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## **TRAFFIC CONGESTION AND DERAILMENT OF SMALL SCALE INVESTMENTS IN ONGATA RONGAI, KAJIADO COUNTY – KENYA**

**Authors:** <sup>1</sup>James Mwamba, <sup>2</sup>Dr. Urbanus Mwinzi Ndolo, <sup>3</sup>Phillip O. Wandera

<sup>1</sup>, <sup>2</sup> & <sup>3</sup> The Catholic University of Eastern Africa (CUEA)

**Corresponding author:** [mwambajames@gmail.com](mailto:mwambajames@gmail.com)

**Chief Editor**

Web: [www.ijsdc.org](http://www.ijsdc.org)

Email: [info@ijsdc.org](mailto:info@ijsdc.org)

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**Abstract:** *The study sought to investigate “Traffic Congestion Derailment on Small Scale Investors in Ongata Rongai, Kajiado County, Kenya”. It adopted a mixed research design, where both qualitative and quantitative perspectives were applied. Multistage, stratified, snowball and purposive sampling approaches were used to draw a sample of 125 participants. In-depth and structured interviews, observation and content analysis were used to collect data. Qualitative data were analyzed qualitatively categorizing the responses into essential themes, while the SPSS package was used to process the inferential statistics. The study was anchored on the traffic flow and economic theories. The findings reveal that 64% of the traffic jam(s) are caused by narrow roads and punitive overlap by unruly Matatus (mini buses) especially during peak hours. This practice leads to unnecessary delay of services and goods to consumers, besides reducing the level of income to the small scale business investors and creating high fatigue and anxiety among public travelers and private car drivers as they pile up on the road while careless Matatu drivers just jump the queue on the dusty side roads with impunity. The study concludes that besides enhancing police surveillance to control the unruly Matatu drivers, the road definitely needs to be expanded to due carriage to allow smooth traffic flow. It recommends quick expansion of the road to match the high rate of travelers and tough legal measures on Matatu and private drivers who break traffic rules and regulations with impunity.*

**Key Words:** *Traffic Congestion, derailment, Jams, small scale investments, low income, job Loss, service delay*

### 1.1 Background of the Study

Traffic congestion aggravates challenges to many motorists in navigating routes to different destinations in and around cities. In matters of economic progress, transport forms one of the major element for creating a competitive business environment by which various socio-economic objectives can be attained (Nairobi Metro 2030 Strategy). However, this is best attained with good road systems which allow free flow of motor vehicles without much delay in jams due to traffic congestion. Speaking of traffic congestion, this involves the slowing down of vehicles as they near the physical capacity of the road system (OECD, 2007).

In Talegaon Dabhade a historical city in India and in a municipal council in Pune district in state of Maharashtra, congestion of motor vehicles is a big concern (Saharkar, 2014). Talegaon Dabhade had a population of 43,574 in 2001. In 2011, the city's population had grown to 75, 854 and is estimated that by 2021 the population size will have grown to 125, 544 which will put additional constraints on the current traffic. Traffic congestion results in traffic congestion causing prolonged jams and a series of accidents because of poor traffic management. Some of the major causes of traffic congestion in Talegaon Dabhade in the State of Maharashtra as reported by Rahane and Saharkar (2014) include the following: *Narrow roads* - In the town of Talegaon, streets are so narrow. Most of the streets around are not that wide spread. This situation (narrow roads) is as a result of illegal possession on the road making them get narrow and becoming a reason behind traffic jams found around. Despite a lot of efforts to expand the road as per their right of way to reduce traffic congestion, majority of the roads are not wide to accommodate heavy traffic; *Illegal Parking* - Illegal packings in the city of Talegaon has been creating traffic congestion daily. For example, as cited by Rahane and Saharkar (2014) that about one kilometer from one particular petrol pump to Indrayani College there are so many vehicles on-road parking. This is one of the main reasons behind serious traffic congestion on different parts of the Talegaon city; *Increasing number of population* - As noted above (see above), the city of Talegaon is facing an increase in the population. According to Rahane and Saharkar (2014) this is a bad indicator for the traffic management. Also, this is a vital reason and contribution to traffic congestion experienced in the city of Talegaon and *Higher Purchasing power of the public* - Another reason for high traffic jams in Talegaon city is the high purchasing power of the citizens. The popularity of private transportation is increasing becoming a point of concern considering the existing roads and highways which do not support or change in accordance to the increasing number of vehicle. As a result, traffic jam is increasing at an alarming rate.

### 1.2 Statement Of The Problem

Traffic jam is becoming a major concern in Ongata Rongai affecting many road users including Small Scale Investors in the area. The pace at which vehicles move due to heavy traffic experienced in the area on daily basis affects agenda of many people around, including those with small businesses. This problem is worse during peak hours (i.e., between 6-8am and 5-8pm). The situation of traffic jam stretches from Magadi road in Ongata Rongai to Langa'ta road entering the Central Business District (CBD) in Nairobi. It is on this backdrop the study sought to analyze the main cause and unveil potential interventions in addressing the challenge posed by the traffic jam in the study area.

