

Efficient Road and Road Transport Management: A Panacea for Accident Reduction in Nigeria

OFOEGBU, Onyema E, Ph.D

Department of Business Administration, Faculty of Social and Management Sciences,
Ajayi Crowther University, Oyo, P.M.B. 1066, Oyo, Oyo State, Nigeria.

E-mail: engeneofogbu@yahoo.com

Abstract

The alarming carnage on the Nigerian roads involving deaths and deplorable conditions of the roads necessitated this study. The data for the study was gathered primarily through secondary source. Analysis of the data and information reveal that a number of factors are responsible for the sad situation. These factors include human (corruption, collusion with contractors, errors of omission and commission), physical including (inferior materials, soil texture) and systemic factors. The conclusion is that the situation is so complex that a multivariate approach is needed and to tackle it. It is therefore, recommended that many strategies be adopted including enlightenment campaign change of attitude on the part of officials and appropriate intervention approach in order to bring the carriage to a halt or reduce it to the barest minimum.

Key words: Efficient Road, Road Transport Management, Panacea for Accident Reduction

Introduction

The contemporary deplorable state of roads in Nigeria with attendant increasing rate of road accidents has been a source of worry to well meaning individuals. No day passes in Nigeria without one hearing of one major accident or the other and loss of human lives. Nigerian roads have indeed become death traps with their attendant consequences and effects on human lives, merchandise and peoples movement.

Road transport system is the most important means of transportation in Nigeria and indeed in many developing countries. This is because roads are the major connecting links of states, towns, cities and villages. It has equally been estimated that road transportation represents about 85% of passenger and haulage activities in Nigeria. It has been said that Nigeria has the largest road network in West Africa and second largest road network south of the Sahara with an estimated road length of 193200 kilometres (Okeke 2011). The Nigerian road network comprises Federal roads, State roads and Local Government roads. The problem of maintaining those roads has been given as one of the major factors leading to accidents.

In its 2011 road and safety survey the United Nations ranked Nigeria as the second worst in the World in road accidents in 191 out of 192 countries surveyed. In 2007, Nigeria recorded 162 deaths per 100,000 persons. By the same report, the Nigerian Federal Road Safety Corp said in 2007, 4944 persons died in 9114 reported accidents with 17,390 injured. A study by Oluwasanmi (1993) reported that between 1960 and 1993, 18,000 persons died in road transport accidents in Nigeria. Indeed the Nigerian Road Safety Corps reported that in 2009 there were 7737 reported road accidents involving 2252 vehicles resulting in 1056 deaths. A recent World Health Organization report indicates that 400,000 people between ages 10 – 24 are killed around the world each day. Given the psychological, sociological, traumatic and economic consequences of the above frightening accident scenario, there is a compelling need to ascertain whether the situation is improving or deteriorating. This is a major purpose of this paper.

Literature Review

Effective transport networks are key components of the investment climate enabling people and goods access to markets and reducing cost of doing business Olaleye (2010). Furthermore, Olaleye (2010) contends that more than half of African roads including Nigeria are not motorable for more than half of the year. There is no doubt that such poor state of many African roads and transport network becomes a limiting factor to the ability of many African countries to compete favourably and effectively on the global competitive markets.

The importance of good roads and other means of transport has long been recognized. Smith (1876) stated that good roads, canals and navigable rivers by diminishing the expenses of carriage put the remote parts of the country more nearly upon a level with those in the neighbourhood of the town. Indeed Sawyer (1983) had drawn attention to the dangers on the Nigerian roads and made suggestions on how to reduce the carnage and improve traffic flow. Sawyer (1983) has equally added his voice by saying that successful transport management calls for continuous and systematic application of the traffic tools of education, engineering and enforcement.

There is presently poor coordination and enforcement standards in road construction and maintenance in Nigeria due to lack of coherent national road policy Enebeli-Uzor (2011). Furthermore, Enebeli-Uzor (2011) has reported that in places like Ghana, Lesotho, Tansania specific funds are set aside for road maintenance. This

is unlikely to work in Nigeria because of dishonesty. Money collected from toll gates in Nigeria some years ago was meant to be used to maintain the roads but that never happened because of corruption, Mbanefoh (1977) has taken a different view in suggesting that the estimated long run marginal cost of road use in Nigeria and road user charges cover only an insignificant part of the cost of constructing and maintaining the roads. He therefore, suggests the realignment of road-user charges to resource cost of road supply for inter-sectoral efficiency. Can this non-alignment of road-use charges be responsible for poor construction, of roads, corruption among road managers and unmitigated collusion between road managers and road contractors? Indeed Henry and Miller (1977) argue that road transportation does not appear to be subject to economies of scale.

