

Contributions of Tricycle Transportation Business to the Growth of the Local Economy of the Wa Municipality

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Abstract: This study was conducted to assess the contributions of Tricycle Transportation Business (TTB) to the growth of the local economy of Wa Municipality using mixed method research design. Data was gathered from a sample of 329 respondents using questionnaires, interviews and observations. The data gathered were analyzed quantitatively and qualitatively. The study found that: the introduction of the tricycle transportation has reduced the high level of unemployment in the Wa Municipality. The tricycle transportation has reduced the long waiting time for passengers leading to enhanced mobility for the poor and vulnerable groups which has contributed to increase in productivity by way of increased in man labour hours, improved accessibility, easy accessibility, job security, reduced poverty and improved income of beneficiaries. The study concluded that the introduction of tricycle transportation business has contributed significantly to the economic growth of Wa Municipality through the employment created, business growth and mobility enhanced. It was therefore recommended that TTB should be legalized as a commercial activity to help the sector run effectively. Designated packing spaces should be provided for the TTB to make the sector more effective and efficient.

Keywords: Transportation, Tricycle, Employment, Businesses, Mobility, Local Economy, Growth.

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INTRODUCTION

Transportation is a public conveyance of passengers or goods from one location to another, especially as a commercial enterprise [1]. According to Amegashie [1] and Barnes [2], transportation is defined as the activity which primarily is concerned with providing an increasing human satisfaction through the changing of geographical location and the position of people and goods. Transportation is considered a key factor in the socio-economic growth of any country [3, 4]. Efficient transportation does not only facilitate spatial interaction and reduces the friction of distance, but it is also a precondition for effective economic, social and political development of a country [5, 4]. There is a very strong relationship between economic growth and transportation [6, 7].

Economic growth has always been dependent on increasing the capacity and rationality of transportation [6]. Due to the way modern cities and communities are planned and operated, a physical distinction between home and work is usually created, forcing people to transport themselves to places of work, study, or leisure, as well as to temporarily relocate for other daily activities [6]. Commerce requires the transport of people to conduct business [8]. According to the Transportation and Regulation Act 536 1997, a reliable and affordable road transport system plays a key role in the socioeconomic development of Ghana.

In many developing countries such as in Asia, motorcycles and tricycles are used as the main means of transportation, especially, among low-income urban dwellers and the poor [9]. The choice of motorcycles and tricycles as an alternative means of transport in solving urban mobility problems of towns in Northern Ghana has introduced varying dimensions of issues including traffic accidents and safety on the roads, registration issues, employment and maintenance activities [9]. Various researches have been conducted on the issues of motorcycle traffic accidents, motorcycle traffic management in motorcycle dependent cities, commercial motorcycle operations among others [10, 11]. In the Wa Municipality, the tricycle transportation business (TTB) has literally taken over as the main commercial transportation system, hence the situation is not different from the results of Dinye and Ahmed [9]; Banthia *et al.* [10] and Adesanya [11].

As transportation has positive impacts on socioeconomic systems, there are also negative consequences such as congestion, accidents and mobility gaps. The mode of transportation in the Wa Municipality had being mainly trotro which was poorly managed and operated. This limited peoples' access to work places, health care centers, schools and market centers. This had a negative effect on the growth of the local economy of Wa Municipality, since transportation systems are closely related to socio-economic changes [6]. Residents, visitors, and travelers faced

transportation problems in the Municipality. With the trotro, one could not go out to any place in the night when the person did not have his or her personal means of transportation because the trotro drivers close as early as 6.30pm. This situation propelled travelers arriving in Wa at night to sleep at the station till the next day because they were afraid to be attacked by criminals. Banjo *et al*. [12] argued that people who cannot move themselves and their goods cannot pursue economic and social activities. And this was the situation.

