
Dedication

To my wife .I also extend my dedication to Ghaza
.Children hoping an end to their suffering

ACKNOWLEDGEMENTS

I would like to thank my supervisor, Prof. Galal A.
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Abstract

The goal of this research is to model traffic flow in Khartoum City using four-step model (FSM): trip generation, trip distribution, modal choice and trip assignment. In the first stage, the trip production and attraction were determined .In the second step, the traffic flow distribution among zones was considered. Thirdly, graphical relationship for probability to choose mode were developed .The

last step dealt with distribution of traffic along routes by the method of Bureau of Public Roads (BPR) which is compared with Davidson procedure. The comparison was favorable with percentage difference not exceeding 8% result indicated

التجريد

يهدف هذا البحث لتصميم نماذج لسريان حركة المرور في مدينة الخرطوم بتطبيق نماذج الخطوات الأربع (Four-Step Models) والتي تشمل توليد الحركة المرورية وتوزيعها وإختيار وسيلة الانتقال وتوزيعها على شبكة الطرق المختلفة .
تم في المرحلة الاولى حساب الرحلات المتولده والمنجزه ثم في الخطوة الثانيه تم استخدام معادله لتوزيع الرحلات بين

المناطق المختلفة . اما في المرحلة الثالثة فقد تم رسم مخططات لاحتمالية اختيار أحد وسائل النقل، واخيراً تم توزيع الرحلات على شبكة الطرق بإستخدام معادلة هيئة الطرق العامه ومقارنة النتائج بما نتج من Bureau of Public Roads (BPR) وقد وُجد ان المقارنة (Davidson) تطبيق طريقة ديفيدسون . % كانت جيدة بحيث لم يزد الإختلاف عن 8

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:Abbreviations

TAZ	Traffic Analysis Zones
ES	External Stations
TS	Transportation System
AS	Activity System
FSM	Four Steps Model
P_i	Production from zone i
A_j	Attraction to zone j
NHB	None Home Base
HBW	Home Base Work
HBO	Home Base Other
HBE	Home Base Education
T_Q	Travel time (min) at volume Q
T_0	Travel time at zero flow

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