The Ministerial Conference in road safety held in Russia in 2009 acknowledged that road traffic injuries globally were major public Health problems leading to more than 1.2 m deaths per year and as many as 50 m injuries or disabilities annually. According to Oni and Okanlawon (2011) in Nigeria transportation's contribution to GDP is relatively low, varying between 3 and 12 per cent. Oni (2011) contends that Nigerian road transport and indeed transport industry is bedeviled by a myriad of problems which constitute a major obstacle to efficient and effective transport management. Demand for road transport services or other transport services increases with the extension of the input – output relations of an economy Wikipedia. Encyclopedia (2011). A World Bank Representative had queried in 1974 at Addis Ababa Conference whether the road building boom of 1960s and 70s will not turn a road maintenance crisis in 1980s and 1990s. Going by the road maintenance crisis in Africa today and in Nigeria especially that question has turned out to be prophetic.

Methodology

The information and data for the study were gathered through secondary sources. These sources include Federal Nigeria Road Safety Corps reports, Newspapers, internet, books, World Bank reports and other relevant sources. Practical experience and direct, observation of the roads over the years provided some reasonable information. A visit was made to some commercial motor garages in Ilorin North Central State of Nigeria and Oyo South West of Nigeria to interact with daily users of the roads. Other sources of data were not considered expedient given the nature of the study and indeed the subject matter.

Presentation of Findings

The basic assumption of the study is that roads and road infrastructure should be managed efficiently and effectively to assist the people of Nigeria and businesses as well as traders reduce costs, stress, avoidable accidents and inconveniences while enhancing mobility and economic growth.

Efficiency in the context of this study is concerned and indeed determined by the degree to which users of the Nigerian roads and transport system reach their destination safely and timely too. Efficiency in this study is also determined by the level of satisfaction road users express. The rate of vehicle breakdowns can also point to the level of efficiency and effectiveness of the road transport.

Table I: Road Traffic Crashes in Nigeria 2006 – 2010

Cases	2006	2007	2008	2009	2010
Total Crashes	2600	2162	3024	10854	5330
Serious Cases	4812	4812	5671	6024	10854
Minor Cases	1503	1530	2646	2370	
Persons Killed	4944	4673	6661	5693	4066
Persons Injured	17390	17794	27980	27270	18095
Total Casualty	22334	22467	34641	32963	22160
% Increase		1%	54%	-14.58	-33

Source of Data – National Road Safety Corps Annual Report: (NRSC) 2006 - 2010

Taking the above as a premise, the study set out to find out how safe the roads are: Table 1 indicates the number of road crashes in Nigeria between 2006 and 2010. With 2600 crashes in 2006 rising to 5330 in 2010, certainly the safety of the travellers in Nigeria is in jeopardy. The number of people killed as a result of the accidents in 2006 was 4944; it rose to 6661 in 2008 and declined to 4066 in 2010. Persons injured as a result of the accidents in 2006 were 27,980 while in 2010 the number declined to 18095 persons. Given such number of crashes and the staggering number of persons killed and those injured the Nigerian roads and transport system can not be said to be safe or efficient, the casual decline in the total casualty figures notwithstanding.

The study tried to situate the alarming number of accidents with the number of vehicles involved and the number of offenders. It also tried to adduce reasons for such unpalatable situation.

Table II shows that during the period under review a total of 11,920 vehicles were involved in accidents, while traffic offences recorded were 409,319. The number of offenders during the period was 349,650. Even though

the number of offenders is only 0.20% of the population, yet if such trend continues it could spell doom for the country. The reasons for such unpalatable situation are multivariate: They include among others.

1. **Human Error:** The abnormal number of accidents on the Nigerian roads is mostly attributed to reckless driving and over speeding on the part of drivers. Equally disturbing is the bad attitude of drunk drivers which leads to impaired vision resulting to accidents. Some drivers are also discovered to be answering telephone calls while on steering. This results to lack of concentration leading to possible accidents.