In the Northern part of Ghana, Wa Municipality specifically, the tricycle transportation now dominates the urban and rural transport system [9] and this has gained a solid root in the transportation sector. Barely three years after its introduction, has the TTB taken over the Regional Capitals of the three Regions in Northern Ghana as the preferred means of commercial transportation [13]. Various studies have been conducted on tricycle transportation in Ghana and for that matter Wa Municipality in the Upper West Region from diverse perspectives. For instance, Dinye and Ahmed [9] looked at the motorized transportation in urban areas in Northern Ghana. Also, Aikins and Akude [14] worked on the impact of tricycle transportation in the agricultural sector. In the context of the Wa Municipality, very few studies have been conducted on the contribution of tricycle transportation business to growth and economy. It is against this background that the study seeks to assess the contribution of TTB to the growth of the local economy of Wa Municipality of the Upper West Region.

Overview of the tricycle transportation

Transportation primarily involves the movement of goods and people. Since it is an activity which enables a person or a company to provide service to another person or company, it stands to reason that there must be rules of engagement or an understanding as to what sort of relationship should relate and govern the undertaking. Transportation creates, opens access to education, social facilities, health, industry, business, and commerce [1, 15].

Tricycle transportation system is one of the vehicles on road transportation system which has recently taken a pave in the transport system especially in Asia and Africa. Tricycles are taxi like modes that rely on comparatively slow, light weight vehicles that provide lower quality services than exclusive ride taxis, although at considerably cheaper fares [16]. In contrast to large vehicle services, they generally complement rather than compete with formal buses, trotros and taxis

[17]. According to the Ghana News Agency [13], the tricycles have been nicknamed "Mahama Kamboo" or "Mahama Can Do" in appreciation of the role that ex-president John Dramani Mahama and his National Democratic Congress (NDC) government played in introducing the machines to the three Regions in Northern Ghana. Currently, tricycle has become the major means of transport in Northern Ghana especially Wa Municipality [18]. There are two main types of tricycles in Ghana which are used for commercial purposes. They are the passenger tricycle ("Mahama Can Do") as popularly known in the Northern part of Ghana and freight tricycle which is also popularly called as "Nyaaba Lorry" (Motor King) in Ghana.

According to Sun [16], as a new means of transportation, tricycle was introduced for poverty eradication which was created to semi-power the poor, jobless and underemployed to the next position in economic status. It was also meant to make transportation cheaper for inhabitants replacing the commonly used motorbike which is believed to cause a lot of accidents on major roads [16]. For the business sector, this involves connections between businesses and their input sources, between businesses and other businesses, and between businesses and their markets. For the household sector, it provides people with access to workplaces and education facilities, shops, and social, recreational, community and medical facilities [19]. The tricycle has been one of the easiest transport systems in performing the principal roles.

Theoretical and Conceptual Perspective of Local Transportation

The theory underpinning this study is the transportation and local economy theory. This theory was proposed by SACTRA [20]. The theory suggests that people and businesses demand transportation in order to enable them to carry out their desired activities. For individuals, this might be reflected in changes in commuting patterns or holiday destinations. For businesses, the impact might be felt in terms of new sources of supplies, reorganization of production or access to more distant markets. However, the attainment of the benefit that individual and businesses achieve contributes to the growth of an economy. There are suggestions that when transportation schemes create employment to be ill-founded, there could be no additional benefits to be obtained through Cost Benefit Analysis (CBA) for job creation. All sectors within an economy rely on efficient transportation for their activities hence a reliable sector for economic growth as presented in Figure 1

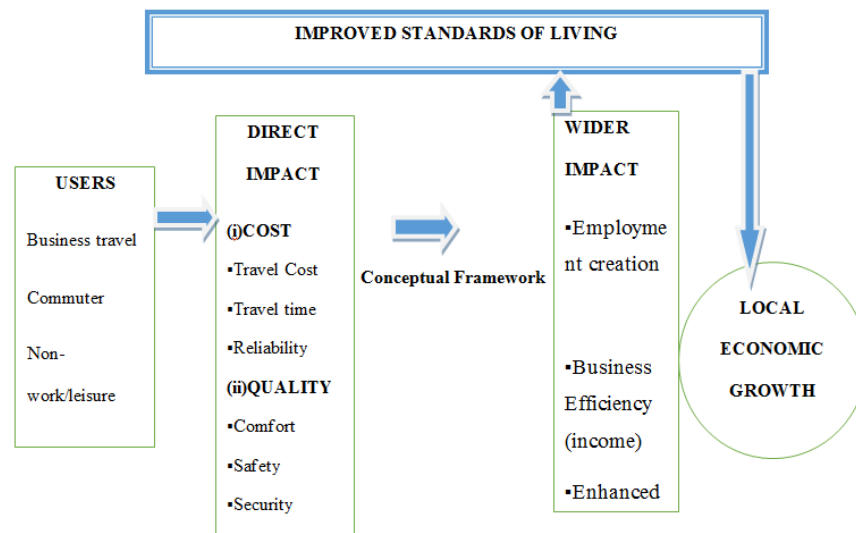


Fig-2: Conceptual framework on the study
Source: adapted from (Eddington, 2006)

