

# Appraisal for the Congestion Problem of Rickshaws traffic in Shuhada Bus Station in the City of Omdurman 2015

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## Abstract

In the last decade the city Of Omdurman Witnessed a vigorous Population increase, the thing that led to the emergence of many problems, most notably those relating to urban transport including traffic jam, see Figure(1). Shuhada (Omdurman) Bus Stations regarded as one of the most important bus stations in Omdurman locality see figure(2). This paper has studied the problem of traffic congestion caused by Rickshaws in shuhada (Omdurman) bus station. This paper aims to determine the geographic boundaries where rickshaws move around shuhada bus station. This study has concluded to a set of conclusions and recommendations that will enable the concerned authorities to take advantage of them in solving to the current problem.

**Keywords:** Congestion Problem, Rickshaws traffic, Omdurman.

## Introduction

The transport sector is one of the important sectors, which plays a key role on the social, economic and urban levels. The population growth and the expansion in urban areas in the city of Omdurman led to an increase in transport volume (such as Rickshaws), The Rickshaws cause an increase in traffic jam rates, and the lack of attention to the engineering design of the bus stations has caused the problem of traffic congestion

This study is to identify the problems caused by the presence of Rickshaws in the study area.

In general, the Rickshaw have a lot of positive impacts, including: being cheap and appropriate transportation in low income groups residential areas and many other positives that must be maintained and upgraded

However, Rickshaws have negative impacts that must be avoided such as:

1. Absence of discipline and order standards.
2. Lack of familiarity of the majority of Rickshaws drivers with traffic by laws the matter that causes a lot of accidents and obstruction for traffic.
3. Rickshaws have become means of increasing crime rates.

## Methodology of the Study

The methodology used in the study is the descriptive analytical method with the help field survey use of number of references interviews also the relevant.

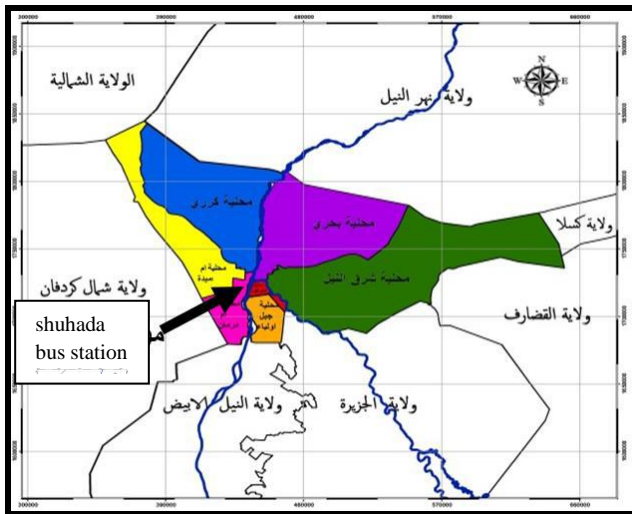


Figure (1) Location of Khartoum state in Sudan  
 Source: Researchers with assistance of Google Earth

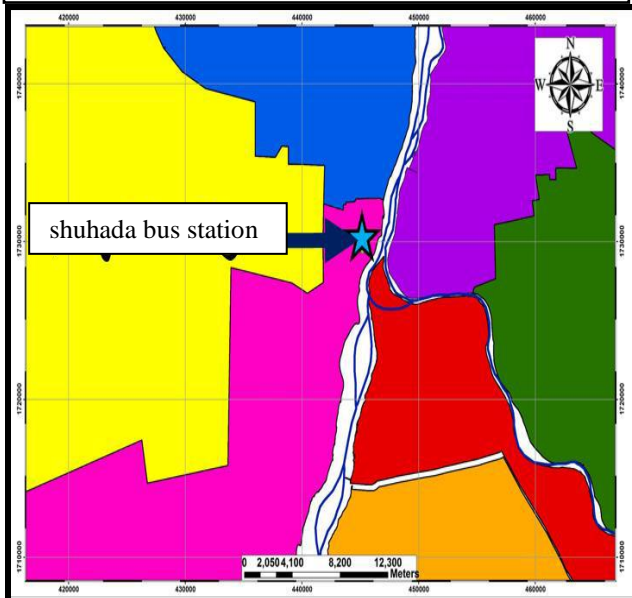


Figure (2) Shuhada Bus Station Coordinates:  
 32°29'18.59"N, 15°38'43.18"E  
 Source: Researchers with assistance of Google Earth