Table II: Traffic Offenders, Traffic Offences, Offenders Arrested and No. of Vehicles Involved

Cases	2010
No. of Vehicles	11,920
No. of Traffic Offences	409,319
No. of Offenders Arrested	349,650

Source of Data: Natural Road Safety Corps Annual Reports: 2006 – 2010

2. **Inability to Read Road Signs and Rules**

The existing rules for road users may not cover everything but they are sufficient to reduce accidents if they are complied with by road users. Majority of the commercial drivers were discovered during interactions with drivers and motor garage touts in some of the garages in South West and North Central Nigeria to be illiterates. One major revelation during the study was that most of the commercial drivers appear not to know where not to overtake. This ignorance accounts for a sizeable number of the accidents on the Nigerian roads which results in head-on-collisions.

A disturbing revelation by some drivers is that most commercial drivers rely on supernatural powers hence they believe that once accident occurs it would not affect them hence recourse to reckless driving. Another discovery was that most of the commercial vehicles are bought on hire-purchase. The ownership of the vehicle belongs to the driver after he has finished paying. Consequently, the drivers over speed in order to make many trips a day which translates to making money for them to deposit with the vehicle dealers.

3. **Bad Road Construction and Poor Maintenance**

The deplorable situation of many Nigerian roads today could be attributed to a number of factors such as:

- i) poor quality of materials used
- ii) poor supervision
- iii) collusion between contractors and government officials
- iv) lack of drainage system
- v) defective contract awards. Here contracts are awarded to those who have little or no expertise on road construction examples being Owerri Onitsha dual carriage way South East Nigeria which took years to construct because the contractor appeared to be at a loss as to what to do, and Ibadan – Oyo dual carriage South West Nigeria which was washed off with potholes even before it was handed over to the Government.

A Federal Minister was quoted as saying that the East-West by-pass a major and important road in the Niger Delta Region of Nigeria was awarded without plan and budget Nigerian Punch Newspaper (25/3/13).

4. **Lack of Detailed Soil Analysis**

Evidence shows that no sooner than most Nigerian roads are completed that serious potholes start developing. This is an indication of lack of specification and standardization of road construction and maintenance. It could equally indicate poor supervision and collusion between contractors and road management officials. Ideally, the soil should be tested and analysed before construction is undertaken. In the developed countries nuclear testing of moisture and density in high way construction developed in the 1960s is the normal approach. This appears to be alien to the Nigerian road construction industry. Evidence suggests that the incorporation of the nuclear soil testing philosophy in road construction by developed nations like United States of America, United Kingdom, France, Canada, Saudi Arabia as well as Venezuela account for the solidity of their roads and their unprecedented longevity.

Mbanefoh (1977) had pointed out that Lagos – Ibadan dual carriage way (South West Nigeria) a distance of 160 Km collapsed barely six months after it was commissioned due to the weight of haulage trucks. Certainly, due consideration was not given to the soil texture and the expected vehicles to ply the road. The problem appears to be exacerbated by poor maintenance culture and negative attitude on the part of officials concerned. Apparently, since the 1980s there had been in existence road maintenance Handbooks introduced in Accra Meeting of 1977 on road maintenance. That meeting was attended by most African countries as well as United Nations, and European countries. The Handbooks

are said to be in existence but efforts to ascertain why the guidelines, principles and procedures are not followed in road maintenance in Nigeria was not successful.

Table III: Investment on Road Network System in Nigeria

Plans	Period	Road Investment ₦ million
First Plan	1962 – 68	168.8
Second Plan	1970 – 74	278.8
Third Plan	1975 – 80	6995.8
Forth Plan	1981 – 85	7263.3

Sources: Federal Ministry of Economic Planning and Development (1986)

Road Investment, Road Network and Revenue Sharing Formula

Table III shows investments in road network in Nigeria during the National Plan periods starting from 1962 – 1985. A cursory look at the table reveals that amount invested in 1962 – 68 plan period was N168.8 m while in the 1981 – 1985 plan period the amount invested was N7263.3 m. The roads then were said to be in better conditions than they are today. Reasons offered include excessive road expansion and inadequate funding as well as changes in planning philosophy. Information contained in Tables IV and V, Nigerian National Road Network and Federal Government of Nigeria revenue sharing formula, respectively.

Table IV: Nigerian National Road Network

Government	Km	%
Federal Roads	34,123	17%
State Roads	30,500	16%
Local Government Roads	128,577	67%

Source: Zenith Economic Quarterly Journal Vo. 6, No. I, Jan 2011

As can be seen from Table IV, the Local Governments have the largest road network in the country when compared to the Federal and States.

