

Urbanization and Intensive use of Space in Central Business District in a Developing City, Ghana: Decongestion Programme as City Service Response; an Appraisal.

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Abstract

The urban space in developing cities is overutilized; especially within the Central Business Districts (CBDs). That has led to congestion of the CBDs which poses major challenges in management of developing cities. Many city managers have been searching for appropriate strategies to address that menace. One popular approach for addressing the challenge is the formulation and the implementation of decongesting policies. This study attempted to assess the success level of decongesting a developing city. The study revealed that many people affected by various decongesting exercises returned to the same space they occupied before the exercise. Some reasons behind the trend were investigated as the operators being informal sector entrepreneurs who do not have adequate capital to rent stores for commercial activities elsewhere in the city. These actors also prefer operating at areas where business is brisk for that matter they converge at the city centre where business is brisk. Another factor is the non involvement of the stakeholders in formulation and implementation of decongesting policies thereby creating room for resistance from the encroachers. Again, the managers have failed to consider decongestion as a process not an event. That has led to the formulation of short term policies and plans for addressing the challenge. Having examined the major factors affecting decongestion, it has been concluded that, for that exercise to be successful, it would be appropriate for city managers to involve stakeholders in formulating and implementing holistic long term plan for addressing the challenge.

Key words: Decongestion, Encroacher, Urban Space, Pedestrian, Stakeholder

1. Introduction

Presently, one of the pronounced urban challenges in Ghana is congestion within the Central Business Districts (CBDs). Congestion, be it vehicular or human has negative effects on the judicious use of urban space. Vehicular accidents, huge garbage generation, insanitary conditions, just to mention a few, are attributed to congestion. Consequently, attempts have been made by city managers to decongest CBDs by the formulation and implementation of decongesting policies. The impact of decongestion in developing cities has been minimal. Invariably, informal economic actors affected by the introduction of decongesting exercises tend to resist exercises meant to create improved urban space for the benefit of the citizenry in general.

2. Basis of the Challenge

Urbanisation in developing countries coupled with mass unemployment has expanded the informal sector which has raised the density of space usage within the CBDs. Decongesting policies have been formulated and implemented in many developing cities but the attempts have not yielded the intended positive impact over the years. With the negative effects of congested CBDs in view, this study was designed to examine the inability of developing cities to handle congestion challenges. The study considered the specific socio-economic activities that create the congestion. Again, it was deemed necessary to examine the reasons behind unwillingness of the central city encroachers to vacate the places where they operate. Although they are aware of the fact that their presence was illegal as well as creating conflict for space utilization in the CBDs. What specific strategies do city managers use to address the situation? What are the physical, socio-economic, institutional, political and financial implications of decongestion? Based on these questions, the objectives for this study were defined.

This study is of relevance to the spatial development of urban centres; it could influence the strategies for decongestion of cities in Ghana. The study addressed issues that have become a thorn in the flesh of urban managers in performing their management duties in Ghana. The challenge is a contemporary one, which has raised concerns for city managers, pedestrians, and tourists, just to mention a few. The study is fundamental to the city management with the view to improving the economic use of urban space for orderly development.

3. Objectives

The objectives of the study are outlined as follows; to analyze in-depth, factors responsible for the informal

economic activities within the CBDs of developing cities; to examine the effect of the informal sector on the usage of space within developing cities.; to assess the strategies adopted by the city authorities to address in detail the challenges posed by congestion in cities and their effectiveness. In terms of city management in Ghana, what is the way forward for addressing the congestion challenge in developing city centres?

4. Research Methodology

In Kumasi there are about six main areas within the centre of the city where high concentrated informal activities take place. In other words, they are the congested areas in the centre of the city. They are Adum Business Area, Dr Mensah Area, Morocco Area, Roman Hill Area, Alabar Area and Aboabo Station Area. Consequently, these are the areas where decongestion exercises usually take place in Kumasi.