Figure 1 presents the conceptual framework which links transportation to economic growth and the contributions of transportation to the growth of the local economy. Transportation leads to:

► **Employment creation:** Transportation creates both direct and indirect employment. Transportation can facilitate geographic and employment mobility in response to shifting economic activity such as in response to the forces of globalization, new technological opportunities, and rising labour market. Transportation creates employments in so many ways such as drivers, fuel attendants, personnel for road maintenance and other employment opportunities. People are needed to fix in all these areas mentioned for employment where there is efficient transportation. Nationally, transportation improvements are unlikely to have a large effect on the employment rate, though may do so in some local circumstances but the TTB has been a reliable source of employment in the Wa Municipality for quite some time now [6].

► **Business efficiency:** Through time savings and improved reliability for business travelers, freight and logistics operations, businesses are able to increase in efficiency. A reduction in travel time for all businesses travelling on the road network could generate cost savings of GDP; increasing business investment and innovation by supporting economies of scale or new ways of working. A change in regulations could help investors to increase the level of their business and also find new ways of making the business attractive [6].

► **Enhanced mobility:** Mobility is very important in undertaking businesses and other economic growth indicators. The effects of mobility could enhance or affect negatively the performance of a business or a person's activities. Transportation improvements can allow businesses to trade over a wider area, increasing competitive pressure and providing consumers with

more choices. A well connected, so significant competition impacts are most likely to be felt from the integration of markets globally. Where there is a reliable transportation system, people can compete in the market because each and every one can also get access to new market in the Municipality. In the wider impact where all the direct impact indicators are used, there will be business efficiency or growth, employment will be created and mobility is enhanced. And all the indications at the wider impact will improve the standard of the peoples living which will increase economic growth of the Municipality since good standard of living is an indicator of economic growth [6].

RESEARCH METHODOLOGY

Study Area

According to the Ghana Statistical Service [21], Wa Municipal Assembly is one of the eleven District/Municipal Assemblies that make up the Upper West Region (UWR) of Ghana. The Wa Municipal Assembly shares administrative boundaries with Nadowli District to the North, Wa East District to the East and the Wa West District to the West. Wa Municipal Assembly has its capital as Wa which also serves as the Regional Capital of Upper West Region. The structure of the economy of the Municipality was dominated by agricultural sector in the previous years (2000 to 2005). However, the situation changed in the year 2010 when the Population and Housing Census was undertaken where the concentration has also centered on trade, industry and transportation. According to the GSS [21], the transportation system in the Wa Municipality is made up of road and very limited air transport. The road network is about 385km comprising 256km altitude roads and 129km, surfaced roads (trunk tarred roads). The transportation network in the Municipality is a strong advantage for enhanced trade and tourism. Figure 2 is the map of Wa

Municipality showing the areas where the tricycles plough.

