An-Najah National University

Faculty of Graduate Studies

The Use of Traffic Assignment Modeling Technique in Evaluating & Testing Transportation Policies and Projects Nablus City : Case Study

Rania Mustafa Darwish Doulah

Supervisor

Dr.Sameer A. Abu-Eisheh

Submitted In Partial Fulfillment Of The Requirements For The Degree Of Master Of Science in Civil Engineering , Faculty of Graduate Studies , An-Najah National University , Nablus , Palestine.

ت٧
٥ ٩
ـ ٥ ت

An – Najah National University

Faculty of Graduate Studies

The Use of Traffic Assignment Modeling Technique in Evaluating & Testing Transportation Policies and Projects Nablus City : Case Study

By

Rania Mostafa Darwish Douleh

This Thesis was defended successfully on 23/4/2000 and approved by :

Committee member		**Signature**
1.- Dr. Sameer A. Abu-Eisheh Associate Professor of Civil Engineering	(Supervisor)	
2- Dr. Khaled Zeidan Ministry of Planning and International Cooperation	(External Examiner)	
3- Dr.Osama Abaza Assistant Professor of Civil Engineering	(Member)	
4- Dr. Khaled Al-Sahili Assistant Professor of Civil Engineering	(Member)	

الإهداء

إلى من تنبض عروقها حنانا وتترقرق في عينيها دمعات الفرح..... أمي

إلى من رسمت على جبينه العزة وملئت يداه بالدفء..... أبي

إلى من يصاحبني شذاها ورقتها..... شقيقتي

إلى من يمنحونني البهجة والتفاؤل..... اخوتي

إلى من افخر وأباهي به أمام الناس أجمعين..... زوجي

إلى كل مخلص غيور محب لفلسطين

شكر وتقدير

أتقدم بعظيم الشكر والامتنان إلى مشرفي وأستاذي الدكتور سمير أبو عيشة الذي اشرف على بحث الماجستير ولم يتوانى في تقديم النصح والمساعدة من داخل فلسطين أو خارجها. كما أتقدم بالشكر إلى كل من ساهم في إنجاز هذا البحث سواء أشخاص أو مؤسسات.

مقدمة

يلعب قطاع المواصلات دورا مهما في الدول الصناعية والنامية على حد سواء. وعلى الرغم من اختلاف درجات التقدم و التكنولوجيا في مجال المواصلات فان نقل الناس والبضائع حاجة ضرورية جدا لا يمكن الاستغناء عنها وعلى ذلك فان قطاع المواصلات يجب أن يعامل كوحدة متكاملة وكعنصر رئيس يجب أن يؤخذ بعين الاعتبار في أي خطة تطويرية في المستقبل.

أن الوضع الحالي للبنية التحتية لقطاع المواصلات وللخدمات التي يؤديها هذا القطاع في المدن الفلسطينية لا يجعله مؤهلا حاليا أو مستقبليا لتلبية الطلب المستمر والمتزايد على هذا القطاع نتيجة للتطور في كافة جوانب الحياة الاقتصادية، الاجتماعية، الثقافية وغيرها كما إن عدم وجود بنية تحتية صحيحة وسليمة ومرتكزة على أصول علمية يمكن أن يشكل عائقا في طريق تطور أي مجال من مجالات التطوير في الحياة.

مدينة نابلس وكباقي مدن فلسطين لقد عانت من القيود التي فرضت على جميع خططها التطويرية من قبل الاحتلال الإسرائيلي منذ العام 1967، وكنتيجة لهذه القيود فقد ترك ذلك آثارا واضحة على نظام المواصلات في المدينة. لذا كان لا بد من إعداد دراسات مرورية شاملة لتحسين النظام المروري في المدينة وقد بادر إلى أعداد هذه الدراسات المؤسسات الحكومية كبلدية نابلس ووزارة المواصلات والمجلس الاقتصادي الفلسطيني للتنمية والأعمار.

منهجية البحث:

لقد تم اختيار مدينة نابلس وهي إحدى اكبر مدن فلسطين والتي تمثل مركزا لجميع النشاطات المختلفة سواء للقرى والمخيمات المحيطة أو لباقي مدن الضفة لتكون المدينة التي سيطبق عليها البحث المتعلق بتخصيص السير على محاور الطرق حيث تم استخدام نماذج رياضية متقدمة من اجل حساب مصفوفة الرحلات من والى المناطق المرورية المختلفة الموزعة في المدينة وذلك من اجل تخصيص هذه المصفوفة على محاور شبكة الطرق في المدينة سواء الحالية أو المستقبلة.

تم استخدام البرنامج المتخصص في التخطيط الحضري للمواصلات TransCAD والذي يعتمد أساسا على نظم المعلومات الجغرافية GIS حيث تم إدخال جميع المعلومات الضرورية مثل التعداد المروري الموزع على عدد كبير من تقاطعات المدينة، بنية الشبكة المرورية الحالية والمستقبلية لشوارع المدينة. كما تم إدخال كذلك كافة الخصائص المرورية المتعلقة بالشبكة مثل السرعة، الزمن، السعة المرورية وغير ذلك وذلك لكل جزء من أجزاء الشبكة. وقد تم من خلال هذه المعلومات بناء مصفوفة الرحلات التي تقارب وإلى حد كبير أحجام المرور الحالية عند تخصيص هذه المصفوفة على أجزاء الشبكة المختلفة وقد تم الاستعانة بهذه المصفوفة في التنبؤ بأحجام المرور المستقبلية في العام 2015. هذا وقد تم اقتراح وفحص عدة خطط مرورية لتحديد المشاكل المرورية المتوقعة وأماكن العجز المروري الحالي والمستقبلي مع وضع اقتراحات مختلفة لحل هذه المشاكل في المدى البعيد وقد تم استعراض ميزات وجدوى كل اقتراح على حدة.

هيكلية البحث

يتكون البحث المقدم من خمسة فصول. ويقوم الفصل الأول بإعطاء مقدمة عن البحث ومنهجيته بالإضافة إلى إعطاء موجز عن مدينة نابلس وعن أعمال البحث ونتائجه. يتناول الفصل الثاني مطالعة في بحوث ودراسات ومشاريع سابقة تقوم على نفس الأساس العلمي المتبع في البحث. ويحتوي الفصل الثالث على شرح عن المنهجية العلمية المتبعة في البحث. أما الفصل الرابع فانه يفصل المدخلات الأساسية للنموذج الذي تم تطبيقه والتي تم بناء النموذج العلمي على أساسها. ويبين الفصل الخامس المعالجات والنتائج المتعلقة بالنموذج بالإضافة إلى تحليل لأوضاع المرور في الوقت الحاضر. ويتم في الفصل السادس بيان التحليلات المستقبلية لأوضاع المرور مع استعراض الحلول الممكنة وجدوى كل منها. وأخيرا يلخص الفصل السابع أعمال ونتائج البحث بالإضافة إلى التوصيات.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF MAPS

LIST OF FIGURES

Chapter One

INTRODUCTION

1.1 Background

Transportation is a key sector in industrialized as well as developing countries. Although the level of technology in transportation varies and the needs and demands are expressed differently, the movement of people and goods is essential for human activities and production. Therefore, transportation has to be treated as an integral and basic component of any comprehensive development plan.

The existing underdeveloped transportation infrastructure and poor transportation services provided in Palestine are inadequate to satisfy both the current and increasing demand for transportation and to facilitate the socio-economic development. Lack of proper transportation infrastructure facilities and services can be an obstacle to the development of the various economic sectors and may hinder the entire development efforts. However, the provision of proper transportation system is also an essential pre-requisite condition for development.

Nablus City, as the other cities in Palestine, suffered from the constrains imposed on its development by the Israelis since the military occupation in 1967. As a result, during that period no systematic transportation planning, nor sufficient investment in the transportation infrastructure was observed. Therefore, there is an essential need for appropriate transportation planning practices in order to develop sound transportation plans capable of providing the base for adequate transportation infrastructure and services aiming to assist in satisfying the increasing demand for transportation.

1.2 Problem Statement and Study Objectives

Because of the anticipated rapid development in the urban area of Nablus City, and because of the need to plan for new land uses and the transportation systems; it is intended to deal with scientific approaches for modeling and simulating the existing and future transportation network. There is a lack of use of scientific approaches and models that deal with origin-destination trip matrices, and the choice of routes by trip makers. Therefore, this study deals with these approaches to develop a procedure that enables planners to test and evaluate transportation policies, projects, or plans.

Another related problem which is dealt with in the research, is the lack of use of scientific approaches and models in testing, evaluating, and comparing the impacts of various future land-use growth scenarios or transportation policies on the transportation network.

1.3 The Study Approach

Since the scientific methods are the tools for proper planning, the estimation of origin-destination trip matrix and traffic assignment are the basic methods that will be studied, discussed and utilized in the research. Stochastic User Equilibrium assignment, is the method used for traffic assignment processes, while the multiple path matrix estimation is used for the estimation of origin-destination trip matrix. These methods give acceptable simulation for the travel behavior and travel patterns, where an equilibrium condition in the traffic flow pattern over the street network is observed.

A GIS based computer software, TransCAD, is used in this research. TransCAD is a powerful tool for transportation planners in terms of GIS support for planning and modeling. Traffic assignment and origin-destination trip matrix estimation are parts of the transportation planning demand module in TransCAD.

When the physical and operational characteristics of the links and nodes of the transportation network are defined, and the origin-destination trip matrix is estimated, the simulation for the existing traffic conditions could be made. Such simulation is very helpful in understanding the current flow patterns and forming a basis for predicting future flow conditions in the network. This enables planner to test and evaluate the effect of transportation improvements or policies.

For the future traffic conditions, and because of the limited data available, assumptions for the expected traffic growth are made in order to predict the future travel demand. Different scenarios are tested, which will help the planner to decide on the best future alternative by comparing it with other alternatives.

1.4 Study Area

Nablus City is taken as a case study to perform the research. The city of Nablus is located 60 km north of Jerusalem at an altitude between 600 and 800 m above sea level. Nablus is the economic capital of the Palestinian territories. It is located in the center of the northern part of

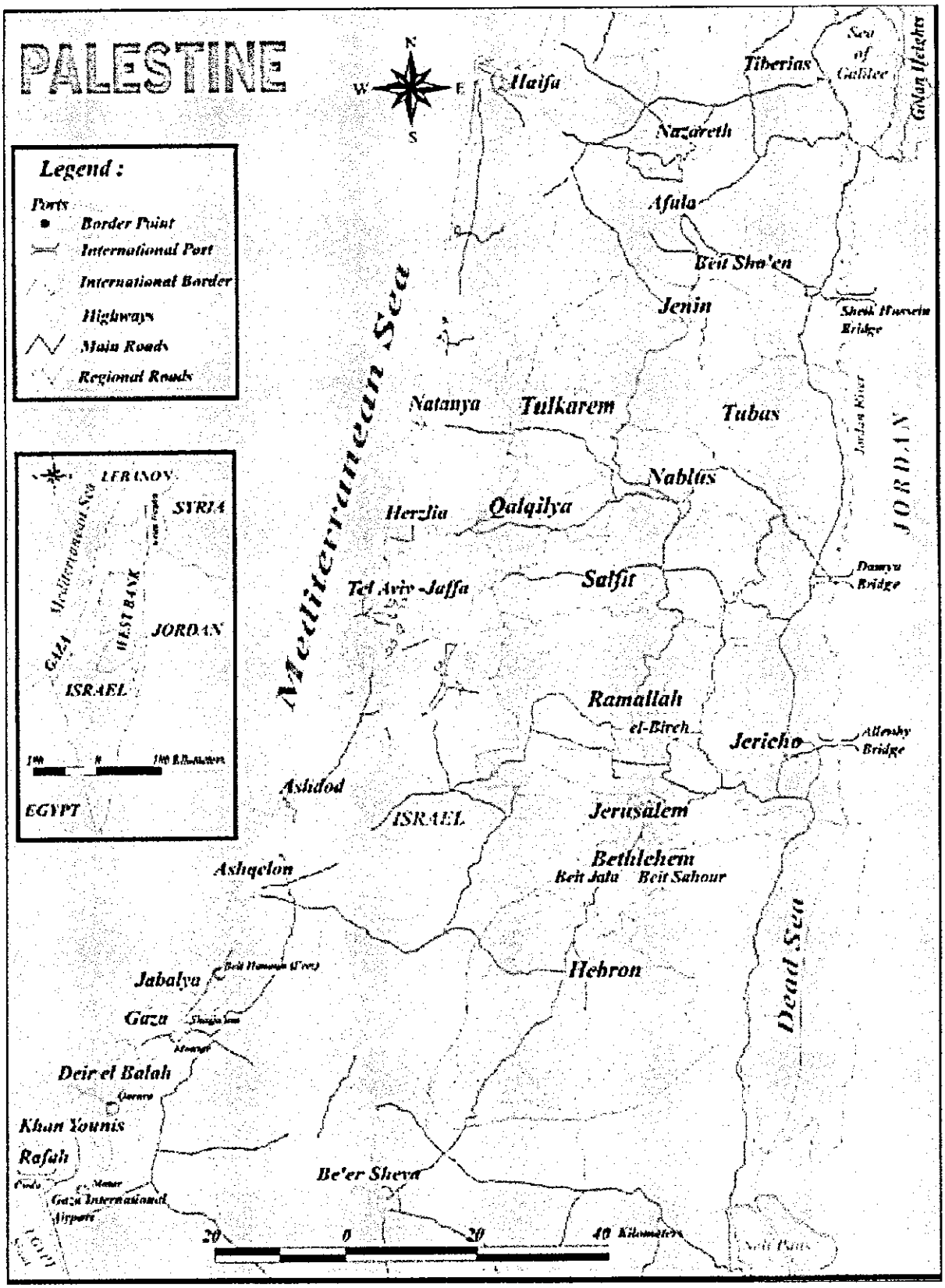
the West Bank, where a number of major roads intersect. The City with more than 150,000 inhabitants is as considered one of the largest cities in Palestine. The location of the city with respect to other cities in the Palestinian territories is shown in Figure (1.1).

The spatial shape of the city is influenced by its location in a valley between two steep mountains rising up to about 1000 m above sea level. This topological nature concentrates commercial activities and traffic streams in the valley and limits the northern and southern extensions of the city.

Nablus is a main and important site of employment and schooling opportunities, and is a seat of governmental and military institutions. These active institutions and offices, along with the active commercial community, result in a high traffic flows on the limited capacity of road network elements.

The current condition of the transportation system in the City is quite acceptable, since there are always traffic and road infrastructure improvements implemented by the Municipality. Recently, challenges have evolved, which are reflected on the urban restructuring, such as planning to construct overpasses and malls, and implementing more

Figure (1.1) Nablus City with Respect to Other Cities



traffic control measures such as traffic signals, controlling parking, and changing traffic circulation. Such challenges require a long-term integrated planning of land use and transportation.

1.5 Report Outline

This report is composed of seven chapters. The first chapter introduces the research which contains the background of the transportation conditions and the need for the research, as well as an introduction to study area and methodology. Chapter Two deals with literature review where a brief discussion of some traffic assignment methods, origin-destination estimation techniques, as well as some other reports concerning case studies are presented.

The methodology for both traffic assignment and O-D estimation matrix is discussed in Chapter Three. The input requirements for the study are explained in Chapter Four. Chapter Five presents the model implementation where the simulation of the existing traffic conditions and proper calibrations are made.

The predicted traffic flow pattern for different number of scenarios and the associated analyses are discussed in Chapter Six. Finally, summary and recommendations are presented in the Chapter Seven.

Chapter Two

LITERATURE REVIEW

2.1 Introduction

Traffic assignment is a key element in the urban travel demand forecasting process. Traffic assignment models can predict the network flows that are associated with future planning scenarios and generate estimates of the link travel times and related attributes. These are considered as the basis for evaluating and testing various transportation policies or alternatives. Historically, a wide variety of traffic assignment models have been developed and applied. In the following sections a brief explanation of some of the assignment methods will be presented, these are all-or-nothing, capacity restraint, user-equilibrium and system optimization.

The methods of estimating trip matrices are also presented. These are used to obtain origin-destination trip matrices (O-D) from existing traffic counts, where time and budget are constrains that make the building of O-D matrix a difficult process.

In addition, a number of case studies are presented which describe the application of the traffic assignment technique in testing different transportation policies and strategies in a number of cities around the world.

2.2 Traffic Assignment

Traffic assignment methods were developed to express the distribution of traffic flow between origins and destinations on the routes of a network. These methods are presented in the following sections.

2.2.1 All-or-Nothing Assignment

Performing assignment using the all-or-nothing method is a simple process, one of the first and most widely used algorithms was developed by Moore (Moore,1957). The minimum time path between two zone centroids is assigned the total volume of the trip interchange. The assigned volumes are accumulated for each link and the total volume is the accumulation of all individual link volumes for each trip interchange. This method assumes that there are no congestion effects,

that all drivers consider the same attributes for route choice and they perceive and weigh them in the same way.

Moore's algorithm can be used to calculate minimum paths from each zone centroid to all other zone centroids. These records of minimum time paths are known as trees, due to their graphical similarly to the plan view of a tree.

The model is unrealistic in that only one path between every O-D pair is utilized even if there are other paths with the same travel time or cost. Also, traffic is assigned without consideration for whether or not there is adequate capacity or heavy congestion. Travel time is a fixed input and does not vary depending on the congestion on a link. Therefore, All-or-Nothing assignment does not simulate real traffic conditions accurately.

The operating speed is not related in any way to the ratio of the volume carried to the capacity. The method also neglects many preferences that drivers show for arterial streets when travel time is close to that of the alternative freeway routing.

2.2.2 Capacity Restraint Assignment

As the all-or-nothing assignment gives no consideration to the relationship between travel time and flow to a speed-flow relationship, capacity restraint methods were developed to consider the interaction between travel time and flow. Capacity restraint models are categorized as iterative and incremental.

Many different capacity restraint equations have been developed and tested. The first method that utilized the capacity restraint concept was the Toronto method (Irwin and Von Cube, 1962). However, there are basic characteristics common to capacity restraint models. They are typically nonlinear relationships and use the volume-capacity ratio, or v/c, as a common factor. The underlying premise of a capacity restraint model is that the travel time on any link is related to the traffic volume on that link. This idea of decreasing travel speeds as link volumes increase parallels the concept of levels of service (LOS). For example, LOS A with low v/c on a link corresponds to higher vehicle speed and free-flow conditions for vehicles to pass or be passed readily, while the lower bound of LOS E (v/c approaching 1.0) is generally considered to present capacity, slower vehicle speeds, and conditions approaching unstable flow.

Capacity restraint models and their assignment hierarchy make intuitive sense. Motorists do not simply continue to choose a route indiscriminately until capacity has been reached or exceeded. If logical alternative routes are convenient and travel times are less (and motorists have knowledge of these routes), then trips will be derived away from the slower and more congested route, to those routes that are deemed more attractive. The capacity restraint model used in the Federal Highway Administration (FHWA) computer program is applied in an iterative manner (FHWA, 1973). The adjustment link speed and/or its associated travel impedance is computed by using the capacity restraint function:

$$T = T_a[\, 1 + 0.15(v/c)^4] \qquad (2.1)$$

where:

T = balance travel time (at which assigned volume can travel on a highway segment)

T_a = free flow travel time

v = assigned volume

c = practical capacity

2.2.3 User-Equilibrium Assignment

The user equilibrium approach which postulates that trip makers choose their routes in order to minimize their own individual travel costs is referred as Wardrop's first principle of traffic assignment, since it was stated by Wardrop (Wardrop, 1952). This principle assumes that users choose routes in such a way that no individual trip maker can improve the choice by unilaterally changing routes. Thus, equilibrium occurs when all trip makers are each on their individual minimum-cost path. This occurs when the travel times on all routes connecting any origin-destination pair are equal.

The demand is distributed over the network so that the travel time over all the possible used paths connecting each origin and destination are equal and are less than any other unused paths. If these two conditions do not hold, drivers would switch to paths of less travel time, congesting them, and causing a new flow pattern to evolve and a new equilibrium state to be established (LeBlank et al., 1975). Many algorithms have been developed to solve for user-equilibrium utilizing different optimization techniques.

The deterministic user-equilibrium method of route choice analysis has emerged as a powerful tool for analyzing large-scale urban transportation networks.

2.2.4 Stochastic User Equilibrium Assignment

As an alternative to the deterministic method, a more realistic equilibrium model was proposed by Daganzo and Sheffi (Daganzo and Sheffi, 1977). The stochastic user equilibrium is a generalization of the user equilibrium concept. If the perceived travel times were assumed to be entirely accurate, all motorists would perceive the same travel time and the stochastic user equilibrium would be identical to the deterministic user equilibrium. In general, stochastic user equilibrium seems to be more realistic since it assumes that travel time on a link is a random variable.

Given the O-D trip rates q_{rs}, the stochastic equilibrium conditions can be characterized by the following equation:

$$f_k^{rs} = q^{rs} P_k^{rs} \qquad (2.2)$$

where P_k^{rs} is the probability that route k between origin *r* and destination *s* is chosen given a set of measured travel times, **t**.

At stochastic user equilibrium, no motorist can improve his or here perceived travel time by unilaterally changing routes. This follows directly from the interpretation of the choice probability as the probability that the perceived travel time on the chosen route is the smallest of all the routes connecting the O-D under consideration. At stochastic user equilibrium, the measured travel time on all used paths is not going to be equal.

2.2.5 System Optimization Assignment

In contrast to user-equilibrium, system optimization considers Wardrop's second principle of travel behavior, so that the total travel time (cost) is minimized for the whole network system (TransCAD, 1994). System optimization, which does not guarantee that motorists choose their routes which minimize their own travel time, is not likely to simulate the travel behavior of motorists. It is not a real equilibrium process, since some travelers are better off by unilaterally changing routes.

2.3 Origin-Destination Matrix Estimation

Traditionally, origin-destination trip matrices are estimated by using comprehensive traffic surveys based on interviews. However, in recent years, interest in alternative estimation methods has increased. To reduce the cost of data acquisition, most of these methods are based on traffic counts supplemented by some assumptions on road users route choices. Conventional methods for collecting origin-destination information from, for example, home or roadside interviews, tend to be costly, labor intensive, and time disruptive to the trip makers.

Traffic counts can be seen as the result of combining a trip matrix and a route choice pattern. As such, they provide direct information about the sum of all origin-destination pairs that use the counted links. Methods for estimating trip matrices from traffic counts are presented in the coming sections.

2.3.1 Entropy Maximization Method

Entropy-maximizing technique have been used as a model-building tool in urban areas, and in regional and transport planning studies for many years, particularly after the work of Wilson (Wilson, 1970). The entropy-maximizing formalism provides a naive, least biased trip matrix that is consistent with the information available represented as constrains to a maximization problem.

The idea was used by Willusmen to derive a model to estimate trip matrices from traffic counts (Willusmen, 1978). The availability of an old matrix, or simply a matrix estimated from another study should be accommodated for some advantages. The entropy-maximizing formalism seeks to identify the most probable trip matrix consistent with the information available. If no prior matrix is available, it can be taken as unity. In effect, an entropy maximizing formalism may be considered to generate the most likely trip matrix, one that has the same number of trips in each cell, unless being prevented from achieving this by constrains.

2.3.2 Single Path Matrix Estimation (SPME) Method

The method of Single Path Matrix Estimation (SPME) was originally formulated by Nielsen, who also suggested the second method, Multiple Path Matrix Estimation (MPME).

Among other reasons, the method was developed to update an old trip matrix for the Copenhagen Region, where there are many alternative routes on the road network with frequent delays and sometimes queues (Nielsen, 1993).

SPME estimates a new trip matrix to fit as well as possible with the traffic counts. One of the consequences of this is that the original matrix is changed more than by many other matrix estimation methods. This approach is easily justified when updating an older matrix using newer and more accurate traffic counts.

2.3.3 Multiple Path Matrix Estimation (MPME) Method

The idea of MPME is for each path to use all counts along the path to estimate the corresponding matrix element (Nielsen, 1993). Inconsistencies in some counts along the path are thereby moderated

by other counts. In opposite to SPME, where only the counts along the optimal path are used, this is done by the MPME method for all paths according to the probability of choosing each one.

The traffic between each zone-pair should be the sum of the expected traffic along each route between the pair multiplied by the probability to choose that route. This assigns a high weight on the route choice, as each route is assigned the same weight (according to its probability), regardless of the number of counts along the route. The expected traffic along each route can be assumed to be the average of the expected traffic as defined by each traffic count along the route.

2.4 Travel Forecasting

Forecasts of travel demand and transport system operation are required for the development, testing and evaluation of alternative transport network options for each strategy. The apparent simplest option in dealing with forecasting planning variables is to use official forecasts. In a number of studies, there are estimates of:

- Population, households, and employment;
- Number of households owning 0, 1 and 2 or more cars; and

- Private-vehicle trip-end by journey purposes.

They also produce forecasts, from time to time, of future demand expressed as expected vehicle kilometers of travel for different types of vehicles.

Travel forecasting estimation was performed in the work made for Greater Amman Area (Municipality of Greater Amman and Dar Al-Handasah Consultants, 1987). The first step considered in forecasting travel demand is vehicle ownership availability forecasting, since it has been found from experience that the number of vehicles available to a household determines to a large extent the number of trips made. Information on the percentage of households with or without vehicle availability was obtained to determine the percentage of trips made by each class.

Estimation of annual growth rate for vehicles indicates an annual growth rate of 1.0 to 1.2 %. The first estimate was based on the approach of saturation level of vehicle ownership derived from an analysis of past trends in vehicle ownership growth in Jordan between 1974 and 1984. The second approach was based on a multiple linear regression analysis between vehicle ownership as dependent variable and income and vehicle prices as independent variables.

The estimated vehicle ownership growth rate was used to forecast the proportion of households with 0, 1 and 2+ vehicles available for the future. By applying the projected numbers of households by a zone in the transport trip generation model, forecasts of person trip generations were obtained by trip purpose.

2.5 Transportation Policies

Since assignment can be used in testing different transportation policies, definition of the general principles of urban transport policy was addressed by a number of studies such as the Western Cape in South Africa (Spence, 1998).

The overall intention of the provincial transport policy is to bring about a more effective and efficient urban system, primarily as a result of the significant changes in urban form and structure. Existing demand should not be the primarily information for upgrading transport facilities where it entrenches spatial inefficiency. A strategic understanding must be reached and a balanced struck between the needs of the urban restructuring and meeting existing movement needs and requirements.

The followings are considered as the principles of urban transport policy in such studies:

- Encourage the formation of more efficient and equitable land use arrangements that reduce the growth in demand of travel.
- Make better use of existing, available movement resources, particularly road space, and public transport vehicles.
- Avoid an excessive demand for investment in major infrastructure in urban areas except where this is necessary to integrate new or existing areas into the overall urban system of which they are part.
- Avoid the negative consequences of continued unrestrained growth in private mobility.
- Pursue a "Public Transport First" policy that advances the interest of public transport over those of private transport, improving significantly the overall quality of public transport services.

2.6 Case Studies

Many studies in the field of transportation planning and traffic assignment have been performed. The following studies for different areas around the world show the importance of such studies in evaluating and testing different transportation policies and solutions.

2.6.1 Long Range Transportation Plan for Saginaw County, U.S.A

The assignment process was used in many transportation plans for long range planning, such as that for Saginaw County in U.S.A, were a long range transportation plan for the years 1995-2015 was made (Saginaw, 1995). This study served to predict traffic conditions for future years and test projects for the year 2015.

There were two basic systems of data organization in the travel demand process. The road network portion of the model consists of a database that specifies the location, number of lanes, speed, traffic counts and other information for individual segments of each major street. Land areas between major roadways were identified as Traffic Analysis Zones (TAZs). These zones can be as small as a few city blocks or as large as several square miles.

Using these analysis tools, planners and transportation agency personnel suggested different ways in which anticipated capacity deficiencies may be alleviated, such as:

1. Increasing capacity: by signalization changes (increasing green time), street widening, construction/improvement of alternate

routes, changes in status of one-way or two-way streets, parking removal, and other traffic engineering operations.

2. Revising land use configurations.
3. Providing use of alternative modes of travel: transit, rail, carpooling, airplanes, walking, and others.
4. Travel Demand Management: flex-time, swing shifts, ridesharing and vanpooling, park and ride lots, and others.

Planners; therefore, could prepare a list of improvements to respond to the deficiencies. They could study the costs for improvements and prepare for their financing.

2.6.2 Traffic System Management Study for Nablus City

Another experience for using assignment technique in transportation studies was that performed for the City of Nablus in the year 1998, within the frame of a short-term study of 5 years (Dornier System Consult and Universal Group, 1998).

In order to develop and test the suggested traffic recirculation plans properly, an employment of the model VISUM 4.60 was considered. This model is a product of PTV GmbH, Karlsrshe, Germany. VISUM

4.60 covers the part of vehicle traffic assignment to a network. The input files are the network and the origin-destination matrix of vehicles.

Model development and calibration for the Nablus exercise were done on the basis of knowledge of the Nablus conditions and on the basis of traffic count results. The final network model describes the CBD and extends to the east until Abd-Al-Monem Riyad intersection complex and to the west until Prince Mohammed Street. The coded network consists of 48 traffic cells, 155 nodes, and 337 links corresponding to 34 km of streets.

Estimation of an O-D matrix for the CBD area was made through the model. This model applies a square capacity restraint function. The size of the estimated matrix is 48 3 48 equaling 2,304 relations in the present situation. The estimation of main origins and destinations was done considering all entrances into the network as origins and exits as destinations. Internal traffic cells were defined for terminals, car parks, shopping areas, schools, and public buildings. This high amount for the CBD was used for micro-simulation. The estimation started at entrances by distributing the volumes to all destinations then by running the model and comparing modeled link volumes with

counted ones. The first calibration procedure started, and more than 100 iterations are required to achieve a satisfactory consistency between model and counts.

The errors between model and reality were minor in the closer vicinity of Martyrs' Square. In the outskirts of the modeled area, larger errors were accepted. The O-D matrix described almost 8'600 vehicle trips in the present case and 10,600 trips five years later.

The assignment technique was used to test the feasibility of the various recirculation plans. The first tested scenario was the existing network with present volumes. Then the future volumes with present network were tested. Suggested improvements to the network system were proposed, such as, city center closure, new Faisal Street, relocation of public terminals, and construction of new mall in the city center. The aggregated results of the model output showed that the mean speed for all future scenarios is considerably lower than the existing one, as well as the average trip duration. The most considerable scenario was the one that considered the city center closure with two-way streets around the center.

2.6.3 Traffic Assessment Study for Nablus City Center

In order to identify measures that could alleviate some of local congestion problem for the Nablus City center, a traffic assessment study was performed (Khatib and Alami, 1995). The main tool used to analyze the traffic system was a computer based traffic network model named SATURN that was developed by the University of Leeds (UK) in 1976. This study in addition to local assessment of traffic congestion in the city center area looked at general planning and transportation issues which affect traffic generation.

SATURN, the Simulation and Assignment of Traffic in Urban Road Networks, is a suite of computer programs which are used to create a mathematical model of transportation infrastructure of a specified area. The model consists of two computer databases, the network and geographical database.

The model's matrix was constructed considering two main movements, through and local traffic. No detailed data about constructing the O-D matrix was found in the study report. The built up model could produce a network plot with simulated existing delay.

This model was used later to test different schemes proposed by the consultant.

The method in which SATURN assessed the effects of a scheme on the overall network, was to compare the average network speeds, and the total travel time statistics of "before" and "after" the implementation of the scheme. An increase in the average network speeds indicates that average network delays have decreased, while reduction in total travel time indicates shorter routes have been used, or lesser delays on the network. It is often the case that when a network is congested, traffic will take alternative routings to that of the shorter more obvious ones, so they may reach their destinations in shorter times although the travel distances may be longer.

Seven options to improve the network system were tested throughout the model. These included traffic recirculation, parking prohibitions, capacity improvements, and construction of new streets. The remedial measures that could improve the network system were: to eliminate Abd Al-Monem Riad roundabout and construct a traffic signal, open Jamal Abdel-Naser Street as a two-way street, and increase the capacity of Faisal Street by prohibiting parking.

2.6.4 Municipal Geographic Information System

A valuable tool in municipal level transportation planning and management is traffic assignment that was used as an application of the Municipal Geographic Information System. This application was created for the city of Newton, Massachusetts (Marc, 1992). The goal of this assignment was to satisfy the traffic engineer's needs for quick first-order assessment, or sketch planning. Such assessment could be the first-order effect on traffic flows across the Newton network of a bridge collapse that made a certain link unpassable. Another use was concurrency management. For example, what additional traffic strain would a shopping center in an analysis zone create on the network.

A graphical display of results and comparison of traffic volumes for two scenarios were developed. The ability to modify the transportation network and present modeling results in a GIS environment gives transportation planners the power to generate and thoroughly evaluate many "what if" scenarios within a limited time and resource budget.

2.6.5 Greater Amman Comprehensive Development Plan

Different transportation proposals for the Master Plan for Greater Amman were studied through building traffic model (Municipality of Greater Amman and Dar Al-Handasah consultants, 1987). Data collection and analysis, were performed to assist in building the transportation model. The data provided planners with information on trip and households characteristics, traffic volumes and compositions, travel speeds, and public transportation systems.

Traffic assignment was one of the transportation modeling processes, where the capacity restrained technique was used. The speed/flow relationship was specified and an incremental loading procedure was carried out, whereby a proportion of the matrix is assigned and travel speeds are re-calculated before the next increment was assigned.

Through the work, two basic transportation strategies were tested: public transport oriented strategy and a highway oriented strategy. The network related parameters were based on volume-capacity ratios. From the analysis of the volume-capacity ratios across the network, it was possible to compare levels of congestion related to each land use/transportation strategy being tested.

The planners were able to define and address the problems on the transportation network, and later develop a number of aims that were relevant to identifying the transport solutions which best matched the structure plans. Evaluation for the different plans to arrive at the most appropriate transportation strategy for Greater Amman was considered in this work, taking into consideration budget constrains and proposed schemes.

Chapter Three

METHODOLOGY

3.1 Introduction

The use of traffic assignment is not limited to loading a fixed trip matrix onto the network to produce a set of link flows, but there are several objectives that are very useful. Among these objectives, one can obtain aggregate network measures, e.g., total flows, to estimate zone-to-zone costs, to obtain reasonable link flows and to identify heavily congested links, and to obtain turning movements for the design of new junctions.

The stochastic user equilibrium method was used in traffic assignment in this study to simulate the existing traffic conditions. A description of the applied methodology is discussed in the following sections. The estimation of the origin-destination trip matrix utilizing the method of multiple path matrix estimation (MPME) is discussed, which is based on the stochastic user equilibrium traffic concept.