### 1.3 Specific objectives

- i) To examine the causes of increased traffic congestion in Ongata Rongai
- ii) To explore the impact of traffic jams on small scale investors in Ongata Rongai
- iii) To determine how the County government of Kajiado is addressing the challenge of traffic jams in the area
- iv) To assess the County policy framework on traffic congestion in the study area

#### 1.3.1 Research questions

- i) What are the causes of traffic congestion in Ongata Rongai?
- ii) What are the impacts of traffic jam on small scale investors in Ongata Rongai?
- iii) What is the county government of Kajiado doing to address the challenge of traffic jam in the area?
- iv) How is the County policy framework on traffic congestion in Ongata Rongai?

### 1.4 Conceptual Framework

#### Independent Variables

- Single carriage
- Fewer bypasses
- Narrow roads
- Overlapping Matatus
- Compromising Traffic Police

#### Dependent Variables

- Traffic Congestion
- Service & Goods delay
- Time wastage on the road
- High cost of transport

- #### Intervening Variables
- Strict traffic Police
  - Adherence to traffic policy, Law and safety
  - Creation of duo carriage

*Source: Researcher's own design, 2018*

As illustrated on the above model, narrow single carriage with no well maintained bypasses and a stream of overlapping Matatus driven by unruly drivers leads to unnecessary traffic jams. This leads to delay of services and goods, high cost of transport and wastage of time.

To intervene on this situation there to need to ensure that the police are quite strict on unruly Matatu touts to ensure that all drivers adhere to traffic law and widen the road through duo carriage urgently.

## 1.5 Review Of Empirical Studies

### *Causes of Increase of Traffic Congestion*

The study done in India by Maji (2017) reveals that the traffic congestion occurs when road network is no longer capable to accommodate the volume of movements of vehicles characterized by slow speed, long trip timing and high vehicular queuing. Also, increasing growing population in Asansol cities and rapidly growing population by birth and migration have both increased unprecedented number of vehicles on Indian roads. Better facilities like-communication system, medical facilities, educational institution leads to heavy traffic. Improper planning in Asansol cities in India which is one of the oldest city within west Bengal, has added traffic jams in the city.

Furthermore, in India traffic jam is caused by: Random parking (The illegal and random parking on main road is common habits of drivers and riders, causing unexpected congestion any time); Irregular public transport Irregularity of public transport encourage the people to depend on private vehicles; Increasing rent Increasing rent within short distance of public transport is one of the reasons to depend on private vehicles (Maji, 2017, p. 44).

For Shekhar, Rahane and Saharkar (2008), streets in some towns or cities around the world are not that wide enough. They attribute the issues of narrow roads because of illegal possessions (land). For them the roads they are getting narrow and becoming a reason behind traffic jam. There is need for every possibility to expand the road as per their right of way to reduce traffic congestion.

Globally, the Phenomenon of traffic congestion according to Albert and Mahalel (2006) is both a *physical* phenomenon and a *relative* phenomenon. As a physical phenomenon, it is related to the way vehicles impede each other's progression as demand for limited road space approaches full capacity. While, as a *relative* phenomenon is related to user expectations *vis-à-vis* road system performance. Hence, congestion can be understood as the inability to reach a destination in, or at a satisfactory time due to slow or unpredictable travel speeds (Bertini, 2005). It is a situation in which demand for road space exceeds supply; the inadequacy of supply of road space versus demand.

The ECMT report formulated in 1999 ECMT states that *Congestion is the impedance vehicles impose on each other, due to the speed-flow relationship, in conditions where the use of a transport system approaches its capacity.* This explanation highlights two factors namely that vehicles, and, each *new* vehicle on the roadway, impose constraints on those *already circulating*; and traffic is encapsulated in the concept of the "speed-flow relationship" understood in the mechanisms of congestion and queue formation which has underpinned most operational responses to the problem. These definitions highlight the fact that, speed-flow in relationship to demand and supply nears roadway capacity, congestion can be said to exist before the physical capacity of the network is attained. Speed-flow relationship describes traffic behavior on links which are interrupted by flow facilitating roadways that move very slow. Hence, traffic congestion is one of the worst scenarios faced by the most urban and suburban dwellers in today's world. Urban planners and policy makers have been constantly trying to explore options to mitigate traffic congestion and to improve traffic flow (Schrank and Lomax, 2005). Communication, especially telecommunication among traffic controllers is one of such options that has got substantial attention as a model of controlling traffic (Mokhtarian, *et al*, 2005). They further argue, lack of consensus in coordination among traffic controllers worsens the situation of the roads

Road congestion causes a huge economic impact, especially in urban areas and major highways (De Palma and Lindsey, 2018). They further attest that time lost in travelling is clearly seen as an important direct cost. The uncertain of travel time reliability is a significant indirect cost on road users. It implicitly inconveniences many motorists who sometimes must look for alternative road making it even longer to reach their destinations. Though traffic congestion is a temporal condition on networks that occurs as utility increases, and is characterized by slower speeds, and increased queuing its impact is not a positive on the local economy. The slowness of vehicles is when stopped for a longer period, this is colloquially known as a traffic jam. Most cities around the world are increasingly addressing the issue of traffic congestion. This has led local and national transportation officials, to be worried about how increasing congestion can affect economic growth. Regardless of what transportation modes or policy strategies are used to address congestion in urban areas, the fact remains that most governments cannot assess the economic benefits of any congestion reduction strategy unless they first understand how congestion affects economic growth and productivity. Regionally, the problem of traffic congestion has no left Kampala-Uganda alone, the city experiences the same problem, therefore, lack of proper Planning of City Road, the roads of Kampala City are not pre-planned. Whenever the city needs roads, Kampala city authority keeps making roads that are not on plan because they always want to get differences in form of corruption while awarding contracts to Engineers. That is why there is no pre plan. The city is suffering traffic jam as an outcome of unplanned city (Bobylev, 2009).

