

Proposed Solutions to the Problem of Congestion to the Intersection of Medani Street with Africa Street (Republic of Sudan, Khartoum State)

Mohammed Ibrahim Hassan Abbas¹, Moaz Abd Alrafi Ali Nsor², Dr. Abdalla Babikir Abdelnabi³ and Prof. Dr. Abdelhalim Awad Abdelhalim Abubakr⁴

^{1,2}ALzaeem ALazhari University, College of Graduate Studies
¹mohamedib1985.mi@gmail.com and ²moaz_lampard@yahoo.com

³ALzaeem ALazhari University Engineering College
abdallahmustafa866@gmail.com

⁴Emirates College for Science and Technology
halimconsult2001@hotmail.com

Publishing Date: 30th September 2015

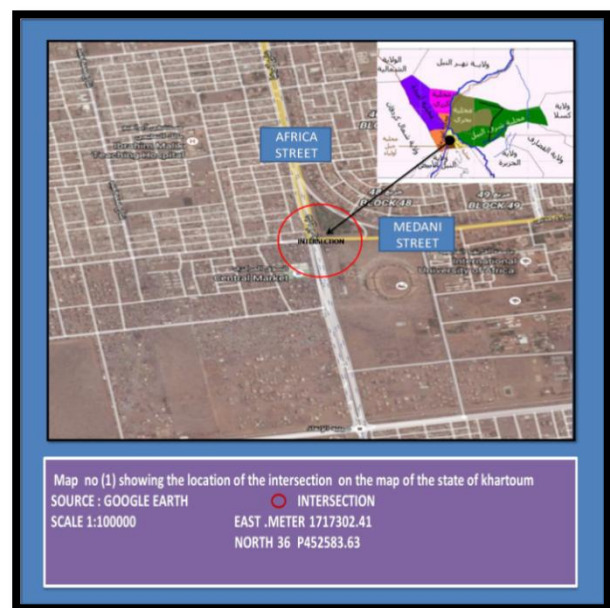
Abstract

As a result of the rapid population growth along with the expansion in the urban area in the city of Khartoum, the number of vehicles has increased as well, and that has resulted in an acute traffic congestion in Khartoum mainly in the study area. This study intends to shed light on the problem of congestion at the intersection of Medani Street with Africa Street. The study has concluded to some conclusions and recommendations, when applied properly will lead to address the problem. See map no. (1).
Keywords: Medani Street, Africa Street, Problem of Congestion.

Introduction:

Khartoum is suffering from the problem of traffic congestion as a result of increasing population growth that led to increase the number of vehicles. We find that the basic infrastructure and the public transport network are not able to accommodate with this growth. In spite of the structural plan in 1985, which was provided by Dokseades Company and later the structural plan in 1979 submitted by Mafit Company added to the report and recommendations of the committee of government land use and real state.

All these organs had made constructive proposals over the past years to solve the problem of traffic congestion in the city of Khartoum, but most is not carried out.

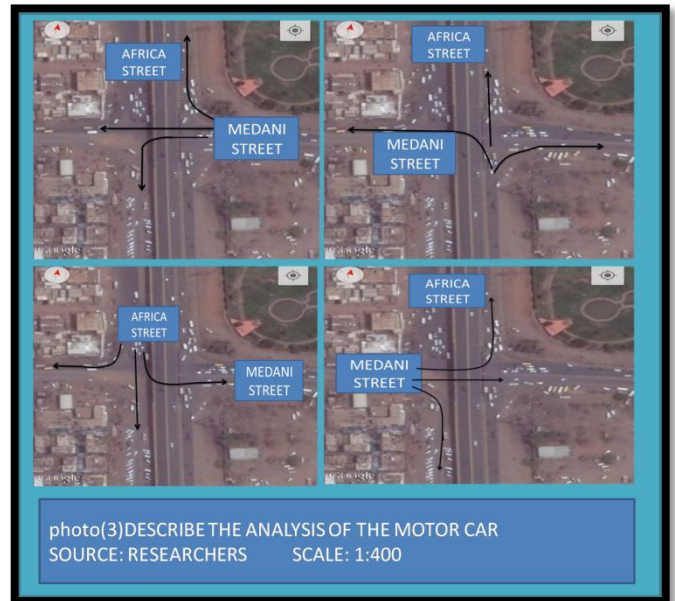
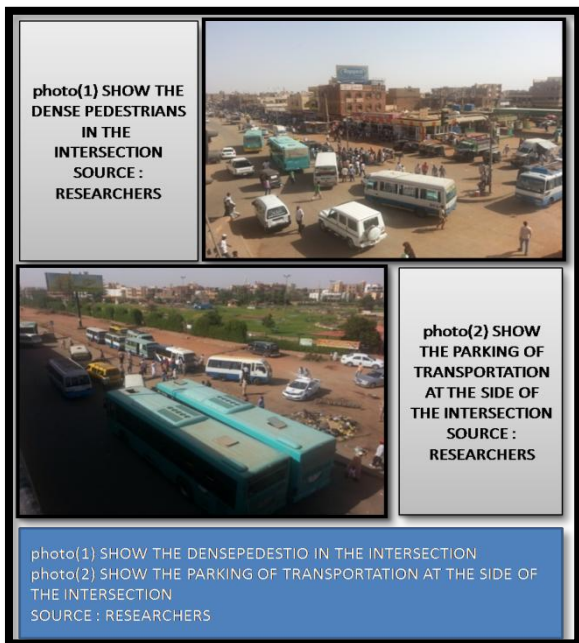


