

# Appraisal of the Problem of Parking Lots in Omdurman Market (Khartoum State, Republic of Sudan, 2015)

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Publishing Date: October 15, 2015

## Abstract

The city of Omdurman has recently witnessed an increasing of population growth. This has led to the formation of heavy traffic in all areas of the city particularly the markets (Omdurman market) as it is shown in the Omdurman Locality administrative units' map and the map of the general site (see fig. 1 and 2). There is a location in the center of the market as shown in fig.2 situated in longitude (32.28– 54.49) and latitude (15.38 – 48.81). The paper aims at exploring the ways and means of solving the problem of private and public parking lots in Omdurman market. To achieve this, the researchers have used the descriptive analytical method through the interviews, survey and maps. The study reached some conclusions and recommendations that could help in improving the present traffic situation.

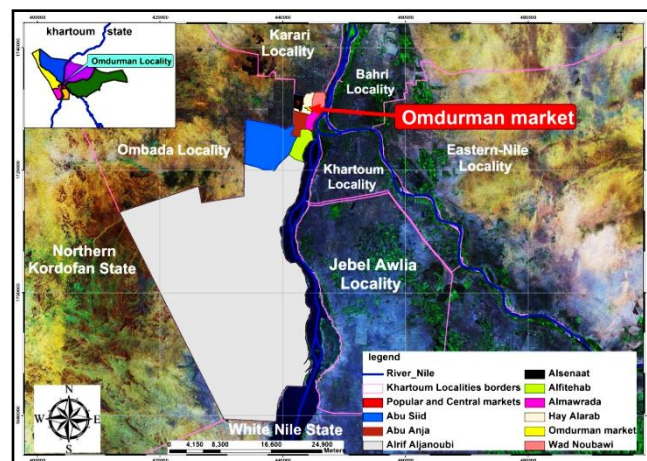
**Keywords:** Parking Lots, Omdurman Market, International Security Means.

## Introduction

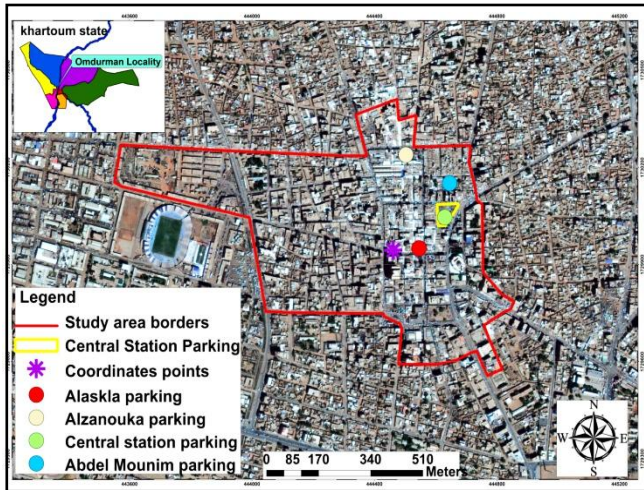
The increase of the volume of cars and the shortage in short term and long term parking areas, as well as the scarcity of parking lots in the market. All this led to reconsider the organization of the parking lots in the market. Obviously, Omdurman market constitutes an administrative unit of Omdurman Locality. The importance of the study is summarized by the fact that there is a lack of sufficient parking lots and the unauthorized parking of vehicles on both sides of the street. The aim of this paper is to find the ways.

## Methodology of the Study

The study followed the analytical descriptive methods, the interviews, computer assisted programs and a number of references:



Map no. 1: Omdurman Locality administrative units  
(source: the researchers)



Map no. 2: the general location of the market + the site of the 4 parking lot + the Central Station site location + the coordinate's points (source: the researchers)

### Theoretical Framework of Parking's:

The car parking is a space which is reserved to car parking and which is covered with permanent surfaces.

The parking's are a characteristic feature of most cities where cars constitute one of the means of transport especially in shopping centers, playgrounds and other places which are characterized by wide space parking's (surface parking's is a term that distinguishes it from other types of car parking's). It is often divided into the following:

- A. A parking near the sidewalk.
- B. Parking's in the buildings' basement.
- C. Multi-stories parking's.

Car parking's are divided into two main types:

1. Public parking's.
2. Private parking's.

### Analysis and Discussion

It is found that the car parkings in Omdurman market area are for ground parkings. From the administrative and license point of view, it is affiliated to the market's administrative unit. The type of cars is saloon cars and the

users are the market traders. Each car is given a specific number by the administrative unit inside every parking (see map 2 table 1 and photo no. 1,2,3,4) areas.

no	Name of parking	Area of parking	No. of cars
1	Alaskla parking	2697 m2	24
2	Alzanouka parking	2888 m2	66
3	Central Station parking	2653 m2	100
4	Abdel Mounim parking	3233 m2	83

Table no.1 showing the names, areas and number of cars in Omdurman market, (source: the researchers)