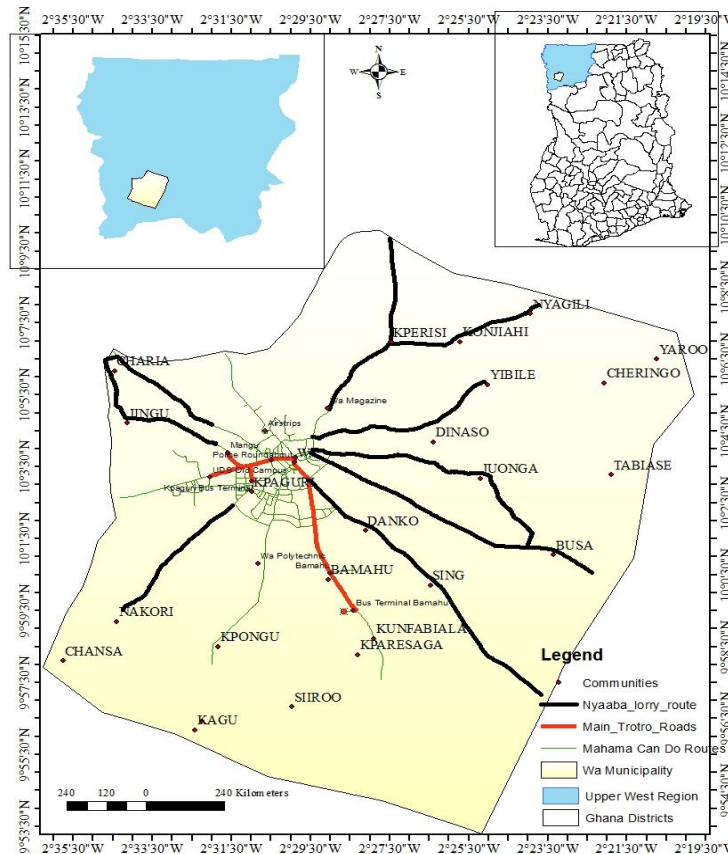


Fig-2: Map of Wa Municipality indicating the areas where the tricycle ploughs
 Source: Authors’ Construct, (Using GIS, 2018).

Research Design and Approach

The purpose of this research was to find out the contribution of tricycle transportation business to the growth of local economy of the Wa Municipality. The mixed method approach was used. It is an approach which involves the collecting of both quantitative and qualitative data, integrating the two forms of data, and using distinct designs that may involve philosophical assumptions and theoretical frameworks. Considering the nature of the objectives and the data to be collected, mixed method research design was adopted for this study; drawing on the strengths of both qualitative and quantitative designs. A convergent parallel mixed method research design was specifically adopted. With this form of mixed method design, the researchers converge or merge quantitative and qualitative data in order to provide a comprehensive analysis of the

research problem. In this design, the researchers collected both forms of data simultaneously and then integrated the information in the interpretation of the overall results.

The sample size for the study was drawn from the units of analysis. The units of analysis included the tricycle drivers, passengers, owners of tricycles and regulators (MASLOC, GPRTU, Wa Municipal Assembly, DVLA, Ghana Police Service and dealers of the tricycles) of the transportation system in the Municipality. In determining the sample size for this study, the researchers relied on the registered tricycles in the Municipality from DVLA. Table 1 shows the number of registered number of tricycles in the Municipality from 2015-2017.

Table-1: Number of registered tricycles in the Municipality since 2015

Type of Tricycle	2015	2016	2017	Total
Nyaaba lorry (Motor king)	91	39	41	171
Mahama Can Do	5	63	318	386
Total	96	102	359	557

Source: (DVLA, 2018).

The sample size for the drivers of the tricycle was obtained by using the Yamin (1960) formula:

$$n = \frac{N}{1+Ne^2}$$

Where n= Sample size, N=Sample frame (557), 1= constant, e = margin of error (0.05)

$$n = \frac{557}{1+557(0.05)^2} \quad n=232$$

Hence at 95% confidence interval, the study required a sample of 232 for drivers to give fair and accurate findings. Other respondents included, 81 passengers, 10 tricycle owners and 6 regulators

(MASLOC, GPRTU, WMA, DVLA, GPS, Agents). The total sample size for this study was 329.

Sampling Techniques

Baker [22] refers to sampling as a “systematic method of selection”. Baker identified two types of sampling in social research: probability and non-probability sampling techniques and that the use of any of the two depends largely on the focus of the problem under study. This study employed both probability and non-probability sampling. Multi-stage sampling was used under the probability while convenience sampling, snowball sampling and purposive sampling were applied under non-probability sampling. Table 2 presents the sampling procedure.