The Study Methodology:

The researchers used the descriptive analytical method with the help of field survey and interviews, as well as references and periodicals related.

Conclusions:

1. Inefficient suspension bridge in Africa Street has no role in reducing congestion under the bridge.
2. The great number of pedestrian passing on the intersection.
3. Transportation stops in both sides of the road at the intersection area.
4. The street vendors are found around in the intersection area.
5. Traffic accidents and mechanical failure of cars take place in the intersection.



Kinetic Analysis of the Current Situation (Vehicles Statistics):

1. The morning peak hours rush on Saturday from 7:00-8:00 am The number of vehicles is 2950.
2. The evening peak hours rush on Sunday from 8:00-9:00 the number of vehicles is 2950.
3. The largest number of vehicle passing over the bridge per a week is on Sunday that is 328883.

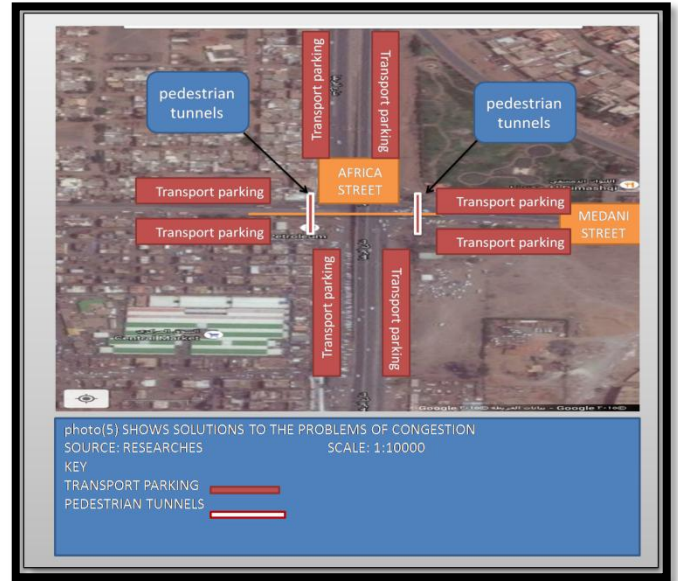
Discussion:

To increase the efficiency of the suspension bridge to reduce the congestion problem, see photo no (4).

The Current Status of Traffic in the Intersection Area:

All the information listed below, is from the field survey of the study area which sdone by researchers, also from the statistics of the number of vehicles figured out by researchers.

Directional distribution of the movement: (see photo no (3))



Recommendation:

1. Work to activate the suspension bridge and the flows of traffic through it.
2. Solving the problems of congestion by making pedestrian tunnels passing through dense traffic area.
3. Adjusting traffic signals so that traffic is distributed in proportion to the traffic congestion.
4. Making parking of public transport outside the intersection area.
5. Street vendors should be sent away from the intersection area.
6. Work to make the road network able to accommodate and discharge the current of traffic safely.
7. To achieve utmost utilization of the road network.
8. Continuing investigation of the safety of the vehicles providing the durability and security condition through regular technical inspection as well as a sudden inspection on vehicles.
9. Support the general administration of traffic with both manpower and finance.
10. Support awareness programs.
11. Continuous Periodical review to the traffic situation and efficiency on various roads and intersections.
12. Militancy in preventing the use of pavements and footpath as parking for vehicles and parking space for street vendors.

References

- [1] Scientific symposium on the traffic accidents in the Arabic world and ways to address them, scientific research and its role in addressing the strategic traffic accidents, prepared by Dr. AbedulRahman 2014 Aljanabi.
- [2] Scientific worksheet, solving the problem of congestion to the intersection of tunnel with (Tabya) street. Prepared by Mohamed Hussein and others in 2014.
- [3] (Traffic characteristics of central Khartoum). Worksheet prepared by Dr. Omar Abdel Nabi; Engineering conference of the national road 2012.
- [4] Supplementary master degree search (traffic evaluation in Khartoum) Abbas Ibrahim Abaker- 2008.
- [5] Traffic police administration. Khartoum state, karraylocality record management office – 2015.
- [6] Ministry of roads and bridges, monitoring and follow-up 2015.
- [7] Roads and bridge corporation, Khartoum state, Traffic office. 2015.