Basically, data used for the study were primary, selected from the six congested areas. In all 190 respondents were randomly selected out of whom 13 per cent were taxi drivers who operate from the Guggisberg road, Fuller road and Kejatia stations and 87 per cent were traders. The research was purposive by nature as only informal commercial operators in KMA who are traders within the centre of the city were interviewed using survey tools as focus group discussions, field observation and open-ended questionnaires.

Few secondary data were collected from KMA's Administration, Finance and Urban Roads Departments and the Legal Section. Additional secondary data were gathered from published books, unpublished theses, websites, and journals on decongestion of developing cities.

5. General Theoretical Overview

Many researchers and policy formulators who have interest in addressing the menace of 4a major pre-occupation of urban development practitioners. However, general definitions have not been possible, therefore the current definitions are working ones which are sector focused. Additionally, Lomax (1997) has stressed on the fact that there is no consistent definition of congestion in terms of a single measure or set of measures that considers severity, duration and spatial context. The European Conference of Ministers of Transport (ECMT) (2007) pointed out that there is no single, broadly accepted definition of congestion. Therefore, The ECMT (2007) as policy and vehicular oriented group, define vehicular congestion as a situation in which demand for road space exceeds supply; the impedance vehicles impose on each other, due to the speed-flow relationship, in conditions where the use of a transport system approaches capacity; and relative phenomenon that is linked to the difference between the roadway system performance that users expect and how the system actually performs..

Other transport experts have also defined congestion as a situation where the introduction of additional vehicles into a traffic flow increases the journey time of others. Thompson and Bull (2001) Congestion has also been defined as the saturation of road network capacity due to regular and irregular reductions in service quality exemplified by increased travel times, variation in travel times and interrupted travel. Chakwizira (2007).

The above definitions centre on vehicular congestion. But emerging trends in urban congestion transcends the frontiers of the impedance vehicles impose on one another to include the impedance; pedestrians impose on one another. This implies that urban congestion in developing cities does not only cover road space but urban space in general. In the context of this study, a definition is closer to the working definition was by Pisarski (2006) who considered congestion as: "People with the economic means to act on their social and economic interests getting in the way of other people with the means to act on theirs." For the purpose of this study, the working definition of city congestion is impedance and inconveniences arising from the over concentration of commercial activities in space thus increasing the demand for urban space to outstrip supply.

5.1 Concept of Decongestion

The term decongestion has gained public and media attention in Kumasi creating fear and panic among informal sector entrepreneurs. The concept has been frequently used by city managers to address the challenges posed by congestion in cities. Simply put, this study defined decongestion as an operation undertaken by city managers to reduce and curb high concentration of informal activities in a city. In other words decongestion is that step undertaken to ease human or vehicular traffic flow.

5.2 Causes and Effects of Urban Congestion

The ECMT (2007) categorise the causes of congestion into recurrent and non-recurrent. Recurrent congestion is generally the consequence of factors that act regularly on the transportation system, such as daily commuting or weekend trips whereas non-recurrent congestion is the effect of unexpected, unplanned or large events (e.g. road works, crashes, special events and so on) that affect parts of the transportation system more or less randomly and, as such, cannot be easily predicted.

On his part, Chakwizira (2007) explained that recurrent congestion is caused by factors that relate to rapid growth in population, urbanization and related growth in car ownership and usage. Recurrent congestion occurs mainly when there are too many vehicles at the same time, consequently reducing traffic speed and increasing personal commuting time. He associates non recurrent congestion with the occurrences of unique and special

events such as disabled and crash vehicles on roads, weather and other random conditions. Whilst recurrent factors occur constantly and are highly predictable, non recurrent factors occur occasionally, randomly and are rarely predictable.

Others argue that vehicular congestion could be categorised into permanent causes and temporary causes. According to him, whereas factors that cause permanent vehicular congestion could be identified and explained, there are no clear-cut tools for predicting non permanent cause of congestion such as pedestrian congestion within city centres..

There are several effects of congestion. Serageldini (1993) identifies potential effects of traffic congestion as ranging from time and productivity loss, change in accident frequency and characteristics, increase in air pollutants and increased vehicle operating costs and increased noise nuisance.