### ***Impact of Traffic Jams on Small Scale Investment***

Generally, business activities operate under the assumption that it seeks to maximize on profits at the least possible cost and at the same time minimize expenditures. In this context, congested roads will have negative socio-economic impacts on majority of motorist. Long queues of motor vehicles become a trade-off between reaching a desired destination (outcome) and the time takes one to do so. Therefore, below are socio-economic impacts because of traffic congestions experienced by road-business users who get stuck in queues on roads. Traffic congestion cost calculations incorporate assumptions relating to baseline travel conditions. Such calculations or estimates seek to determine a total “cost of congestion” by assigning a value to the difference between free-flow travel speeds and speeds realized on the transport network (NCHRP, 2001a, p. 26). Also, the assumed calculation estimates explain a difference is labelled as “lost” time or travel “delay”. To put the same in perspective, it is assumed the order to experience ‘lost’ time or travel delays, as a road user one must have been in a situation in which the same volume of travelers undertaking the same activities in the same on the road heading in the same direction and destination (city) at one point they could have travelled without any delay at all, including in peak periods (USDOT, 2006). In other words, road users have never had the time in which the calculated estimates assumed they have “lost”.

However, as reported by Goodwin (2004) roads in most big metropolitan areas are never made to allow free-flow travel at all times of the day, including in certain peak hours (periods). Traffic congestion “cost” or “cost of congestion” should also be understood as a result of crowding in urban cities. Less populated cities are not generally considered with less traffic congestions; nor cities with empty roads (ECMT, 2007). Traffic congestion costs are linked to roadway users’ experiences and expectations with relative changes in levels and costs of congestion. This is done by comparing current levels with past (and expected future) levels to which congestion is reducing

the potential benefits - e.g. in overall accessibility to urban facilities and services (Button, 2004). Factors with a cumulative impact on congestion costs include specific bottleneck or congestion hotspot treatments, and investments in non-road interventions such as accident clearing, parking policies, work-time rules.

### ***Theoretical Framework***

***Traffic flow theory:*** This theory entails knowledge of fundamental characteristics of the traffic flow and the associated analytical methods (Kerner, 2009). One of the results of the interplay between business organizations and individuals meeting their needs and desires is about the activities surrounding the transportation factors of road traffic. Road traffic can be described by using flow variables such as speed and density. According to the theory (TFT), the density of traffic is measured by the number of vehicles that are present on a roadway per unit distance. Road traffic flows theory asserts that on certain road stretches during certain time periods can be either free or congested and/or the flows can be unreliable. The more vehicles they are on the road the denser the traffic is and the slower the traffic will move making most productive people spend more time on the road which contributes to unproductivity of those people thus lost personal revenue and a slowed economic growth.

Lack of proper infrastructure and an efficient regulatory framework to control traffic has contributed more to the traffic congestion. However, the theory has been criticized that it is almost completely based on measurements of the Bundesautobahn in Germany. It may be that this road has this pattern, but other roads in other countries have other characteristics.

***Economic theory:*** Congested roads can be seen as an example of the tragedy of the commons (Hardin, 1968). Because roads in most places are free at the point of usage, there is little financial incentive for drivers not to over-use them, up to the point where traffic collapses into a jam, when demand becomes limited by opportunity cost. Privatization of highways and road pricing has both been proposed as measures that may reduce congestion through economic incentives and disincentives. Congestion can also happen due to non-recurring highway incidents, such as a crash or road works, which may reduce the road's capacity below normal levels.

Economist Anthony Downs argues that rush hour traffic congestion is inevitable because of the benefits of having a relatively standard work day (Steven, 1990). In a capitalist economy, goods can be allocated either by pricing (ability to pay) or by queuing (first-come first-serve); congestion is an example of the latter. Instead of the traditional solution of making the "pipe" large enough to accommodate the total demand for peak-hour vehicle travel (a supply-side solution), either by widening roadways or increasing "flow pressure" via automated highway systems, Downs advocates greater use of road pricing to reduce congestion (a demand-side solution, effectively rationing demand), in turn plowing the revenues generated, there from, into public transportation projects. A 2011 study in the American Economic Review indicates that there may be a "fundamental law of road congestion." The researchers, from the University of Toronto and the London School of Economics, analyzed data from the U.S. Highway.

Performance and Monitoring System for 1983, 1993 and 2003, as well as information on population, employment, geography, transit, and political factors. They determined that the number of vehicle-kilometers traveled (VKT) increases in direct proportion to the available lane-

kilometers of roadways. The implication is that building new roads and widening existing ones only results in additional traffic that continues to rise until peak congestion returns to the previous level (Duranton and Turner, 2011).