3.2 Stochastic User Equilibrium for Assignment

Given the O-D trip rates, q_{rs}, the stochastic equilibrium conditions can be characterized by the following equation:

$$f_k^{rs} = q^{rs} P_k^{rs} \qquad (3.1a)$$

where: f_k^{rs} is the flow on route k from origin r to destination s, P_k^{rs} is the probability that route k between origin r and destination s is chosen given a set of measured travel times, **t**. In other words,

$$P_k^{rs} = P_k^{rs}(\mathbf{t}) = \Pr(C_k^{rs} \le C_l^{rs}, \forall\, l \ne k \in K_{rs} \mid \mathbf{t}) \qquad (3.1b)$$

where:

C_k^{rs} is the random variable representing the perceived travel time on route k between r and s.

that is:

$$C_k^{rs} = \Sigma_a T_a \delta_{a,k}^{rs} \;\forall\; k,r,s. \qquad (3.1c)$$

In addition, the regular network constrains have to hold, that is,

$$t_a = t_a(Xa) \qquad \forall\, a \qquad (3.2a)$$

$$\Sigma_k f_k^{rs} = q^{rs} \qquad \forall\, a \qquad (3.2b)$$

Travel time on link a is expressed by:

$$t_a = E[T_a] \text{ and } X_a = \Sigma_{rs}\Sigma_k f_k^{rs}\, \delta_{a,k}^{rs} \qquad \forall\, a \qquad (3.2c)$$

where :

f_k^{rs} = Path flow assignment.

q^{rs} = O-D trip rates.

P_k^{rs} = Probability that route k between r and s is chosen.

T_a = Perceived travel time on link a.

$\delta_{a,k}^{rs}$ = Incidence variable.

X_a = Link flows.

K = Set of alternatives.

Equation (3.1) characterizes the stochastic user-equilibrium (SUE). At SUE, no motorist can improve his or here perceived travel time by unilaterally changing routes. This follows directly from the interpretation of the choice probability as the probability that the perceived travel time on the chosen route is the smallest of all the routes connecting the O-D under consideration.

At equilibrium, the measured travel time on all used paths is not going to be equal. Instead, the travel time will be such that equation (3.1) is satisfied for the equilibrium path flows. These path flows, in turn, will

be associated with link flows that satisfy equations (3.2) for the equilibrium travel times.

Stochastic user equilibrium is computed in TransCAD software using the method of successive averages (MSA). The only known convergent method is found in Sheffi and Powell (Sheffi, 1985). Due to the nature of this method, a large number of iterations should be used.

All of the traffic assignment procedures in TransCAD, except for all-or-nothing assignment, update travel times iteratively based upon link performance functions. A link performance is a mathematical description of the relation between travel time and link volume. The BPR (Bureau of Public Roads) formulation is one of the most commonly used link performance functions. The BPR function relates link travel times as a function of the volume/capacity ratio according to:

$$t = t_f \{1 + \text{alpha}[v/c]^{\text{beta}} \qquad (3.2d)$$

where:

t = congested link travel time

t_f = link free-flow travel time

v = link volume

c = link capacity

alpha and beta= parameters

Common values for alpha and beta are 0.15 and 4.0, respectively. However, different values can be used in many circumstances. For example, these parameters can be modified to include the approximate effect of intersection delay associated with a link. Many values for alpha that ranges between 0.1-1.3 were tested. The selected value of 0.15, gave in many circumstances the most acceptable results. Different values for beta were tested too. These ranged between 1.0-4.5. The selected value was 2.3, gave in many circumstances the most acceptable results.

3.3 The O-D Matrix Estimation Model

The selected model for the origin-destination matrix estimation was the stochastic user equilibrium method throughout the TransCAD software. This method is based on the multiple path matrix estimation method (MPME). The following sections explain this method.

3.3.1 The Multiple Path Matrix Estimation (MPME) Method

The idea of MPME is that for each path to use all counts along the path are used to estimate the corresponding matrix element. Inconsistencies in some counts along the path are thereby moderated by other counts, in opposite to SPME, where only the counts along the optimal path are used, this is done for all paths according to the probability of choosing each one.

The traffic between each zone-pair should be the sum of the expected traffic along each route between the pair multiplied by the probability to choose that route, (see equation (3.3)).

$$T_{ij(n)}=\sum (T_{(E)ijr} \cdot p_{ijr}) \qquad (3.3)$$

where $T_{(E)ijr}$ is the expected traffic between zone *i* and *j* at link *a* and p_{ijr} is the probability that route *r* is used between zone *i* and *j*. This assigns a high weight on the route choice, as each route is assigned the same weight (according to its probability), regardless of the number of counts along the route. The expected traffic along each route can be assumed to be the average of the expected traffic as defined by each traffic count along the route, (see equation (3.4)).

$$T_{(E)ija} = 1/N_a \tau^* (sum\ T_{(E)ija}) \quad (3.4)$$

where N_a is the number of counts along the path.

The expected traffic count according to each count (expressed by equation (3.5)) equals the expected traffic in the SPME method.

$$T_{(E)ija} = (V_a / T_{a(n-1)})^* T_{ij(n-1)} \quad (3.5)$$

where

n = iteration number.

V_a = Counted traffic on link a.

T_a = Assigned traffic.

In very simple cases, this can be done in one step. Usually p_{ijr} depends on the traffic on each link (nonproportional route choice), and $T_{a(n-1)}$ depends on matrix elements other than $T_{ij(n-1)}$. In this case, an approach could be to use the last three equations in an iterative loop. If this converges, the solution fulfills the assumptions leading to the equation.

3.3.2 Some Characteristics of MPME

The main focus of MPME is the traffic counts. Thus, in networks with more counts than matrix elements (very rare), the solution will be independent of the seed matrix. If the counts are inconsistent, MPME will find a solution where the average expected traffic along each route equation (please see equation 3.4), and the sum of the expected traffic on the routes between the concerned zone-pair equation (please see equation 3.1a), have converged. If the counts are consistent, the last three equations will continue to modify the matrix elements until a perfect fit is obtained. Besides these characteristics, practical tests have shown that the solution is quite close to a minimization of the weighted square between counted and assigned traffic:

$$\min[\sum_a (T_a - V_a)^2 / V_a] \qquad (3.6)$$

In the case with more matrix elements than counts, all elements concerning one count will be changed in the same direction. Naturally, this might be equalized due to other counts. The solution is quite close to a minimization of the weighted square between the seed and estimated matrices:

$$\min[\sum_{ij}(T_{ij}-t_{ij})^2/t_a] \qquad (3.7)$$

For large-scale studies, the main challenge in the MPME is to handle the route choice, p_{ijar}, in a computable manageable way. To do this, the properties of the SUE solution algorithm are utilized. In principle, the algorithm consists of an inner and an outer loop, but good results can be obtained with only one iteration in the inner loop.

This method is utilized by TransCAD in estimating origin-destination trip matrix from traffic counts.

Chapter Four

INPUT REQUIREMENTS

4.1 Introduction

The analysis of transportation networks using the stochastic user equilibrium technique requires the usage of basic data that are the required inputs for the assignment model. These are: the network in terms of links and their properties, and the estimated peak-hour trip matrix. These inputs are discussed in details in the next sections.

4.2 Network System

In order to predict how the demand for mobility will be manifested in space and time, it is necessary to represent the transportation infrastructure in some formal, simple but sufficiently detailed way. The approach adopted almost universally is to represent the infrastructure by a set of links and nodes.

A key decision in setting up a network is how many levels to include in the road hierarchy. If more roads are included, the representation of reality should be better. However, there is a problem of economy

verse realism, which forces the modeler to select some links for exclusion. Moreover, it does not make much sense to include a large number of roads in the network and then make coarse assumptions about turning movements and delays at junctions. It is not sensible either to use a very detailed network with a coarse zoning system as then spatial aggregation errors (i.e., in terms of centroid connections to the network) will reduce the value of the modeling process.

The influence of network definition and detail over road assignment accuracy was investigated. Conclusions showed that the largest errors were obtained at the lower levels in the hierarchy of roads (Jansen and Bovy, 1982). Therefore, the authors suggested including at least one level below the links of interest in the network.

4.2.1 Network Building for Nablus City

A transportation network may be formally represented as a set of links and a set of nodes. A link connects two nodes and a node connects two or more links. Links may be either directed, in which case they specify the direction of movement, or undirected. Two links are said to be parallel if they connect the same pair of nodes in the same direction. A loop is a link with the same node at either end.

The work is performed using the GIS based software, TransCAD. In simple terms, GIS is a computer based system that can identify the location of an object and provide information about it, enabling geographical and statistical analysis to be performed.

Building the network for Nablus City, is one of the main steps in modeling process. The original map (centerline of streets) was taken from an AutoCAD R14 file and later transformed to a TransCAD file to start building the network. Because the only digitized map was taken from AutoCAD in a form of DXF file, many corrections and improvements to the links and nodes were necessary. The work in building the network consisted of many procedures:

- Importing the DXF file that contains the centerlines for the streets by choosing the selected layer, then TransCAD automatically locates and imports the entities and blocks that appear for the chosen layer. TransCAD also creates a data view (i.e., a table) that contains the ID of each feature. The coordinates of the area are also determined through TransCAD, where a special coordinate system for Palestine is built in.

- Corrections for the original map by minimizing the amount of endpoints at different segments of the same link was made. This is to define each link by start and end points. These resulted from drawing several lines for each link in the AutoCAD file.

- Node corrections were also made to make sure that each intersection is made of one endpoint.

4.2.2 Links Attributes

Links have various characteristics, these are presented in the attribute table that is attached with the line layer. These characteristics will be used later in building the model. The followings were the characteristics for the links in the network:

- For the roadway classification, the links were classified into five types in the database table. These will be used in the network settings for enabling and disabling links in the network for analysis purposes. The classification was performed as follows:

  Link type (1) for existing arterial roads

  Link type (2) for existing collector roads

Link type (3) for future arterial roads

Link type (4) for future collector roads

Link type (9) for zone connectors

Link type (10) for suggested overpass

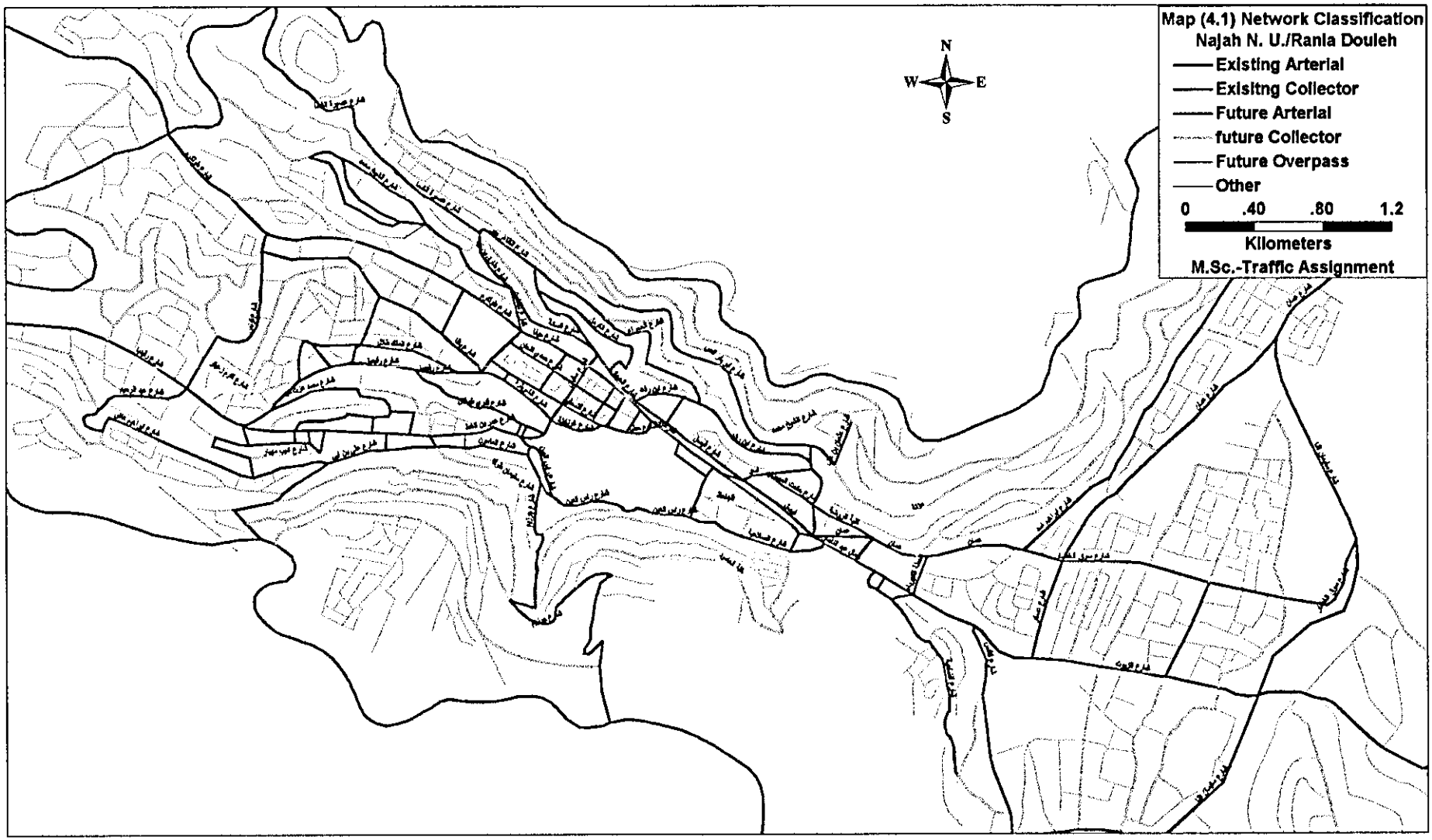
These classifications are shown in Map (4.1).

- The ID for each link were automatically assigned by TransCAD Software, after the map is imported from AutoCAD. The values for ID are not changeable.

- Link length (in kilometers) was automatically estimated by TransCAD.

- Link free flow speed (in kilometer per hour) is entered according to each link type, and was selected for main roads to be 50km/hr and 40 km/hr for secondary roads either for the existing or future ones. These values represent the speed limit that was allowed on City streets.

- Link cost (i.e., travel time) was calculated from the values of length and speed in minutes.



- Links direction (0 for two-way direction, 1 and –1 for one way direction). The direction field indicates the relationship between the route and the direction in which the link was digitized. In TransCAD links have a topological nature, the direction of the topology indicates the AB direction (represented by 1), while the opposite direction represents the BA direction (represented by –1). The topology and direction maps are shown in Maps (4.2) and (4.3), respectively.

- Link capacity (maximum flow in veh/hr). The value of link capacity was defined according to the following considerations:

  - Different sections for roadways were considered in order to specify capacity. These were according to the German Guidelines (German Federal Ministery of Transport , 1984). The value of capacity was reduced up 10-20% for the different streets so as to obtain a realistic capacity. In some few cases more reduction was used for calibration. Sample capacity values for a number of main streets, along with the cross section types and other relevant information are presented in Table (4.1) and Figure (4.1). Directional capacity was

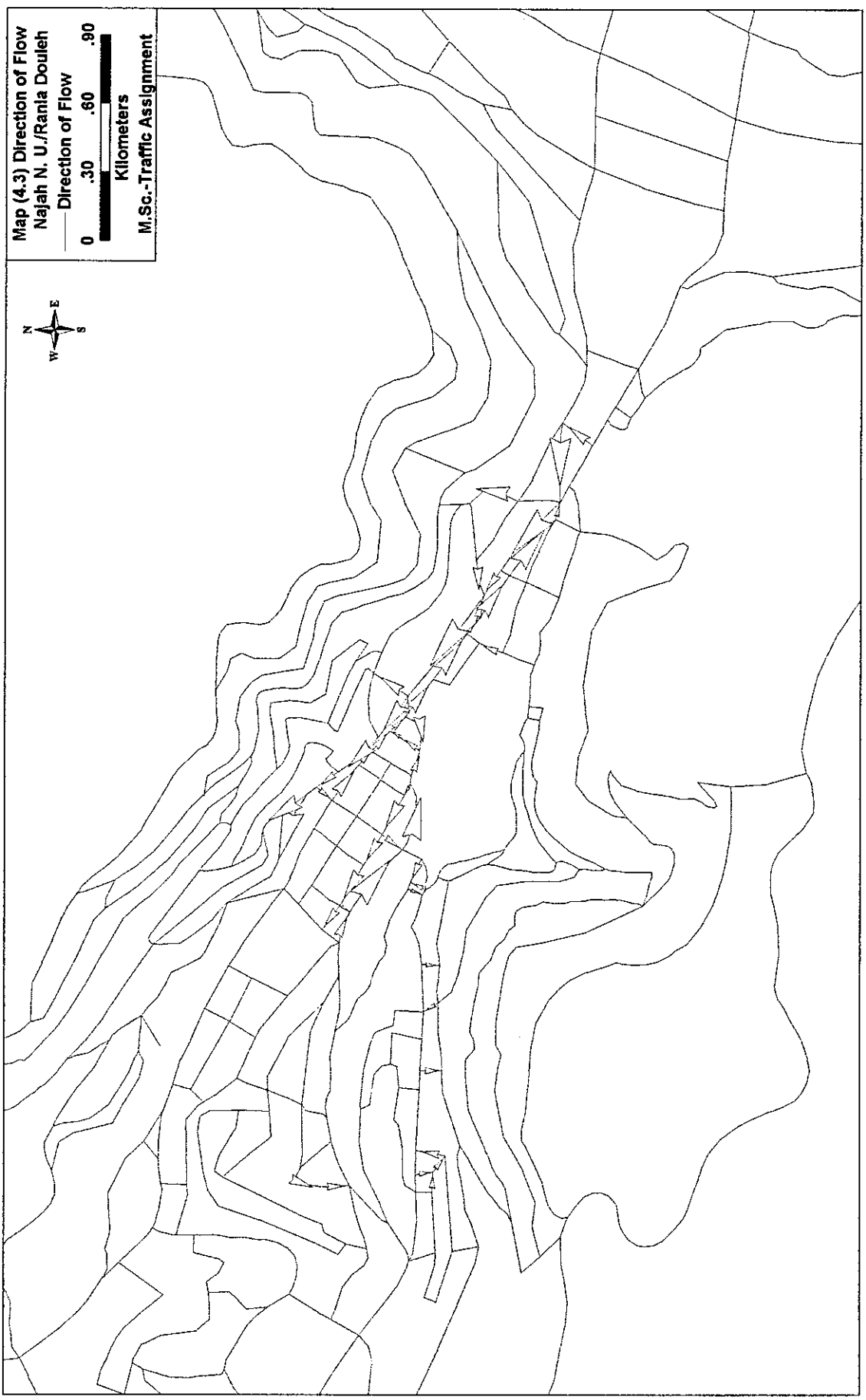


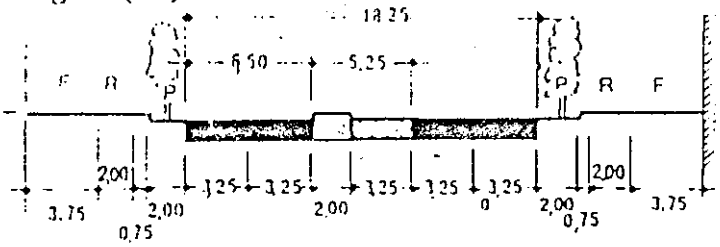
Table (4.1) Capacity Values for Specific Streets Cross-Sections

Street Name	No. of Lanes per Direction	Capacity per direction (vph)	Modified Capacity per direction (vph)	Cross-Section Type*	Speed (km)
Amman (near Power Station)	2	≤1900	1800	C4pr	50
Al-Quds	3	≤2100	3000	C4m	50
Tuness	2	≤1800	1800	D4pr	50
Jamal Abd-Al-Naser	2	≤2100	1800	C4m	50
Jamal Abd-Al-Naser (near Prison)	3	≤2100	2850	C4m	50
Al-Zuit	2	≤2100	1800	C4m	50
Amman (near AL-Masaken)	2	≤2100	1800	C4m	50
Askar	2	≤2100	1800	C4m	50
Tulkarem	2	≤2100	1800	C4m	50
Ring Road	2	≤2100	1800	C4m	50
Suliman Nabulsi	2	≤2100	2100	C4m	50
Al-Hisba	2	≤2100	1800	C4m	50
Rafidia (near Junied)	2	≤2100	1800	C4m	50
Faisal	3	≤1900	2700	C4pr	50
Parallel Faisal	3	≤1900	2700	C4pr	50
Overpass	2	≤2600	2500	C4m	50
Dfana	3	≤1800	2700	D4pr	50
Prince Mohammed	2	≤1800	1800	D4pr	50

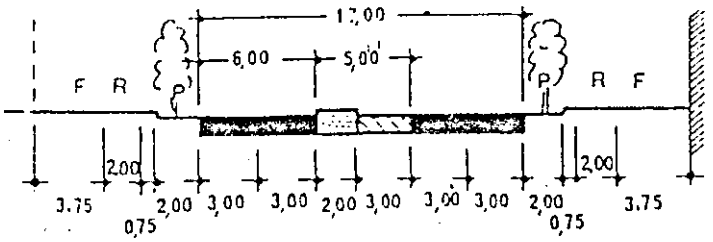
* Please see figures 4.1 and the others in Appendix A

Figure (4.2) Different Streets Cross-Sections

c 4 mpr



d 4 mpr



c 4 pr

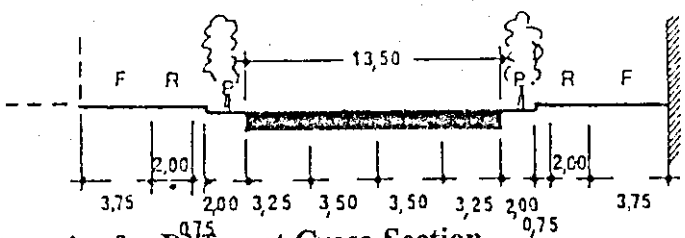
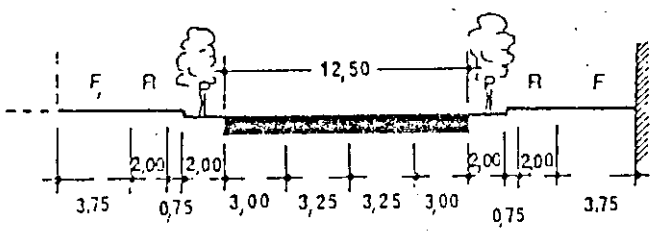
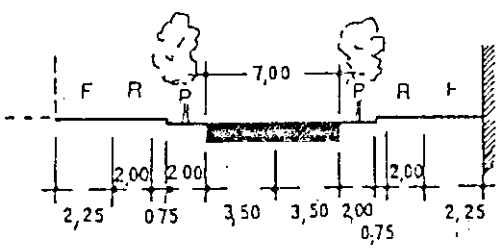


Figure (4.1) Capacity for Different Cross-Section

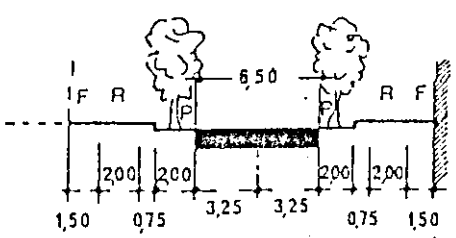
d 4 pr



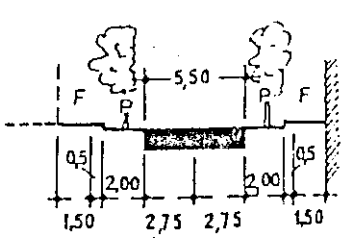
c 2 pr



d 2 pr



f 2 p



considered (i.e., for each of the directions AB and BA).

- Existing road capacities are assumed to be 800 veh/hr/lane for main streets for each direction and 600 veh/hr/lane for secondary streets and connectors for each direction too. These values are slightly lower than those for the future conditions to represent the actual conditions without any improvements.

- Observed link counts (veh/hr.) for the morning peak period (7:45-8:45) for the origin-destination matrix estimation were considered for each direction of travel, AB and BA. Detailed discussion is found in the following sections.

- Endpoints for zone connectors, which were tagged from the endpoint layer to the line layer, were used to match the line layer with the zone layer.

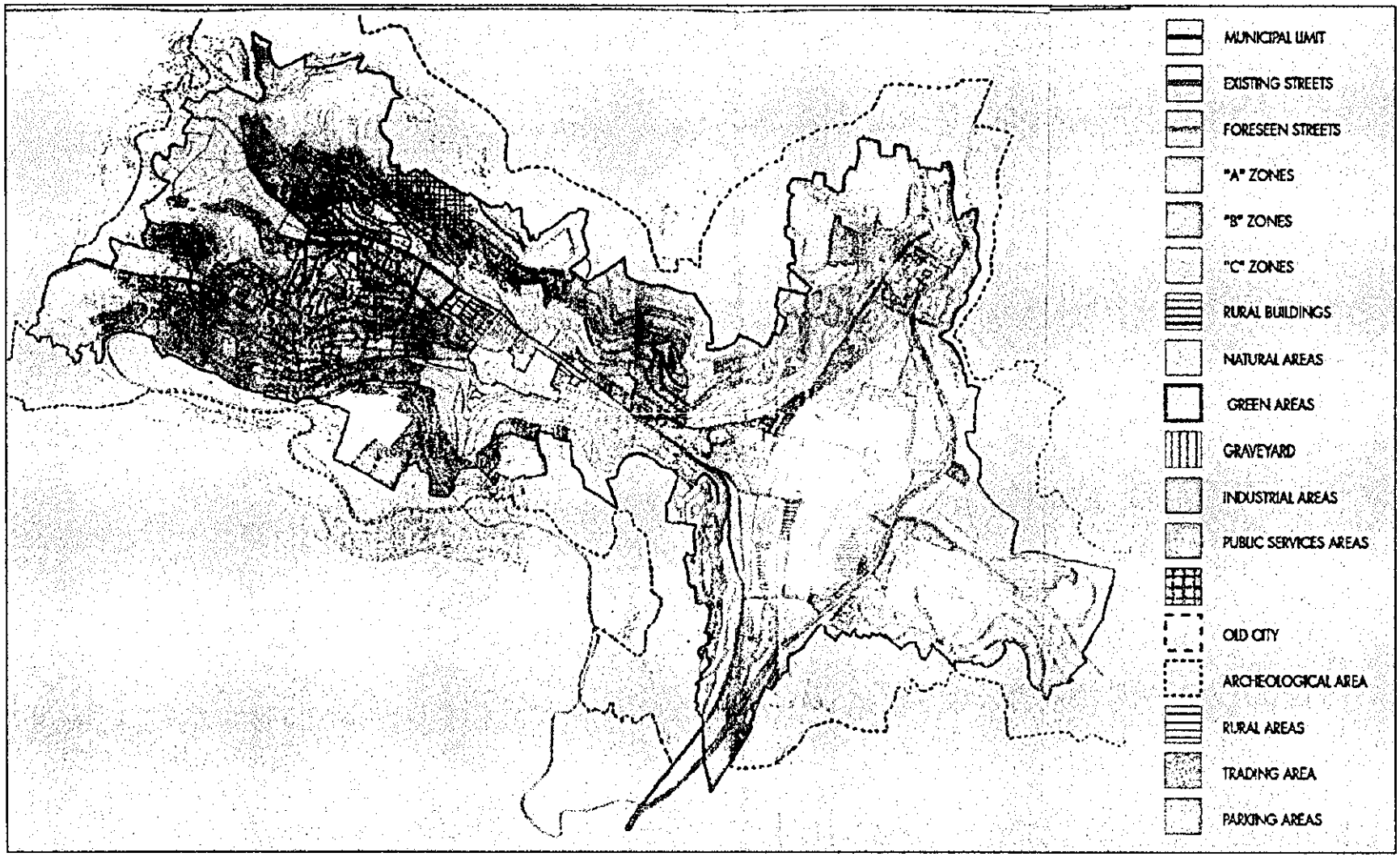
- Street names were coded in the network as specified by Nablus Municipality.

4.2.3 Zoning System

A zoning system is used to aggregate the individual households and premises into manageable chunks for modeling purposes. The main two dimensions of a zoning system are the number of zones and their size.

In order to obtain a zoning system for Nablus City, one should study the overall properties of the city in terms of housing, commercial and industrial activities, population, and governmental and institutional locations.

Because of its topological nature, Nablus City built-up areas are concentrated in the valley extending from the east to the west, where namely the old city and most commercial activities are distributed. Residential areas are mostly found around the valley and close to the northern and southern mountains. The eastern part of the city, because of its level terrain and open topology, is selected for industrial locations with some residentials. The Master Plan for the city is shown in Map (4.4). It shows the land-use classification based on a 1995 Study performed by the Municipality (Municipality of Nablus, 1995).



Because of the high population of the city and its intermediate location between other cities in Palestine, many educational, governmental, commercial, industrial, institutional, and other activities are taking place. Such activities cause the production and attraction of trips from a place to another.

In order to understand the productions and attractions of trips, one should define traffic analysis zones that are able to represent productions and attractions of trips within the transportation network. The following is a list of zoning criteria which were compiled from experience in several practical studies and which were also considered in this study:

- Coarse zones were selected to be outside the central business district area, where fine ones are within or close to the CBD area. This is because high and dense activities are within or close to the CBD area and such high activities produce and attract high number of trips. Therefore, smaller zone sizes can best describe these trips. Table (4.2) describes each zone with its estimated area.

- Zoning size must be such that the aggregation error caused by the assumption that all activities are concentrated at the centroid is not

Table (4.2) Traffic Zone Properties*

Zone No.	Area (Km^2)	Name	Land-Use
1	5.38	Wadi Sajour	Public and residential area
2	3.76	Roujeeb	Residential area
3	2.56	Balata camp	Residential area
4	1.67	The Industrial area	Industrial
5	1.77	Askar	Old and new camps, little commercial and educational
6	1.03	Al-Masaken	Residential area
7	0.77	Balata and Askar	Residential area
8	0.28	Al-Dahia	Residential area
9	0.18	Power Station	Residential, commercial, recreational
10	2.88	Al Tour	Recreational area
11	0.17	Main Prison	Public governmental area
12	1.34	North Mountain	Residential area
13	0.18	Schools area	Educational and residential area
14	0.37	Ras Al-Ein	Residential area
15	0.66	Al-Tour	Residential area
16	0.06	Commercial center	Commercial area
17	0.12	Green Market	Commercial area
18	0.23	Watani Hospital	Public and residential area
19	0.54	Jisr Al-Titi	Residential area
20	0.18	Western Terminal	Commercial and Public area
21	0.50	Al-Itihad	Residential area
22	0.18	Parks	Public recreational area
23	0.32	Al-Summara	Residential area
24	0.27	Al-Ta'awon	Residential area
25	1.15	Sarra and Till	Residential area
26	0.33	University	Educational and residential area
27	0.21	Rafidid Hospital	Residential area
28	0.28	Rafidid near Talal sch.	Residential and educational area
29	0.30	Al-Ein camp	Residential area
30	0.71	Al-Ma'ajeen	Residential area
31	2.45	Aseira	Residential area
32	0.73	Wadi Al-Tufah	Residential area
33	0.36	Rafidia near Yafa	Residential area
34	0.29	Rafidia Center	Residential and commercial area
35	1.15	Al-Makhfia	Residential area
36	0.38	Rafidia near Kamal sch.	Residential area
37	2.41	Zawata	Residential and commercial area
38	Q	Al-Junied	Residential area

* See map (4.5)

too large. It might be convenient to start postulating a system with many small zones, as this may be aggregated in various ways later depending on the nature of the alternative projects to be evaluated.

- It has been found in practice that the use of main roads as zone boundaries should be avoided, because this increases considerably the difficulty of assigning trips to zones, when these originate or end at a zonal boundary.

- The shape of the zone should allow an easy determination of its centroid connectors. This is particularly important for later estimation of intra-zonal characteristics. A zone represents the natural catchment area of the transport networks and its centroid connector(s) are to identify the main costs to access them.

- Zones do not have to be of equal size; if any, they could be of similar dimensions in travel time units. Therefore, generating smaller zones in congested areas, rather than in uncongested areas.

- Traffic zones to the maximum possible extent are to be defined according to similar land uses.

Considering all of the above, the study area is divided into 38 zones. The following Map (4.5) presents the zoning system.