The importance of location lies in the fact that it is the oldest and most prestigious bus station in Omdurman city with an area of 87750m<sup>2</sup> and is by targeted number of the population of Omdurman because it contains nine major transport lines ,see figure(3)

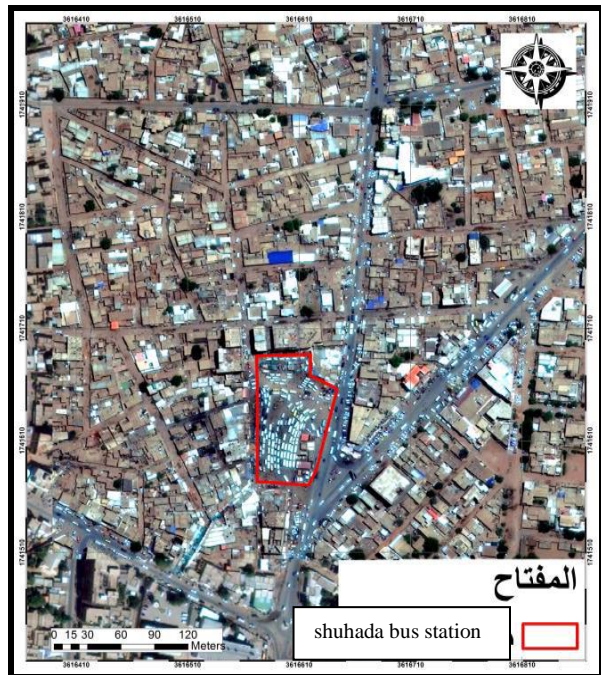


Figure (3) Shuhada Bus Station  
 Source: Researchers with assistance of Google Earth

### Description Information:

1. ELshuhada bus station with area of( 5930 m)<sup>2</sup> and a number of 350bus serve the area of Omdurman and bahri.
2. Shanqeeti and ELthawrat bus station with an area of (150m)<sup>2</sup> and number of 93bus (serve Omdurman) .
3. Ahlia bus station with an area of( 149m)<sup>2</sup> and number of (6)buses (serve Omdurman) .
4. Khartoum longitudinal bus station parallel to Wadi Street from the east side of shuhada bus station.

### Discussion:

For the above mentioned problem, a solution has been proposed to address the problem of Rickshaws bus station:

Rickshaws must be completely separated from buses in shuhada bus station and make Rickshaws movement only around the bus station without access into the bus

station, so that the Rickshaws track be as shown in figure (5) in red color only around the bus station without access inside.

Also creations of two Rickshaws stations north and south of shuhada bus station connected with the track of Rickshaws referred to in the preceding , see figure (5) and (6) which illustrate the site of the proposed station of Rickshaws

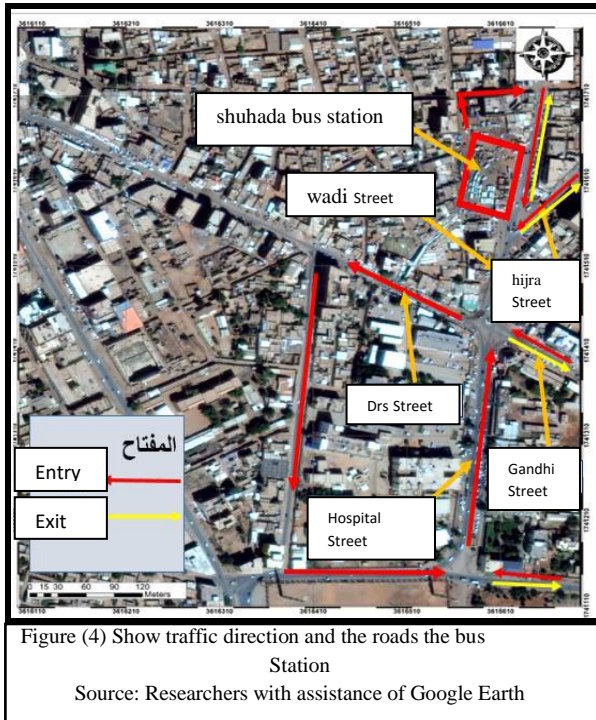


Figure (4) Show traffic direction and the roads the bus Station  
 Source: Researchers with assistance of Google Earth

**Conclusion:**

1. The existence of severe congestion caused by Rickshaws in and around the bus station.
2. Rickshaws parking on both sides of the wadi street as well as on both sides of hijra street.
3. Parking Rickshaws inside shuhada bus station in random places (unregulated).
4. The existence of Rickshaws parking area on both side of Hijra Street (shuhada -gamayer line).
5. Geographical bound area, it inner areas and tracks for shuhada traffic are not demarcated.
6. Bus stations are not well designed and dominated by randomness with a difficult

entry and exit due to Rickshaws line and shuhada - Arabi line.