## 1.6 Research Methodology

Observation was used to observe traffic jam. There was interaction with the respondents. Participant observation was used. Participant observation is defined as the way of collecting data in which the researcher lives as a member of the subjects of the study while observing and keeping notes of the attributes of the subject that is being researched so that he can directly experience, the phenomenon being studied. The aim of interviews was to identify participant's emotions, feelings, and opinions regarding traffic jams they go through. The main advantage of interviews is that interviews involve personal and direct contact between interviewers and interviewees, as well as eliminate non-response rates, though according to Fisher (2005). However, there is the risk that the interview may deviate from the pre-specified research aims and objectives (Gill & Johnson, 2002). With this, the study explored a few other options to help uncover the participant's views but otherwise respects how the participant frames and structures the responses. Kahn and Cannell (1957) describe interviewing as "a conversation with a purpose". Therefore, this study using interview complemented the questionnaire technique especially where the sampled respondents could not understand the questionnaire. The questionnaire converted into a discussion between the respondent and the interviewer with the most convenient language to both parties. The respondents to be interviewed included both motorized and non-motorized vehicle operators, commuters and a few pedestrians who use Langa'ta road getting to understand their views of difficulties they face crossing the road with standstill vehicles. Content analysis was used in which the researcher analyzed the social phenomena in a non-invasive way, as contrary to simulating social experience. Quantitative data was analyzed by using SPSS, while qualitative data was analyzed qualitatively. Furthermore, data was presented systematically organized according to themes and sub-themes. Descriptive statistics analysis was used to determine the influence of quantitative data from closed ended questions. The outcomes were tabulated using distribution frequency tables, percentage, pie charts and bar graphs. The data was interpreted in relation to the research questions.

## 1.7 Study Findings

### *Demographic information*

The demographic data of the respondents was based on their gender, age, education level, place of trade, rank/designation, years of operation in current position/rank and hours taken in traffic jam. Respondents were asked to indicate their gender. Responses are summarized and presented in table 1.

**Table 1: Small scale investors and Institutional Officials Gender**

Gender	Small scale investors		Institutional officers	
	Frequency	Percent	Frequency	Percent
Male	54	54.0	6	42.9
Female	46	46.0	8	57.1
<b>Total</b>	<b>100</b>	<b>100</b>	<b>14</b>	<b>100</b>

Source: Field data, 2019

In table 1, the results reveal that 54(54%) of the Rongai small scale investors were male while the

rest 46(46%) were females, 6(43%) of the institutional officials were males and 8(57%) were female. This representation implies that the industry of small scale investors is male dominated, especially among the sampled population. Even though the researcher intended to ensure that both gender participated equally, this was not fully attained.

As revealed in figure 1 below, the findings show that 19(20%) of the Rongai small scale investors were aged between 20-24 years, with majority 34(35%) were aged between 25-29 years, 25(26%) were aged between 30-34 years, 10(11%) were aged between 35-39 years and 7(8%) were aged 40 and above. Thirteen (14%) of the institutional officials were aged between 20-24 years, 27(29%) were aged between 25-29 years, 35(36%) were aged between 30-34 years, 6(7%) were aged between 35-39 years and 13(14%) were aged between 40 and above.

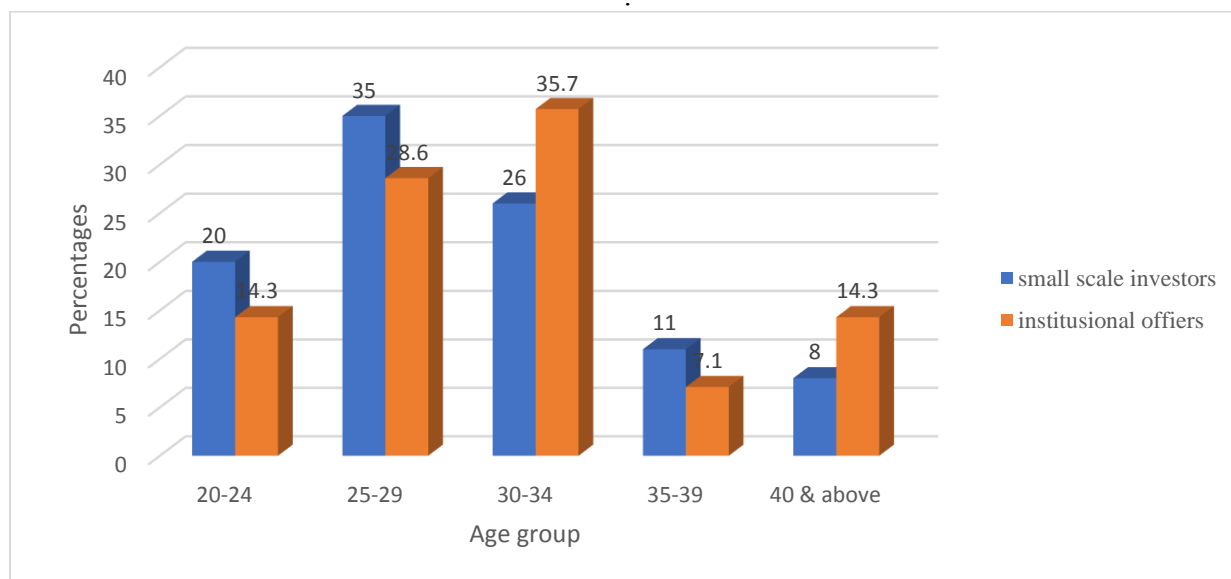


Figure 1: Age-group of small scale investors and institutional officials  
Source: Field data, 2019