Table-2: Sampling procedure

Sampling Technique (s)	Type of Respondent (s)	Number of Respondents
Multistage Sampling	Drivers of the tricycles	232
Convenience Sampling	Passengers	81
Snowball Sampling	Owners	10
Purposive Sampling	Regulators	6

Source: Authors’ construct 2018

The data was analyzed quantitatively and qualitatively. Quantitative data collected with the questionnaires from the field were pre-coded and analyze with the help of Statistical Package for Social Sciences (SPSS Version 21.0) software and Microsoft excel tools. The qualitative data in this research were analyzed through the process of transcribing field notes and interview recordings, editing, coding, data linking,

content analysis, conclusion drawing and report writing. The qualitative data in this study was mainly narrative.

RESULTS AND DISCUSSION

The age of respondents (drivers) was necessary in determining the category of age group who operate the tricycle in the Wa Municipality. This was by way of profiling the respondents (drivers) by age as shown in Table 3.

Table-3: Age of drivers of tricycles

Age	Frequency	Percent
Below 15	30	12.9
18-25	40	17.2
26-35	105	45.2
36-45	37	15.9
46+	20	8.6
Sub-total	232	100.0

Source: Field data, 2018

Out of the 232 driver respondents, majority, 45% of them were between the age group of 26-35 years. There were 12.9% of them who were below 15years while the least were those in the age range of 45+ years who were 8.6%. Even though respondents below 15 years were ranged as the fourth highest category, it is considered as a serious issue since the underage is not allowed to drive according to the Transportation Regulation Act 536 (1997). They are considered to be minors who are inexperienced. Evidence from the study results suggests that majority of the respondents are considered to be in the working class as the Ghana Living Standard Survey (GLSS) [18] classified.

Educational background of the respondents was also examined. It was realized that out of the 313 respondents (drivers and passengers), 22.6% had no formal education; (70.4% were drivers and 29.5% were passengers). Also, 51.1% of them had Primary/JHS education with 41.5% of them being drivers and 9.6% being passengers. Furthermore, 19.1% out of the total passengers and drivers were SHS/Technical/Vocational levers. Out of this 66.7% were drivers and 33.3 were passengers. In addition, of the 7% of the respondents who had tertiary education, 54.5% were drivers and the remaining 45.5% were passengers. From the findings, it emerged that, majority, 45.5% of the driver respondents had obtained Primary/JHS and SHS/Technical

education certificate. This implies that, most of them can read and understand road signs and markings and other regulations which are very critical to safety on the road.

The tricycle transportation business and economic activities in the wa municipality

Respondents’ assessment was based on how the introduction of the TTB had contributed to their economic activities mainly; by way of employment

creation, business activities and mobility. These effects were headlined under three main sections; TTB effects on employment creation, TTB effects on business activities and TTB effects on mobility. The research sought respondents’ views on how significant TTB was to the growth of local economy of Wa Municipality on these lines. In a likert scale ranking of: Very Significant, Significant, Moderate, Less Significance and No influence at all, the results were as displayed in Table 4.

Table-4: Contribution of TTB to economic growth

Contributed of TTB to Business Growth	Very Sig	Sig	Moderate	Less Sig	Not Sig	Total
Employment creation	96.0	4.0	0	0	0	100
Business efficiency	90.1	9.9	0	0	0	100
Mobility Enhanced	79.0	11.2	9.8	0	0	100

Source: Field data, 2018

It was realized that 96% of the driver and passenger respondents rated TTB contribution to employment as very significant with the remaining (4%) saying it was significant to the growth of the economy. Its contribution to business activities and mobility were rated as very significant with 90.1% and 79.0% responses respectively.

From Table 4, it was clear that out of the 96% rated very significant, majority 86% were drivers. Also, of the 76% of the respondents who rated business activities as very significant 90.1% were passengers representing the majority? On respondents’ ranking on mobility enhancement, 56% were passengers while 23% were drivers. This means that as TTB was creating employment to the unemployed (drivers), it was also facilitating business activities and enhancing mobility of the people to their various destinations in the Municipality and hence, promoting economic growth. This finding conforms to Anaman [23] finding that, some of the major indicators of economic growth include; employment, business growth/activities, mobility and many others which are driven by the activities of the people.

TTB and Employment Creation in the Wa Municipality

This section examined how TTB had engaged people in employment. Unanimously, all the respondents (drivers) said they had benefited from TTB in terms of employment generation. Respondents agreed that they had not only benefited from TTB as employment but also in diverse ways like being responsible in the society. It was noted that employment had been one of the major benefits that the tricycle operators had gotten from the introduction of the TTB.