Congestion also has a range of indirect impacts including the marginal environmental and resource impacts, quality of life, stress, safety as well as impacts on non-vehicular road space users such as the users of sidewalks and road frontage properties ECMT (2007).

Again, congestion causes delays, which may result in late arrival for work, meetings, and school attendance, resulting in loss of business, or other personal losses, McElroy and Regina Taylor (2007) and loss of revenue. Wallstrom(2004)

Also could submit that congestion in developing cities creates conflict between pedestrians and roadside traders, impeding movement, pure air circulation with its corresponding health hazards.

6. Brief Profile of Kumasi Metropolis

The city for this study, Kumasi (Figure1.1) is the capital of Ashanti region and the commercial capital of Ghana. The city is densely populated with a density of 5,782 persons per square km.(2011) Kumasi Central formed the focus of this study in terms of spatial location. The city was chosen due to the congestion of its centre thus making it appropriate for the study in addition KMA has conducted several decongestion exercises to promote free movement of pedestrians, shoppers and vehicles.

6.1 Illegal use of Space, Informal Economy and Congestion.

In developing countries, congestion within cities is an intertwined issue, comprising ineffective local government laws implementation, development of vast informal economic sector and high in –migration of unemployed people in search of non-existing jobs in cities. In the first place the Kumasi Metropolitan Assembly like other settlements in the country is unable to enforce strictly the provisions in the Local Government Act 1993 (Act 4620, for example taxes are not paid regularly for use of space thus affecting internally generated funds negatively and inability to manage the large volume of garbage generated by informal economic actors who operate in the centre of the city. Secondly, many unemployed people in the metropolis who are unable to find jobs in the formal sector raise capital for operation in the informal sector. In view of that decision space for operation becomes a serious challenge. Consequently they locate themselves at places for non commercial activities and begin to operate. Thirdly, fresh in-migrants go through the same process and start operating in areas which do not exist for informal commercial enterprises, for example walkways for pedestrians and shoppers.. Thus the faster the in- migration to the cities higher the demand for urban space in brisk business centres. As it is currently the case, demand for land in six commercial areas exceed supply, hence the congestion in those areas triggers the decongestion exercises in the Kumasi.

The study of congestion in Kumasi could be traced back to 1965(Department of Architecture, KNUST). The congestion in the city centre was triggered by the central locations of the Central Market and Central Lorry Park (Kajetia) in almost an adjacent manner. The two places are the highest congested areas in Kumasi in 1965 when the flow of shoppers and traders at the central market was surveyed for the first time (over 17,000 flow was generated from 6.30am- 11.30am), since then the situation has been compounding, creating ripple effect of congestion at the six identified areas stated above which surround the central market. One may suggest that traders who could not be accommodated by the central market are among traders operating in the six identified congested areas.

6.2 Economic background of traders and choice of business location

The economic activity found in decongested areas is petty trading in the informal sector.

The type of petty trading differs from one zone to another. About 91.5 percent of the total respondents have dependents that they cater for their survival. Out of those with dependents, 72.4 per cent have three dependents or more.

Several reasons informed the choice of place for business 65.5 percent of the respondents indicated that they chose the place of their business because they had no other ‘suitable’ places. Others chose their business places for reason of brisk business in those parts of the Metropolis.

6.3 Objectives of Decongestion in Kumasi

Congestion in the Metropolis and the challenges it generates has compelled the KMA to embark on several

decongesting exercises. In 2007, the exercise lasted 17 days for the first phase. Another exercise was launched in the year 2009 which spanned over 4 months for the first phase.

The core objective of decongestion is to promote sanity and allow free flow of both pedestrians and vehicles alike. In other words, it is supposed to get rid of unauthorised activities that impede free flow of both vehicular and pedestrian traffic, ensure that open spaces that are designed in the city are not encroached upon but are used for their intended purposes, reduce the sanitation challenges; reduce waste generation; improve health status within the city, create space for cleaning of areas hitherto covered by hawkers and reduce travel time from one point to another within the city..

7. Results and Discussions

7.1 Decongestion and Reaction of Traders

The 165 traders interviewed across the entire city indicated that they have been affected by one decongestion exercise or the other. The number of times that a trader has been affected depends on where the person was located and intensity of the exercise. From the respondents across the entire city, about 70 percent have been affected by decongestion exercises on five different occasions.