This shows that Kajiado county institutions have energetic and versatile labor force and residents are mature enough to understand implications of traffic congestion on small scale investors in Ongata Rongai, Kajiado County, Kenya. Ongata Rongai institutional officials and residents were asked to indicate their level of education and collected data in this regard was analyzed and summarized in table 2.

Table 2: Education level of officials and small-scale investors

Education level	Small-Scale Investors		Institutional Officers	
	Frequency	Percent	Frequency	Percent
Primary	1	1.2	0.0	0.0
Secondary	41	50.6	0.0	0.0
Diploma	30	37.0	2	16.6
Degree	9	11.1	10	83.4
<b>Total</b>	<b>81</b>	<b>100</b>	<b>12</b>	<b>100</b>

Source: Field data, 2019



In table 2, it is indicated that 9(11.1%) of the respondents who are small-scale investors had attained degree, 30(37.0%) had attained diploma, 41 (50.6%) had attained secondary education and 1(1.2%) had attained primary education 2(16.6%) of the institutional officials had attained diploma while 10(83.4%) had attained degree. This assures the study that respondents were well educated to understand and give information pertaining to the implications of traffic congestion on small Scale Investors in Ongata Rongai, Kajiado County, Kenya.

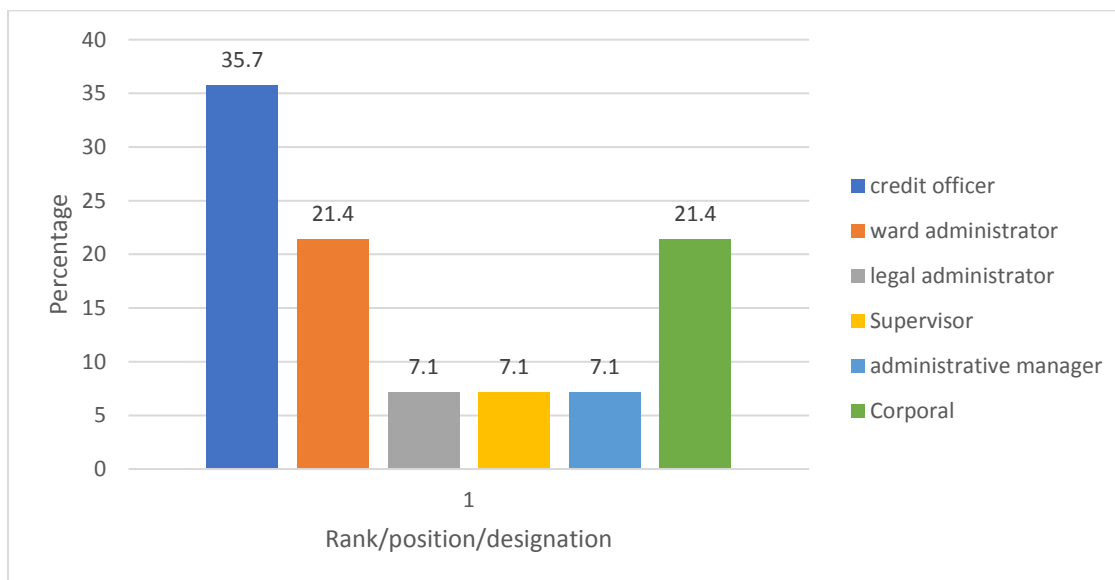


Figure 2: Institutional officers' rank

Source: Field data, 2019

As is evident in the figure above, Ongata Rongai has institutions which are capable of addressing the implications of traffic congestion on small Scale Investors in Ongata Rongai, Kajiado County, Kenya. Institutional officers were asked to indicate the number of years they have served in their current position. Responses are summarized and presented in table 4.

Table 3: Years of operation in the current position

Years of operation	Frequency	Percent
1 year	5	35.7
2 years	4	28.6
4 years	3	21.5
5 years	1	7.1
6 and above years	1	7.1
<b>Total</b>	<b>14</b>	<b>100</b>

Source: Field data, 2019

Looking at table 3, it displays that 35.7% of the officers had worked in the current position for 1 year, followed by 28.6% for 2 years, 21.4% for 4 years, 7.1% for 5 years and 7.1% of the officers had worked in the current position for 6 and above years. It can be deduced from the findings that

respondents have varied number of years of experience in operating in their respective areas have been in the office for a considerable number of years to understand the implications of traffic congestion on small Scale Investors in Ongata Rongai, Kajiado County, Kenya. Meaning, years of operation gives confidence to the study as is an indicator that someone (respondent) had vast experience to understand the situations of traffic jams in the area. Also, residents were asked to indicate the hours they take in traffic jam and gathered data in this regard was analyzed and summarized in table 5.

