UP area	11.84	15.0	130.62	59.0	142.46	68

Source: Imhanfidon *et al* 2015

The agricultural land that surrounds the city is almost completely lost to this unsustainable trend. There was no time to plan the municipal services first in the new areas as proposed by De Jong *et al* (2015) [9]. Imposing the municipal services after development can be more challenging. The urban form is more or less organic.



Fig 6: Road upgrade to create better access

5. Conclusion

Market forces are the major determinants in urban development. There is often a mismatch between city planning concept and the reality that eventually unfolds on ground [Sharifi 2016] [22]. Unforeseen levels of migration, geared on by market forces, lead to the rapid urbanization that took place in Ikorodu in the 2000s. The pressure on the landscape is unprecedented in planning terms. The metropolitan space and form is highly affected by this phenomenon. No gentrification has taken place and the old buildings are still in place. The urban infill that is almost completely informal in the historic city center and the sprawl that constitutes the contiguous environment are undesirable in the domain of sustainability. It is hoped that the New Region Master Plan will document the existing pattern of land use, make adjustment for the growth pattern in the physical environment and discourage the sprawl that is taking over the country side. There is also a need for inclusiveness in the new planning. There is no presence of physical planning in the current outlook of the city. Development Control is also not being complied with. Road upgrades are the only visible elements of government intervention in the urban composition and these are only meant to create access. Most modern cities are multi-nuclear and this makes upgrades more difficult. Upgrades are most times unable to keep pace with rapid urbanization [Gbadegeshin and Aluko

2010] [12]. The extraneous growth modes of Ikorodu are unique in the way they have contributed to the rapid organization. Very extensive studies on the urbanization trends and peculiarities in Ikorodu are needed to be able to put up an effective plan. Extrapolations must be better articulated and relevant.

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