The above mentioned areas (Table 1) are always affected by the decongesting exercise of KMA. The traders return to the areas after the KMA team has returned to their base, convinced that the exercise is completed. On average 83 percent of the respondents have been affected by all five decongesting exercises yet they are operating at the decongested areas. The respondents indicated that they were affected at the same location they were operating during the interview. In effect, 93 percent of the respondents always return to the place they were moved from by KMA.

7.2 KMA Strategy of Decongestion

In 2009 Kumasi Metropolitan Assembly started the preparation for the 2010 decongesting exercise. The Assembly set up a twenty member planning committee to work out the planning and implementation modalities of the programme. The committee according to the Assembly came out with the following proposals: Education of the public especially hawkers to stop selling on pavements, roads as well as pedestrian walkways; setting up of prosecution unit to deal with recalcitrant traders; and using service personnel to help maintain order on the roads, pavements and other pedestrian walkways. The analysis of the strategies for previous exercises revealed that, the 2009 Planning Committee did not come out with anything new.

According to KMA, the proposals were carried out as captured by the 2010 report on decongestion. The Assembly went ahead to state that continuous education was done on the airwaves as well as using of public vans to announce the impending exercise and the need to adhere to bye-laws of the Assembly, concerning hawking and driving within the metropolis. The KMA proceeded to patrol and arrested recalcitrant hawkers and drivers on the streets daily. Hawkers and drivers arrested were arraigned before the KMA court where they paid a fine within the range of GH¢100.00(\$50.00) - GH¢300.00(\$150.00) or paid spot fine of GH¢50.00(\$25.00) and GH¢100.00(\$50). The Assembly also indicated that the traders were engaged in series of meetings to discuss the proposals of the committee before they were implemented assertion which the respondents denied. According to KMA, the cost of one decongesting exercise is estimated at One hundred thousand Ghana Cedis (\$50, 000.).

7.3 Provision of Alternative Space by the Assembly

The Assembly indicated that there are about twenty satellite markets developed around the metropolis where traders in congested areas could relocate. These markets are at Asafo, Asawasi, Bantama, Anomagye Nkwanta, Ayigya, Atonsu, Bohyen, Kwadaso, Santase, Tanoso, Ahinsan, Pankorono, Agogo, Kyirapatre, Ayeduase, Patase Estate, and Krofrom . The Assembly went ahead to state that some of these markets have been renovated to function effectively. The Assembly indicated that traders were free to relocate at any satellite market of their choice. For acquisition, the traders were made to pay GH¢250.00(\$125.00) – GH¢300.00(\$150.00) for open stores in satellite markets and GH¢500.00(\$250.00) for lockable stores. The respondents explained that some unidentifiable people have already taken ownership of the stores in question already, though they are not occupying them.

7.4 Success of Decongestion

The evaluation of the success of decongesting exercises of the Assembly was examined from different perspectives. One was from the perspective of the Assembly and the other from the affected economic actors. The KMA has a brief reports on the 2009 and 2010 decongestion exercises only. The Assembly outlined the following as the achievements for the 2009 decongestion exercise which were; free flow of traffic in PZ, Pampaso and Kumasi Zoo Areas, public appreciation of the exercise and revenue generated from the fines paid by the recalcitrant traders and drivers put before court. Although the Assembly indicated the cost of an exercise, however it failed to mention the revenue they collected from offenders put before the KMA court to enable analysts to calculate the surplus or deficit after an exercise.

For the 2010 decongestion exercise the achievements of the Assembly were cited as; free vehicular and

pedestrian movement in the Central Business District; prevention of pedestrians from walking on the road; reduction in anti social vices such as pick pocketing, snatching of ladies bags; establishment of effective Decongestion Prosecution Office to prosecute defaulting hawkers and traders and introduction of spot fines. From the objectives by the Assembly it is strange to enumerate the above outcomes as achievement.