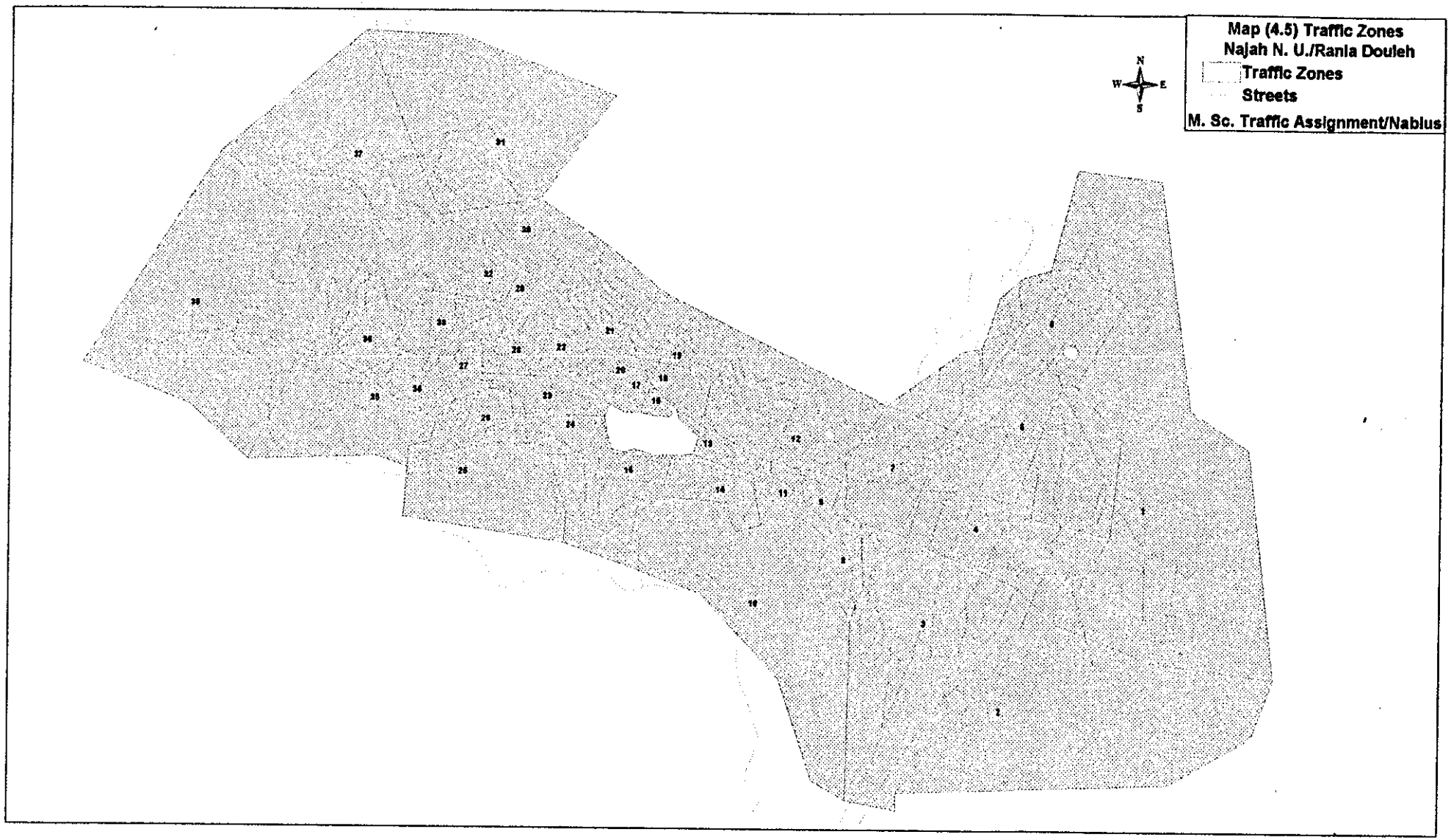
4.2.4 Centroid Connectors

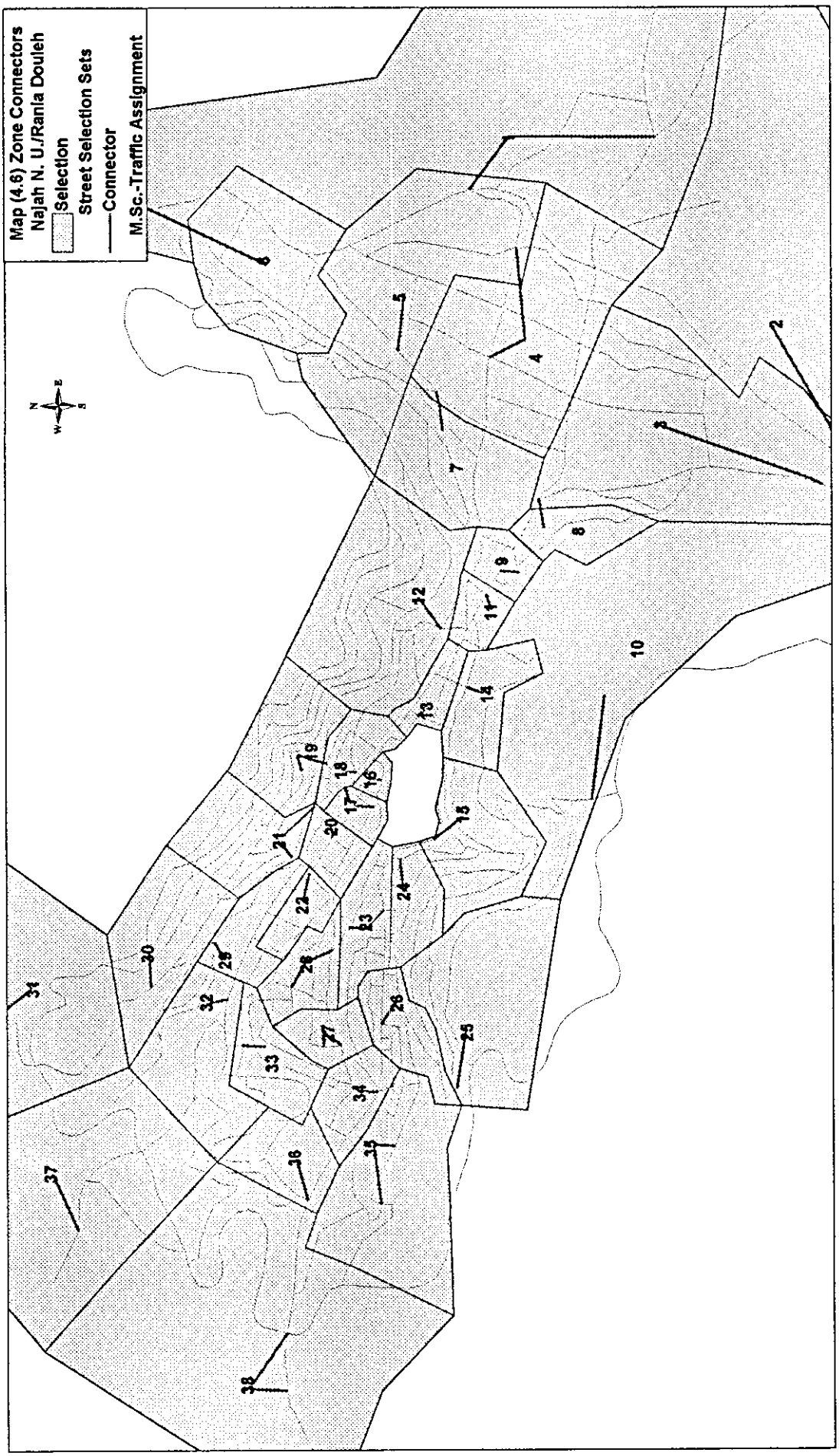
A movement in a transportation network corresponds to flow with a distinct origin and destination. Origins and destinations may correspond to specific buildings, like a house or an office, or to a zone, depending on the level of aggregation.

The choice of the location of the centroid may sometimes be adjusted to coincide with the nearest roadway link or intersection considered in the studied network. This will facilitate modeling of the network and modeling of the trip generation and distribution. The Old City zone is made up with no zone connector since no vehicular movements is found within the Old City. Map (4.6) shows a map presenting the zone centroids and connectors.

4.3 Traffic Counts

Because no previous information on origin-destination trip matrices for the city was available, traffic counts at selected intersections will





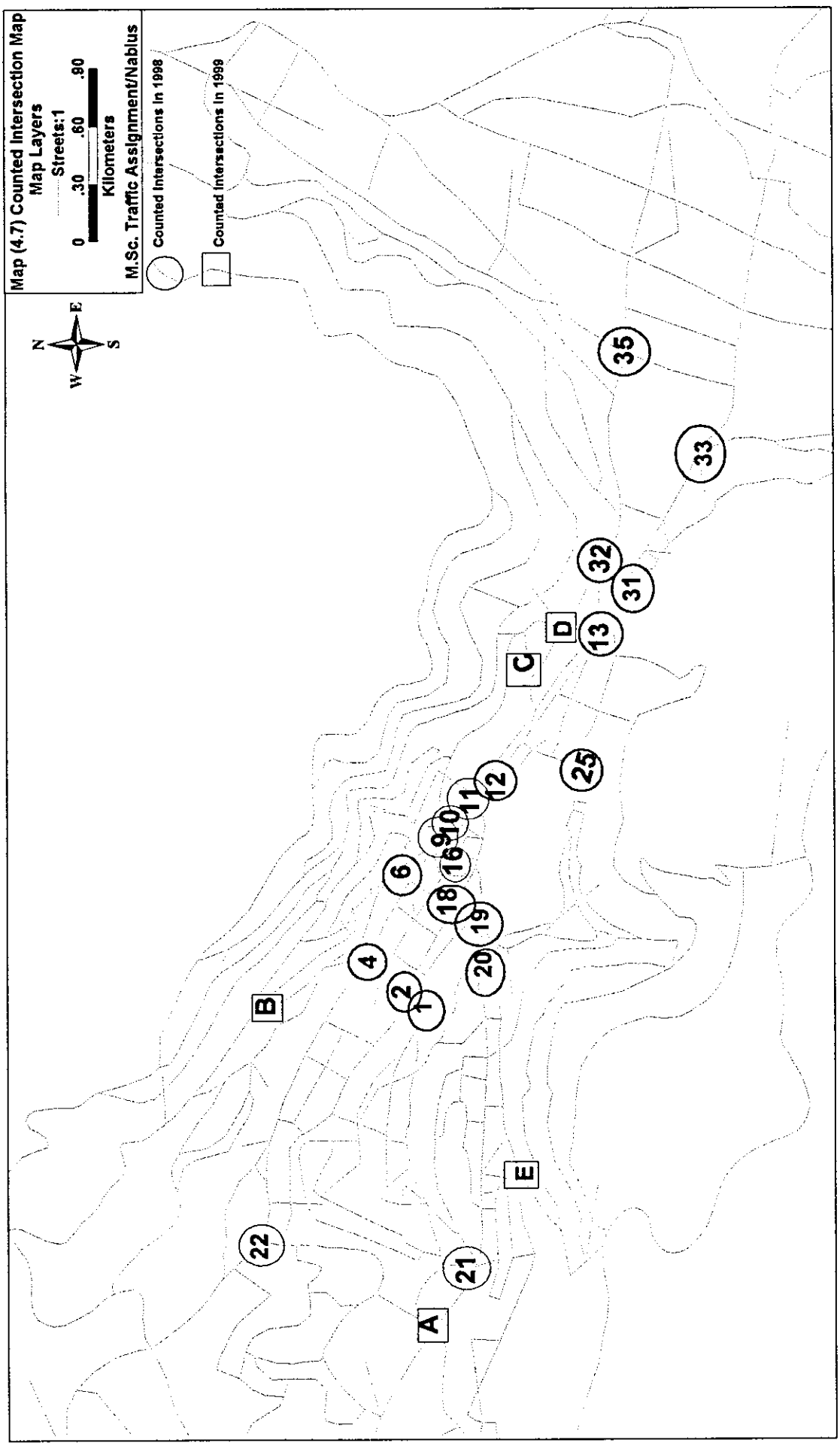
be used in estimating current trip matrices.

A total number of 33 intersections in the city were selected to perform traffic counts and were identified as critical intersections along main and secondary roads, either close to the CBD area or at the main entrances of the city, Map (4.7).

The traffic counting was completed over a period of three days, from Monday July 13, 1998 to Wednesday, July 15, 1998.

Middle days of the week were selected to reflect the average traffic flow that usually occurs in these days rather than Saturday and Thursday were a heavy influx of traffic from Palestinians coming from behind the Green Line to Nablus for shopping occurs.

The counting periods were selected to start from 7:00-9:00 in the morning to include the peak morning period that includes the heaviest hour of traffic flow. The peak period was determined, according to traffic volumes, to be from 7:45-8:45 a.m. Peak hour traffic counts are shown in Appendix A. The counted intersections are



distinguished in the last maps. The same week days during a similar period (i.e., July,1999) were selected to perform the counting to insure the compatibility of these counts to the others in the previous year. A scale down factor, which considers the annual traffic growth rate, was applied to these counts to insure full compatibility between the counts. The annual growth for traffic flow was estimated to be 3.5 % according to historical traffic volumes at specific segments and at the same seasons for different years (Dornier SystemConsult and Universal Group, 1998).

The highest traffic volumes were noticed to occur in the morning peak at 7:45-8:45. This was because of many reasons, such as the employees movement to work, university, and the through traffic that passes the city. These volumes were considered in building the O-D trip matrix, so as to represent the traffic conditions during the morning peak hour.

4.4 O-D Trip Matrix

The estimated origin-destination trip matrix that contains the vehicle volumes as discussed in the previous chapter, was considered as an input to the assignment model. The IDs contained in the row and

column headings of the matrix must match the node IDs in the network. The used matrix in traffic assignment is that which will be estimated using the MPME method. The estimated matrix is presented in the next chapter.

4.5 Required settings

In addition to the required network fields, the assignment method requires different parameters settings. The required settings are not fields in the network, but are specified in the traffic assignment dialog box in TransCAD. The settings are defined as follows:

- Iterations: Maximum number of iterations to be performed. Fifty iterations were required in the analysis to have equilibrium conditions.
- Convergence: Convergence criterion value, if the maximum absolute change in all the link flows between consecutive iterations is less than this value, convergence is achieved and the assignment procedure stops. A convergence of 0.1 value was used in the analysis.

- Alpha and Beta: Parameter values as mentioned in the previous chapter.
- Function: Error term distribution function for stochastic user equilibrium. The Gumbel function was selected in the analysis.
- Error: Percentage error for the error term used in the stochastic user equilibrium assignment. The value that was used in the analysis is five.

Chapter Five

MODEL IMPLEMENTATION

5.1 Introduction

The modeling process provides a complete description of the peak-hour flow pattern in the street network under study. The volume/capacity ratio, which is used as a measure of the level of service was determined for each link. A discussion of the origin-destination trip matrix and the simulation of the existing traffic conditions is presented in this chapter. The calibration process that was involved through this work is discussed too.

5.2 The Estimation of O-D Matrix and Results

The procedure of estimating the origin-destination trip matrix depends on the network attributes, selection of the most appropriate assignment model, the values of alpha and beta, and the base origin-destination matrix.

The network attributes that affect the estimation process are traffic counts, travel times, and links capacities, in addition to the structure of the network and the traffic zones. Traffic counts on selected intersections for the morning peak hour were defined for the specified links through the network attributes. Capacity and speed values were considered for the existing traffic conditions, as mentioned in the previous sections. Data base for the existing conditions is found in Appendix B. The base origin-destination trip matrix, and because of not having any previous O-D matrices, was considered a unity matrix. Such matrix is recommended when no previous matrices are found.

The model that was used in estimating the O-D matrix is the multiple path matrix estimation method (MPME) that utilizes the concept of the Stochastic User Equilibrium method. The same concept of stochastic user equilibrium model was also used later in the traffic assignment procedure. This model is the most suitable one comparing to the results of the other models, and it gives a considerable trip matrix that represents the current traffic flow.

The resulted origin-destination trip matrix for the specified 38 traffic zones and the run output is found in Appendix C. This matrix

describes the movement of vehicles from one zone to another during the morning peak hour.

The resulted traffic flow was compared to existing ones at intersections. It was found that there is a limited difference between the counted and modeled traffic flow.

This indicates that the estimated matrix is quite close to the current origin-destination trip matrix, which reasonably well simulates the traffic flow conditions. Therefore, the resulting origin-destination trip matrix can be considered as a base for future traffic analysis. Table (5.1) shows the differences between the predicted and existing traffic flows at specific streets in the City. The average difference is estimated to be 5 %.

5.3 Estimation of Traffic Flow Pattern

After the setup for the transportation network, including all its associated fields as mentioned earlier, and after the selection of the best model for either O-D matrix estimation and traffic assignment, the first run for the existing assignment results is made. The existing assignment includes the estimated O-D matrix from the last step, the

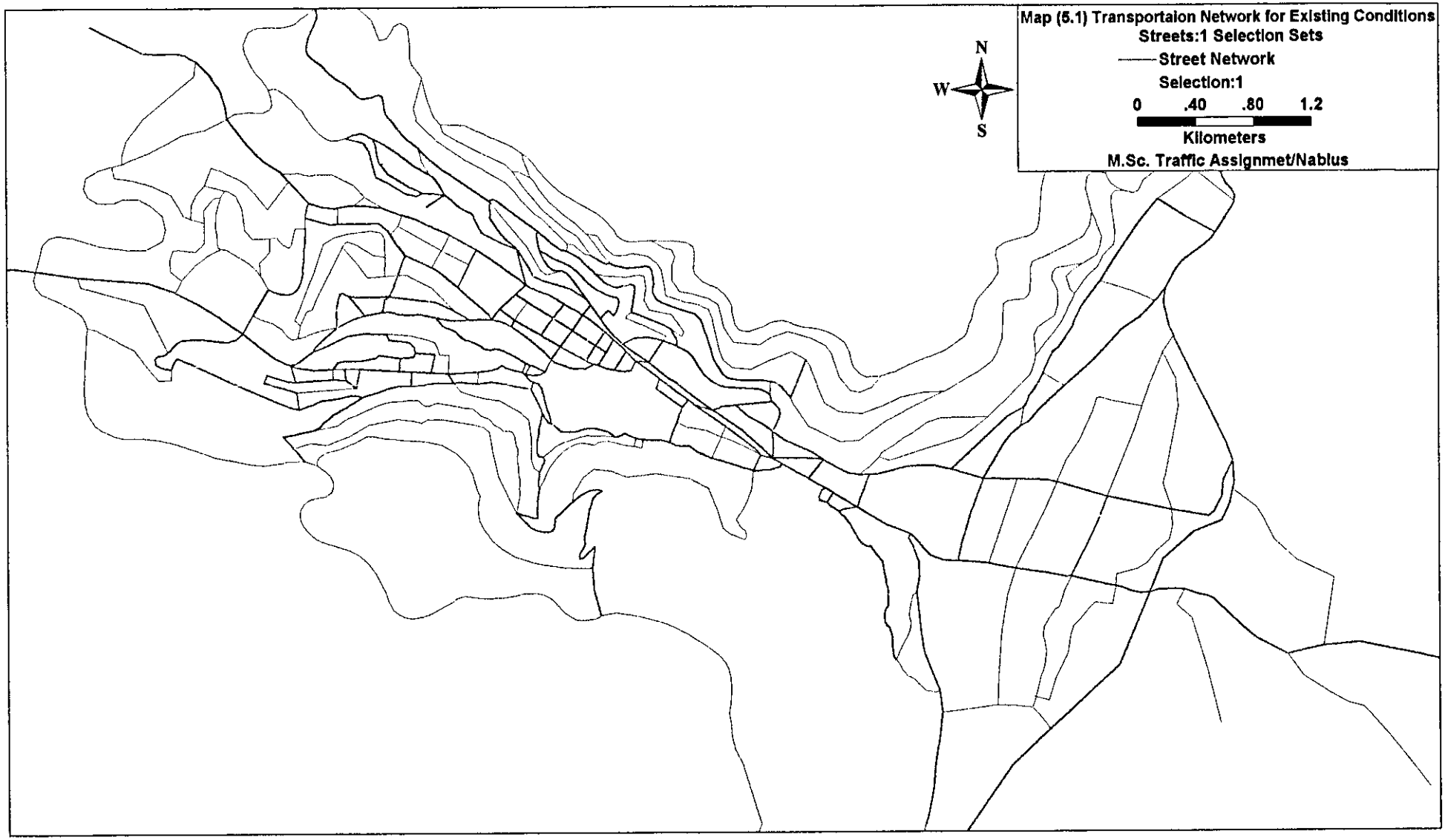
Table (5.1) Existing and Predicted Traffic Flow at Specific Streets

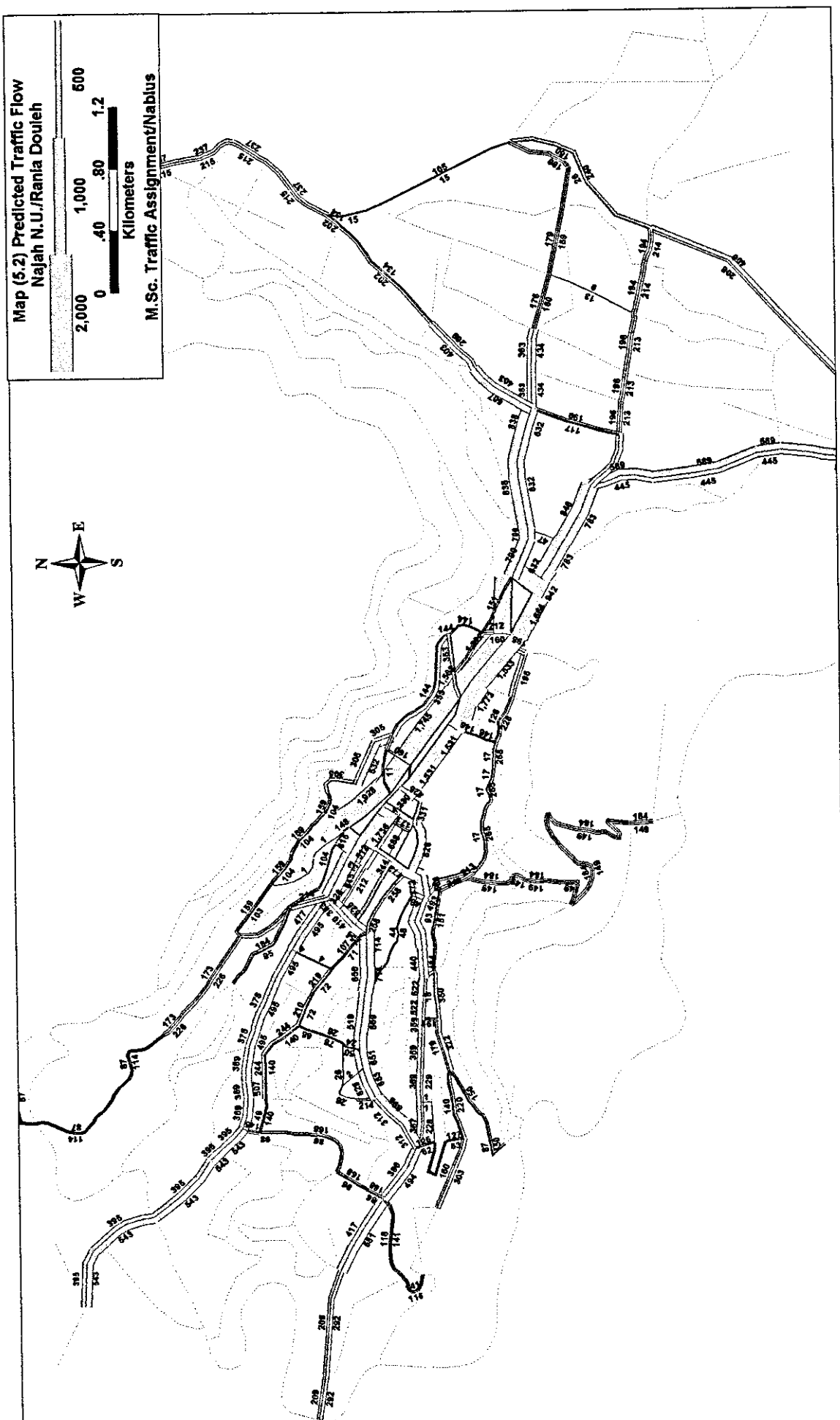
No.	Street Name	Direction	Link ID	Existing Flow(vph)	Predicted Flow(vph)	% Difference	Notes
1	Al-Hisba	WB	2110	310	379	22	Near the signalized Int.
2	Al-Quds	WB	1875	567	589	4	Near the signalized Int.
3	Al-Quds	WB	1875	438	445	2	Near the signalized Int.
4	Amman	WB	917	833	838	1	Near the signalized Int.
5	Amman	WB	917	565	632	12	Near the signalized Int.
6	Jamal Abel-Naser	WB	1884	1016	963	-5	Near the public park
7	Jamal Abel-Naser	WB	1885	964	942	-2	Near the public park
8	Az-Zuit	WB	226	271	297	10	Near Al-Quds Int.
9	Az-Zuit	WB	226	387	386	0	Near Al-Quds Int.
10	Al-Gazali	WB	1908	1617	1544	-5	Near the eastern term.
11	Al-Gazali	WB	232	1630	1544	-5	
12	Faisal	WB	1909	1606	1695	6	Near the Cemetry
13	Faisal	WB	813	1559	1660	6	Near Hospital
14	Al-Dawar	SB	1920	453	483	7	Near the veg. market
15	Al-Hijaz	SB	822	1908	1926	1	Near Al-Kindi
16	Prince Mohamad	SB	1631	527	522	-1	Near Al-Salam Int.
17	Prince Mohamad	SB	1631	370	387	5	Near Al-Salam Int.
18	Sufian	SB	609	692	700	1	
19	Omar Ibn-Alkhatab	NB	605	656	700	7	Near Al-Fatimia Sch.
20	Omar Ibn-Alkhatab	NB	1140	269	275	2	Near Univrsity
21	Omar Ibn-Alkhatab	EB	1140	361	367	2	Near Univrsity
22	Rafidia	EB	1439	502	501	0	Near the signalized Int.
23	Rafidia	EB	1439	391	386	-1	Near the signalized Int.
24	Haifa	EB	2015	458	482	5	Near the signalized Int.
25	Haifa	EB	2015	478	465	-3	Near the signalized Int.
26	Tulkarm	EB	2159	386	379	-2	Near Yafa Int.
27	Tulkarm	EB	2159	507	495	-2	Near Yafa Int.
28	Palestine	EB	1917	883	899	2	Near the signalized Int.
29	Al-Rawda	EB	910	211	181	-14	
30	Al-Rawda	EB	910	216	215	0	
31	Esso	EB	913	372	308	-17	
32	Dafna	EB	933	1795	1597	-11	
Average Difference						5	

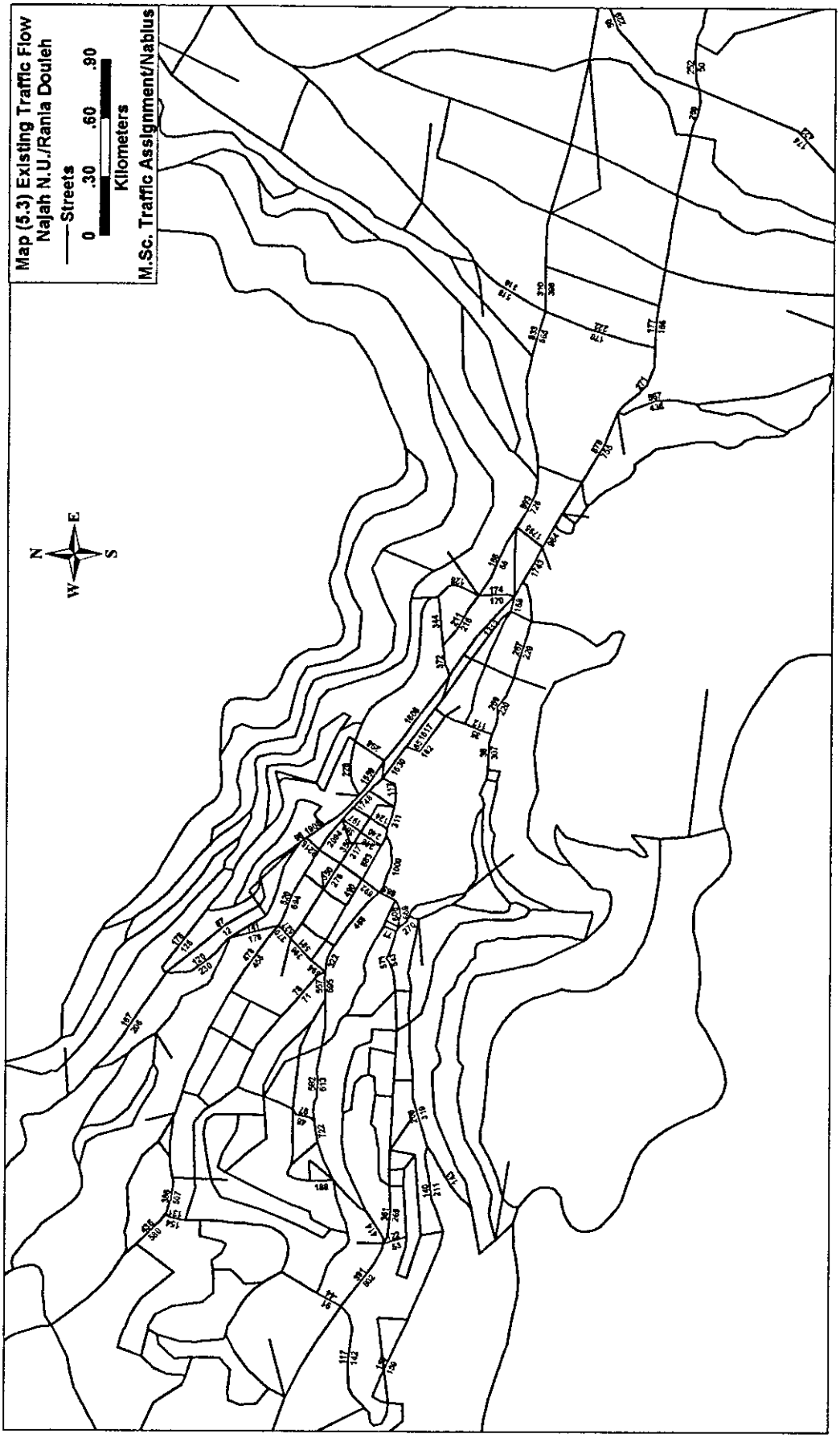
transportation network, and selected model for assignment. The existing transportation network represents the existing main and secondary roads that were used by traffic since 1998, as described earlier.

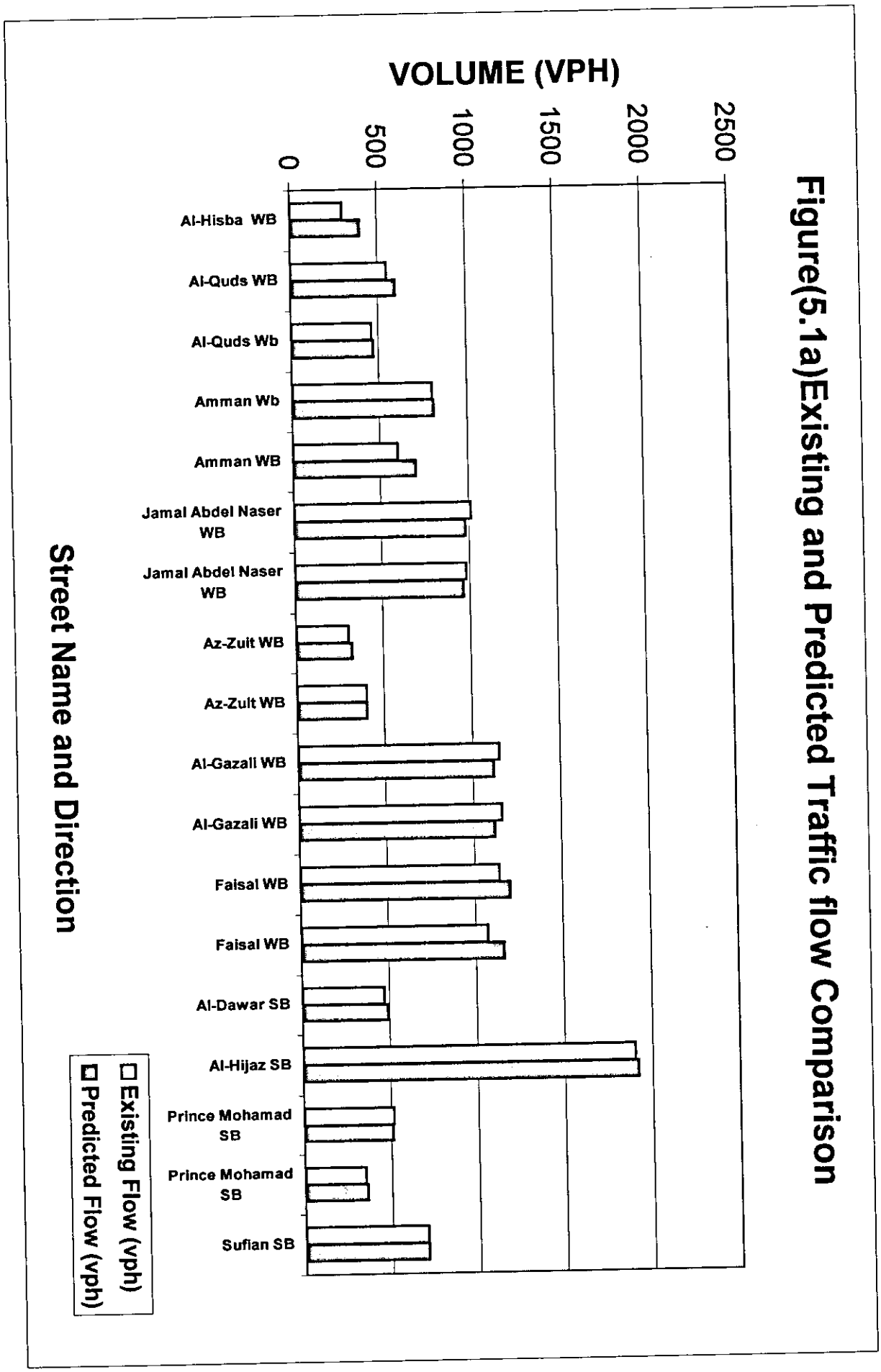
Loading the estimated O-D matrix into the existing network presents the existing situation of the transportation network for either links or intersections. The used network for the existing traffic condition is as shown in Map (5.1). In simulating the existing condition, the existing street's capacity was used.

Simulated traffic flows based on actual counting are shown in Map (5.2). Existing traffic flows are shown in Map (5.3) to allow the comparison between the existing and simulated conditions. It was noticeable that there were some differences between the existing and simulated traffic flows. Many trials were made to keep these differences to minimum values. The simulated flows at main streets were very close the actual ones. This is obvious in Figures (5.1a) and (5.1b) respectively, where the graphs show the counted and simulated flows for main streets and for different directions. Results of the existing condition simulation output is found in Appendix D.