Table V: Federal Government of Nigeria Sharing Formula

Government	%
Federal Roads	52.68
State Roads	26.72
Local Government Roads	20.60

Source: Federal Ministry of Finance

The Local Governments are expected to develop and maintain those roads. However, a look at the Revenue sharing formula Table V shows that the Local Governments get the least share of Federal Revenue. To compound the situation, their ability to generate internal revenue is seriously limited because of high level of poverty in the local areas. Given the above, it is not surprising the roads under Local Governments are hardly developed not to talk of maintenance. The situation is worsened by the level of corruption at the Local Government. The roads and indeed other infrastructure are in deplorable condition because of extreme mismanagement of funds.

Road Management Performance and Efficiency

A number of variables and indicators have been used to determine the performance and efficiency of road management. It has been contended that efficiency of road and transport management is determined by the degree to which users of the transport system reach their destination timely and safely too. Efficiency in this context could also be determined by the level of satisfaction expressed by users. Other dimensions of efficiency in the road and road transport management may include the rate of breakdowns of vehicles which reflects the efficiency and effectiveness of such road management. The rate and conditions of the roads could equally point to the level of efficiency and effectiveness of the roads and road transport system. A number of indicators have also been used to determine the level of performance of roads UNECA/World Bank (1999) pointed out that the following could be used as Road Performance Indicators mobility, accessibility, safety, environment, equity community and economic. The mental model has also been advocated as a pre-requisite for developing Performance Indicators. This is because according to UNECA/World Bank (1999) it unbundles the many inter-related variables that help performance of road administration. The model is a management-by-results model which provides concrete framework for self evaluation. Maintenance and delivery of road infrastructure in Nigeria has been a fundamental problem. The delivery of road programme outputs and processes in Nigeria and indeed other African countries can be monitored with the assistance of performance indicators. According to

United Nations Economic Commission for Africa Note 154 of (2000) the effective use of performance indicators helps road administrators to:

1. periodically evaluate road system goals and objectives
2. develop alternative courses of action or means to achieve desired goals and avoid unintended ones
3. evaluate the degree by achievement of road objectives
4. assess the efficiency and effectiveness of alternatives and of the road administration.
5. serve as a guide for both programme and project management and development or periodic re-evaluation of goals and objectives
6. assist road administrators and learning organizations

It seems obvious that over the years road development and management drivers in Nigeria appear not to have appreciated the need for strategic envisioning in road and road transport management. If they did, the pitiable nature of Nigerian roads today and the attendant chaos on the road system could have been avoided. One aspect of the problem seems to be the inability of road managers to realize that different soil textures require different treatment and approach hence no sooner the roads are constructed than serious potholes develop rendering the roads unusable as well as creating such stress and inconveniences and threat to lives. One key dimension of efficient road management is to determine a priori the lifespan of a given road and due date for its resurfacing. Leveraging on road management expertise, developing versatility in road transport management and optimizing the knock-on-effect of effective road network system are critical ingredients to road safety, road efficiency and road infrastructural development. A fundamental aspect of effective and efficient road infrastructure and road transport management is the issue of designing strategic flexibility in road network. The road network of Nigeria was said in 2005 to have a replacement value of N4.567 trillion. This makes proper, effective, efficient and proactive management of the Nigerian road networks more compelling.

Sources of Funds for road Infrastructural Development and Management

Funding road infrastructural development and management in Nigeria has been over the years done by the Government alone with occasional loan from the World Bank and the International Monetary Fund (IMF). However, there is a clear evidence that the huge investments on road

Table VI: Purchasing Power Parity (PPP) as GNP Data for Selected Countries

Country	GNP per capital \$	PPP per Capita \$	GNP Growth Rate \$
Brazil	3570	7320	3.0
China	840	3940	10.7
Germany	25,050	25101	1.3
Japan	34210	26460	1.3
U.K.	24500	23556	2.5
USA	34200	34260	3.3
Nigeria	260	790	2.4
India	460	2390	6.0

Source: World Bank, World Development Indicators 2001

infrastructure and maintenance have not yielded the desired results. The prevailing bad state of the roads has been attributed to many factors among which are:

- a) Inability of the Government to fund road infrastructure and maintenance alone. A cursory look at Table VI showing data for purchasing Power Parity (PPP) for some countries indicates that Nigeria has the lowest GNP per capital \$260 while the (PPP) is \$790. Developing country like Brazil has GNP per capita of \$3570 and PPP of \$7320, India has GNP per capita of 460 and PPP of \$2390, USA GNP 2834 200 per capita and PPP of \$34260 and UK GNP of 24500 and PPP of \$23,550. The above information indicates that Nigeria may not be in a good financial position to fund the expanse road network system in the country.
- b) Defective contract awards: contracts are awarded to those who have little or no idea about road construction. Evidences a bound for example Onitsha – Owerri Road, South East Nigeria, Ibadan – Oyo Road South West Nigeria which demonstrate a high level unprofessionalism and craftsmanship in road construction.
- c) Corruption

There is no doubt that there is a direct relationships between corruption and poor state of road infrastructural development and maintenance. Because of corruption less money is available for road

infrastructural development. Because of corruption the quality of materials used for road construction and development are of inferior quality hence the roads go bad no sooner they are constructed. Because of corruption those whose duty it is to supervise the road construction refuse to do their work efficiently and according to specification because they have been compromised. The resultant effect of all this are potholes on the roads as soon as they are constructed leading to accidents and loss of innocent and precious lives. Given the enormity of the funding problem of road infrastructure and development for the Government, a strategy of involving the private sector in road construction and management has been adopted through the concept of Public Private Partnership (PPP).

A famous strategy of this concept is the Build, Operate and Transfer Approach (BOT). Angenblick and Custer (Jr.) (1991) have opined that BOT was developed in the late 1970s in response to constrained developing countries budgets and down turn in the work available for international construction forms. The pertinent question is why is it that the Nigerian Government is adopting the BOT approach in road infrastructure development now if it has existed since the 1970's? It has been contended that BOT approach provides economics of scale and efficiencies that balance or even outweigh the higher financing costs of equity investments.

(d) Interventions in Road Management and maintenance

Over the years the Governments in Nigeria had adopted various intervention policies and strategies in road management and maintenance.

In the 1980s it was direct road maintenance through the Directorate of Food, Road and Rural Infrastructure (DEFFRI). The establishment Toll gates was another intervention aimed at raising finance for road maintenance.

The Petroleum Trust Fund (PTF) was also instructed to use part its fund for road maintenance and management.

The above interventionist policies and strategies did not achieve the desired effect hence the deplorable conditions of the Nigerian roads.

A fresh attempt was made in 2002 by the Federal Government of Nigeria by establishing the Federal Road Maintenance Agency (FERMA). This strategy appears to be one of the boldest and coordinated attempts on road maintenance and management strategies. However, despite the huge sums of money made available to it N6.5 billion in 2009, 20 bn in 2010, the agency appears to be incapable of managing the road maintenance problems. All the interventions were meant to increase the functionality of the roads, increase efficiency, the comfort and indeed safety of vehicles and lives. However, the contemporary situations of the roads indicate that the achievement of the goals and objectives in road maintenance in Nigeria have proved to be an illusion.

CONCLUSION

This paper has focused more on the consequences of poor road infrastructural development and road management. The contention here is that the deplorable state of most Nigerian roads is as a result of multiplicity of factors including human, poor fundings, poor quality of materials, lack of detailed soil analysis, corruption among those charged with road construction including collusion between officials and contractors.

It is also concluded that the unprecedented carnage on Nigerian roads is attributed to poor road maintenance and poor maintenance of vehicles, bad habits on the part of drivers including dangerous and reckless driving, over speeding, driving while drunk, answering telephones while driving, overloading and in most cases reliance by commercial drivers on super natural powers. Strategies adopted in road infrastructural development and management as well as road transport management must not only be enduring and predictive but also responsive, economical, robust and phenomenologically futuristic and contextual.

On the whole, there should be a presence of appropriate road management and traffic policies as well as absolute commitment of those concerned to religiously enforce the rules and policies with a view to making Nigerian roads safe and enduring.

RECOMMENDATIONS

Given the critical importance of road transport in the Nigerian economy and the need to safe guard the lives of those travelling on the roads the following recommendations are made:

1. There is absolute need for more commitment and sincerity of purpose on the part of those responsible for road infrastructural development and management and road transport management.
2. In order to ensure proactive and responsible road transport management there is need for the establishment of Public Works Department as was done in the 1960s. Recruitment of personnel should be mostly from adjoining communities to reduce costs while creating employment.