**Table 4: Hours taken on traffic jam**

<b>Hours taken in traffic jam</b>	<b>Frequency</b>	<b>Percent</b>
less than 1 hour	25	25
1-2 hours	44	44
3-4 hours	31	31
<b>Total</b>	<b>100</b>	<b>100</b>

*Source: Field data, 2019*

As depicted in table 4, the findings indicate that 25% of the respondents takes less than 1 hour on traffic jam, 44% takes between 1-2 hours and 31% takes between 3-4 hours. This means that Rongai residents are victims of traffic jam hence in position to understand the implications of traffic congestion on small Scale Investors in Ongata Rongai, Kajiado County, Kenya.

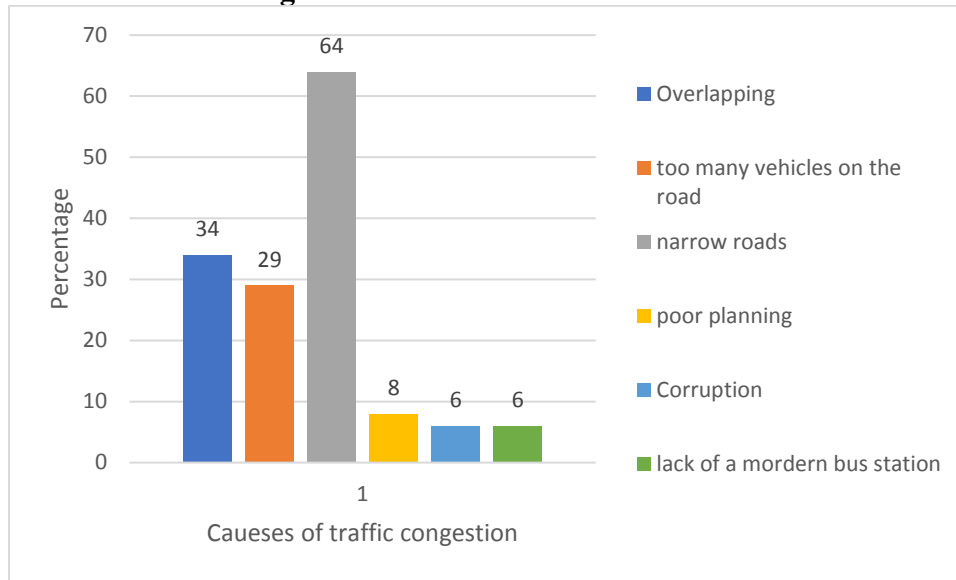
#### ***Gender-age Cross tabulation***

The study was interested to establish gender-age relationship. This was achieved through cross-tabulation and the results obtained were shown in table 6.

#### ***Causes of increasing traffic congestion in Ongata Rongai***

The first objective of the study was to examine the causes of increasing traffic congestion in Ongata Rongai, Kajiado County, Kenya. Respondents were asked to describe the causes of traffic congestion in Ongata Rongai route and gathered data in this regard was analyzed and summarized in figure 4.

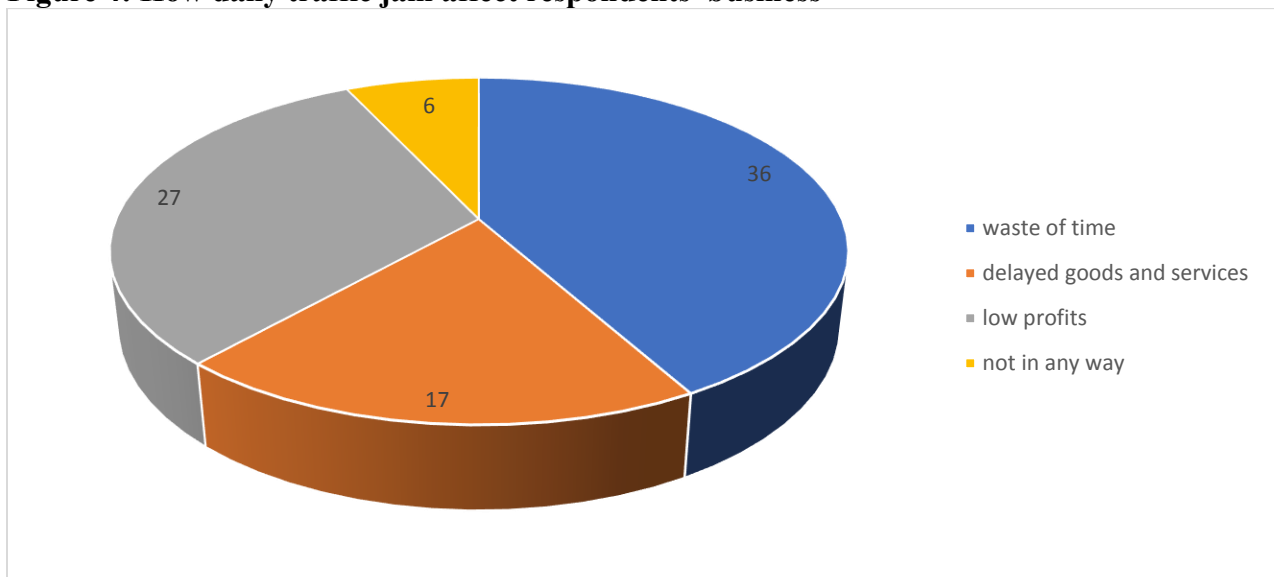
**Figure 3: Causes of traffic congestion**