Respondents were asked to indicate the type of business they were doing before going into TTB. The breakdown was as follows; 44.8% said they were unemployed, with 25.9% of them saying they were formally trotto drivers. Also, 9.9% said they were farmers. For 8.6% them, they were still in school and that they joined TTB immediately after school. Furthermore, 6.5% were into other businesses (provision stores operation, carpentry and truck-pushing) with the remaining 4.3% respondents ticking for others such as illegal mining in the Municipality.

Significant of TTB to Employment Creation

To examine the significance of the contribution of TTB to employment creation, Figure 3 was constructed and presents these results.

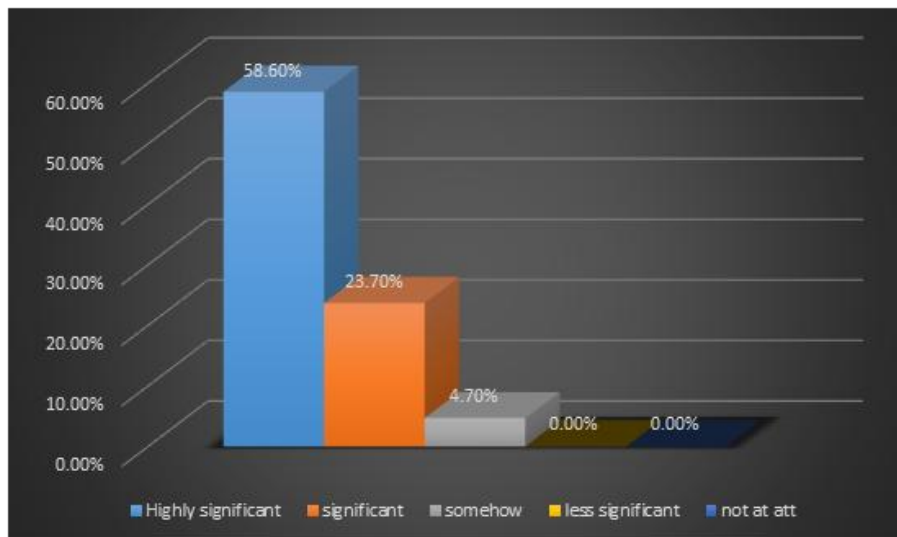


Fig-3: Significant of TTB to Employment Creation Wa Municipality

Source: Field data, 2018

From Figure 3, majority of the respondents (58.6%) were of the view that, the creation of employment as a result of the introduction of the TTB was very significant whilst 23.7% of them had the view that TTB and employment creation was significant. Only 4.7% were of the view that it was somehow significant. Majority of the study respondents held the view that TTB is significant to employment creation, meaning the contribution of tricycle transportation service had actually led to a reduction in unemployment situation in the Wa Municipality. It was believed that the local economy could be well shaped if the government and successive governments concentrate at the transportation sector to help reduce the unemployment problem further. Evidence from the field was consistent with GNA [13] view that in Northern Region, Tamale, the introduction of the new innovative smart business (TTB) had engaged most of the youth and had reduce unemployment which had led to a better economy in the Region.

In an interview with a passenger, she remarked:

The tricycle business has created a lot of employment for most of the youth in Wa. When my son completed JHS, I didn't have money to send him to SHS so he was in the house and I was afraid these bad boys would influence him negatively. Fortunately, a friend bought him a tricycle to be working with. It is barely 2 years now and if I am to tell you what this boy has done, it will surprise you (Interview, 2018).

A tricycle owner added this:

I've been able to create employment for 10 people in Wa through this tricycle business. I pay them very well and they are happy with the job since they were all unemployed. So in one way or the other I have also created employment out of TTB and I believe that this

can help reduce the burden on the government and will promote the economic growth of the Wa Municipality (Interview, 2018).

A driver corroborated this statement:

TTB is a life changer. I can't say so much. I used to work in the night, that is, robbery and I remember in 2015 I was nearly shot by the police in the course of an operation. It wasn't that I was happy with that work but due to unemployment issues and the associated hardships. I thank God that ever since I found this tricycle business, I don't even have time for the useless things I used to do. Am now taking care of my siblings and I am very responsible. I don't even remember the last time I thought of going into such. So my brother, I call TTB a life changer; crime to prime (Interview, 2018).

