

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

SUDAN UNIVERSITY OF SCIENCE & TECHNOLOGY

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**Measures towards Improving Traffic Safety
level in Khartoum State**

مقاييس نحو رفع مستوي السلامة المرورية في ولاية الخرطوم

Thesis submitted for requirements of Doctor of Philosophy in Civil Engineering

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Declaration

To my dear mother and father, lovely wife, beautiful kids, brothers and sisters, friends, teachers, for always supporting, helping, and Standing with me.

Acknowledgements

First and foremost, I thank my God (Allah) to help us to complete the study, after that I have to thank my parents for their love and support throughout my live, thank you both for giving me strength to reach for chase me dream, my wife, kids, sister and brother thanks as well.

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Abstract

The problem of traffic accidents and the resulting deaths, injuries and damage is one of the most important problems that hinder the development process in all countries of the world, especially developing countries, including Sudan. In this study was to identify the causes of traffic accidents in Khartoum State, Sudan in general, and the extent of the traffic safety application of the three elements of traffic; road, vehicle and road users, and was used for the traffic information available in the annual report of accidents and traffic violations issued by the General Directorate of Traffic.

The Researcher also distributing a questionnaire to get feedback from different segments of society about the causes of traffic accidents and the extent of the traffic safety application in the roads of Khartoum state, The researcher presented a proposed study of the new system of transport (river transport system) helps to reduce pressure on the dilapidated road network already and that it has become difficult to maintain or expand as it now stands, as the researcher is also developing a proposal strategic plan for traffic safety in light of the Arab world for traffic safety plan. The study found a detailed plan for the new transportation system include the cost of the project and the financial returns and the period of recovery of capital study, the study concludes the recommendations and proposals reduce the proportion of traffic accidents and congestion and improved the level of traffic safety in the roads of Khartoum state.

التجريد

تشكل الحوادث المرورية وما ينتج عنها من وفيات وإصابات وتلفيات واحدة من أهم المشاكل التي تعيق عملية التنمية في جميع دول العالم و خصوصاً الدول النامية ومن بينها السودان, وفي هذا البحث تم التعرف على أسباب الحوادث المرورية بولاية الخرطوم والسودان بصورة عامة , و مدي تطبيق السلامة المرورية علي عناصر الحركة المرورية الثلاث: الطريق, العربة ومستخدمي الطريق, وتمت الإستعانة في ذلك بالمعلومات المرورية المتوفرة في التقرير السنوي لحوادث ومخالفات المرور الذي يصدر عن الإدارة العامة للمرور .

وقد قام الباحث أيضاً بتوزيع إستبانة لمعرفة آراء شرائح المجتمع المختلفة عن أسباب الحوادث المرورية و مدي تطبيق السلامة المرورية في طرق ولاية الخرطوم. وقدم الباحث مقترح دراسة لنظام نقل جديد (نظام النقل النهري) والذي يساعد في خفض الضغط علي شبكة الطرق المتهالكة أصلاً والتي أصبح من الصعوبة بمكان صيانتها أو التوسع فيها بوضعها الزاهن, كما قام الباحث أيضاً بوضع مقترح خطة استراتيجية للسلامة المرورية علي ضوء خطة الوطن العربي للسلامة المرورية, وقد توصلت الدراسة الي وضع خطة مفصلة عن نظام النقل الجديد تشمل تكلفة المشروع و العوائد المالية وفترة إسترداد رأس المال كما توصلت الدراسة أيضاً الي توصيات و مقترحات تقلل نسبة الحوادث المرورية والإزدحام المروري و تحسن مستوي السلامة المرورية للطرق في ولاية الخرطوم.

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LIST OF SYMBOLS/ABBREVIATIONS

| | |
|------|--------------------------------|
| WHO | World Health Organization |
| GDP | gross domestic product |
| GNP | Gross National Product. |
| AD | Gregorian calendar |
| GDT | General Directorate of Traffic |
| SDG | Sudanese pound |
| US\$ | United State dollars |
| TV | Television |
| KSA | Kingdom of Saudi Arabia |
| UAE | United Arab Emirates |

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