Source: Field data, 2019

In figure 3 results shows that majority 63(64%) of the respondents indicated that narrow roads, 32(34%) indicated overlapping and 29(29%) indicated too many vehicles on the road are the major cause of traffic congestion in Ongata Rongai. This implies that Ongata Rongai does not have broad roads to reduce traffic congestion compared to high number of vehicles on the road. This concurs with Shekhar, Rahane and Saharkar (2008) that streets in some towns or cities around the world are not that wide enough. Further, this is in agreement with Hensher and Puckett (2005) that most urban areas have a high level of congested roads a situation which reflects the overall level of demand for public transport or the use of cars.

**Figure 4: How daily traffic jam affect respondents’ business**



*Source: Field data, 2019*

Further respondents were asked to indicate the effects of traffic congestion on small scale investors and collected data in this regard was analyzed and summarized in figure 4. From figure 4, it was discovered that 36% of the respondents stated that traffic congestion leads to time wastage. This implies traffic congestion in Ongata Rongai makes respondents not to spend their time properly. In addition, respondents were asked to rate the situation of traffic jams in terms of cause of delay, wastage of time, wastage of fuel, wastage of money, service delay, income reduction, slows business and slow economy. Findings showed that 41% of the respondents stated it is extremely true that traffic jam causes delay, 35% it is extremely true that traffic jam causes time wastage, 35% stated that it is true that traffic jam causes fuel wastage, 45% agree it is true that traffic congestion causes wastage of money, 40% agreed that it true that traffic congestion causes service delay, 30% agreed it is true that traffic jam reduces income, 51% also agreed that it is true that traffic congestion slows business and 46% said it is true that traffic congestion slows economy. The effects of traffic jams lead to delayed delivery of goods and services. This means it affects the economic standing of the small-scale investors, especially in their profitability. Respondents were asked to state what has been done to reduce traffic congestion and gathered data in this regard was analyzed and summarized in figure 6.

### **1.8 Conclusion**

In conclusion, the study looked at menace of traffic congestion in Ongata Rongai which derails business performance for small scale investments. The research was guided by four objectives as here discussed: causes of traffic congestion in Ongata Rongai; the impact of traffic jams on small scale investors; the role of the County government of Kajiado in addressing the challenge of traffic jams in the area; and the County policy framework on traffic congestion in the study area.

Following the results based on the objective one, majority of the respondents agreed that narrow roads is the major cause of traffic congestion derailment in Ongata Rongai. Narrow roads have been pointed as one of the major cause of traffic congestion, including overlapping which contributes to the traffic congestion in Ongata Rongai. This implies that Ongata Rongai does not have broad roads to reduce traffic congestion compared to high number of vehicles on the road. Considering the second objective, majority of the respondents agreed that traffic congestion resulted into the delay of time. Hence spent a lot of hours on the road. This meant that traffic congestion makes the small-scale investors not to spend their time on the road properly.

Furthermore, respondents were asked to rate the situation of traffic jams in terms of cause of delay, wastage of time, wastage of fuel, wastage of money, services delay, income reduction, slows business and slow economy. Majority of the respondents said traffic congestions slows the growth of the business.

The findings from objective three, indicated that introduction of traffic police is the only major action which has been taken to reduce traffic congestion in Ongata Rongai. Some respondents indicated that road repairing has been done. 14.3% indicated that nothing has been done to combat the scenario of traffic congestions in Ongata Rongai. Still based on findings three, suggestion was made to combat the problem of traffic congestions in Ongata Rongai. Among them are; construction of the dual carriage way, improve infrastructures, increase the presence of the road

traffic police, construct good bus stops.

Based on the result from objective four, majority of the respondents indicated that there is no county policy framework on traffic congestions in Kajiado County. This implies that Kajiado County does not have policy frame work to address traffic congestion since respondents have never been exposed to any. Majority also indicated that the Key policy actors in decision making in matters of road management is the national government. Majority of the respondents also indicated that there is poor performance by the county officials in matters of policy making. Furthermore, the respondents indicated that the main partner in policy process is county government.

### 1.9 Recommendations

The study made the following recommendations. There is a need to include other types or modes of transportation to reduce the number of cars especially of private vehicles. In the case of implementing other measures or means of transport such as cycling, there is a need to further educate bicycle riders and vehicles to give way to cyclists too. Non-motorized vehicles need to be fully recognized by other motorists. On the other hand, policies to promote multi-road users needs to be implemented. This can be done through application of other sustainable strategies in the major towns and cities within the country. These strategies can entail mixed use, on compact and high densely towns such as Ongata Rongai based on the assumption that car owners find it difficult to leave their private vehicles behind to work places, social services and recreation facilities.