Another respondent explained how TTB had contributed in changing his life positively. He remarked that:

I was unemployed and was just confused, so I was living my life anyhow. Two (2) of my friends have died as a result of excessive tramadol intake. Had it not been as a results of this tricycle business I know I would have also died by now. This is a past story of my life and I have vowed not to go into such act again so it won't bother me much to say this. I have really suffered in my past life. It wasn't that I liked such act but it was due to unemployment (Interview, 17th March, 2018).

Effects of TTB on Local Economic Growth

According to Rodrigue and Notteboom [6], there is a relationship between transportation and local economic growth. Table 5 presents the results of the effects of TTB on local economic growth of the Municipality.

Table-5: Effects of TTB on Local Economic Growth of the Municipality

Contributions of TTB to Local Economic Growth	Frequency	Percentage
Increased employment and incomes	85	21.3%
Improved businesses ability to provide goods and services	72	18.0%
Improved people's ability to access services	80	2.0%
Reduced transportation costs	73	18.3%
Reduction in criminal activities	15	3.8%
Increase in productivity	55	13.8%
Enhance market accessibility	20	5.0%
Total	*400	100

*Multiple responses

Source: Field data, 2018

The economic impact of the TTB was measured by the benefits they bring towards the local economic growth. Transportation can have various impacts on a community's local economic growth. From the findings, 21.3% of the total respondents attested that the introduction of TTB had led to increased employment and incomes, 18.5% were of the view that, the introduction of TTB had led to reduced transportation costs, whilst 3.8% were of the opinion that, it had resulted in reduction in criminal activities in the Municipality. The findings confirm Rodigue and Notteboom [6] that youth engagement in employment mostly contributes to the reduction of crimes.

In general, the introduction of TTB has improved overall accessibility (i.e., they improved businesses ability to provide goods and services, and people's ability to access education, farms, health services, employment and services) and reduced transportation costs. The Findings confirmed Eddington's [10] assertion that increasing business efficiency, through time savings and improved reliability of transport services for businesses helps improve the business growth. The availability of tricycle transportation services has reduced the waiting time of businessmen/women which leads to an increase in productivity. Eddington [10] also corroborates that tricycle transportation services have the propensity to reducing poverty, improving larger market accessibility, easy accessibility, job security, new job creation and improved income of beneficiaries.

The interface between transportation investment and local economic development has broad ramifications that go beyond transportation's basic purpose of moving goods and people from one place to another. Whereas there is no doubt that transportation is essential in the operation of a market economy, much still needs to be understood about ways in which an efficient transportation system can improve the productivity of the economy.

CONCLUSIONS

The introduction of tricycle transportation business has contributed to the economic growth of the

local economy of the Wa Municipality in several ways. Thus, the level of unemployment in the Municipality has reduced as a result of the employment that smart entrepreneurs' created from the tricycle transportation business. There has also been a reduction in the engagement in criminal activities such as stealing, taking hard of drugs and other unaccepted behaviors. The success stories of most businesses in the Municipality are as a result of the introduction of tricycle transportation business. The tricycle business has made transportation very easy in the Municipality where there has been a reduction in waiting time for businessmen/women and increased accessibility, reliability, safety, security and other benefits and hence an increase in man-labour hours with increased incomes and profits. Tricycle transportation has also enhanced mobility for the poor and vulnerable who do not have their own personal means of transportation. The study therefore concluded that the Tricycle Transportation Business has contributed significantly to the growth of the local economy of the Wa Municipality.

Recommendations

It is recommended that the regulators of the TTB especially the Police, DVLA and the Assembly should push the issue of legalizing TTB as a commercial activity to parliament so that the Police can effectively monitor their operations. Also, there should be an effective enforcement by the Police to arrest all tricycles operating by underage drivers. Again, there should be regular positioning of security personnel at vantage points and street lights put at the dark places along all the major roads in the Municipality, especially the Wa Township to help reduce criminal cases and enhance security situation in the use of tricycles in the night.

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