Figure(5.1a)Existing and Predicted Traffic flow Comparison

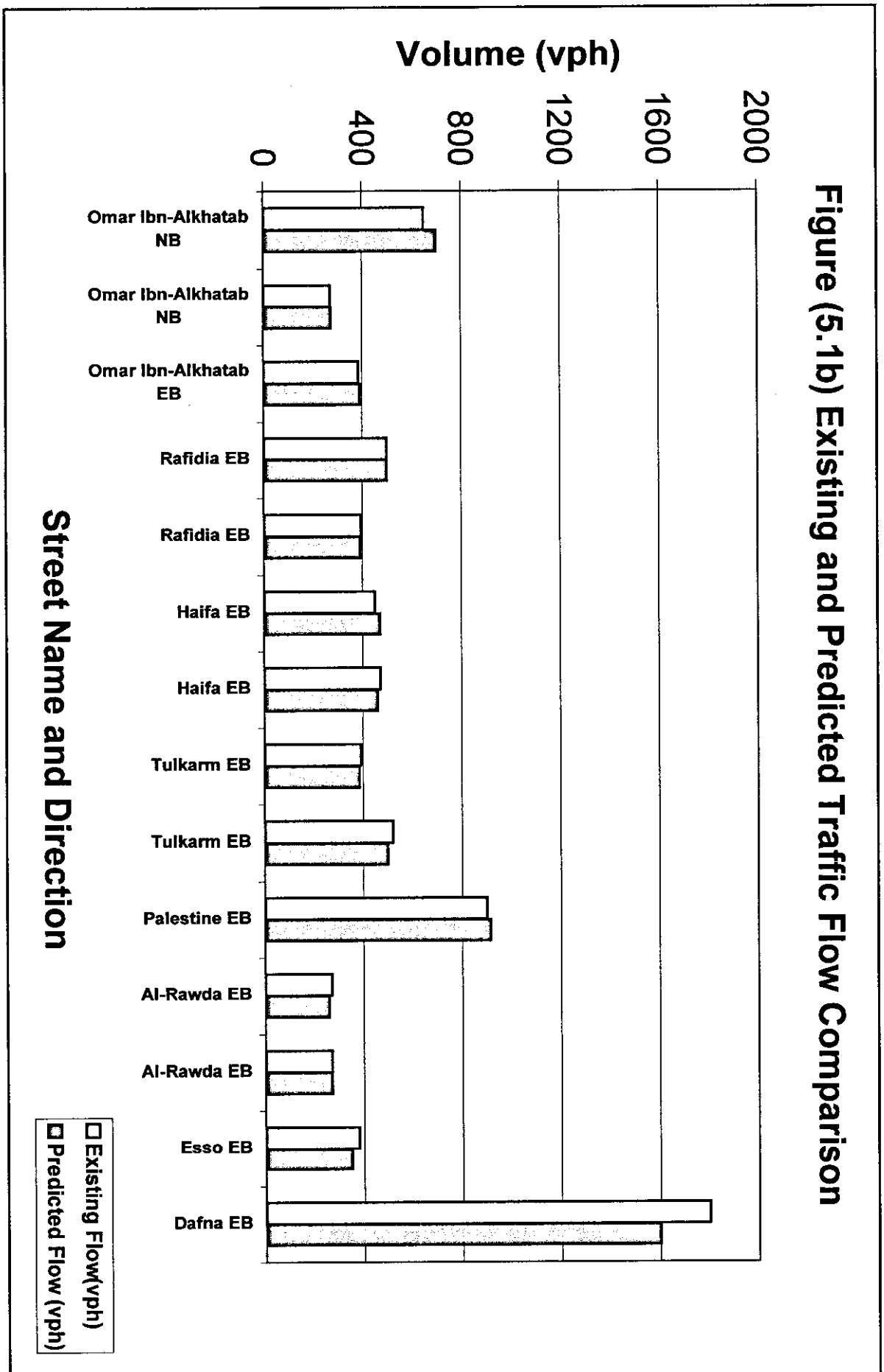


Figure (5.1b) Existing and Predicted Traffic Flow Comparison

5.4 Network Performance Measures

Network measures as computed through the model were as the following:

- Vehicles Hours of Travel (VHT): This is the total travel time defined as the summation of the travel time spent by each vehicle to travel from its origin to its destination. It was calculated by summing the product of the flow on each link and the travel time corresponding to that flow for all the links in the network. It was estimated to be 45691 for the existing traffic condition simulation output.

- Vehicles Kilometers Traveled (VKT): This is the summation of the distance (in kilometers) traveled by all the vehicles over the network in one hour. As the summation increases, the distances traveled for a specific number of vehicles are increased in reaching the desired destinations. For the existing traffic conditions output, the VKT value was 34968.

- Average congestion: represents the arithmetic mean of the volume/capacity ratio over all the links in the network. The

average congestion value was 0.47 for the existing traffic conditions.

- % of links carry more than 1000 veh/hr, on the other hand,

- % of total links exhibit v/c ratios of 0.8 or more.

The volume/capacity ratios were stratified into six groups as presented in Table (5.2).

Table (5.2) v/c Ranges

Group No.	V/c Range
1	≤ 0.2
2	0.2-0.4
3	0.4-0.6
4	0.6-0.8
5	0.8-1.0
6	≥1.0

The simulated traffic ranges are tabulated in Table (5.3). The number of links for various volume/capacity ratios results are tabulated in Table (5.4). These illustrate that description of traffic conditions was considered through the resulting v/c ratios. A v/c ratio less than 0.6 indicates good to acceptable traffic condition, a ratio between 0.6-0.8 indicates moderate traffic congestion condition, while a ratio value

Table (5.3) Existing Traffic Conditions Model Output

Flow Ranges(vph)	Total Number of Links AB/BA	Percentages AB/BA
≤500	155/154	40/40
500-1000	33/27	8/7
1000-1500	1/-	0.3/0
1500-2000	13/5	3/1
≥2000	2/1	0.4/0.3
Total	390	100%

Table (5.4) Number of Links with Different volume/capacity Ratios

v/c Ranges	Number of Links AB/BA	Percentages AB/BA
≤0.2	50/65	13/17
0.2-0.4	86/70	22/18
0.4-0.6	26/27	7/7
0.6-0.8	20/14	5/4
0.8-1.0	17/8	4/2
≥1	5/2	1/0
Total	390	100%
Average v/c	0.42	

more than 0.8 indicates congested traffic conditions.

5.5 Calibration of Traffic Assignment

If all the data input into the model were correct and the underlying theory for choice of routes resembles actual choice, the projected traffic volumes for each roadway link should be relatively close to the actual traffic count. Adjustments are usually needed after the first run is executed. The process of adjustment to bring the projections and the actual counts into a balance is called "calibration". This is usually the most chalanging part of the modeling process.

Many trials were made to obtain the most acceptable O-D matrix comparing to existing flows when the O-D matrix is loaded to the transportation network. These trials included the following calibrations as described below.

5.5.1 Location of Zone Connector

Because zone connectors hold the predicted flows from and to specific traffic zones through out transportation network links, the location of

the zone connector must be selected in a way to represent the actual traffic flows on adjacent links. For example, connectors can be linked to adjacent nodes (intersections), or even to main or secondary streets, within the traffic cell. Such procedure was used in many zones were the best location for the connector was at the nearby intersection (node) to produce and attract the considerable amount of flow on the adjacent links.

On the other hand, the location of connector on adjacent links within the traffic cell was sometimes changed to other links to have the most considerable flow. This process was checked for all the connectors for the traffic cells within the transportation network, such that the existing connectors were the most suitable ones in terms of their location either to links or nodes.

5.5.2 Number of Zone Connectors

In some cases, the predicted or attracted flow from a specific traffic cell to other cells was relatively high after these flows were loaded to the network, resulting in links with high and low traffic flows comparing to the existing traffic flows. In such cases, the use of more than one connector within the same traffic cell could distribute the

productions and attractions to the different connectors according to the selected speed and travel time on them. This should reflect as close as possible the movement from and to a zone.

Such calibration was used mainly in the central business district area, where there was a need to distribute flows on all the links within the traffic cells.

5.5.3 Location of Zone Centroid

The locations of the connectors for some zones were adjusted. Such modification was conducted to attract traffic to some nodes more than to others, in order to better simulate the flow between a zone and the surrounding accessible physical nodes or links. These centroids were selected to represent the center of gravity of traffic trips.

5.5.4 Turn Penalties

Link-to-link penalties tables are data included in the structure of transportation network to simulate restrictions in turning movements. A link-to-link penalty table contains three fields, the ID of the 'from' link, the ID of the 'to' link and the penalty to be applied when

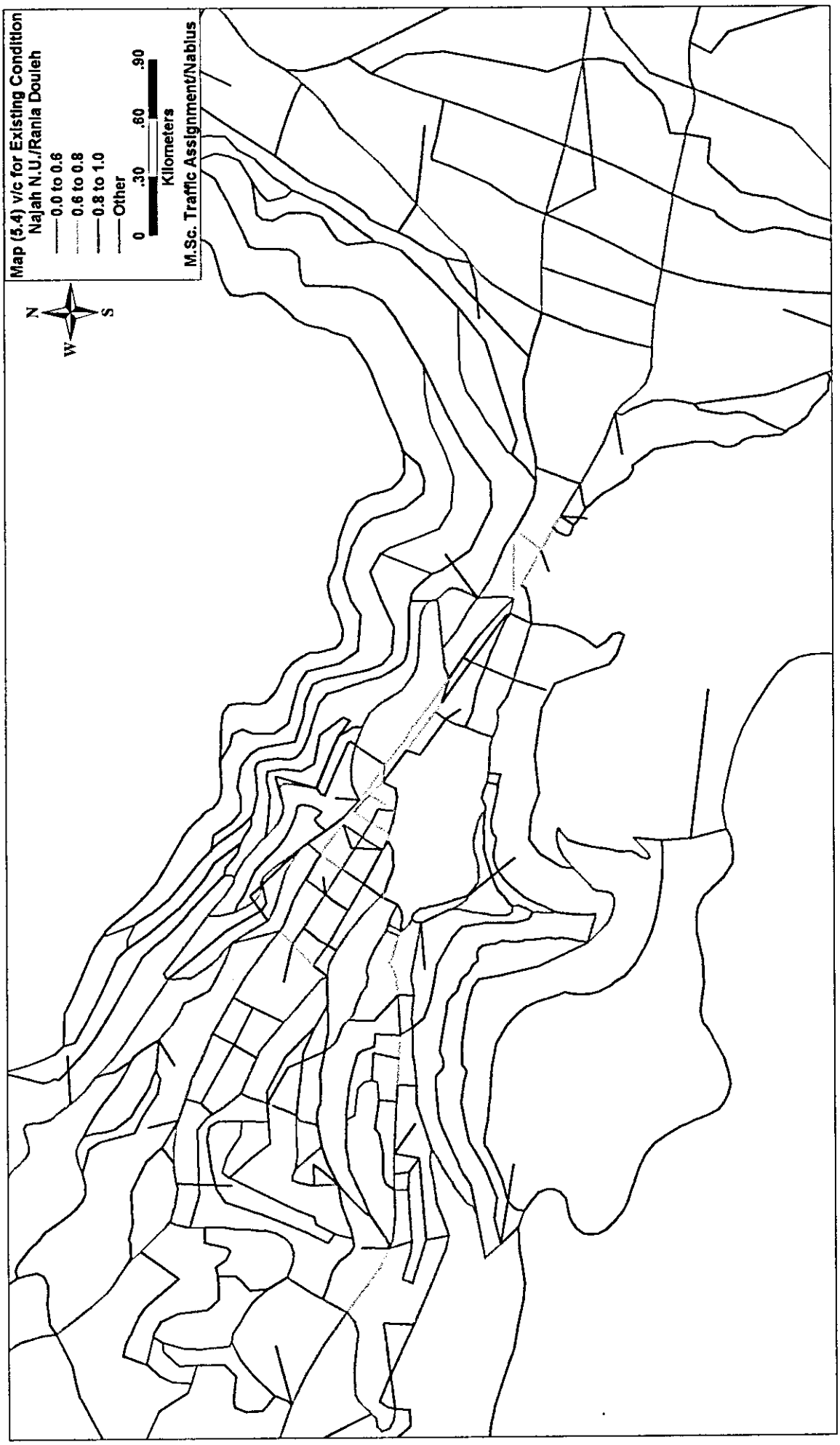
transitioning from the 'from' link to the 'to' link. To prohibit a turn from one link to another, the penalty value was left as a 'missing' value. All the prohibited movements within the network were presented throughout this table. Other values -in minutes- present the delay associated with this turn from one link to another, mainly through and left turn movements. The later penalty value was used in the calibration procedure to control the turning volumes at intersections. The penalty table is found in Appendix B.

5.6 Findings

It was noticeable that some links along main streets such as Omar Al-Mukhtar, Amman, and Faisal Streets have high v/c ratios (above 0.8) when simulating the conditions and using existing street capacities. This highlights the importance of solving these deficiencies. This was very important when considering the future scenarios as traffic flow volumes are expected to rise.

The level of service on the existing street network is shown in Map (5.4). The graphical representation also highlights, for example, the

need to solve traffic congestion problems on Jamal Abdel Naser, Amman, and Faisal streets close to Al-Ashgal intersection.



Chapter Six

FORECASITNG THE IMPACTS OF FUTURE TRAVEL DEMAND/SUPPLY CONDITIONS

6.1 Introduction

Forecasting is the heart of the planning process since it provides the planner with a considerable information that could help him in predicting the future conditions. Travel demand forecasting usually uses the projected population, housing and employment information for each traffic analysis zone in the target year. The model will then project the future traffic and assign it to the present road network. This process will identify areas of traffic congestion that are expected to occur unless steps are taken to relive the congestion.

The study period that was considered to forecast and test future travel was for 17 years from the year 1998 to the year 2015. The 2015 forecasted travel demand expressed by the new origin-destination matrix was utilized to predict the 2015 flow patterns on the street network, including all the new streets.

6.2 Future demand and Supply

The future transportation and traffic conditions will have many changes in relation to other socio-economic and land use changes. Increase in trip productions and attractions due to changes in the socio-economic characteristics of the traffic zones will take place. These changes will cause more demand on most of the streets in the network.

The future conditions will have changes in supply, too. These changes were expressed in opening new streets or constructing overpasses, improving streets' capacities by prohibiting parking or restricting pedestrian movements, signalizing some intersections, or improving the traffic signals timings on existing intersections. Constructing the suggested big mall in the central business district area will change the flow pattern in the CBD area, especially when the closure of the city center is done.

6.3 Forecasting Future Travel Demand

For Nablus City, in particular, and Palestine in general, no specific data in terms of zone population, employment, or housing that could

be used in forecasting were available. Also, it is difficult to estimate these data for each traffic analysis zone since it is out of the scope of this research although trials were made to gather data and build relations between them to express the future projections. Therefore, assumptions on traffic growth in relation to population growth were made considering the following two conditions:

- External traffic analysis zones.

These are located away from the CBD and away from the high population densities areas. Thus, they are expected to attract more population in the future since they are unsaturated areas. Therefore, these zones were considered to have high traffic growth that was assumed to be distributed to all others zones in the transportation network. Six percent annual traffic growth rate was selected to represent the high growth in travel demand. This value, when compared with the average population growth in all areas, seems to be a reasonable value. This growth rate was applied to the existing O-D trip matrix.

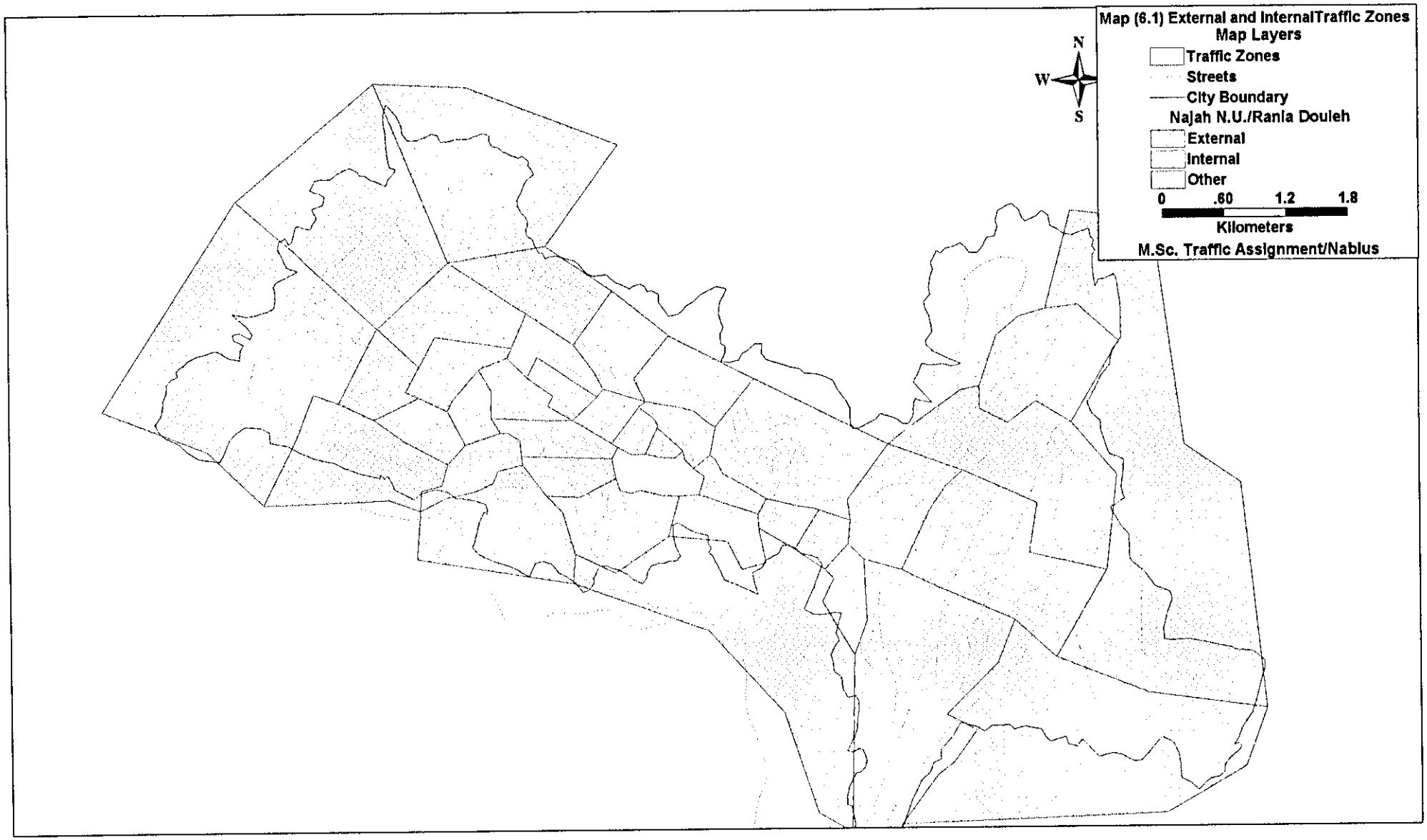
- Internal traffic analysis zone.

These are generally the highly populated areas and are located in the CBD or the areas around it. They are expected not to have a great

population growth since they are almost saturated areas. Consequently, these were considered to have low rates of traffic growth. Three percent annual traffic growth rate was assumed for all the internal traffic analysis zones. The external and internal traffic zones are shown in Map (6.1).

6.4 Future Scenarios

The expected impacts of the forecasted demand on the transportation network were analyzed through four transportation scenarios. The first scenario which is all-or-nothing, which simulates the future transportation network without any consideration to improve the traffic road or infrastructure conditions. The second scenario simulates the future traffic flow by considering capacity modifications and opening new streets. The third scenario considers the existence of an overpass to solve the future congestion problems. This scenario was subdivided into three scenarios to include the effect of adding new traffic signals and capacity improvements. The forth scenario simulates the future traffic flow with the city center closure. This scenario was subdivided into two scenarios to consider the effect of having or not having the suggested overpass. Comparison between the



later scenarios was made to specify the optimum future plan in terms of predicted least traffic congestion conditions.

The transportation policies that aimed to be achieved in the assumptions considered in these scenarios were:

- Facilitation of the major through movements that passes through the city to the other regions and cities.
- Improvement of the level of service for the main and secondary streets in order to enhance their operating characteristics.
- Provide convenience and comfort for road users.
- Maintain and improve the urban life quality.

6.4.1 Scenario 1 (Do Nothing)

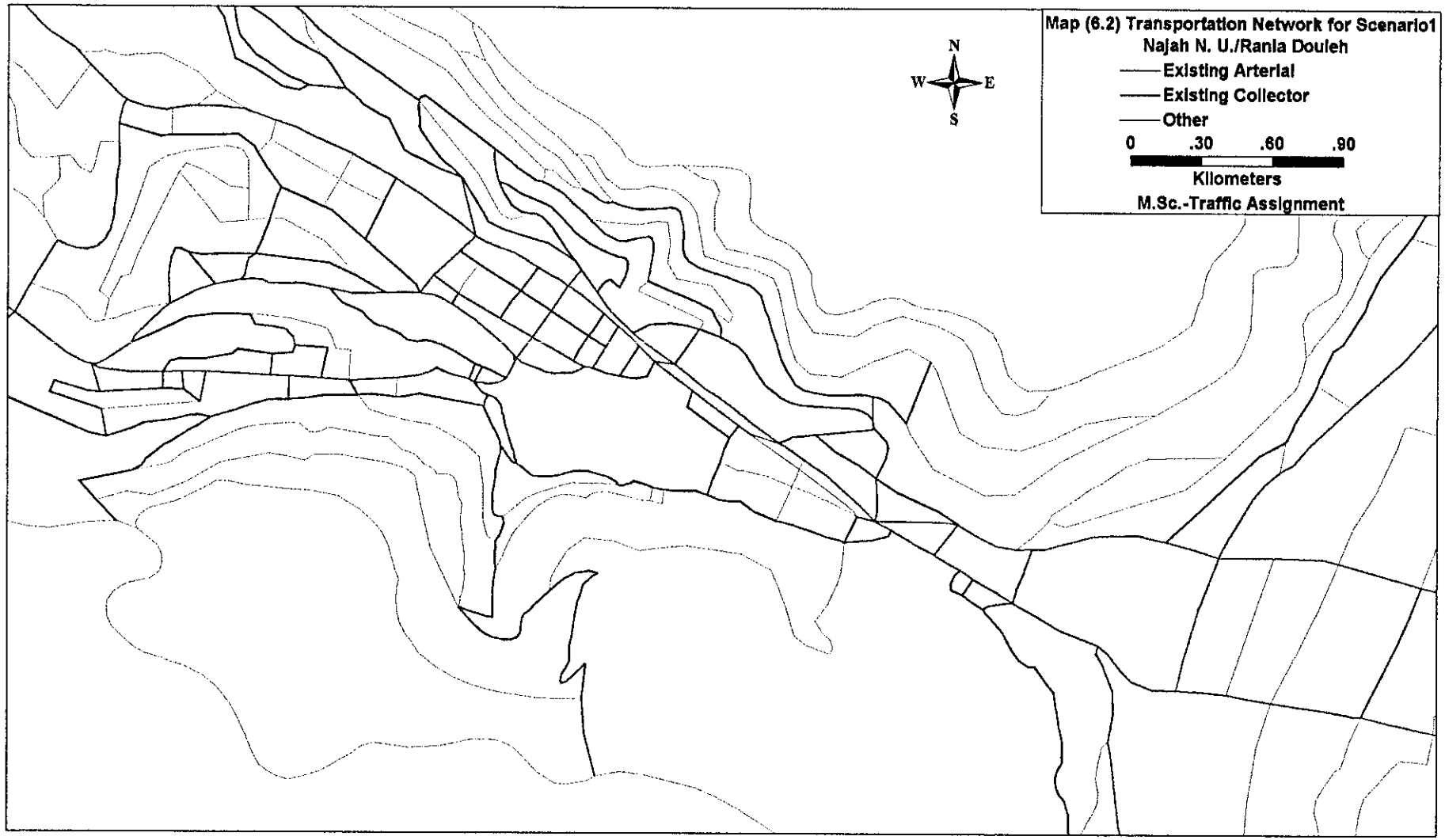
This scenario is the first one that simulates the future transportation network. The idea is to predict the state of the transportation network for the year 2015 with the future O-D matrix without any considerations of network improvements. The only consideration made in this scenario is the new Faisal street that extends to the east from Al-Ghazali street and ends at Al-Ashgal intersection, and the consideration of two-way operating direction of Jamal Abdel Naser

segment that extends to the east from Al-Ashgal intersection to the main prison. These segments were included because they are under construction and are expected to be in operation within one year.

In this scenario, the estimated O-D matrix for the existing condition was forecasted for the year 2015, the procedure of forecasting is mentioned in the previous sections. The transportation network is the same for existing conditions with the addition of the improvements mentioned above. The network is illustrated in Map (6.2).

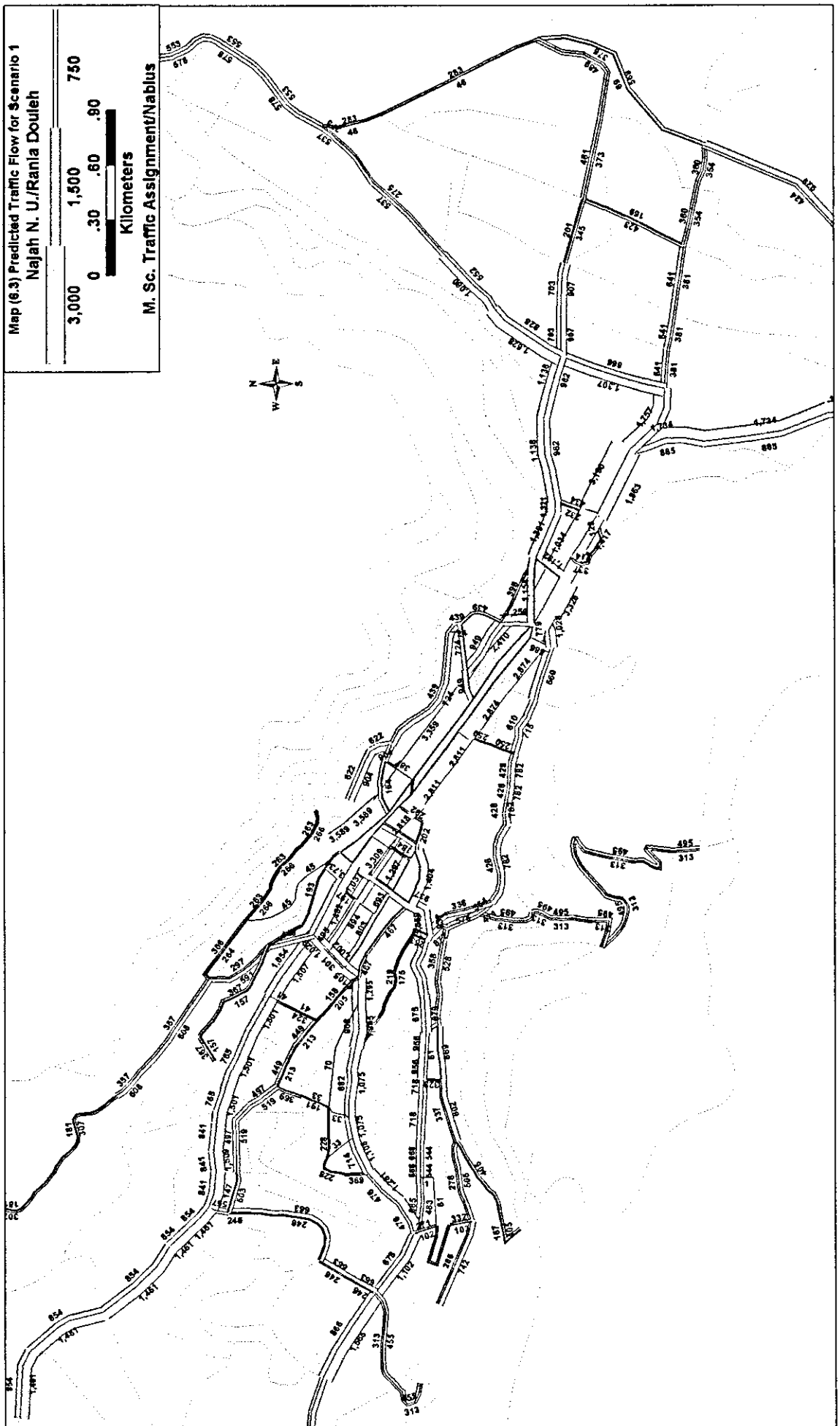
An evaluation of the 1998 network's ability to handle projected trips in 2015, which is also known as the 'do-nothing' alternative, is usually limited to identifying areas of traffic congestion. Congestion was measured by comparing future volumes to 1998 link capacities.

It was considered through the analysis that the links with v/c ratios up to 0.6, are in good conditions, links with ratios between 0.6-0.8 are in moderate congestion conditions, and links with ratios more than 0.8 are considered in congested traffic conditions. The v/c ratio maps represent these ranges only. The results of the assigned future traffic



flow are shown in Map (6.3). The area bounded by street Suliman An-Nabulsi and Tuniss Street is illustrated in Map (6.4). These results were obtained when the future O-D trip matrix was loaded on the network. It was clear that most of the streets will be extensively used by traffic flows, and will suffer from high v/c ratios, because of the high demand of traffic on the transportation network. Table (6.1) presents the number of links with different traffic flow ranges. Table (6.2) shows the number of links with different v/c ranges. The average v/c was 0.9 which shows an increase from the existing condition. The VHT value for this scenario was 132,657 and VKT was 80,496. These results present a very congested situation in the transportation network. VHT increased by 190 % with respect to existing conditions, while VKT is increased by 130 % with respect to existing conditions.

Generally, main streets in the city such as Faisal, Al-Ghazali, Haifa, Rafidia, Tulkarem, Amman, Al-Quds, Palestine, and the CBD area suffer from high v/c ratios due to the limited capacity and high traffic volumes. Map (6.5) shows the v/c ratios for the street network. The results of the this scenario are found in Appendix E. These results showed the need for improving the existing network by opening new streets and improving the capacity of existing ones. This will be tested in the following scenarios.



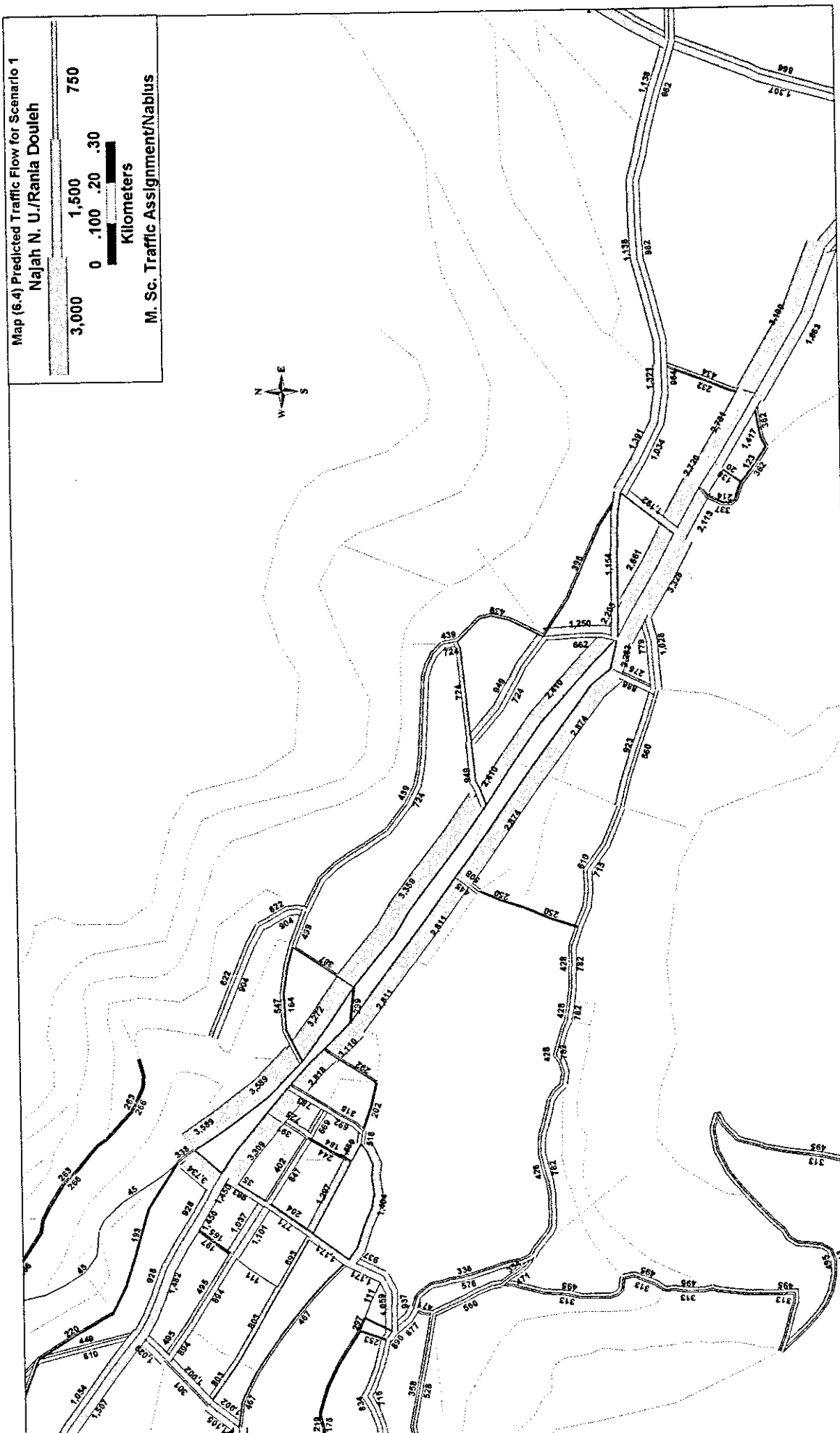
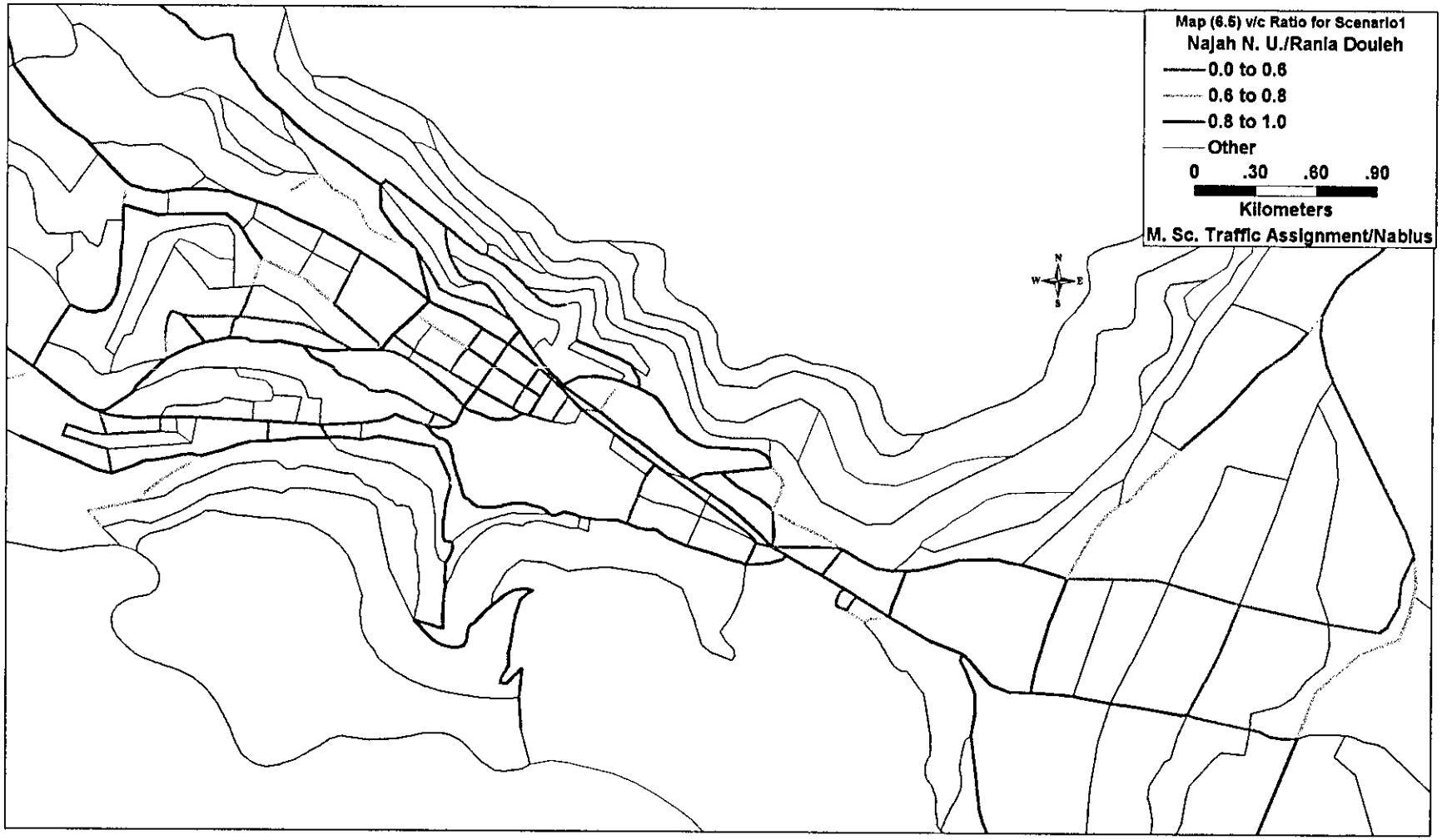


Table (6.1) Future Traffic Conditions Model Output (Scenario 1)

Flow Ranges	Total Number of Links AB/BA	Percentages AB/BA
≤500	91/101	22/24
500-1000	72/66	17/16
1000-1500	26/15	6/4
1500-2000	9/8	2/2
≥2000	21/5	5/2
Total	414	100%

Table (6.2) Number of Links with Different volume/capacity Ratios

V/C Ranges	Number of Links AB/BA	Percentages AB/BA
≤0.2	19/16	5/4
0.2-0.4	31/33	8/8
0.4-0.6	44/41	11/10
0.6-0.8	27/18	6/4
0.8-1.0	29/41	7/10
≥1	72/43	17/10
Total	414	100%
Average v/c	0.91	



6.4.2 Scenario 2: Opening New Streets and Improving Capacity

The first alternative to improve the conditions of the transportation network is to open new streets, as planned in the City Master Plan, that are believed to relief traffic congestion. Other existing opened streets were included in the network in the analysis of this scenario and the other following scenarios. The later ones are not included in the previous analysis since they are considered as local streets and do not carry considerable amounts of traffic.

