



**Highway Safety Management on Urban Streets in
Amman-Jordan**

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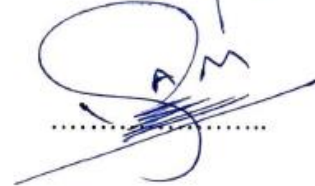
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Dedication

الإهداء

إلى من أهداهما لي الله أماً أمحو به ظلام الحياة .. إلى من كانا مناراً أهدتني به إذا حارت خطاي..

حيثُ العطاء الذي لا ينضب ، والايثارُ الذي لا ينتهي .. أُمي الحبيبة ، أبي الغالي..

إلى من كانوا سنداً وعوناً في معتركِ الحياة ، فكانوا محور الإِتران .. أخي وأخواتي..

إلى من أهداهم لي الله فكانوا رفقاء الدرب .. حيثُ الوداد والحب والوئام .. صديقاتي..

إلى كل من حق علي ذكرهم هنا .. فلم يتسع المقام..

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List of Abbreviations

WHO	World Health Organization
AASHTO	American Association of State Highway and Transportation Officials
PHV	Peak Hour Volume
HAL	High Accident Location
AADT	Average Annual Daily Traffic
AMF	Accident Modification Factor
SPFs	Safety Performance Functions
LOSS	Level of Service of Safety
RSM	Road Safety Management
SPSS	Statistical Package for Social Science
SI	Severity Index
HSM	Highway Safety Manual
m	Meter
Km	Kilometer
hr	Hour
ATS	Average Travel Speed

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Abstract

Highway safety plays a critical role in saving people lives, the increasing number of road accidents and taking millions of people lives all over the world, made highway safety management in first priority for most countries.

The main objectives of this study are to analyse High Accident Locations (HAL) by conducting prediction models using (SPSS) program for Traffic accident data, Geometric and Traffic condition data for 30 urban arterial streets in west Amman area. Also, conducting a questionnaire and personal observation to be aware of most of the factors that causes road accidents. Then, conduct level of service of safety (LOSS) to show the rank of safety for each street. Also, Potential Accident Reduction (PAR) criteria was used to identify accident prone locations. Finally, a proposed countermeasures management program was done as a guide for the decision makers on highway safety management.

It was found that increasing speed limit will increase the number of fatalities and severe and slight injuries, but will decrease the property damages and the total accidents. Increasing the number of intersections will decrease the number of fatalities and increase the number of slight injuries. The increase in the annual average daily traffic (AADT) will increase the number of severe injuries. Finally, the decrease in street width will increase the number of total accidents and property damages. The questionnaire analysis ranked the causes of road accidents and found that the most effected factors relates to road characteristics. The ranking of the selected streets depending on (LOSS) showed that the level of service of safety is low for all selected streets, and found that 15 streets is considered as HAL according to PAR criteria. The study recommends that international standards should be applied during design and construction of roads.

Keywords: Road Safety Management (RSM), Highway Safety Manual (HSM), Level of Service of Safety (LOSS), Safety Performance Function (SPF), Severity Index (SI).