7. The lack of traffic signs in the roads leading to the study area.
8. There are many government and private institution which constitute real danger to traffic in the study area, and the problem is exaggerated by the lack of private cars parking for all institutions, thereby increasing congestion.
9. Lack of clear entrance and exits in shuhada bus station in area close to the bus station.
10. Road in study area are not in conformity with design standards.

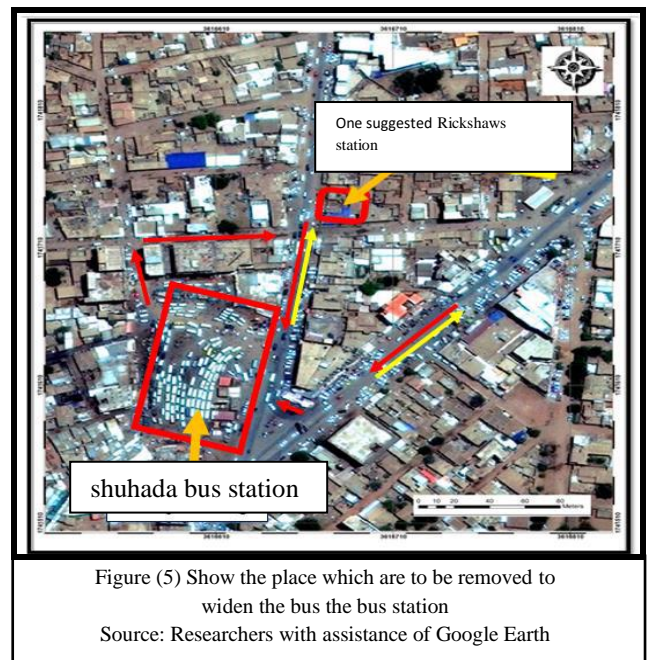


Figure (5) Show the place which are to be removed to widen the bus the bus station  
 Source: Researchers with assistance of Google Earth



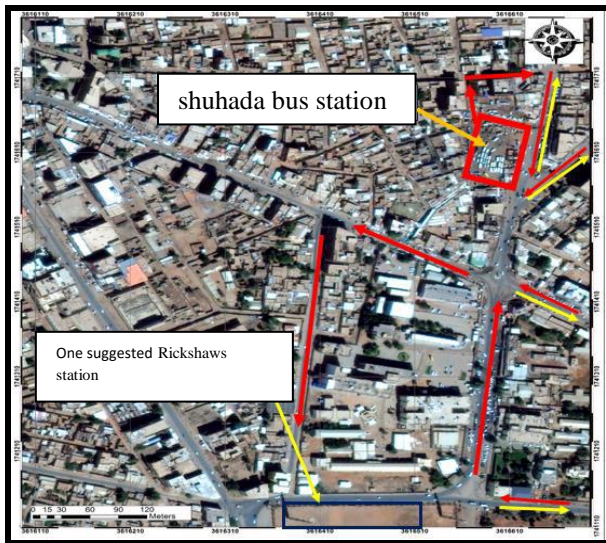


Figure (6) Show one of the proposed location for Rickshaw Parking Source: Researchers with assistance of Google Earth

## Recommendations

1. Coordination between the movement of buses and Rickshaws around the bus station.
2. Determine the entrances and exits of the vehicles inside the station.
3. Remove the police comprehensive security office and shops location south where it impedes the movement of vehicles during entry and exit from shuhada bus station ,see figure (5).
4. Construct a tunnel for pedestrian crossing.
5. Adjust Rickshaws movement effectively.
6. Provision of adequate parking area in study area
7. Zero tolerance by the competent authorities in preventing Rickshaws drivers to park inside the station and to record their traffic violation.
8. Install environmental -friendly engine in Rickshaws.
9. Zero tolerance of the competent authorities controlling traffic violation and vehicles safety.

This study concluded to a set of points that can contribute to the solution of all the problems caused by Rickshaws located on the side of road and in bus station.

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[http://arz.Wikipedia.org\\_wiki\\_topics\\_to Rickshaw\)](http://arz.Wikipedia.org_wiki_topics_to_Rickshaw)

## **Appendices:**

The focus of this paper is Rickshaws. It is a small vehicle three wheels. Its length is in the range of (1.8m), width (1.2m) and height (1.2m). It is Indian creation see picture (1)



Picture (1) Rickshaw vehicle  
Source: Google