The suggested streets that were included in the network are: eastern and western ring roads, new streets parallel to Faisal Street which starts at al Ghazali Street and ends at Al-Ashgal Intersection, King Talal Street, industrial area Streets, Iraq Taieh Streets, Al-Shunar Streets, Rafidia Street, Al-Junied Streets, and Beit Wazan Streets. The considered network considered in this scenario is shown in Map (6.6). Other capacity improvements on main streets were considered assuming the implementation of actions such as: improving traffic signal timing, adding traffic lanes, and prohibiting parking. Improved capacity values for existing signalized intersections are shown in Table (6.3). Map (6.7) shows existing and new signals as planned by the Municipality.

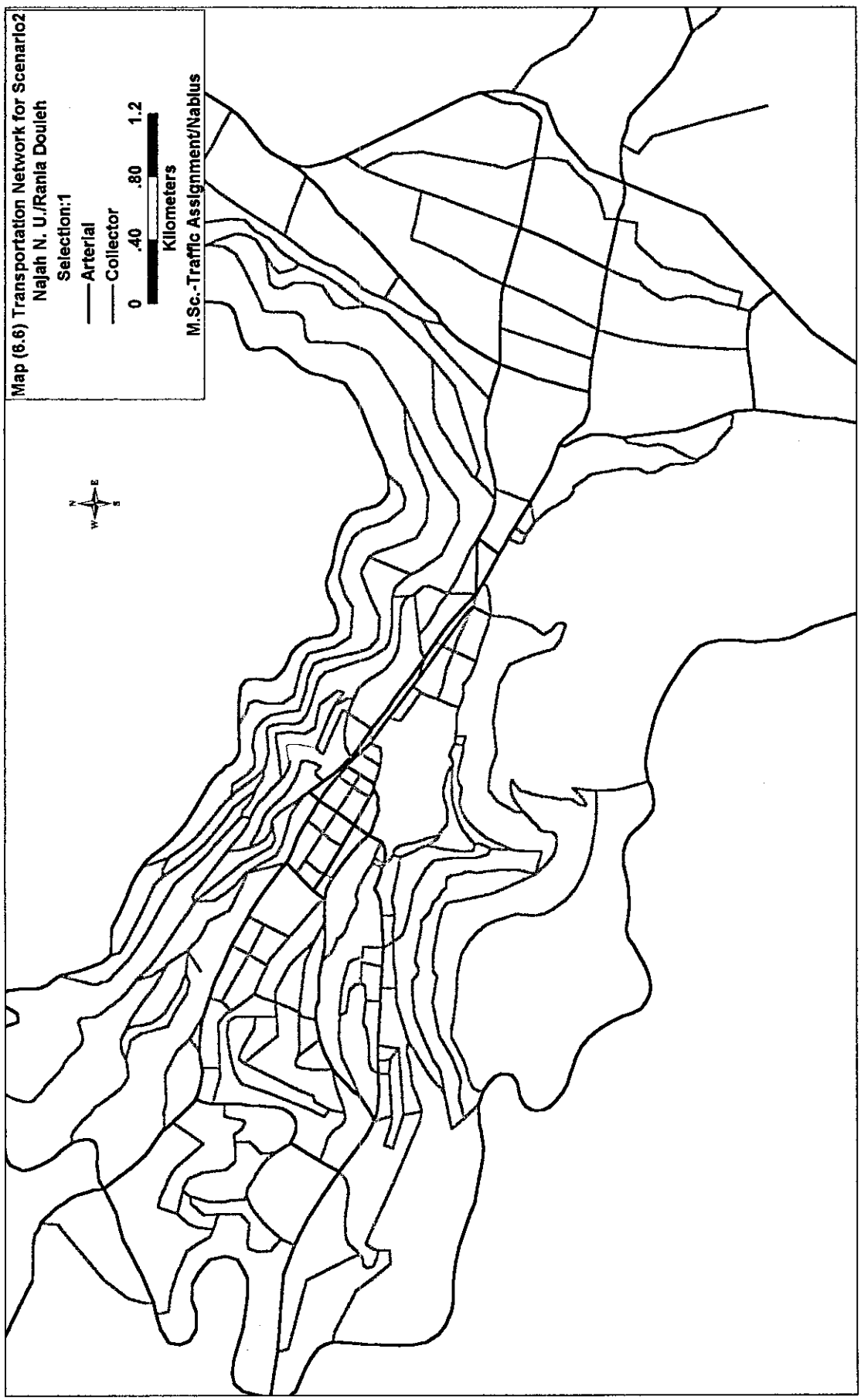
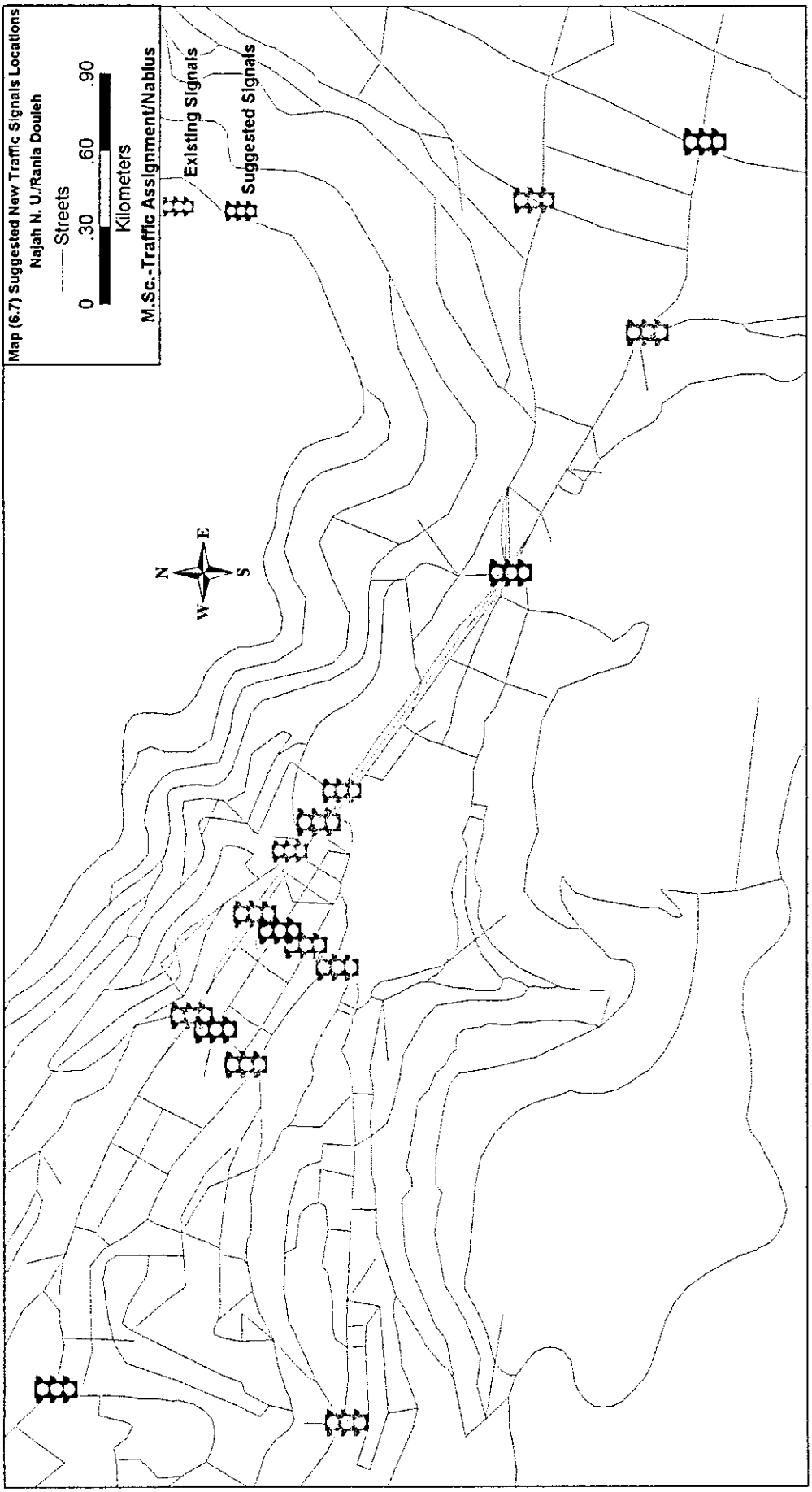


Table (6.3) Improved Capacities at Existing Traffic Signals

In. No.[1]	Link No.	AB Capacity (vph)			BA Capacity (vph)			Cycle[4] sec.
		(g)[3] sec	Lanes	Capacity	g	Lanes	Capacity	
1	108	47, 35 [2]	1,1	*	*	*	*	110
	260	60	1	1036	*	*	*	
	1873	*	*	*	15	1	260	
	1652	27	2	933	*	*	*	
2	1631	19.49 [2]	2,1	1302	*	*	*	127
	9	*	*	*	17	1	254	
	2015	17,45 [2]	2,1	1182	*	*	*	
	241	*	*	*	25	3	1100	
3	607	*	*	*	31	1	561	105
	19	*	*	*	71,23 [2]	1,2	2592	
	1876	51	1	1846	*	*	*	
	1673	*	*	*	23	1	416	
	822	63	3	3420	*	*	*	
4	608	33	1	545	*	*	*	115
	1917	61,10 [2]	1822	*	*	*	*	
5	605	*	*	*	61	2	2016	115
	609	60	2	1982	*	*	*	
	1679	16	2	579	*	*	*	
6	2167	59	3	3203	*	*	*	105
	1910	59	3	3203	*	*	*	
7	263	62	3	3366	*	*	*	105
	813	62	3	3326	*	*	*	
8	1886	*	*	*	63,28 [2]	2,1	2512	115
	1875	32	3	1590	*	*	*	
	226	30	2	660	*	*	*	
9	224	*	*	*	10	3	600	95
	1890	23	4	1840	*	*	*	
	917	21	3	1260	*	*	*	
	2110	15	2	640	*	*	*	
10	2145	*	*	*	10	1	141	135
	1439	32	1	901	*	*	*	
	1879	*	*	*	51,9 [2]	1,1	844	
	1140	*	*	*	38	1	535	

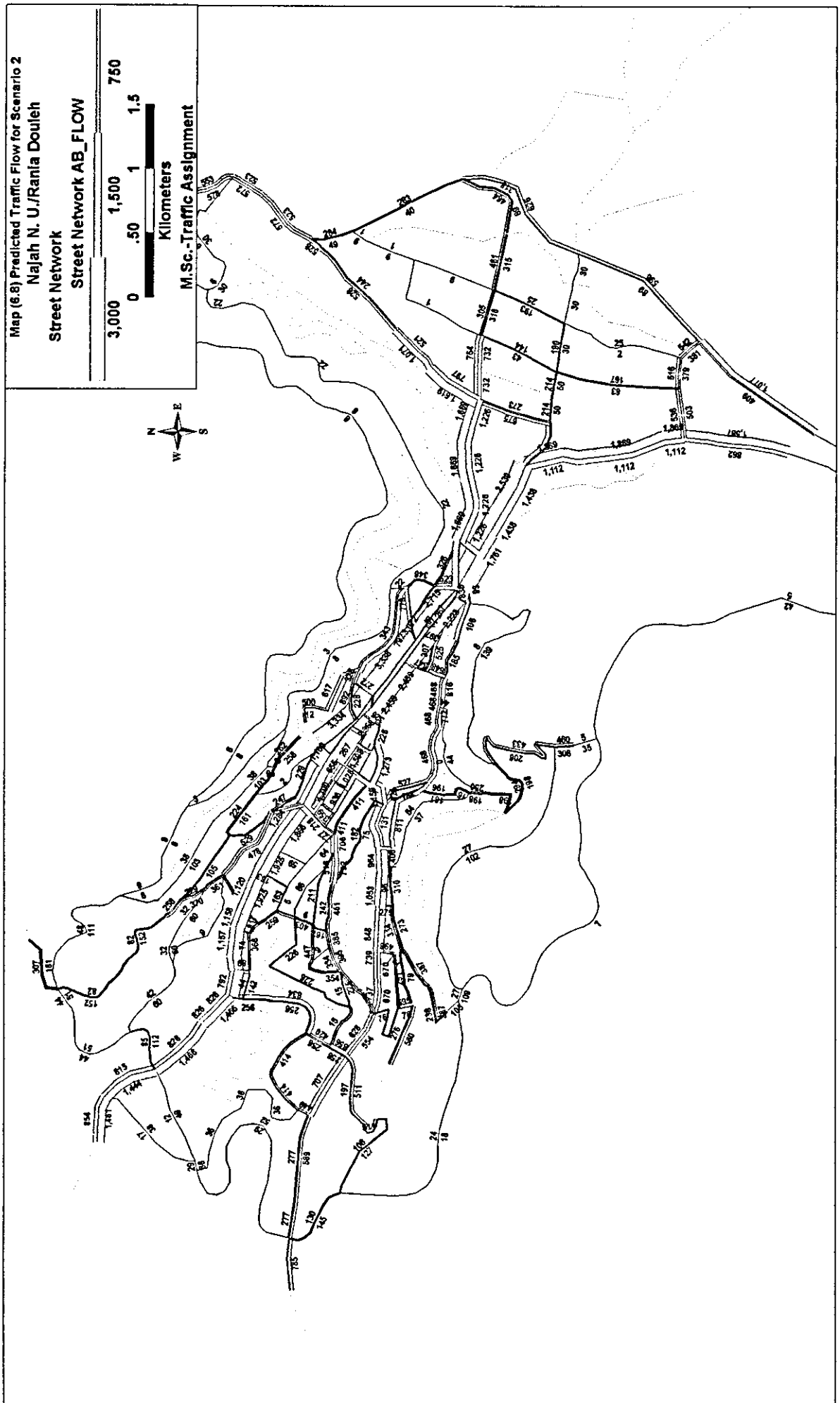
Notes:

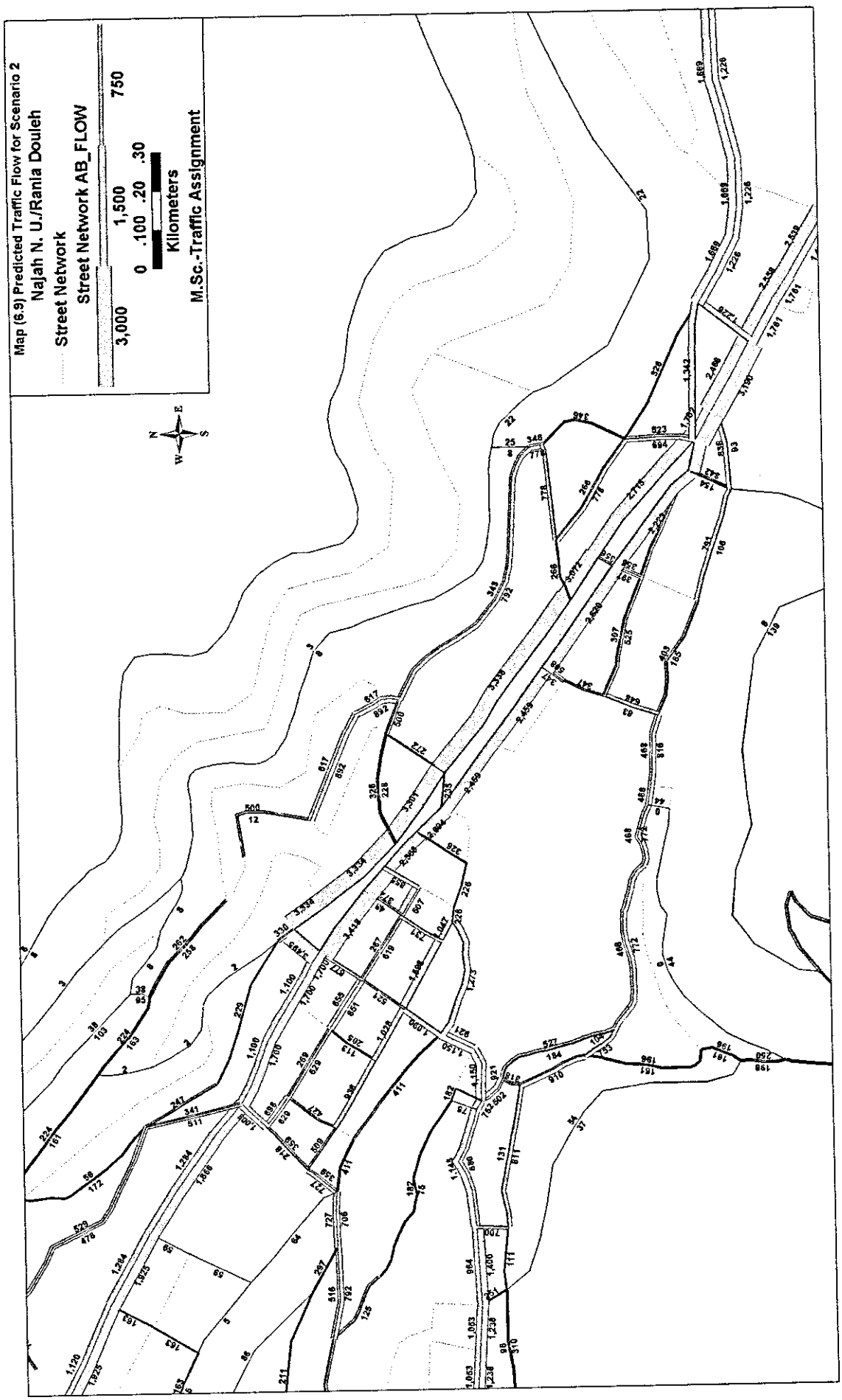
[1] See Attached Map (6.7)
[2] Indicates two green durations for two movements in the same approach.
[3] Effective green duration
[4] Cycles as taken from Nablus Municipality
*Capacity is defined as for other streets considering the German Guidlines
Modifications to signal capacity are made to adapt future demand.



The results of the assigned future traffic flow for this Scenario are shown in Map (6.8). The area bound by Dafna Street east and Prince Mohammed Street west is illustrated in Map (6.9). The future O-D trip matrix was loaded to the overall network streets. It was noticeable that many streets still have high traffic flows and will suffer from high v/c ratios as shown in Map (6.10). This was because of the high demand of traffic on the transportation network and mainly on Faisal, Haifa, Al-Gazali, Amman, and Jamal Abdel Nasser Streets. Table (6.4) presents the number of links with different flow ranges. Table (6.5) shows the number of links with different v/c ratios. Vehicles hours of travel (VHT) value was 107,328, this value is less than in Scenario 1 by 19%. Vehicles kilometers of travel (VKT) was 76650, this vale is less than Scenario 1 by 5%. This shows that the network condition is better than its condition in scenario 1, but still there is a need to improve the network system.

It is clear that the new streets that were added to the network along with the capacity improvements, will not improve the traffic conditions in the transportation network to a great extent. This leads to start planning for additional improvements that are capable of inducing noticeable improvements. This will be tested in the following scenarios.





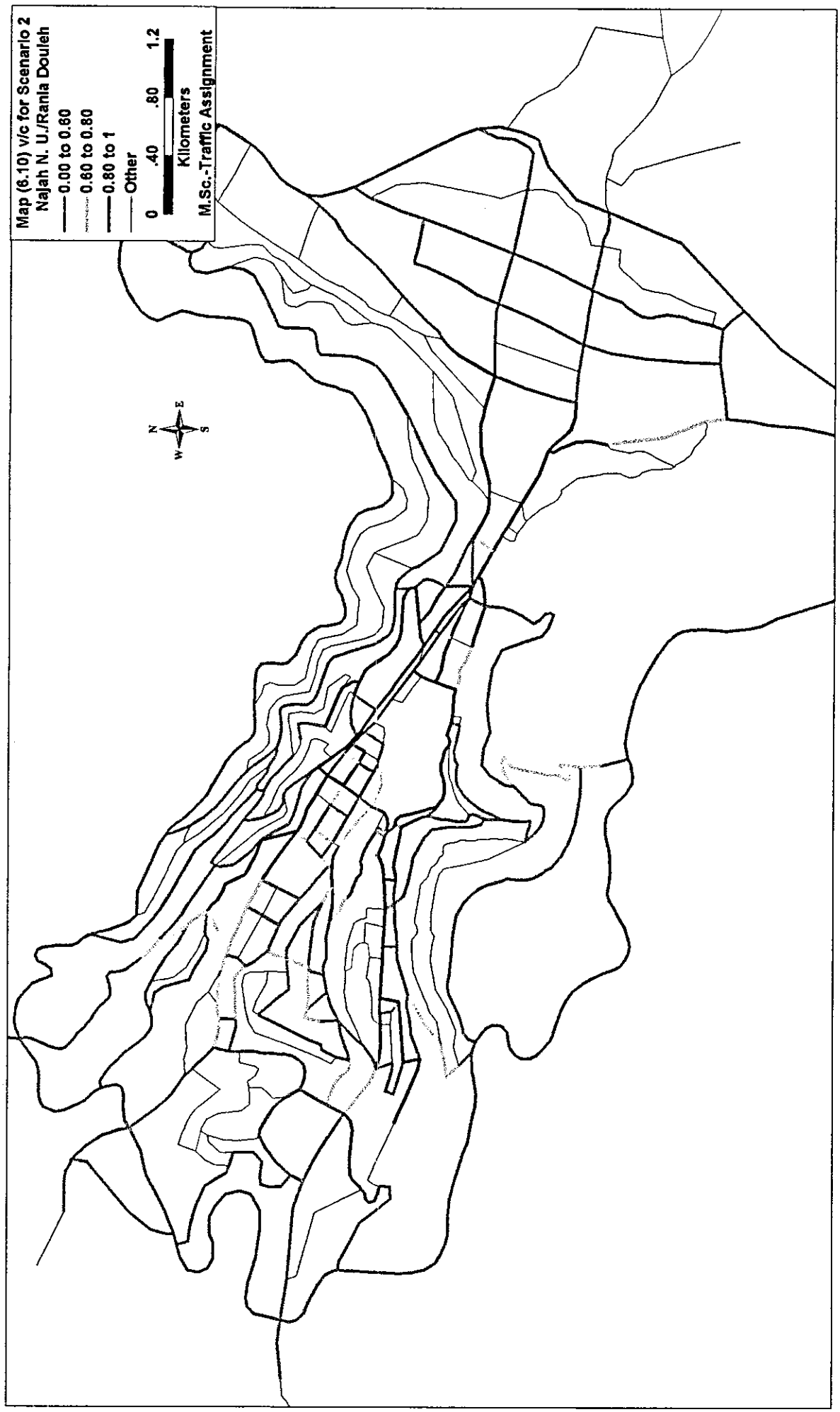


Table (6.4) Future Traffic Conditions Model Output (Scenario 2)

Flow Ranges	Total Number of Links AB/BA	Percentages AB/BA
≤500	159/172	30/32
500-1000	64/44	12/8
1000-1500	17/27	3/5
1500-2000	15/8	3/2
≥2000	20/4	4/1
Total	530	100%

Table (6.5) Number of Links with Different volume/capacity Ratios (Scenario2)

V/C Ranges	Number of Links AB/BA	Percentages AB/BA
≤0.2	91/90	17/17
0.2-0.4	46/58	9/11
0.4-0.6	43/42	6/8
0.6-0.8	19/35	4/7
0.8-1.0	34/15	7/3
≥1	36/21	7/4
Average v/c	0.56	
Total	530	100%

6.4.3 Scenario 3: Suggested Overpass with Capacity Improvement

According to the results of the previous scenario, it was decided to plan for a new option that could solve the congestion problem on Faisal, Al-Ghazali, Haifa, and Jamal Abdel-Nasser Streets. A two-lane overpass with a length of 2.1 km is suggested to start at Haifa Street close to Al-Salam Mosque intersection and extends to the east up to Al-Ashgal Intersection. The capacity of the overpass was assumed to be 1300 vphpl as considered in the German Guidelines (Federal Minister of Transport Road Construction Dep., 1984) with 80 km/hr free flow speed. The considered network for the analysis is shown in Map (6.11).

This scenario was divided into three sub-scenarios; Scenario 3A, Scenario 3B, and Scenario 3C. The associated capacity with Scenario 3A and 3C is the same for the previous ones. On the other hand, for scenario 3B additional improvement to capacity and traffic conditions was assumed for some of the intersections and their associated links. Intersections improved capacities where new traffic signals are assumed are presented in Table (6.6) where the directional capacity was estimated according to suggested green durations. Previous Map (6.7) shows these locations.

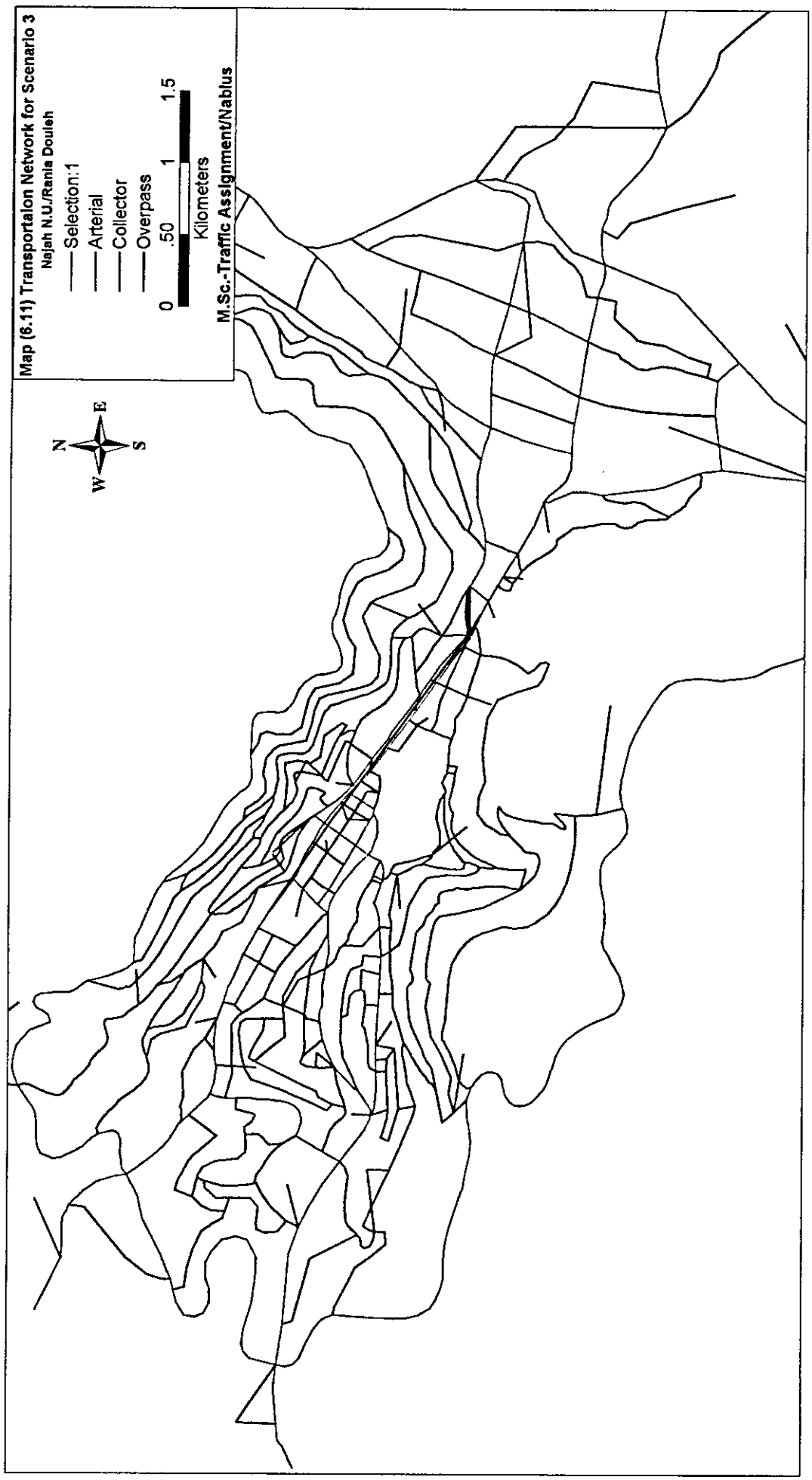


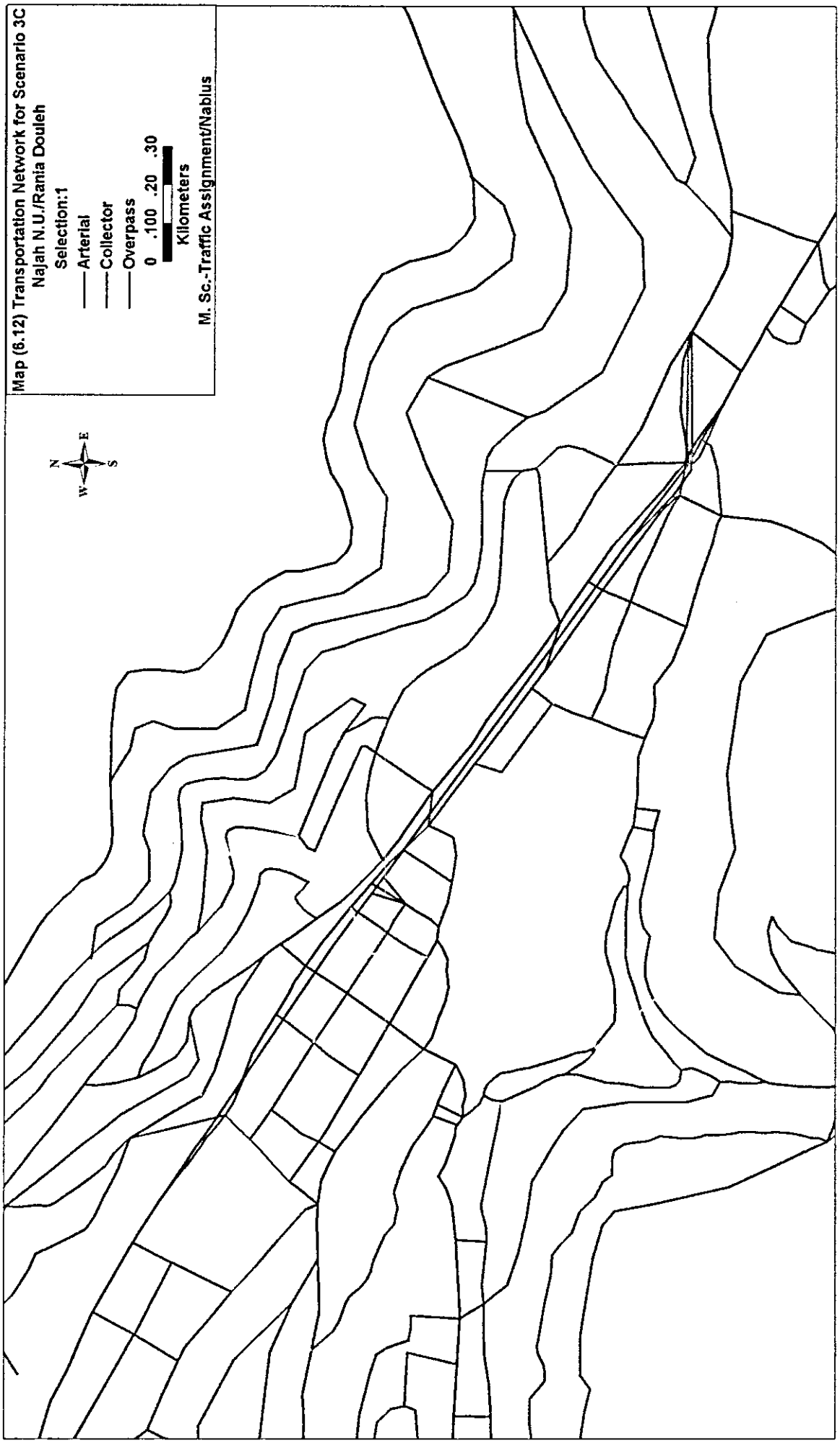
Table (6.6) Capacity for Links with Suggested Additional Traffic Signals