From the field survey, the successes of decongesting exercises are doubtful for the reason that, not long after each decongestion exercise the traders return to operate at the same location. The areas that were affected decongested in 2007 were not different from those affected by those of 2009 and 2010. The maximum period for the retention of task force on the field has been 3 months. Areas where decongestion exercise have had some impact in; past were Adum (Figure 2) and Roman Hill where vehicular, traders and pedestrian conflicts were reduced. These were places where barricades or rail guards were placed to physically prevent traders from selling on pavements behind the rail guards. But areas such as Doctor Mensah (Figure 3), Alabar (Figure 4), Aboabo Station (Figure 5), and Morocco Area, seem not to have been decongested for years.

The picturesque evidence from the survey has been provided in Figure 2. This study also has enough basis and evidence to state that over 83 percent of these traders were operating at the same areas during the last five decongestion exercises. It could therefore be concluded that most of these people are the same people who have been operating at the same areas over the years. An issue that is worth stating is the fact that, heavy inflow of casual buyers, sellers and tourists to the city has also contributed to the current state of congestion in the city.

7.3 Challenges faced during Decongesting Exercises

From the field studies the main challenges to the decongesting exercises face in Kumasi include the following: Some of the traders are entrenched in specific places and do not want to succumb to any decongesting exercise of the Assembly. Inadequacy of alternative places provided by the Assembly for the absorption of traders affected by decongestion exercises hence the traders return to the restricted areas. This has really been a major challenge of the exercise.

Political interference or politicization of decongesting exercise has been another challenge. Some politicians tend to support the operators at the congested areas to gain political capital. This makes the KMA's decongesting exercises more difficult to succeed.

Indiscipline attitudes on the part of the Assembly's decongestion task force has been a contributory factor to unsuccessful operations. The traders have become too familiar with the task force to the extent that it has undermined the whole purpose of the Assembly's decongesting exercises. To the traders, decongesting exercise is just a money collecting opportunity for the task force members.

Misconception of fees charged by the Assembly has affected the success of decongesting exercises. Some of the traders misconstrue the KMA's waste collection fees for rent, hence they tend to claim control over the use of space. Therefore, decongesting exercise is considered illegal on the part of the traders.

Lastly, the public, most of the time criticise the Assembly for embarking on decongesting exercise and also expresses its sentiments and sympathy for the affected traders. This discourages the Assembly from pursuing the exercise with full force. In some instances, members of the public physically attack the decongesting task force of the Assembly for carrying out the exercise.

8. Summary of Key Findings

From the study, the following key findings were captured:

Congestion is brought about by illegal use of space in the city, fast growing informal economic sector and high inflow of in- migrants looking for non-existing jobs in cities. Areas in the city which have necessitated decongesting exercises have not changed for past five years. These areas, as captured by the study, are the CBD (Adum), Doctor Mensah, Morocco Area, Roman Hill, Alabar, Kumasi Zoo Lane and Aboabo Station.

Again, about 70 percent of the people affected by decongestion exercises of the Assembly return to their area of operation after the task force have ended its duty. Moreover, over 90 percent of the traders affected by decongesting exercises have dependents, thus, the financial burden of these people goes beyond just themselves. With regards to the number of dependents, over 70 percent of the traders have three or more dependents. This economic stress places financial burden on traders. According to the traders, they live on daily income as they do not have savings. Over 90 percent of the traders affected by decongesting exercises engage in trading at restricted areas as a means of securing a livelihood. This group depends on their business at restricted areas as a source of To these traders, trading on the street is a matter of survival. The traders opt for survival by being on the pavements to sell. The point is that, most of the traders affected by decongesting exercises have no trained skills and therefore depend on petty trading for survival.

Again, the traders affected by decongesting exercises do not have additional work except the ones they were interviewed from. This presents the economic desperation of traders who sell on the pavements and walkways. The complete success of human decongesting exercises in a developing city is doubtful, hence not long after each decongesting exercise trader's return to the same area to operate again.

None of the decongesting exercises of the Assembly lasted long enough for people to feel the presence of the task force. Perhaps financing the exercise is a major challenge. On average the decongesting exercises of the Assembly last for 3 months as an event.

