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ACCIDENT ANALYSIS OF ROADS AND RAILWAY IN ARAB REPUBLIC OF EGYPT

A Thesis Submitted in Partial Fulfillment for the Requirements of the Degree of
Master of Science in Automotive Engineering

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Accident analysis of roads and railway in Arab Republic of Egypt

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Statement

This thesis is submitted in partial fulfillment for the degree of Master of Science in Automotive Engineering, to Faculty of Engineering, Ain Shams University. The author carried out the work included in this thesis at the laboratories of the Automotive Engineering department, Faculty of Engineering, Ain Shams University. No part of this thesis has been submitted for a degree or qualification at any other university.

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Thesis Summary

The Egyptian accident analysis is described in the various chapters of the thesis, as follows:

Chapter 1 introduces an overview of the volume of the accidents problem in Egypt.

Chapter 2 presents a literature review of some theses all over the world that studied the accidents problems at their countries as a trial to reduce them.

Chapter 3 makes more scope for the amount of the mortality and injured people due to vehicle and rail way accidents and makes small hints of the international view of this problem.

Chapter 4 provides first level investigated accidents samples, their causes and their separate recommendations.

Chapter 5 presents self reported investigated accident sample, their causes and their separate recommendations.

Chapter 6 presents the computer modeling to analyze road vehicle accidents using virtual crash.

Chapter 7 presents some road deformation that may cause vehicle accidents

Chapter 8 analyzes the causes of the accidents chosen as cases of study, and presents recommendations to reduce the accidents rate

Finally, chapter9 summarizes the main outcomes and conclusions of this study and presents future recommendations for subsequent studies.

Keywords:

Accidents, Accidents analysis, Egypt Roads, Road deformation

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CAPMAS	Central Agency for Public Mobilization and Statistics
RSTC	Egyptian road safety training center
NRSC	National road safety commission
FRSC	Federal Road Safety commission
RTA	Road Traffic accident
IRTAD	International Traffic Safety Data and Analysis Group
FICA	Factors Influencing the Causation of Accidents and incidents
GIS	Geographic Information System
BAC	Blood Alcohol Content

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1 CHAPTER (1) INTRODUCTION

ACCIDENT ANALYSIS OF ROADS AND RAILWAY IN ARAB REPUBLIC OF EGYPT

INTRODUCTION



CHAPTER (1)

INTRODUCTION

1.1 INTRODUCTION

Road vehicle accident is a very old problem in Egypt. Thousands of people are killed and others are seriously injured every year in road vehicle accidents. Accident analysis became an essential action to recognize the main causes of accidents in Egypt. Then a serious action could be taken to reduce the number of the accidents.

1.2 CAR ACCIDENT IN EGYPT

The table (1.1) contains the number of vehicle and railway accident in Egypt from 2004 till 2016. Figure (1.1) demonstrates the number of vehicle accidents in Egypt. Figure (1.2) demonstrates the number of railway accidents in Egypt. A random sequence could be noticed in the incidence of vehicle and railway accidents in Egypt.

1.3 OBJECTIVES

That huge number of accidents and its results lead us to find the way to reduce it. This thesis program will take some accident cases and make a brief analysis to know their causes. Other similar countries experiments will be taken into consideration to be able to have some recommendations to reduce the number of accidents in Egypt.

Table (1.1) Number of accidents in Egypt [1]

Year	Number of accidents	
	Vehicle	Railway
2016	14710	1249
2015	14548	1235
2014	14403	1044
2013	15578	781
2012	15516	447
2011	16830	489
2010	24371	1057
2009	22793	1577
2008	20938	1293
2007	22900	1231
2006	18061	1118
2005	21352	1043
2004	24658	975