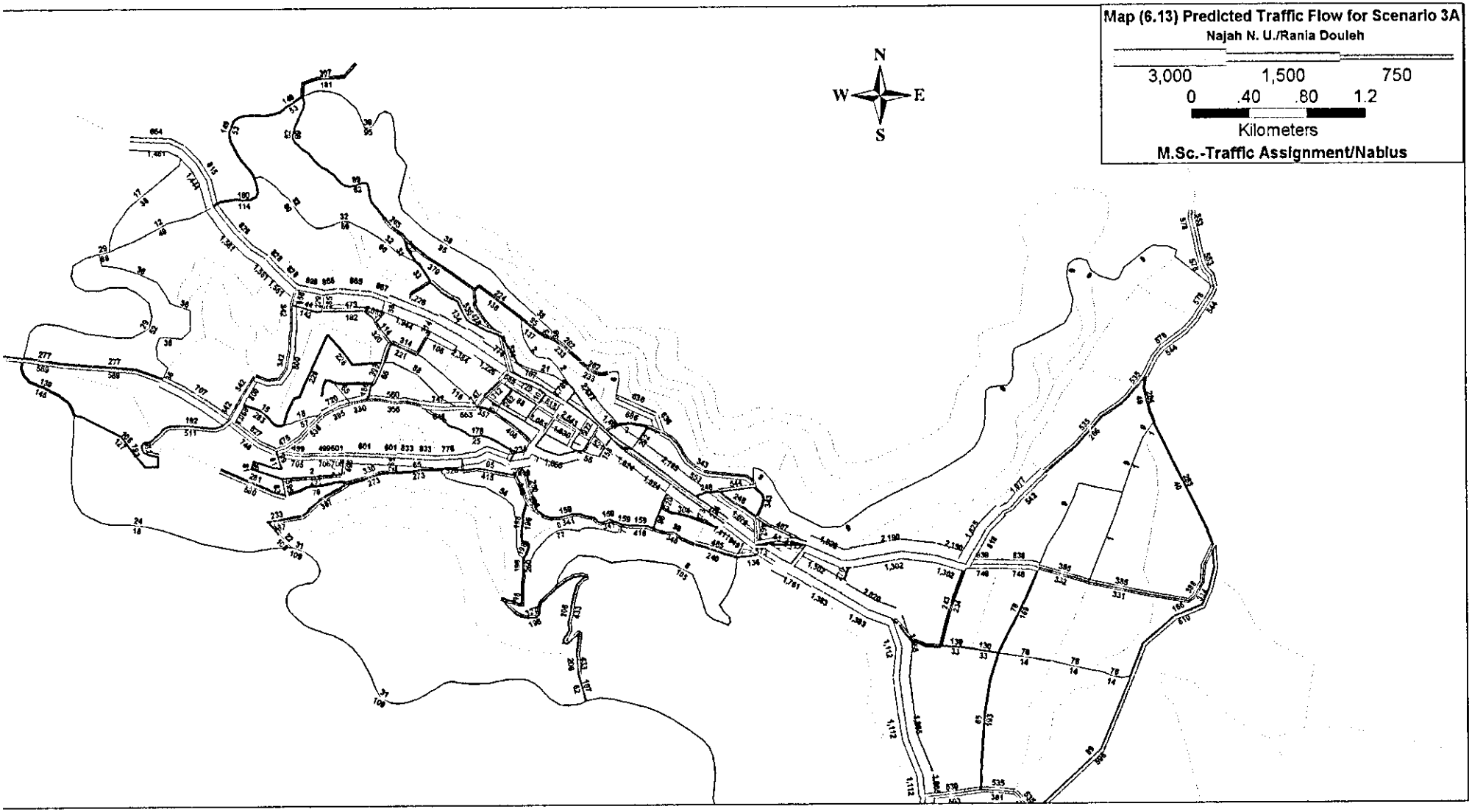
Ia No.[1]	Link No.	AB Capacity			BA Capacity			Cycle[4] (sec)
		g[3]	Lanes	Capacity	gi	Lanes	Capacity	
1	223	20	3	844	*	*	*	90
	229	*	*	*	40	3	2533	
	2159	40,15[2]	2,1	2006	*	*	*	
2	257	60	2	2073	*	*	*	110
	1631	*	*	*	60	2	1300	
	618	*	*	*	20	3	1037	
3	608	*	*	*	18	2	684	110
	607	30	2	1140	*	*	*	
	620	17	2	646	*	*	*	
	1523	*	*	*	25	2	950	
4	1894	50,20[2]	3	2073	*	*	*	110
	555	20	1	700	*	*	*	
	230	50,20[2]	4	2940	*	*	*	
5	224	25	3	1710	*	*	*	100
	226	40	3	1805	*	*	*	
	2081	*	*	*	40	3	1805	
6	626	25	2	830	*	*	*	115
	1633	65	2	2150	*	*	*	
	632	*	*	*	65,17[2]	1,1	1355	
7	1170	*	*	*	20	1	350	110
	1187	25	2	870	*	*	*	
	1778	40,20[2]	2,1	1750	*	*	*	
	1439	*	*	*	40,20[2]	2,1	1750	
8	1903	*	*	*	30,55	1,2	2260	100
	1884	55	3	3135	*	*	*	

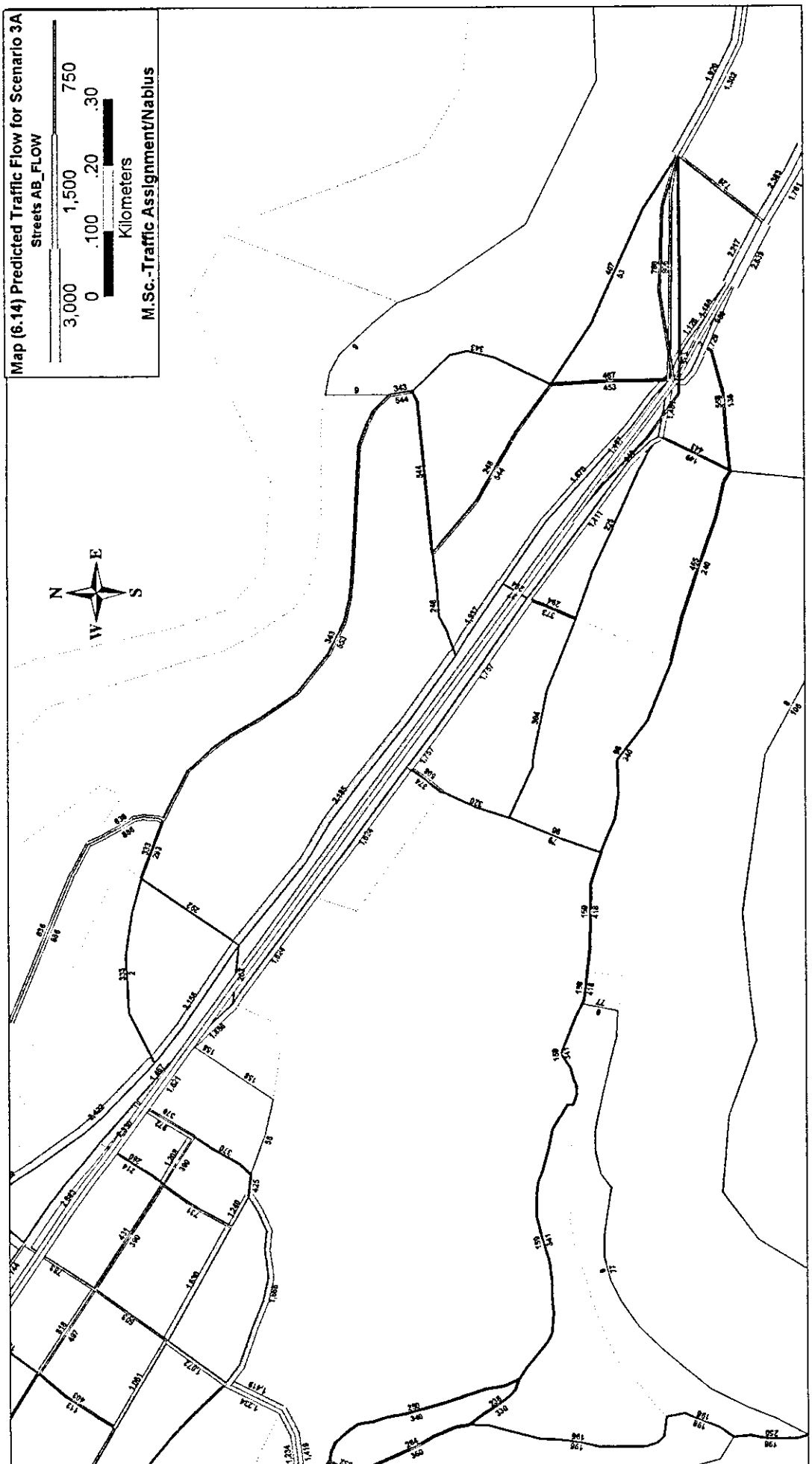
Notes:
[1]See previous map (6.7)
[2]Indicates two green durations for two movements in the same approach.
[3]Effective green duration
[4]Cycles as taken from Nablus Municipality
*Capacity is defined as for other streets considering the German Guidlines
Modifications to signal capacity are made to adapt future demand.

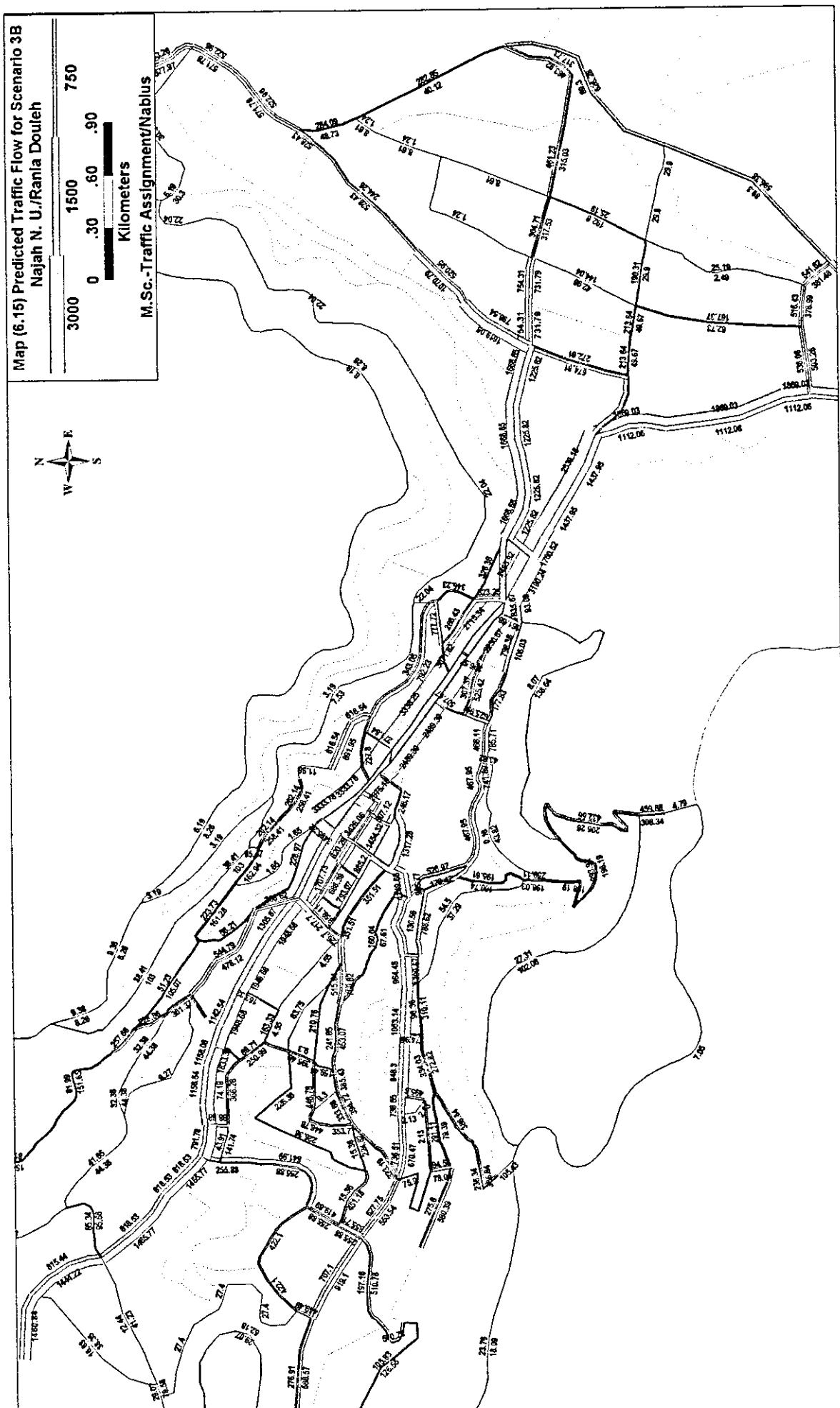
For Scenario 3C, ramps from the overpass to the City Center and visa versa. This consideration was to allow an easy movement from and to the CBD area instead of using the turn at Al-Kindi School that causes some delays. The considered network is shown in Map (6.12).

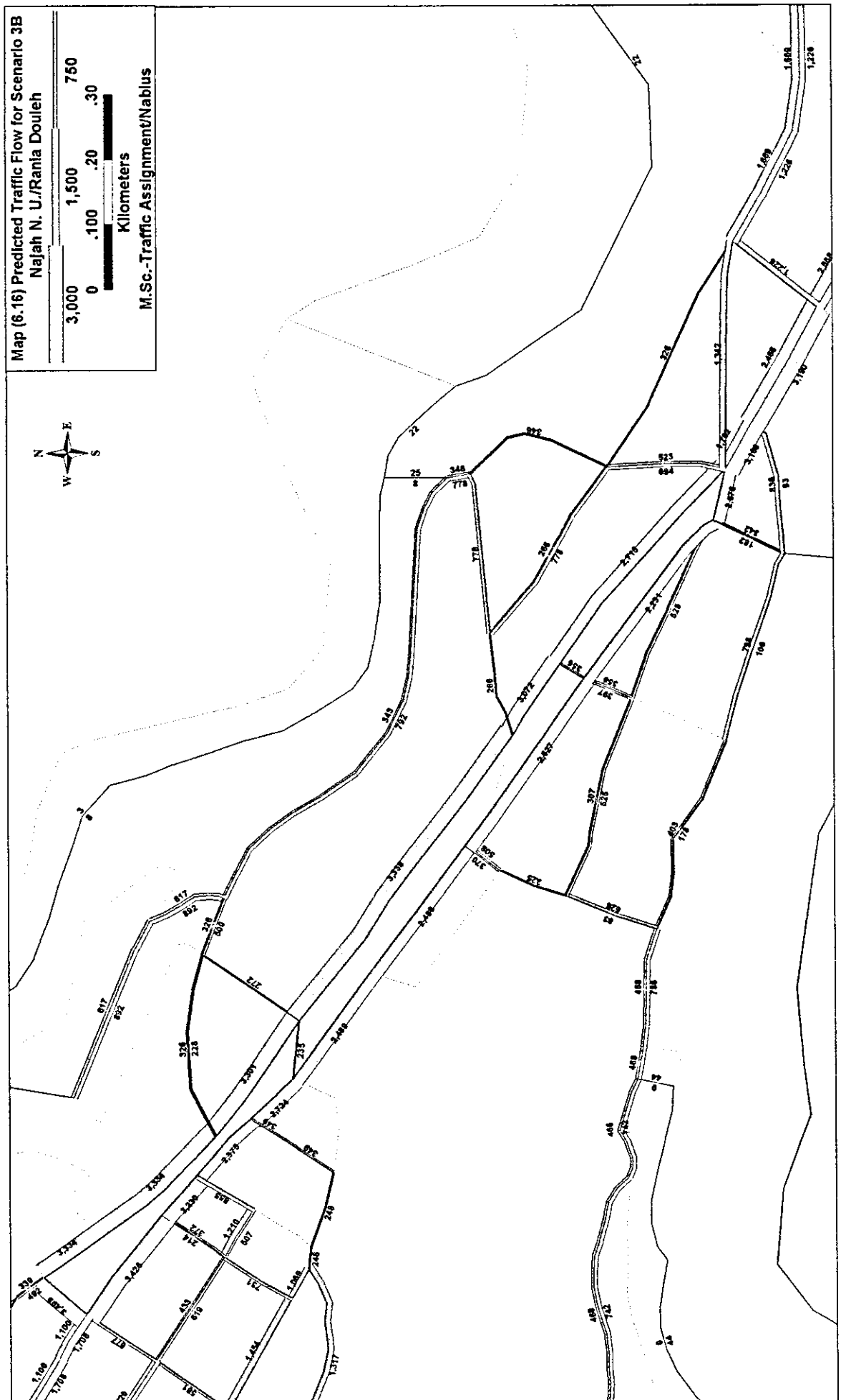
The results of traffic assignment run for Scenario 3A is shown in Maps (6.13). The area bound by Prince Mohammed Street west and Dafna Street east is illustrated in Map (6.14). Results of traffic assignment for Scenario 3B are shown in Map (6.15). The area bound by Prince Mohammed Street west and Dafna Street east is illustrated in Map (6.16). The results of Scenario 3C are shown in Map (6.17). The area bound by Prince Mohammed Street west and Dafna Street east is illustrated in Map (6.18). Tables (6.7), (6.8), and (6.9) show the number of links with different flow ratios for Scenario 3A, 3B, and 3C, respectively. Tables (6.10), (6.11) and (6.12) show the number of links with different v/c ratios for Scenario 3A, 3B, and 3C, respectively. Maps (6.19), (6.20), and (6.21) presents the v/c results for the street network for Scenario 3A, 3B and 3C, respectively. The VHT value for this Scenario was 100,163, 107,066, and 100,769 for

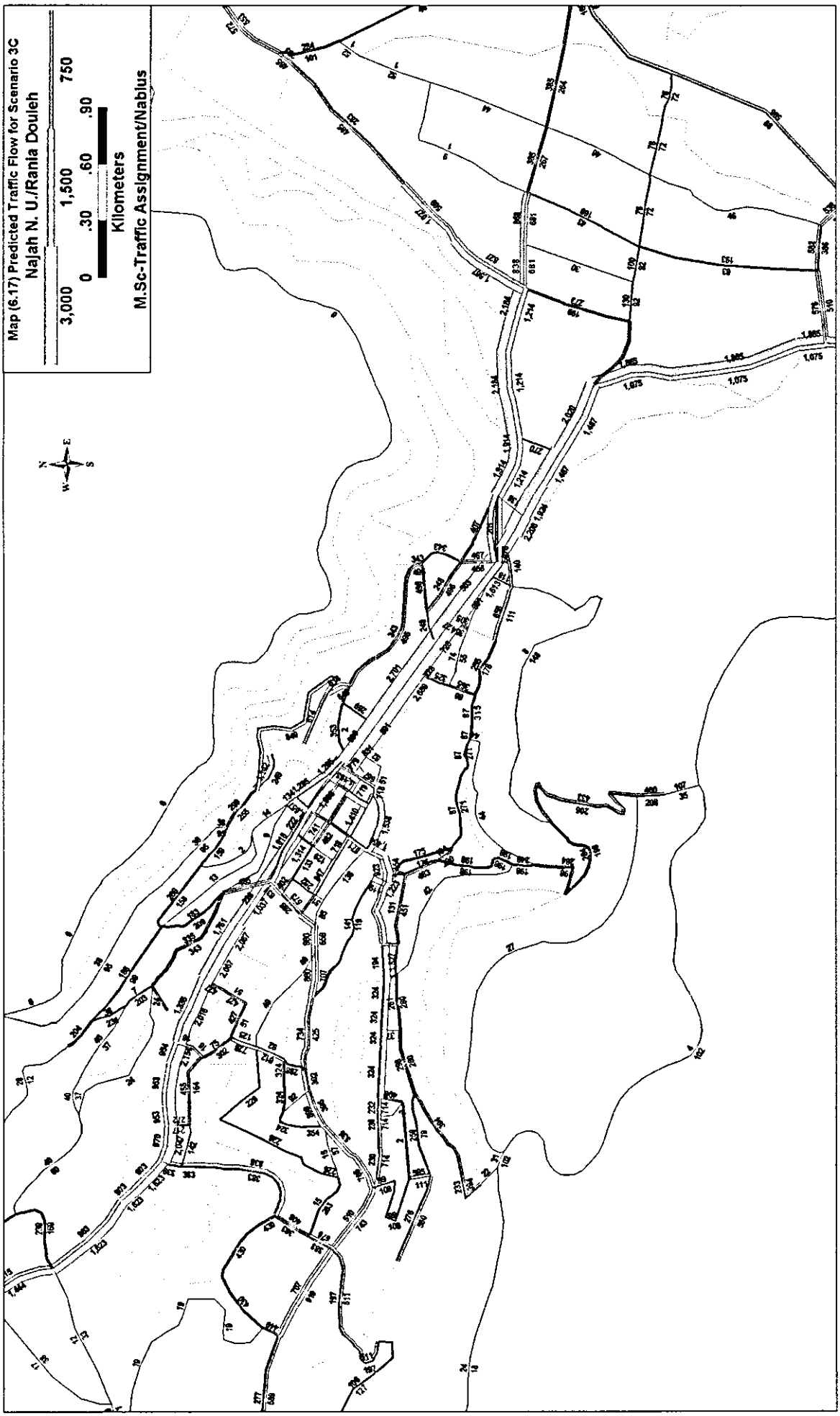












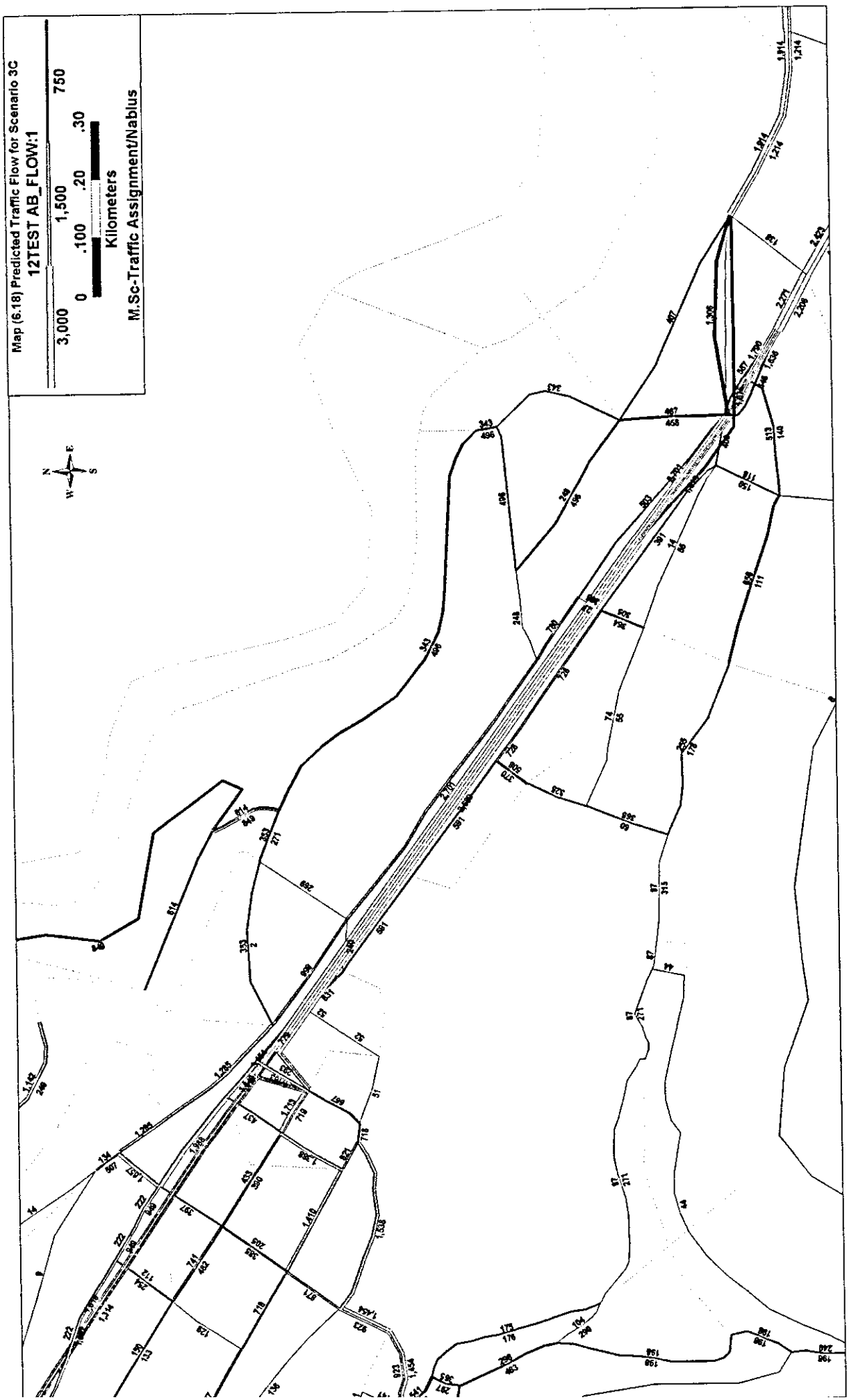


Table (6.7) Future Traffic Conditions Model Output (Scenario 3A)

Flow Ranges	Total Number of Links AB/BA	Percentages AB/BA
≤500	158/172	30/33
500-1000	56/49	11/9
1000-1500	17/20	3 /4
1500-2000	20/10	4/2
≥2000	15/4	3/1
Total	521	100%

Table (6.8) Future Traffic Conditions Model Output (Scenario 3B)

Flow Ranges	Total Number of Links AB/BA	Percentages AB/BA
≤500	157/174	30/33
500-1000	65/43	12/8
1000-1500	16/28	3/5
1500-2000	15/7	3/1
≥2000	20/4	4/1
Total	529	100%

Table (6.9) Future Traffic Conditions Model Output (Scenario 3C)

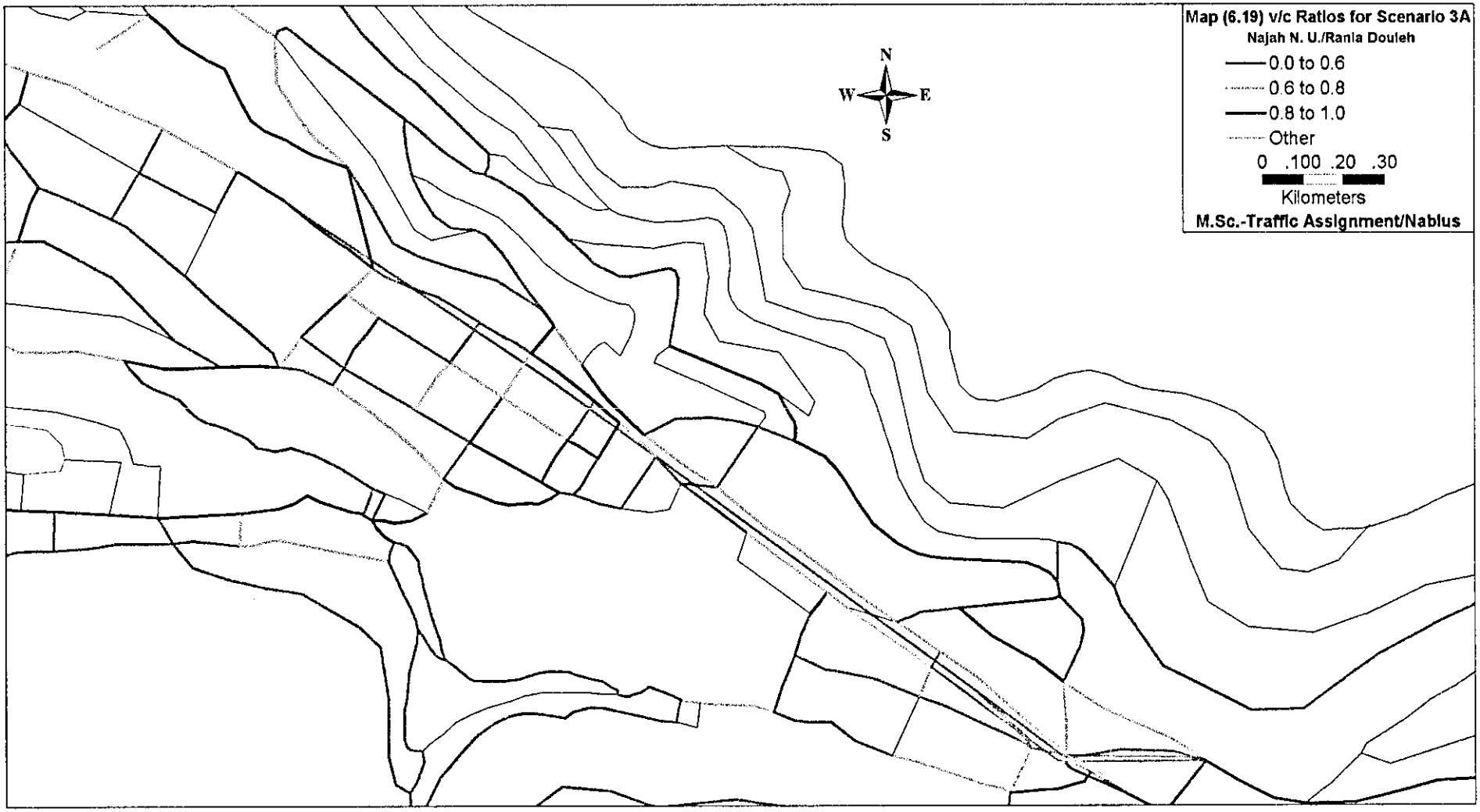
Flow Ranges	Number of Total Links AB/BA	Percentages AB/BA
≤500	172/175	32/33
500-1000	60/44	11/9
1000-1500	23/13	4/2
1500-2000	16/10	3/2
≥2000	10/10	2/2
Total	532	100%

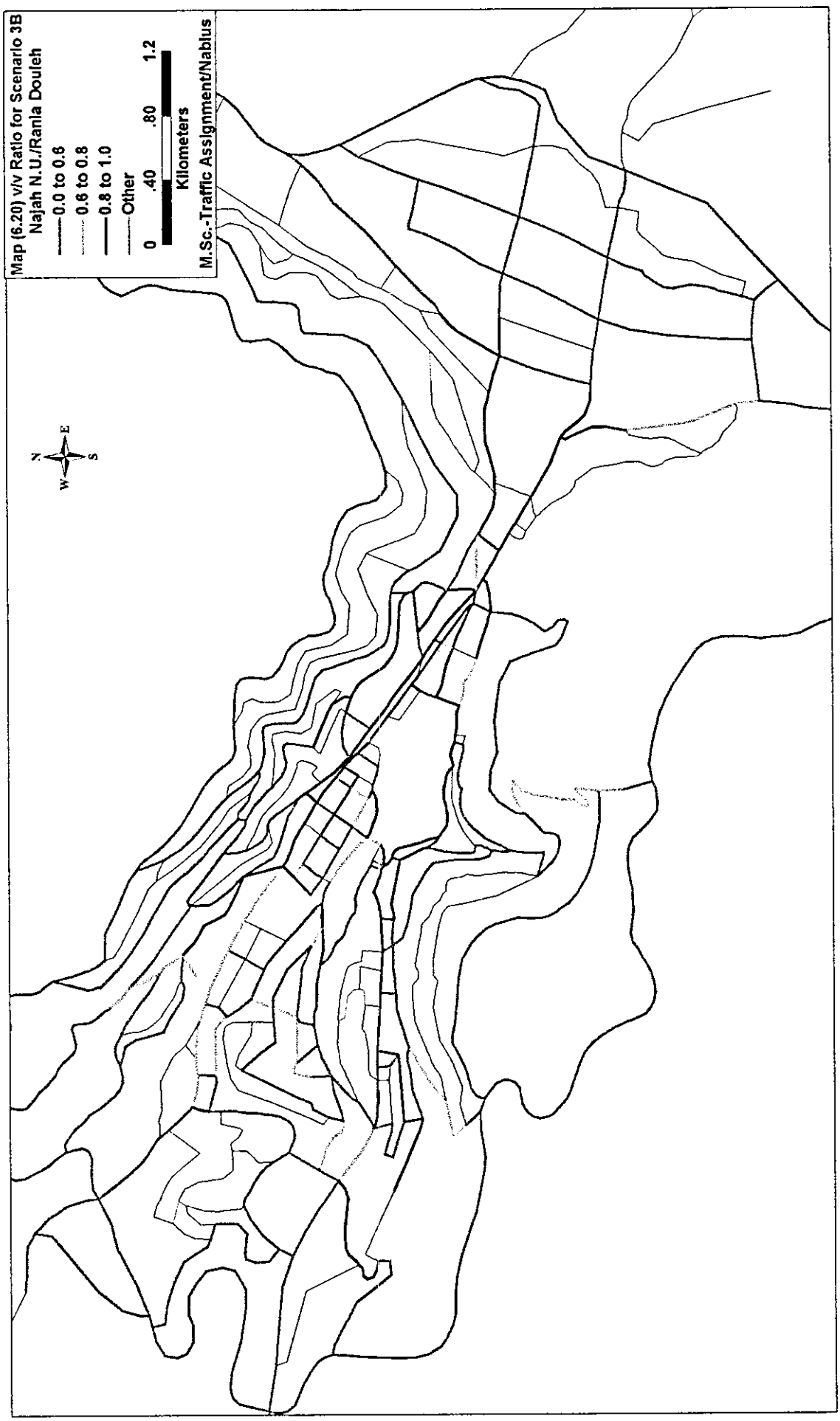
Table (6.10) Number of Links with Different volume/capacity Ratios (Scenario 3A)

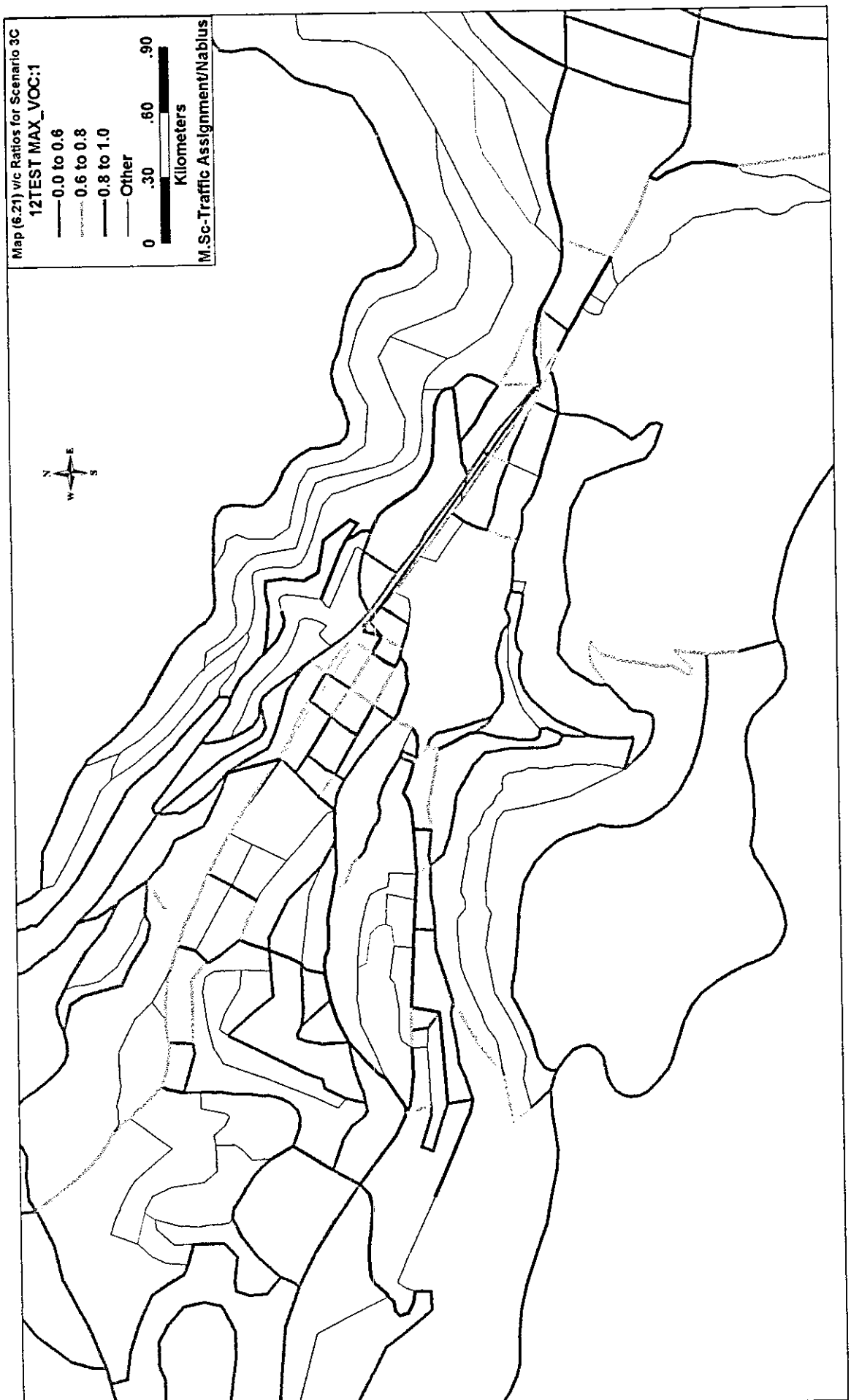
V/C Ranges	Number of Links AB/BA	Percentages AB/BA
≤0.2	80/90	15/17
0.2-0.4	51/60	10/12
0.4-0.6	52/43	10/8
0.6-0.8	35/40	7/8
0.8-1.0	24/16	5/3
≥1	20/11	4/1
Average v/c	0.52	
Total	521	100%

Table (6.11) Number of Links with Different volume/capacity Ratios (Scenario 3B)

V/C Ranges	Number of Links AB/BA	Percentages AB/BA
≤0.2	92/95	17/18
0.2-0.4	45/60	9/11
0.4-0.6	45/37	9/7
0.6-0.8	20/33	4/6
0.8-1.0	31/16	6/3
≥1	34/21	6/4
Average v/c	0.53	
Total	529	







3A, 3B and 3C Scenarios. VKT was 77,411, 76,658, and 77,946 for 3A, 3B, and 3C Scenarios. Minor differences in VHT and VKT are noticed in the three Scenarios. The results of the assignment output are found in Appendix E.