9. Some Recommendations for Effective Decongestion Exercise

To effectively decongest the urban space, the following have been recommended to developing cities. Decongestion should be seen as a long term process but not an event. The Assembly should introduce long term continuous decongesting programmes.

The Assembly should establish Department of Urban Space Management as part of the existing institutional structure. This Department would be able to formulate long term space utilization plan, design and implementation strategy and monitor the plan implementation; this will have a major impact on urban space management instead of the 3 months event planned by an ad-hoc committee with no one taking serious charge of implementation.

Satellite markets should be cited with lorry parks to make brisk business, One major pull factor common to all the congested areas is the presence of the Kejetia Lorry Park which is close to congested areas. The lorry park attracts many traders in the informal sector. Therefore locating satellite markets with lorry parks/stations could pull many of these traders from the congested areas. Again, more of the satellite markets should be established in the ten sub-metros in Kumasi as the existing ones is inadequate to absorb traders in the congested areas.

Again, satellite markets should have commercial specialisation or role. That is each satellite market could be accorded a comparative edge to trade in specific goods. For example, Tafo market could be specially noted for the selling of foodstuff whilst Kwadaso specialises in clothing. This could make satellite markets more functional and competitive thereby attracting buyers and sellers from the congested areas.

The assembly should subsidize the cost of acquiring space in the satellite markets as an incentive to attract traders at the congested places. This could be less costly as compared to the current 500,000 Ghana Cedis spent on each decongesting exercise. In addition, traders could be educated on trading at the satellite markets. The assembly should organise orientation programme for traders on how to run business at the satellite markets provided.

Alternatively, the Assembly could outsource the exercise to a private firm. This can avert several lapses inherent in the Metropolitan Assembly's decongesting approach and improve the success rate of the exercise. The Assembly could organise public education programme to educate the general public on decongestion exercise to win their sympathy and support. That would make the public regard operators who flout decongestion arrangements and programme as obstacles to development in the city

10. Conclusion

Several attempts have been made by the KMA to decongest the city. The approach too many of these exercises have been similar and as such yielded similar results. Areas affected by the decongesting exercises of the Assembly have not varied from one decongesting exercise to another. The results of several decongesting exercises undertaken by the Assembly have not been positive. Factors responsible for the resistance of traders and drivers to decongesting exercises of the Assembly have not been well delved into by the Assembly. Traders have not been integrated into the process of decongestion. Provision of alternative places for traders affected by decongesting exercise has not involved the petty traders. Therefore other people who are not petty traders use the back door to acquire the market stores to the disadvantage of the petty traders who operate in open space trading, at the mercy of the weather. The politicisation of urban space usage has equally impeded the successful decongestion of the urban space. In addressing the challenges posed by congestion, the Assembly requires a more comprehensive decongestion plan which considers decongestion as a process, Again, there should be institutional reorganization at the Assembly to support the plan for decongestion. The recommendations have brought to the fore an effective way of decongesting developing cities.

References

- Armah A. Frederick, David O. Yawson and Alex A.N.M. Pappoe (2010), "A Systems Dynamics Approach to Explore Traffic Congestion and Air Pollution Link in the City of Accra, Ghana" Sustainability 2, pp 252-265
- Bantubonse Yvonne Bwalya(2008), Bringing order to the city: informal street trading in the Johannesburg CBD. Unpublished thesis submitted to the Faculty of Engineering and Built Environment, University of Witwatersrand Johannesburg. Johannesburg
- Brenyah Kwame (1977), An Evaluation of the Effect of the Face Lift Project on Pedestrian Traffic: Kejetia area, Kumasi. Unpublished Thesis submitted to the Department of Planning, KNUST, Kumasi
- Chakwizira James (2007), "The Question of Road Traffic Congestion and Decongestion in the Greater Johannesburg Area: Some Perspectives" Proceedings of the 26th Southern African Transport Conference, pp

499-511. Pretoria.

Effah E. (1967), Pedestrians in Kumasi city centre. Unpublished Thesis submitted to the Department of Planning, KNUST, Kumasi

European Conference of Ministers of Transport (ECMT) (2007), “Managing Urban Traffic Congestion” Paris, OECD.