For high precision results, it is recommended that further studies be done to train and educate county officials on more practices of road management. This is proposed in the knowledge that at present, county official including the traffic polices are not well vested in matters of road management, hence, the increase in the traffic jams experienced in Ongata Rongai.

### References

- Bennett and White (1950). The Supreme Court of Canada investigated the meaning of the word “vehicle” (Calgary) Ltd. v. Sugar City (Municipality) 11950 CarswellAlta 67.
- Bauhardt, C. (2005), “Verkehrsplanung in Paris – Technische, organisatorische und politische Neuordnung des öffentlichen Stadtraums”, *Internationales Verkehrswesen* Vol. 57, No. 6, pp. 259-262.
- Button, K. (2004), *Road Pricing: Final Report*, Intelligent Transportation Center, School of Public Policy, George Mason University, Fairfax (VA).
- Creswell, J. W (2003). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (2<sup>nd</sup> Ed). University of Nebraska, Lincoln. SAGE Publications. New Delhi
- De Jong, G. and Gunn, H. (2001), “Recent Evidence of Car Cost and Time Elasticities of Travel Demand in Europe”, *Journal of Transport Economics*, Vol. 35, Part 2, pp. 137-160.
- Downs, A. (2004), *Still Stuck in Traffic: Coping with Peak-Hour Traffic Congestion*, Brookings Institute Press, Washington, D.C.
- Goodwin, P., Dargay, J. and Hanly, M. (2002), *Review of Income and Price Elasticities in the Demand for Road Traffic: Final Report*, ESRC Transport Studies Unit, University of London, ESRC TSU Publication 2002/13, London.
- ECMT (2007), *Transport Infrastructure Charges and Capacity Choice: Report of Round Table 135*, Joint Transport Research Centre of the OECD/ECMT, European Conference of Ministers of Transport, Paris.

- ECMT (1998), *Infrastructure-Induced Mobility: Report of Round Table 105*, European Conference of Ministers of Transport, Paris.
- Haribandhu Panda & RS Pundir, "Problems and possible solutions for better traffic management: A case study of Vadodara- Ahmadabad section of national highway eight", Research Paper 19, August 2002, Institute of Rural Management, Anand (IRMA).
- Hensher, D. and Button, K., eds. (2000), *Handbook of Transport Modelling*, Elsevier Science Ltd., Amsterdam.
- Kerner, B. *et al* (2001), "Methods for Tracing and Forecasting Congested Traffic Patterns", *Traffic Engineering and Control*, Vol. 42, No. 8, pp. 282-287.
- Kiunsi, R., (2013) "A Review of Traffic Congestion in Dar es Salaam City from the Physical Planning Perspective," *Journal of Sustainable Development; Vol. 6, No 2: 2013*
- Mackatiani, C. Imbova, M. and Imbova, N. (2014). Peace and Development in Africa: Prospects and Challenges. *Journal of International affairs and global strategy*. SSN (Paper) 2224-524X ISSN (Online) 2224-8951. Vol 21 (2014).
- NCHRP (2001a), "Economic Implications of Congestion", *National Cooperative Highway Research Program Report 463*, Transportation Research Board, National Research Council, Washington, D.C.
- OECD (2005), *Economic Evaluation of Long-Life Pavements*, Organisation for Economic Co-operation and Development, Paris.
- OECD, (2007) Summary Document: Managing Urban Traffic Congestion. Organization for Economic Co-operation and Development, Transport Research Centre, Paris.  
*shekharkrahane@gmail.com, upendra\_saharkar@yahoo.co.in. accessed on 12<sup>th</sup> July, 2017*
- Raheem, S. B., Olawoore, W. A., Olagunju, D. P, Adeokun, E. M (2015). *The Cause, Effect and Possible Solution to Traffic Congestion on Nigeria Road*: International Journal of Engineering Science Invention ISSN (Online): 2319 – 6734, ISSN (Print): 2319 – 6726 [www.ijesi.org](http://www.ijesi.org) || Volume 4 Issue 9 || September 2015 || PP.10-14 [www.ijesi.org](http://www.ijesi.org) 10 (Accessed on 11<sup>th</sup> May 2017).
- Storper, M. and Venables, J. (2004), " Buzz: Face-to-Face Contact and the Urban Economy ", *Journal of Economic Geography*, Vol.4, No. 4, pp. 351-370.
- Takyi, H., Kofi, P. and Amin, K. E (2013). An Assessment of Traffic Congestion and the Impact on Productivity in Urban Ghana. *International Journal of Business and Social Science* Vol. 4 No. 3, pp. 225-234.
- Verhoef, E. and Rouwendal, J. (2001), "A Structural Model of Traffic Congestion", *Tinbergen Institute Discussion Paper*, TI 2001-026/3, Amsterdam.
- Wachs, M. (2002), "Fighting Traffic Congestion with Information Technology", *Issues in Science and Technology*, Vol. 19, No. 1.
- Wong, W., Noland, R. and Bell, M. (2005), "The Theory and Practice of Congestion Charging", *Transportation Research Policy and Practice*, Vol. 39a, Issues 7-9, pp. 567-570.