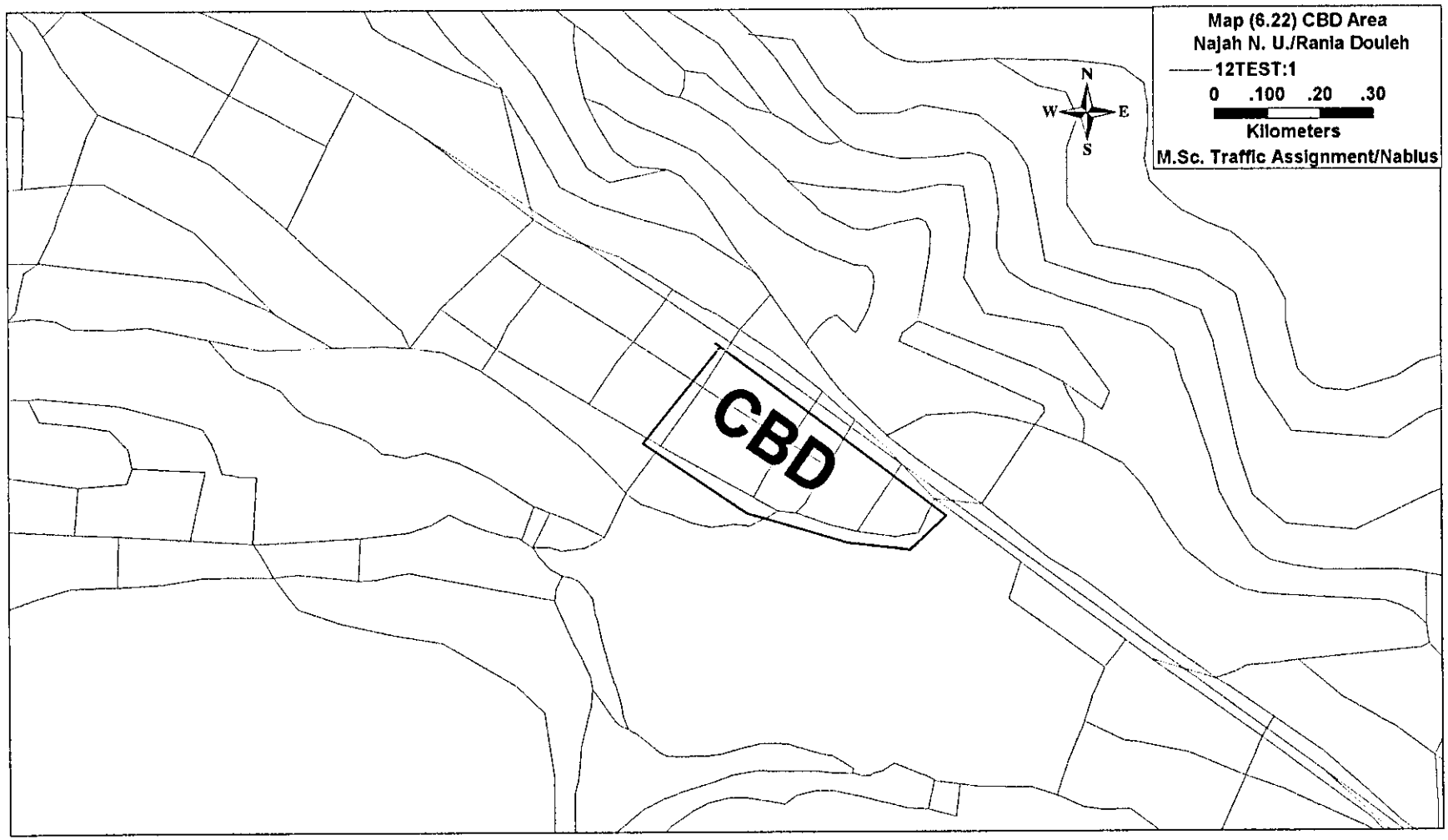
It was noticeable that a considerable reduction in traffic congestion was achieved through either Scenario 3A or Scenario 3B or Scenario 3C, especially on main streets such as Faisal, Al-Ghazali, and Haifa Streets, comparing with the previous Scenarios. It was very clear that flow is reduced by about 50% at Faisal Street in Scenario 3A comparing to Scenario 2. The same was noticed at the Street close to Al-Ashgal intersection where the flow was reduced too due to the overpass construction and traffic signal installation.

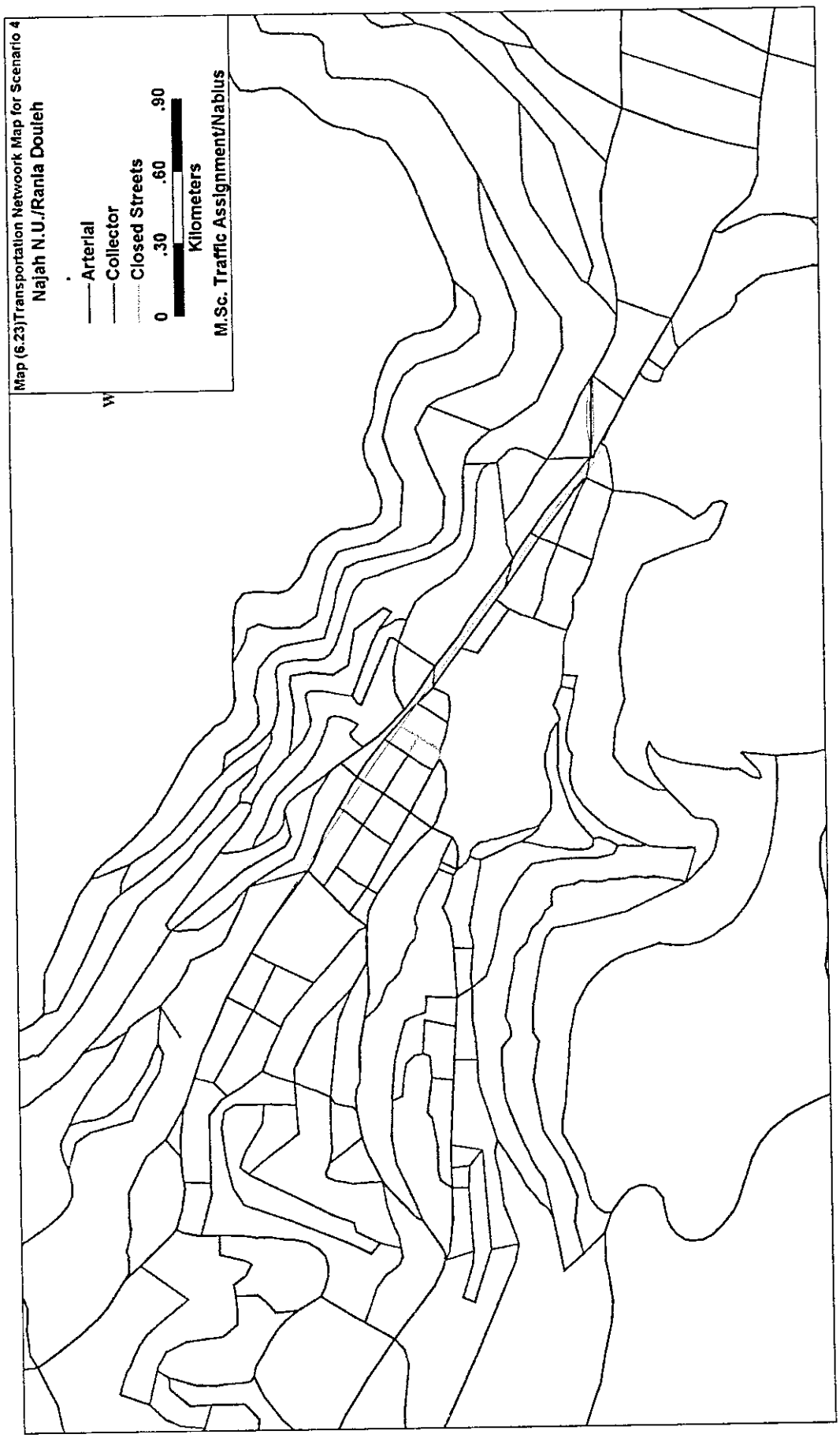
This reduction was very helpful in increasing the operating speed and reducing delay on these streets, and consequently resulting in improved level of service for these streets. This shows that although this alternate is more expensive than the other previous ones, but the expected benefits are more. If such solution is accepted by the responsible authorities, then a cost-benefit study should be done in order to evaluate this solution from the economical point view.

6.4.4 Scenario 4: City Center Closure

Out of the city's CBD, one can delineate an area with high commercial activities, particularly wholesale, retail sale, and business activities. In addition there is high pedestrian volumes and considerable demand for parking in this area. It is surrounded by Sufian Street in the west, Ghirnata Street in the south, Faisal Street in the north, and Hittein Street in the east, as shown in Map (6.22). This area gives the impression of a large shopping center mall area and will do so after the construction of the planned mall at the eastern side of the Martyr's Square. Therefore, through traffic that used to pass through the square to the east, should be discouraged and, if possible totally banned from going through this area.

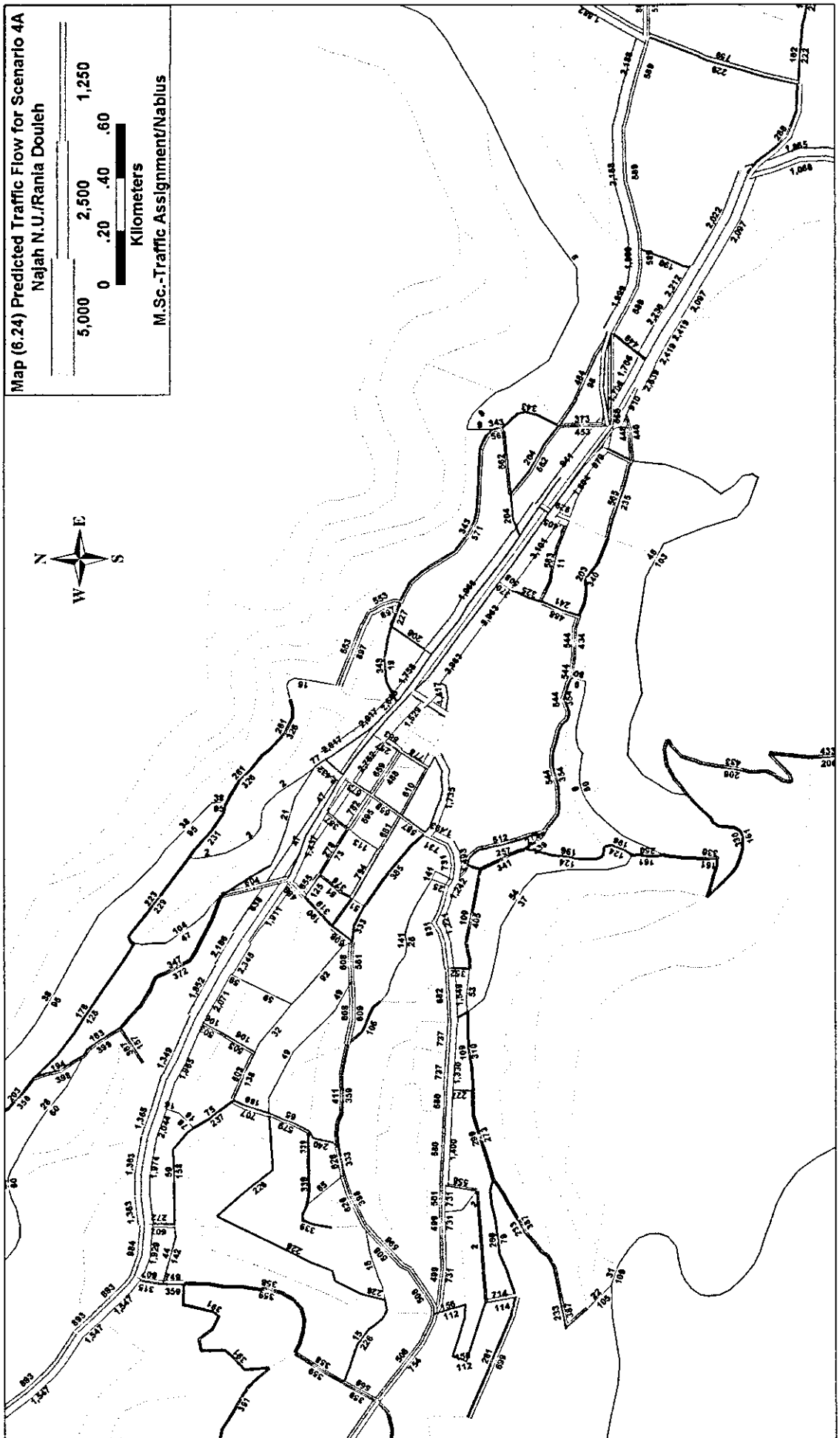
This alternate, which aims to relief the congestion at the city center and provide a new look for the city center, was tested through out the model. The closure of the city center was presented in the network by closing the streets within Martyr's Square, where the considered network is shown in Map (6.23). Changes to the flow direction in Al-Adel Street was made by considering Al-Adel Street a one-way street to the north, with usable three lanes, instead of two-way street. The same is considered in Sufian Street, where the street flow direction is

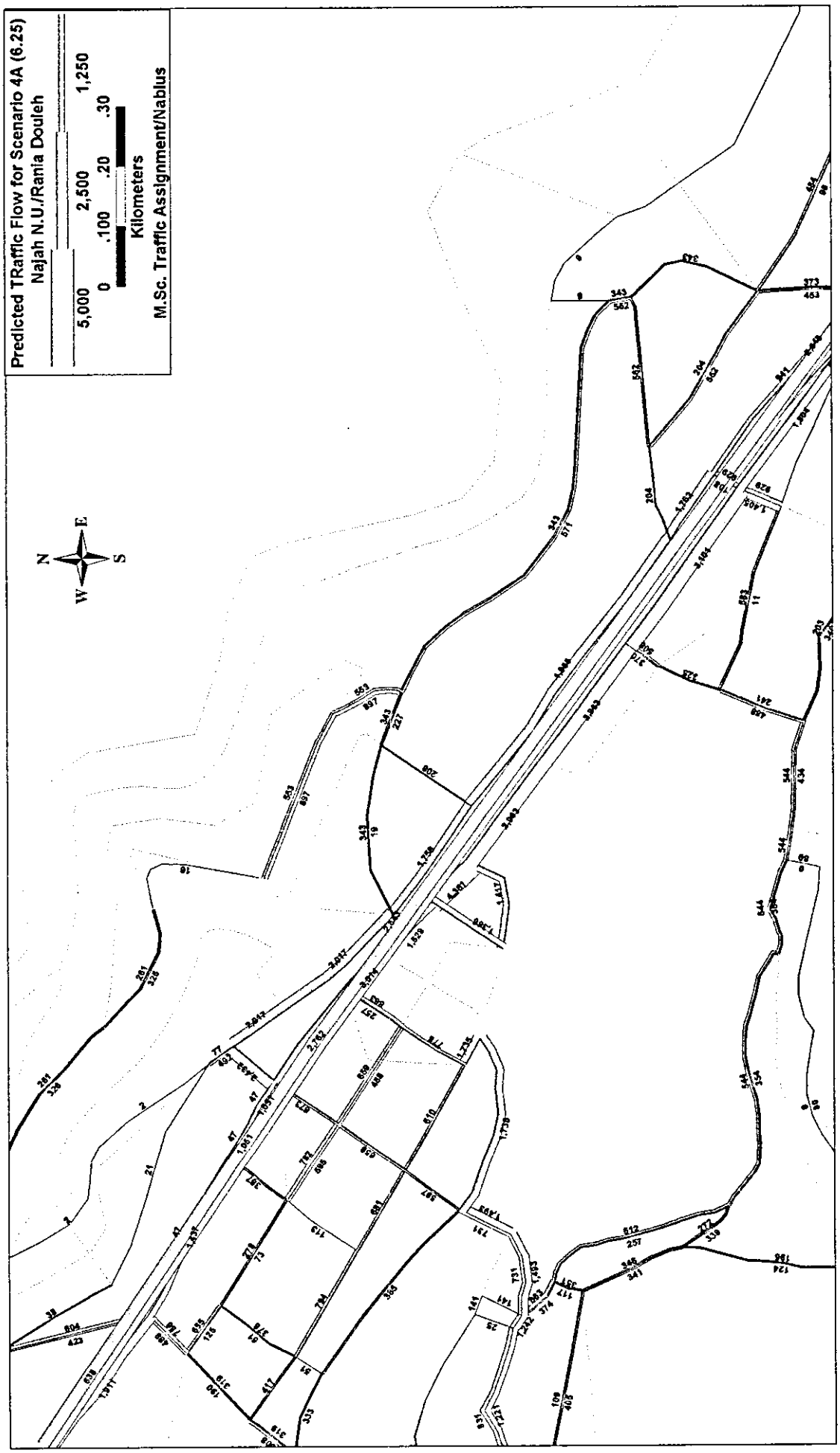


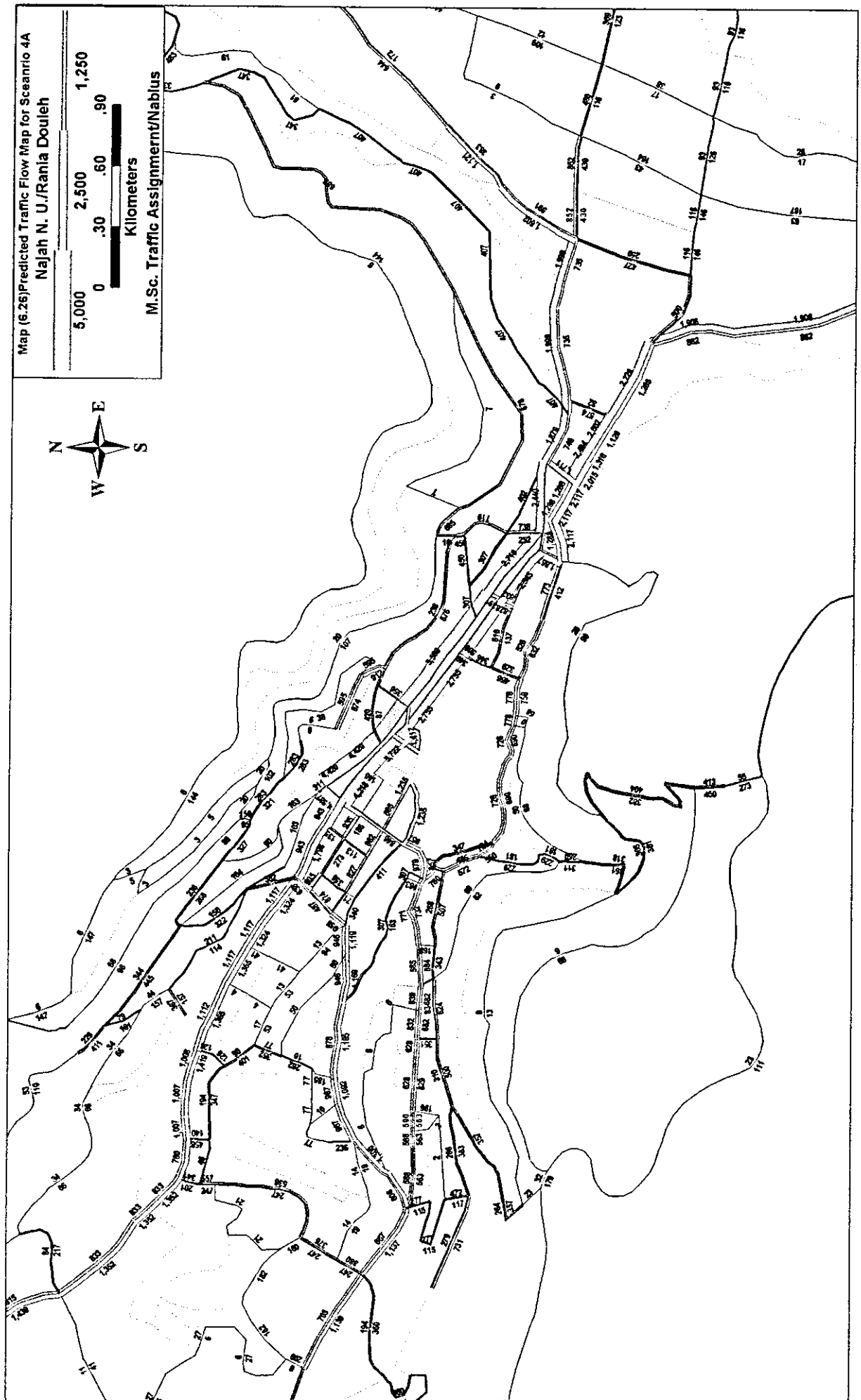


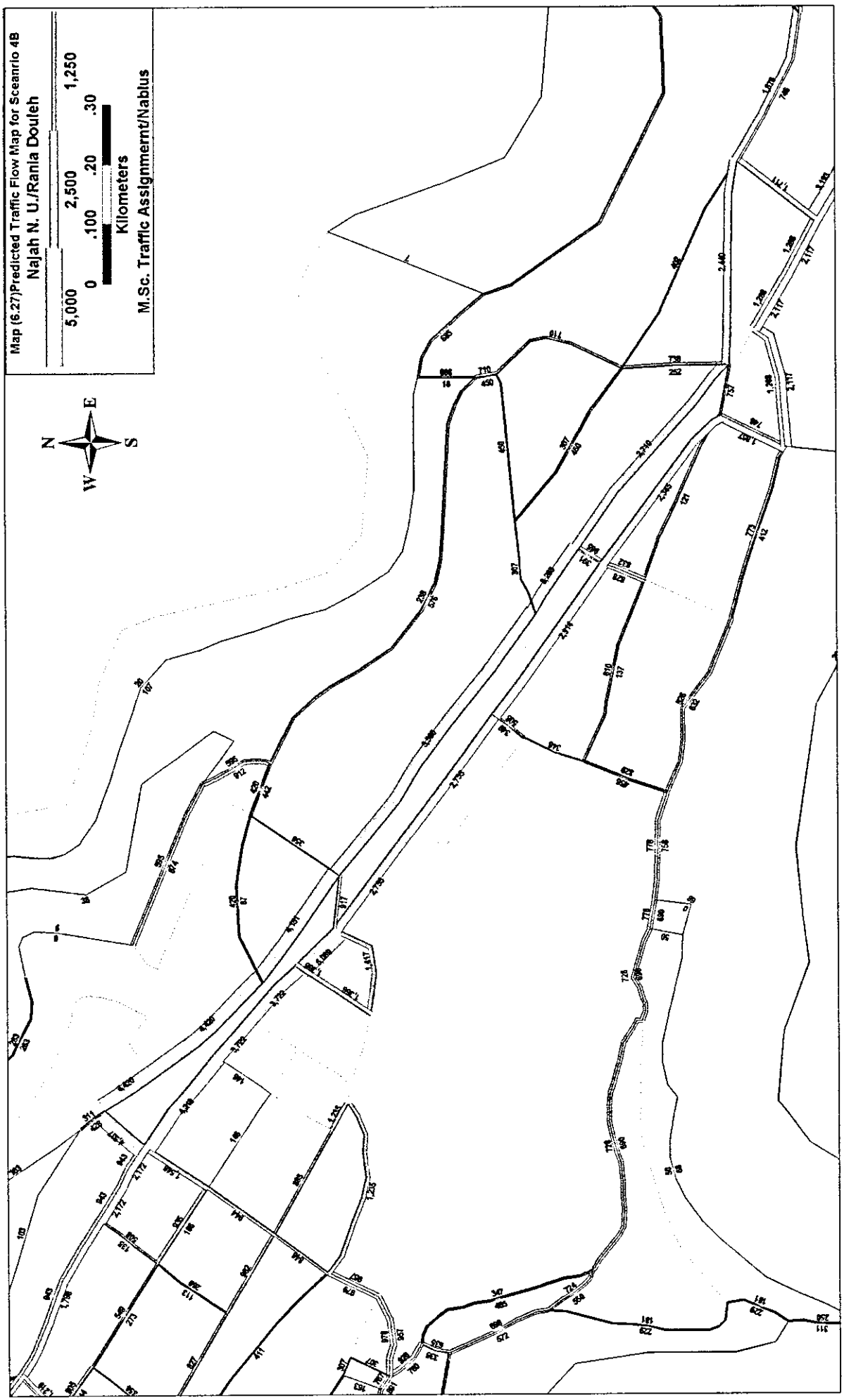
changed to a one-way street to the south with usable three lanes. These changes were made in order to handle the diverted amount of traffic that used to pass through the Martyr's Square to reach the eastern part of the City. This Scenario is divided into two Scenarios; 4A and 4B. The first Scenario 4A, includes all the roads as in the second Scenario with the full capacity utilization of the network, the overpass suggestion, and the new signalized intersections that were suggested in the City. The second Scenario 4B, is the same as Scenario 4A, except that the overpass was not included in the analysis.

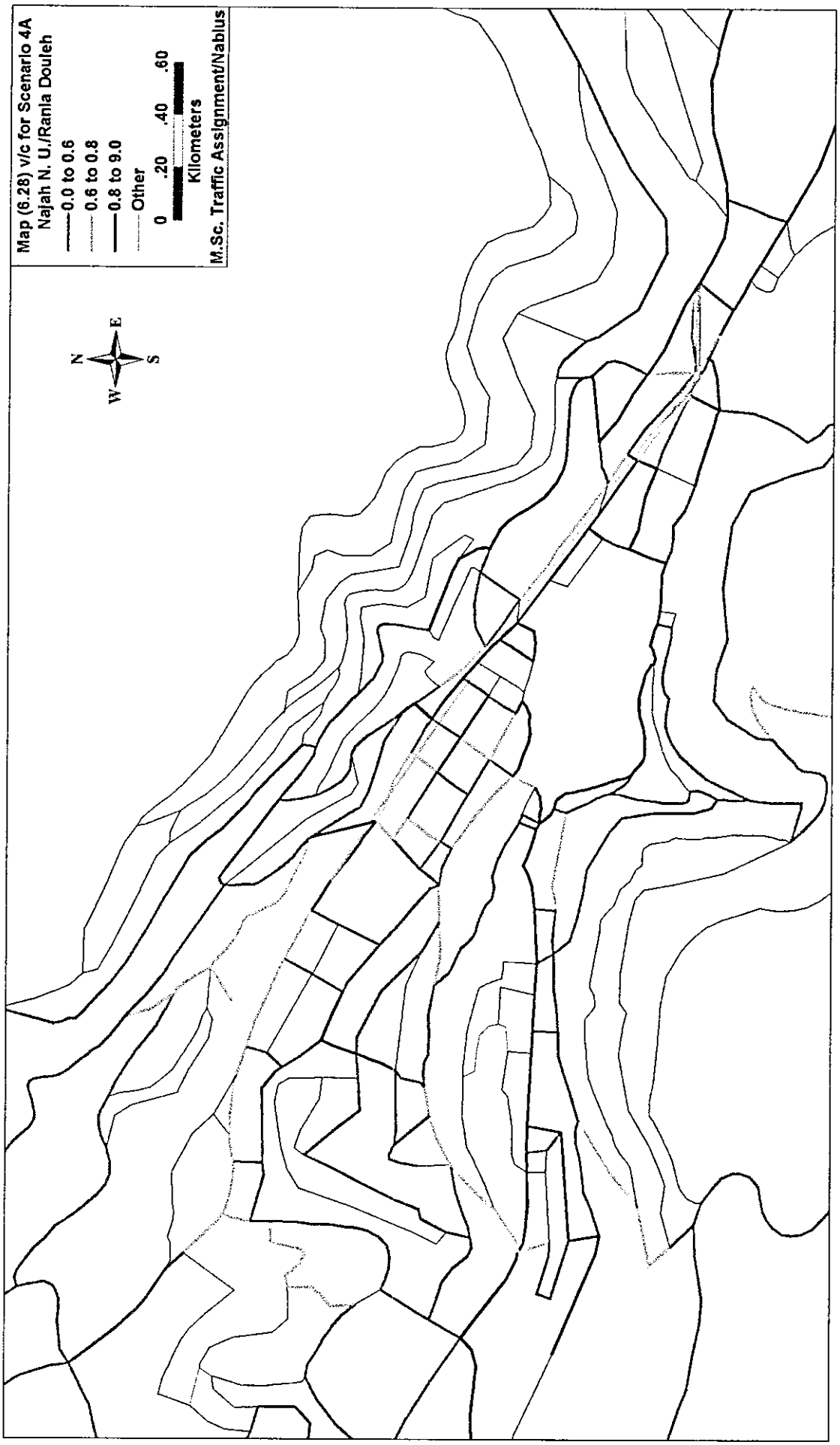
Traffic assignment flow results are presented in Map (6.24). The area bound by Prince Mohammed Street west and Dafna Street east is illustrated in Map (6.25) for scenario 4A. Map (6.26) shows the results of the traffic assignment. The area bound by Prince Mohammed Street west and Dafna Street east is illustrated in Map (6.27) for Sscenario 4B. The v/c ratios and deficient links are shown in Maps (6.28) and (6.29) for Scenario 4A and 4B, respectively. Tables (6.13) and (6.14) show the number of links with different flow ranges for Scenario 4A and 4B, respectively. Tables (6.15) and (6.16) show the number of links with different v/c ranges. The VHT value was 107,743 and 133,006. The VKT value was 82,786 and 85,500 for Scenarios 4A and 4B.