Ghana Institute of Planners (2008), “Decongestion of our Cities Wrong Diagnosis, Wrong Prescription” Accra

Koranteng Asante Eugene (1977), Pedestrian Movement Study at Takoradi Market Circle. Unpublished Thesis submitted to the Department of Planning, KNUST, Kumasi

Kumasi Metropolitan Assembly, Medium Term Development Plan 2010-2013. Kumasi

Kumasi Metropolitan Assembly, Report on Decongestion Exercise, 2009. Kumasi

Kumasi Metropolitan Assembly, Report on Decongestion and Noise Nuisance in the Metropolis, 2010. Kumasi

Lomax J. Timothy (1997), “Quantifying Congestion Issue 398 Volume 1” Virginia National Academy Press,

Narayanan R., R. Udayakumar, L.Subbaraj, K Kumar (2003), “Quantification of congestion using Fuzzy Logic and Network Analysis using GIS” Map India Conference. India

Twum Barimah Felix (2008), Urban Decongestion and the Challenges of Petty Trading in Ghana- A Case of the United Petty Traders Association, Kumasi Metropolis. Unpublished Thesis submitted to the Department of Planning, KNUST, Kumasi

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Table 1. Traders affected by decongestion exercise on five occasions.

Areas	Percentage of Traders
Morocco	95
Roman Hill	95
Dr. Mensah	90
Adum	88
Aboabo Station	75
Alabar	60

Authors’ construct.

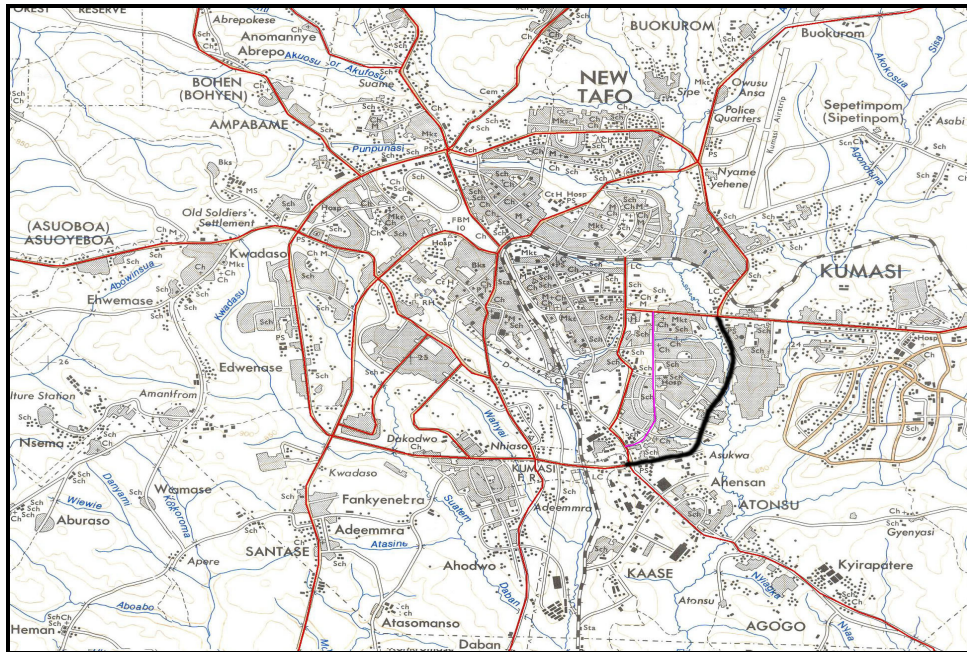


Figure 1. Map of Kumasi Metropolis, adopted from Kumasi Metropolitan Medium Term Development Plan (2010-2013).

Figure 2. Adum area, two and half months after decongestion exercise



Figure 3. Dr. Mensah area, two and half months after decongestion exercise



Figure 4. The Alabar area, two and half months after decongestion exercise



Figure 5. The Aboabo area, two and half months after decongestion exercise

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