3. It is hereby recommended that Trauma Units be established along major highways in Nigeria to quickly attend to accident victims.
4. There should be clear display of road signs and directions on Nigeria roads to make driving and travelling less stressful.
5. As a matter of policy, there should be continuous enlightenment campaign through radios, televisions, motor garages to educate commercial drivers most of whom are illiterates on the importance of disciplined driving.
6. There should be effective and proper record keeping of lifespan of roads, if possible computerize the information to trigger off due date for resurfacing period/date or re-asphalting period for the roads.
7. Detailed soil analysis for road construction should be made compulsory on all road developments and soil re-enforcement where necessary should be a matter of policy not an option.

REFERENCES

- Augenblick, M. and B. Scott, c. Jr. (1991). The Build, Operate and Transfer (BOT) Approach to Infrastructure Projects in Developing Countries: Pre working Papers Catalog of Number 401 – 601. The World Bank Feb 1991 WPs 135.
- Author, L. (1978). The Evaluation of International Economic Order Princeton, N.J. Princeton University Press.
- Enebeli-Uzor, S. (2011). Nigerian Road Infrastructure Options for Transformation. *Zenith Economic Quarterly*, Vol. 6, No. I, Jan 2011.
- Federal Nigeria Road Safety Corps Commission Annual Reports, 2007, 2008, 2009, 2010 and 2011.
- Grossman, G.M. and Helpman, E. (1994). Endogenous Innovation in the Theory of Growth. *Journal of Economic Perspectives*. 8 No. 1 (1994) pp. 33 – 44.
- Henry, Arnold K and Miller, Sidney, L. (1977) – Transportation and Traffic Management Alexander Hamilton Institute, New York, USA.
- Investment on Road Network System over National Development Plan Period: Federal Ministry of Economic Planning and Development 1986.
- Mbanefoh, G. (1977). Longrun Marginal Cost and Road Use Charges in Nigeria. *The Journal of Economic and Social Studies* (19(1).
- Mills, E. S. (1991). Urban Efficiency, Productivity and Economic Development. Proceedings of the World Bank Annual Conference on Development Economics, 1991, p. 225.
- Olaleye, F. A. (2010). Developing the African Economy: The challenge of Infrastructural Paper presented at International Conference on National Development and Millennium Goals Toward Poverty Alleviation, Gimpa, Achimota, Aera Ghana.
- Oluwasanmi, A. J. (1993). Road Accidents and level development: “A situational Analysis” Paper presented at University of Benin, Nigeria.
- Oni, S. and Okanlawon, R. (2011). Nigeria’s Transport Infrastructural development. An Important Part of National Economic Empowerment and Development Strategy (NEED) 2011.
- Punch Newspaper (2012). Alarming rate of road accidents. August 26, 2013, pp. 13.
- Romer, P.M. (1994). The Origin of Endogenous Growth. *Journal of Economic Perspective*. 8 No. 1 (1991), pp 3 – 22.
- Sawyer, E. O. (1983). Percl on the Roads – How to reduce Carnage and improve traffic Flow. African Technical Review Nov. 1983, pp. 133.
- Smith, A. (1876). *The Wealth of Nations*, Edwin Cannan (Ed.) Modern Library Education, New York, Random House.
- Troxler, W. F. (1983) – Road Test African Technical Review Nov. 1989, pp. 127 – 129.
- United Nations Development Programme (UNDP), (1989) – Urban Transition in Developing Countries: Policy Issues and Implications for Technical Cooperation in the 1990s, New York (1989).
- United Nations Economic Commission for Africa (UNECA) Knowledge Learning Centre. Note 154, 2000. Road Sector Performance Indicators for African Countries.
- Wikipedia Encyclopedia (2011). Transportation Industry Wikipedia Foundation Publication Jan (2011).
- World Health Organization (2010). Road Accidents Leading to cause of death among children. The Punch Newspaper, Friday 19/11/2011, p. 3.
- Yasir A. (1999). Public Transport Microenterprises Formalization Experiences in South Africa. World Bank Report 149, Dec. 1999.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

CALL FOR JOURNAL PAPERS

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. There's no deadline for submission. **Prospective authors of IISTE journals can find the submission instruction on the following page:** <http://www.iiste.org/journals/> The IISTE editorial team promises to review and publish all the qualified submissions in a **fast** manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Recent conferences: <http://www.iiste.org/conference/>

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