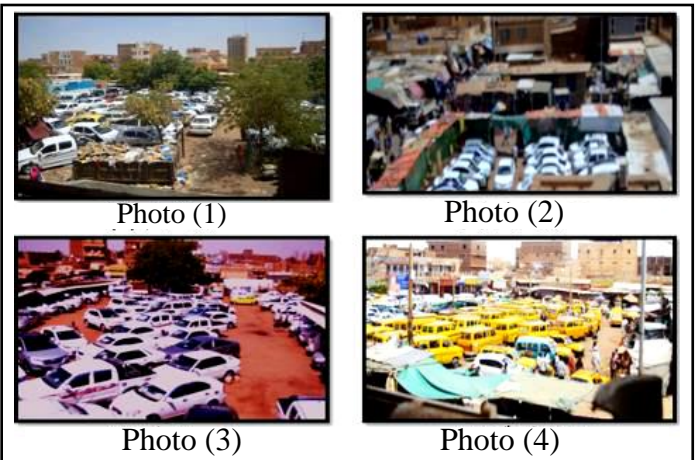


Photo 1: Alaskla parking - Photo 2: Alzanouba parking  
 Photo 3: Central Station parking  
 Photo 4: Abdel Mounim parking.  
 (Source: the researchers)

### Conclusions

1. The problematic is stemming from the fact that these parking's were initially used for other purposes.
2. We have found out that all vehicles heading towards South Omdurman direction pass through the market area.

3. There are no distinctive traffic signs (instructive) toward the cars' location of parking's.
4. The stock piling of garbage in the streets leads to the narrowing of the streets.
5. The presence of transport stations inside the market.
6. Commercial activities are over-lapping.

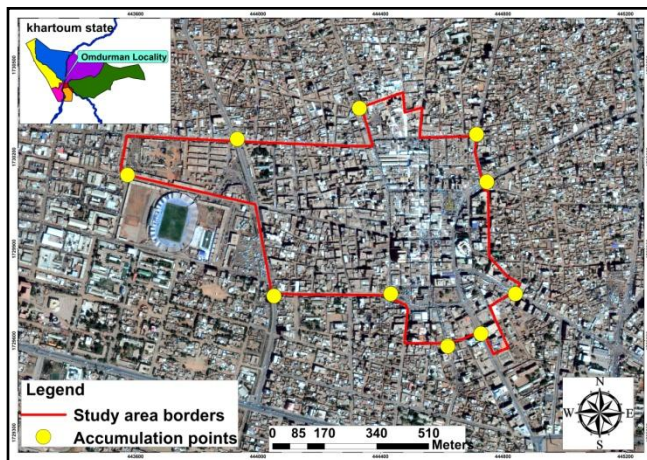
## Recommendations

Short-term recommendations Urgent solutions were proposed and divided into two stages:

- a. Stage 1
- b. Stage 2

### a. Stage 1:

1. Transfer the transport station from the Central Station to a place outside the market (see map 2).
2. Install traffic signs to guide the vehicles drivers and pedestrians inside the market.
3. Establish counting points at the entrance and exit of the market to cunt the cars at the entrance and exit and collect an amount of money as crossing duties to reduce the flow of car traffic toward the market. The number of these traffic points in 10.



Map no.3 showing the counting points.  
 (Source: the researchers)

4. Re-design the present parkings as per the new systems. The model of Smart Tower Parking was chosen (see table no.2 and picture no. 2 and no.3)

## Characteristics of the System

- The use of an area not exceeding 6.9 – 7.5m.
- Storing of cars I the space for almost 3 cars 2400% (more).
- Easy installment and use.
- Matching with the state of the art.

## International Security Means

- Low sound and light frequencies.
- Possibility of automatic functioning.
- More effective in terms of number of cars compared to the ground space.
- Complying with the European standards of quality and safety.
- Manufacturing following ISO 9001 2000 standards.

## It is divided into two types:

1. Saloon cars by measures starting from 6 cars up to 16 cars.
2. 4 wheel-drive: measures starting from 6 cars up to 12 cars.



Photo no. 2 showing the shape of smart tower parkings,  
 (source: www.exceedconstruction.net)



No.	Name of parking	Area of parking	No. of cars by assign	No. of cars following design
1	Alaskla parking	2697 m2	24	96
2	Alzanouka parking	2888 m2	66	48
3	Central Station parking	22653 m2	100	240
4	Abdel Moumin parking	23233 m2	83	256

Table no. 2 showing the spaces and numbers of cars before and after the design and market by using the smart tower parking.  
 (Source: the researchers)



Photo no. 3 showing the design of the smart parking's of Alaskla parking. (Source: the researchers)



Photo no. 4 showing the design of the smart parking's of Alaskla parking. (Source: the researchers)

#### **b. Stage 2**

1. Determine the car parking sites outside the market.
2. Impose duties in car entering the market area to reduce the number of cars entering the market as

well as to provide financial income to the market administration.

3. Redistribute the activities within the market.
4. The proposals of the 1st and the 2nd phases must be implemented by the authorities concerned.

#### **Long-Term Recommendations**

1. Activate strictly the traffic rules.
2. Install instructive maps showing the car parking areas.
3. The use of modern technology in car parking's.
4. Setup a barrier between the market area and the neighboring areas.
5. Assign roads for pedestrians only with an intensive sensitization campaign which are reserved for them.
6. Periodical road maintenance.
7. Diffuse traffic sensitization among road users (drivers, pedestrians) to achieve self-abidance by the rules and ethics of the road.
8. Impose taxes on the crossing of cars servicing the market which leads to the reduction of different car traffic in the market area.

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