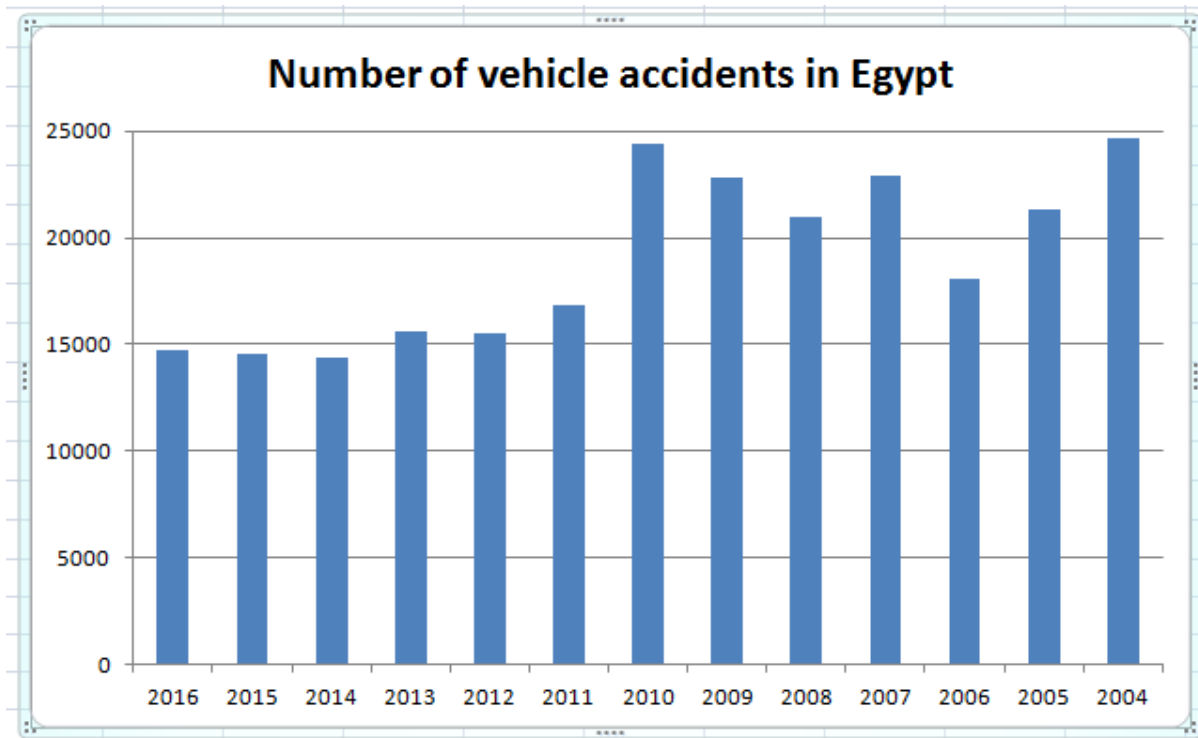


Figure (1.1) No. of vehicle accidents in Egypt [1]

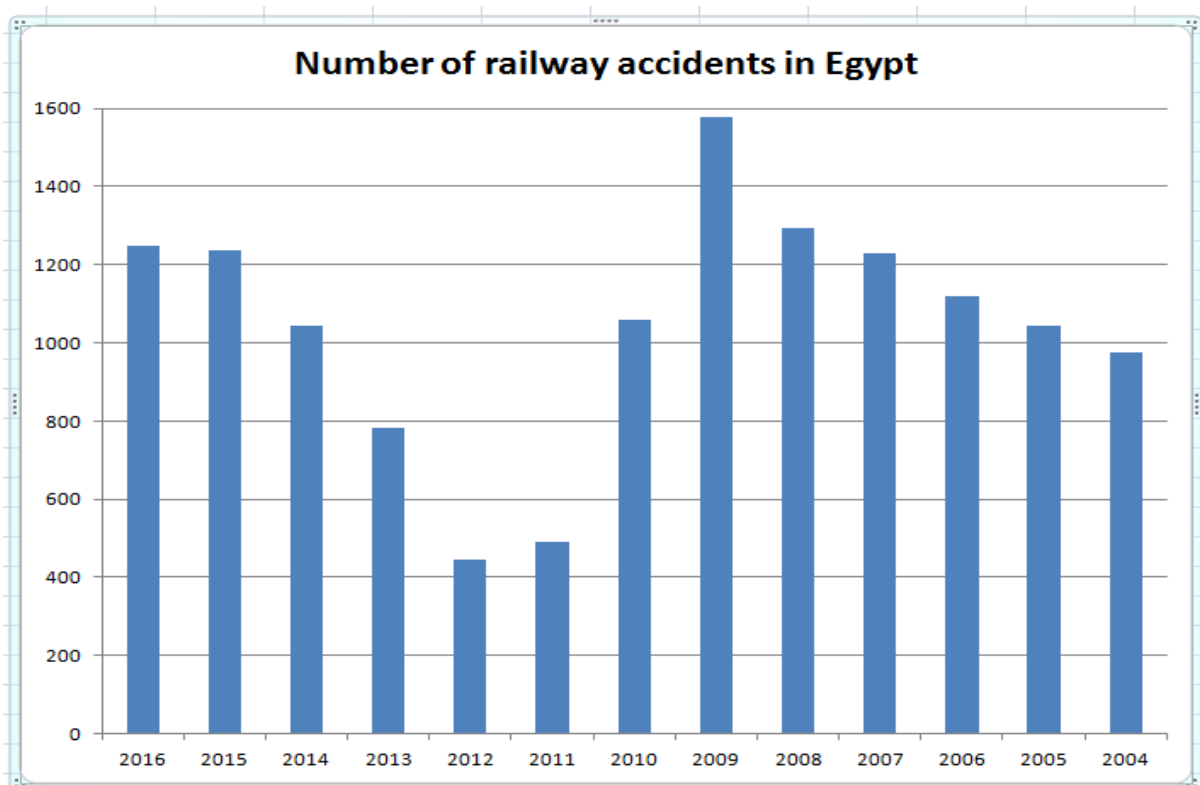


Figure (1.2) No. of railway accidents in Egypt [1]

2 CHAPTER (2) LITERATURE REVIEW

ACCIDENT ANALYSIS OF ROADS AND RAILWAY IN ARAB REPUBLIC OF EGYPT

LITERATURE REVIEW