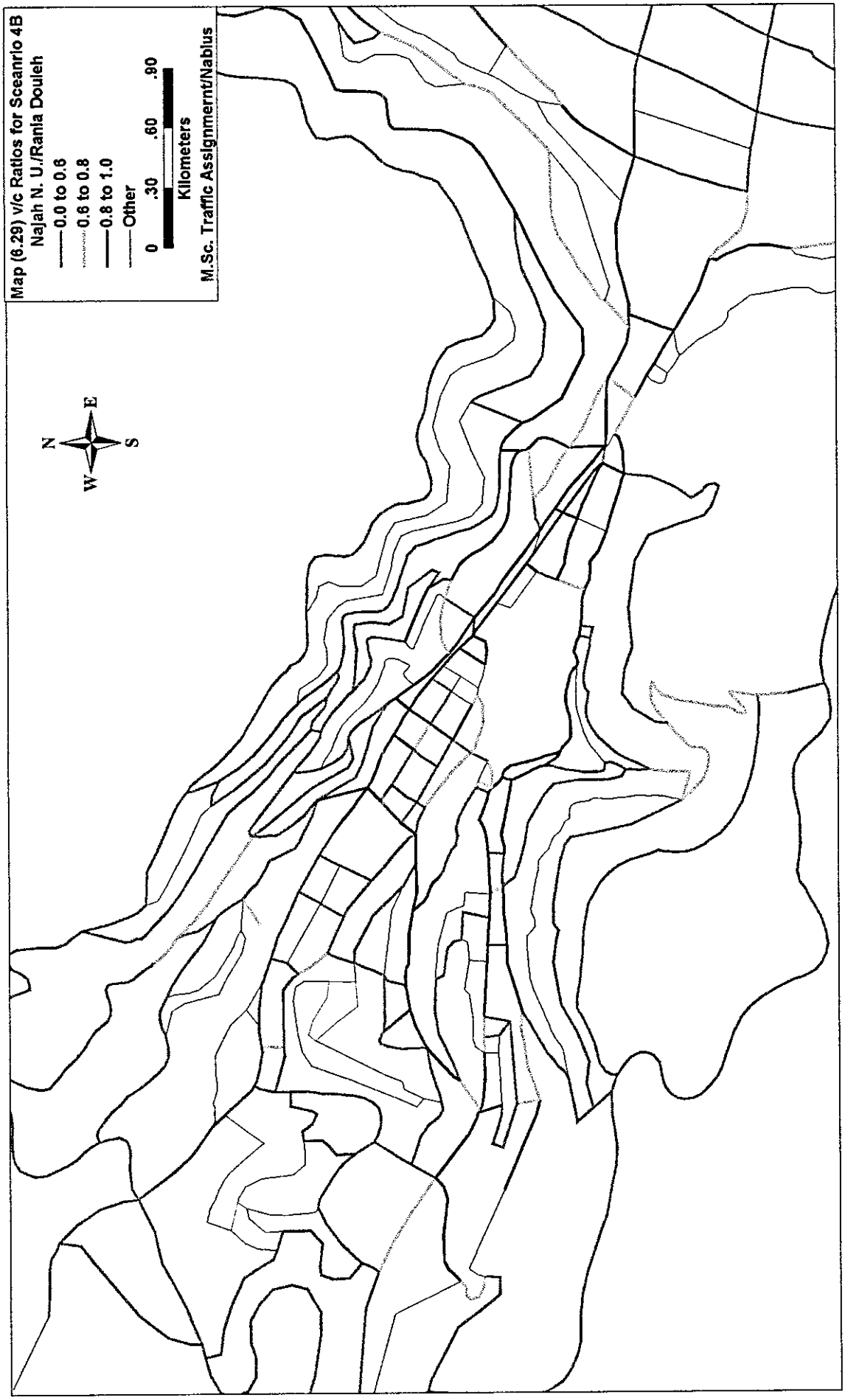


Table (6.13) Future Traffic Conditions Model Output (Scenario 4A)

Flow Ranges	Total Number of Links AB/BA	Percentages AB/BA
≤500	161/160	31/31
500-1000	55/62	11/12
1000-1500	18/10	3/2
1500-2000	19/9	3/2
≥2000	18/10	3/2
Total	522	100%

Table (6.14) Future Traffic Conditions Model Output (Scenario 4B)

Flow Ranges	Total Number of Links AB/BA	Percentages AB/BA
≤500	184/170	33/30
500-1000	57/67	10/12
1000-1500	23/20	4/4
1500-2000	11/2	2/0
≥2000	22/5	4/1
Total	561	100%

Table (6.15) Number of Links with Different volume/capacity Ratios (Scenario 4A)

V/C Ranges	Number of Links AB/BA	Percentages AB/BA
≤0.2	90/94	17/18
0.2-0.4	55/54	11/11
0.4-0.6	45/33	9/6
0.6-0.8	23/40	4/8
0.8-1.0	23/24	4/5
≥1	29/12	6/1
Average v/c	0.55	
Total	522	100%

Table (6.16) Number of Links with Different volume/capacity Ratios (Scenario 4B)

V/C Ranges	Number of Links AB/BA	Percentages AB/BA
≤0.2	104/103	19/18
0.2-0.4	52/37	9/7
0.4-0.6	37/51	7/9
0.6-0.8	32/31	6/6
0.8-1.0	19/13	3/2
≥1	48/34	9/6
Average v/c	0.6	
Total	561	100%

6.5 Comparison Among Transportation Scenarios

The previously presented analyses for each transportation scenario, enables the transportation planner to built up an appropriate idea about the best transportation plan for the future. The summary of all the scenario results is found in Table (6.17). The results of the transportation scenarios indicate that major improvements to the transportation network should take place, in order to solve the anticipated growth in demand for the future conditions.

Scenario 3, which considers the construction of an overpass over Haifa and Faisal Streets gave the most considerable results in terms of lower traffic congestion, lower VHT, and VKT comparing to the results of the other scenarios. However, when comparing all the results of the sub Scenarios of Scenario 3, it was noticed that the results were almost close, except that Scenario 3A gave lower v/c ratios on the congestion level. It should be noted that the cost associated with this solution will be relatively high if compared to the cost of the other scenarios. A cost-benefit study should be done to evaluate the overall attractions of this scenario.

Table (6.17) Comparison between Existing and Predicted Traffic Conditions for All the Scenarios

	Number of Links with AB/BA Flow for Different Ranges					Total No. of Links with v/c Ratios						VHT $\times 10^3$	VKT $\times 10^3$	V/c
	≤500	500-1000	1000-1500	1500-2000	≥2000	≤0.2	0.2-0.4	0.4-0.6	0.6-0.8	0.8-1	≥1.0			
E	309	60	1	18	3	115	156	53	34	25	7	45.7	35.0	0.42
S1	192	138	41	17	26	35	64	85	45	70	115	132.7	80.5	0.91
S2	331	108	44	23	24	181	104	85	54	49	57	107.3	76.7	0.56
S3A	330	54	37	30	19	170	111	95	75	40	31	100.2	77.4	0.52
S3B	331	108	44	22	24	187	105	82	53	47	55	107.1	76.7	0.53
S3C	347	104	36	26	20	184	132	83	62	32	39	100.8	78.0	0.52
S4A	321	117	28	28	28	184	109	78	63	47	41	107.7	82.8	0.55
S4B	354	124	43	13	27	207	89	88	63	32	82	133.0	85.5	0.60

E: Existing traffic simulation output.
S1: Scenario 1 simulation output (Do-Nothing). Existing street network and future O-D matrix.
S2: Scenario 2 simulation output. All street network, future O-D matrix, and modified capacity conditions.
S3A: Scenario 3A simulation output. All street network, Overpass, modified capacity, and new traffic signals.
S3B: Scenario 3B simulation output. All street network, no Overpass, modified capacity, and new traffic signals.
S3C: Scenario 3C simulation output. All street network, Overpass with ramps to the CBD, modified capacity, and new traffic signals.
S4A: Scenario 4A simulation output. City Center closer, Overpass, modified capacity, and new traffic signals.
S4B: Scenario 4B simulation output, City Center closer, no Overpass, modified capacity, and new traffic signals.

Chapter Seven

SUMMARY AND CONCLUSIONS

This study has considered the problem of lack of dealing with scientific approaches to evaluate the impacts of changes in transportation supply and/or demand on the flow patterns on a street network. One of the most advanced traffic assignment techniques, stochastic user equilibrium was analyzed and applied to street network representing the City of Nablus. In addition, a process for estimating the origin-destination trip matrix from existing traffic counts was used by the multiple path matrix estimation technique.

The calibrated model was used as a basis for evaluating the impacts of transportation policies or scenarios of future travel demand. The expected impacts for eight scenarios/options were evaluated.

Based on the results of the study, the following conclusions were made:

1. The flow patterns in a street network can be simulated with reasonable precision, utilizing the stochastic user equilibrium traffic assignment. This method was selected among the other

traffic assignment techniques since it simulates the existing traffic conditions with acceptable accuracy.

2. The origin-destination trip matrix can be constructed from existing traffic counts, by using scientific methods. The procedure applied in estimating the morning peak origin-destination trip matrix was the multiple path matrix estimation method, which utilizes the concept of stochastic user equilibrium assignment. It also minimizes the cost and time associated with collecting relevant data. This was very efficient as no previous trip matrices were found.

3. This study has demonstrated the ability for predicting the impacts of implementing transportation scenarios and policies. The study can be used as a basis to compare the effects of alternative schemes.

4. For the travel forecasting process, general assumptions concerning traffic growth percentages were assumed. More accurate results could be achieved if detailed data on socio-economic characteristics for each traffic zone were available. Therefore, it is recommended that a follow up work should be

done, where a more detailed work concentrating on the demand and supply forecasting is carried out.

5. The discussion of the output indicates that the major through traffic movements that pass the city to the outer locations must have a special concern. This could be achieved by constructing overpass over Faisal and Haifa streets to reduce the traffic congestion and provide acceptable level of service as well as user convenience and comfort. An overpass for pedestrians crossing Haifa and Faisal Streets near Al-Watani Hospital is also recommended.

6. The idea of implementing a long-range transportation planning study by considering Nablus City as a case study, is a promising tool for planners to start a long-range transportation planning for the other cities in Palestine.

References

- Abu-Eisheh, S. (1984), Transportation Network Analysis Utilizing User-Equilibrium Assignment, Unpublished Master's Thesis. Pennsylvania State University, USA.

- American Association of State Highway and Transportation Officials (AASHTO) (1994), A Policy on Geometric Design of Highways and Streets. USA.

- Bailey,M. and Lewis,S. (1992), Creating a Municipal Geographic Information System for Transportation: Case Study of Newton, Massachusetts. Transportation Research Record 1364. Washington, D.C., USA

- Caliper Corperation (1994), TransCAD User Guide .

- Dagnazo, C., F., and Sheffi, Y. (1977), On Stochastic Models of Traffic Assignment, Transportation Science, Vol. II, pp. 433-438.

- Dornier SystemConsult and Universal Group (1998), Traffic System Management for the City of Nablus. Palestine.

- Federal Highway Administration (1973), Traffic Assignment, FHW, USA.

- Irwin, N. A., and Vone Cube, H. G. (1962), Capacity Restrain in Multi Travel Mode Assignment Programs, Highway Research Board, Bulletin 347, pp. 258-259. Washington, D.C., USA

- German Federal Ministry of Transport / Road Construction Department 1984, Guidelines for the Design of Roads.

- Khatib & Alami consultants (1995), Nablus City Center Traffic Assessment Study, Palestine.

- LeBlanc, L., J., Morlok, E., K., and Pierskalla, W., P. (1984), An Efficient Approach to Solving the Road Network Traffic Assignment Problem, Transportation Research, Vol. 188, pp. 309-318.

- Moore, E. F., (1957), The Shortest Path Through a Maze, Proceedings International Symposium on the Theory of Switching. Harvard University Press, Cambridge, Mass.

- Municipality of Greater Amman and Dar Al-Handasah Consultants (Shair & Partners) (1987), Greater Amman Comprehensive Development Plan, Volume 5: Transportation. Jordan.

- Municipality of Nablus (1995), Nablus City Master Plan, Palestine.

- Nielsen, O. (1993), Two New Methods for Estimating Trip Matrices from Traffic Counts, Travel Behavior Research, Updating the State of Play.

- Saginaw County Metropolitan Planning Commission (1995), Saginaw Metropolitan Area Transportation Study's Long Range Transportation Plan 1995-2015. USA.

- Sheffi, Y. (1985), Urban Transportation Networks, Prentice-Hall. USA.

- Spence, A. L. (1998), Transportation Policy for Western Cape in South Africa, Proceedings of the International Conference Codatu VIII.

- Transportation Research Board (1994), Highway Capacity Manual. Special Report 209, third edition. Washington, D.C., USA

- Wardrop, J. C. (1952), Some Theoretical Aspects of Road Traffic Research, Proceedings, Institute of Civil Engineers (part II) ,Vol. 1, pp. 325-378.

- Willumsen L. G. (1978), Estimation of an O-D Matrix from Traffic Counts, Working Paper 99, Institute of Transport Studies, University of Leeds.

An-Najah National University

Faculty of Graduate Studies

The Use of Traffic Assignment Modeling Technique in Evaluating & Testing Transportation Policies and Projects Nablus City : Case Study

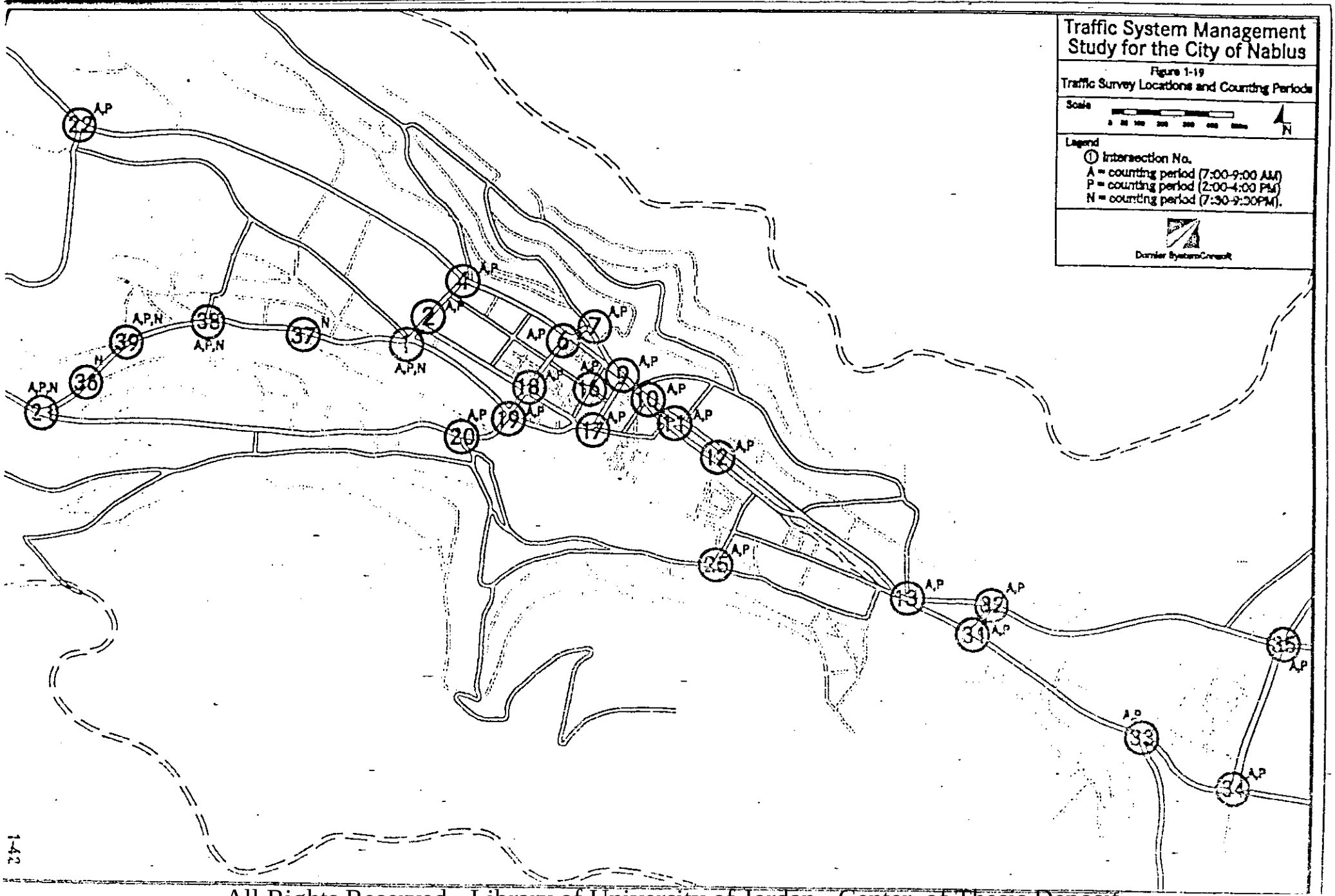
APPENDICES

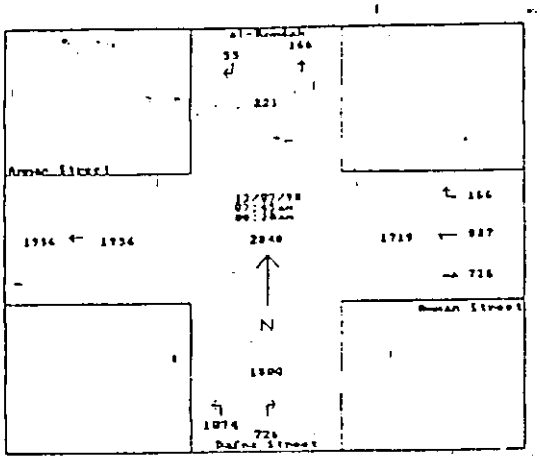
Rania Mustafa Darwish Doulch

Supervisor

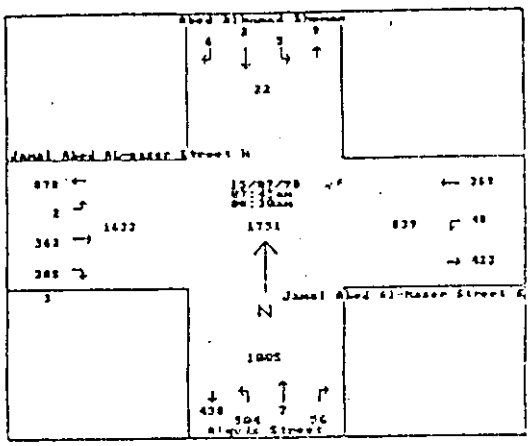
Dr.Sameer A. Abu-Eisheh

Submitted In Partial Fulfillment Of The Requirements For The Degree Of Master Of Science in Civil Engineering , Faculty of Graduate Studies , An-Najah National University , Nablus , Palestine.

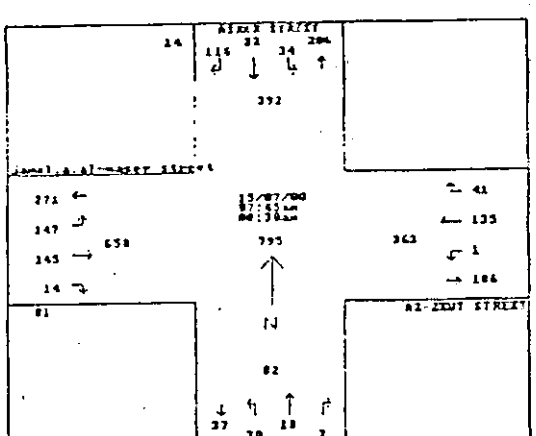




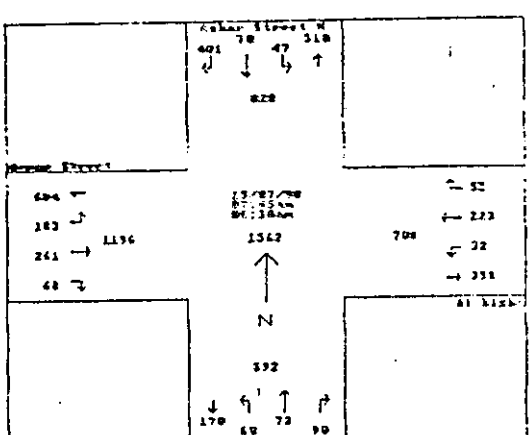
Intersection No. (32A)



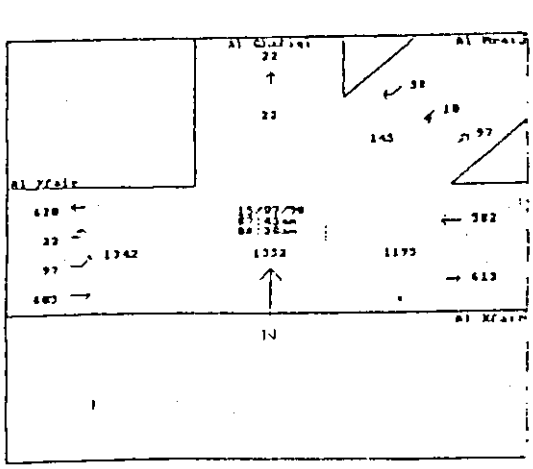
Intersection No.(33A)

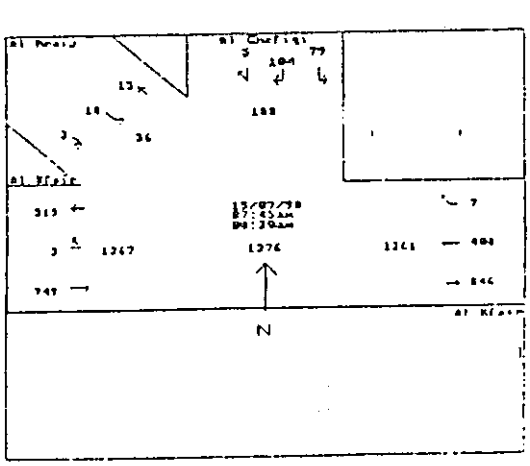


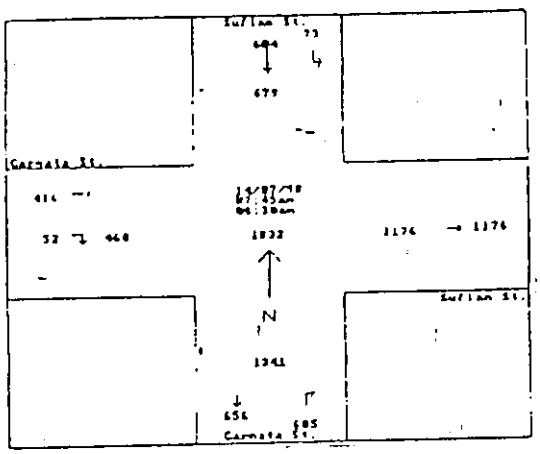
Intersection No.(34A)



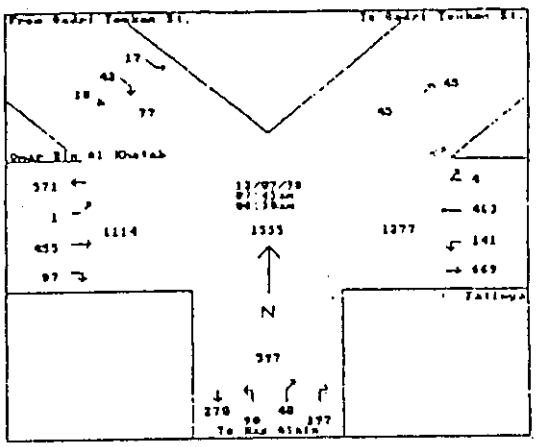
Intersection No.(35A)



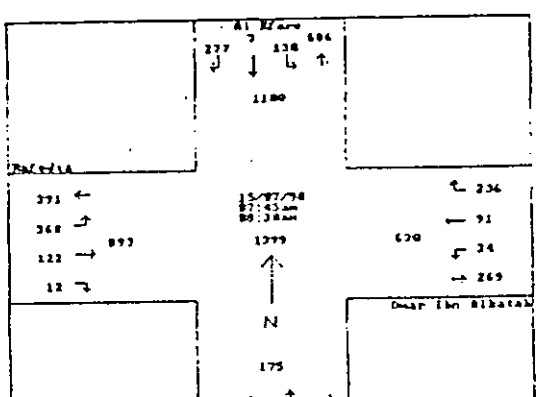




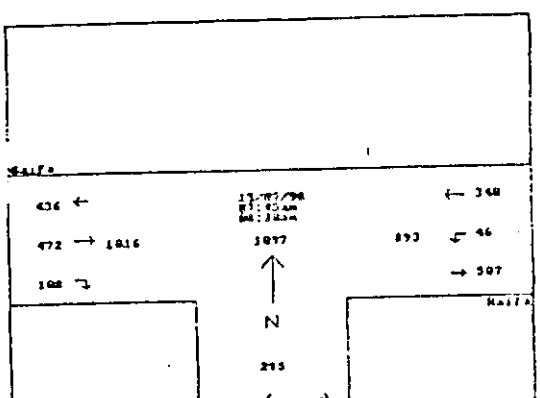
Intersection No. (19A)



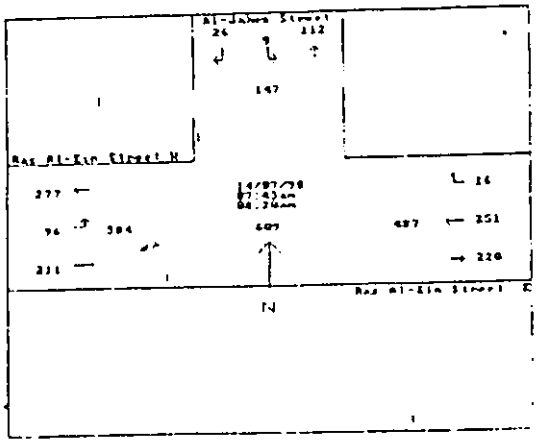
Intersection No.(20A)

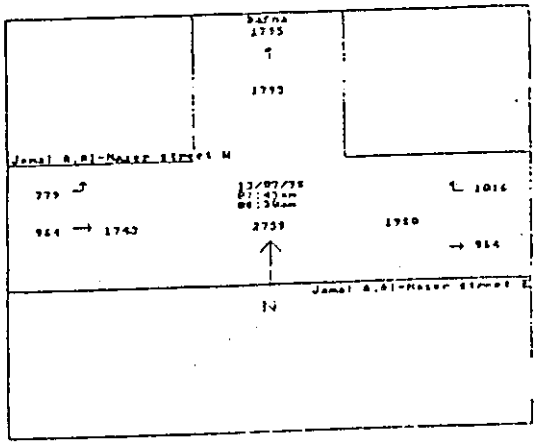


Intersection No.(21A)

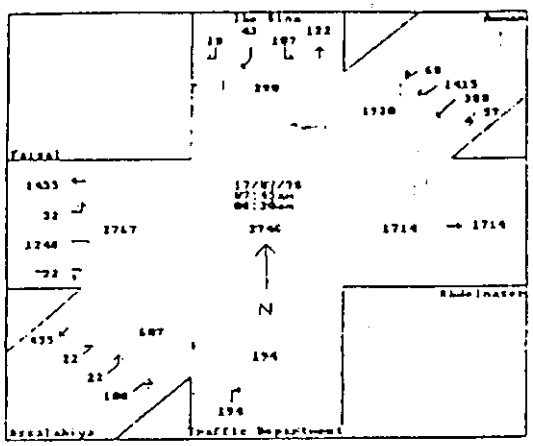


Intersection No.(22A)

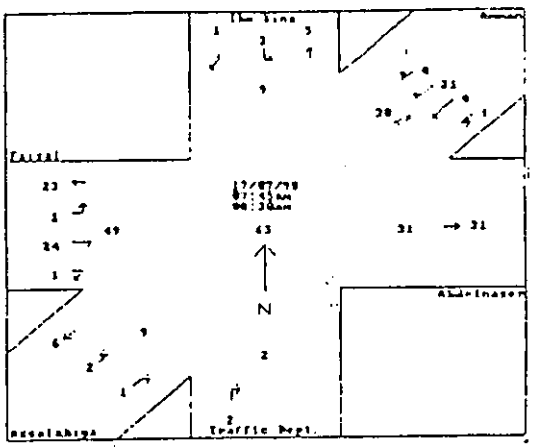




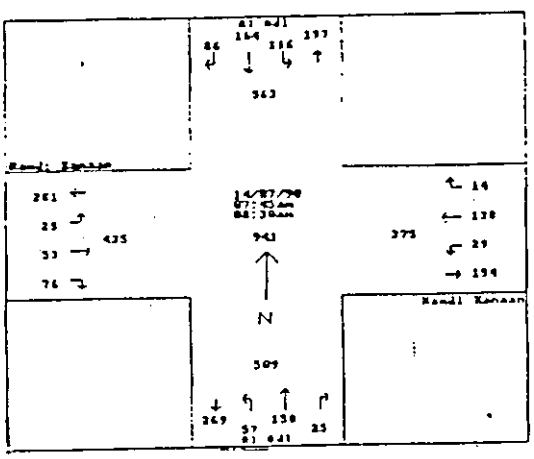
Dornier SystemConsult



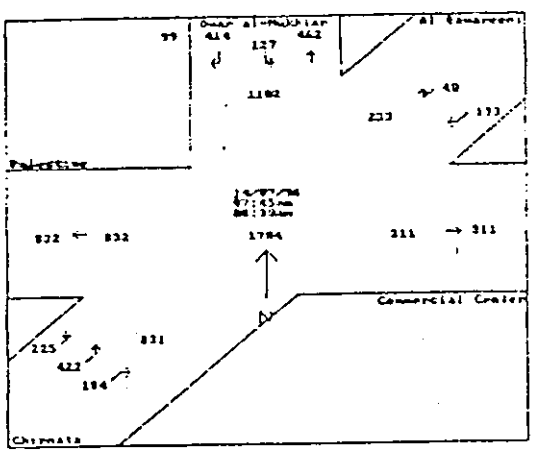
Intersection No. (13A)



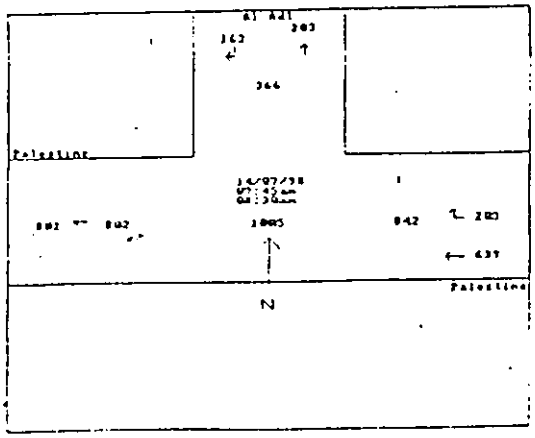
Intersection No.(13AB)

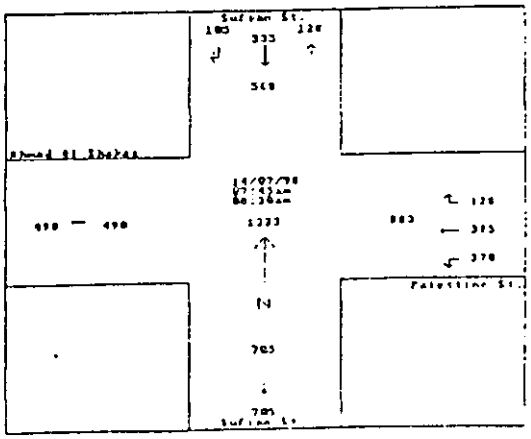


Intersection No.(16A)

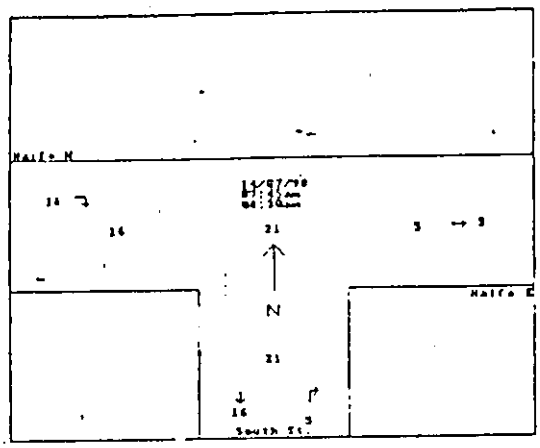


Intersection No.(17A)

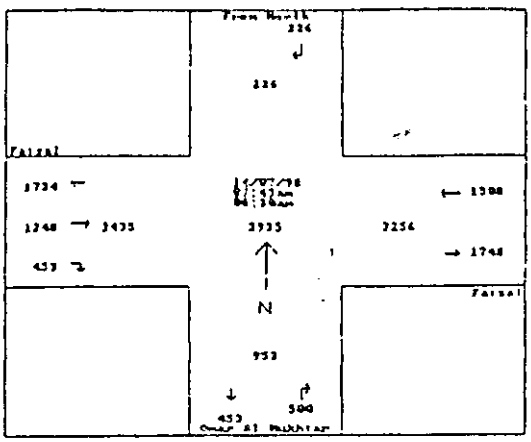




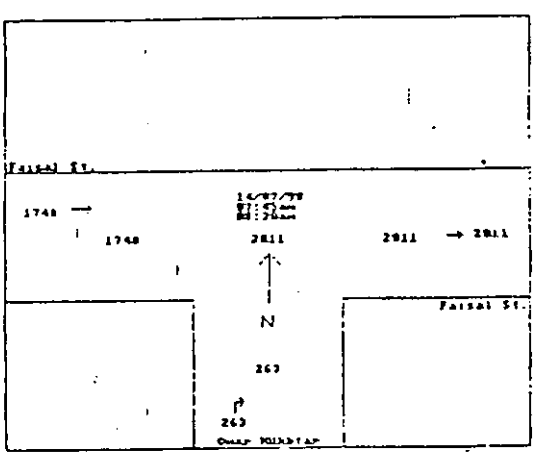
Dornier SystemConsult



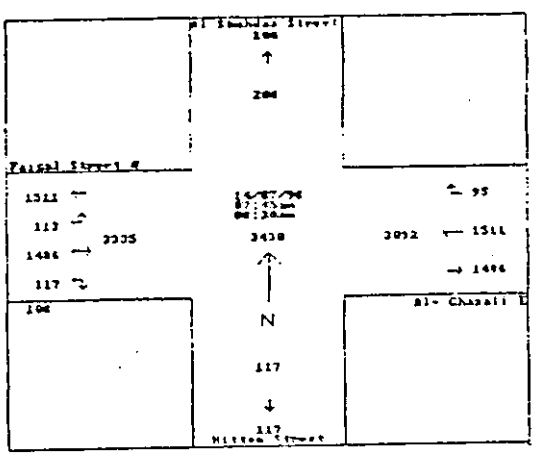
Intersection No. (62A)



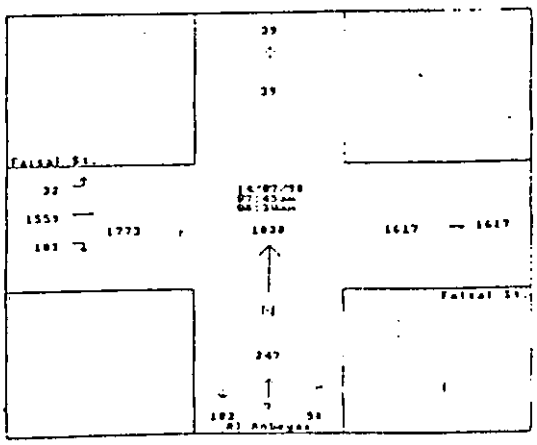
Intersection No.(9A)

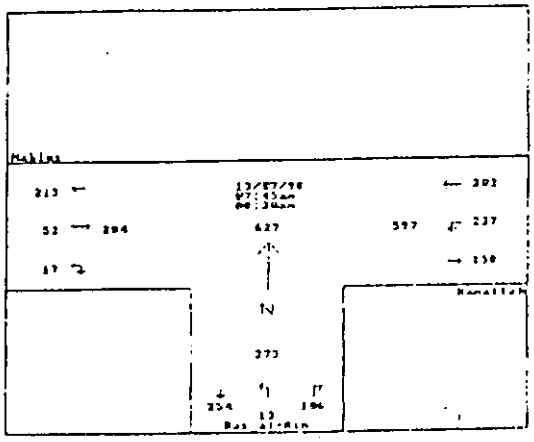


Intersection No.(10A)



Intersection No.(11A)

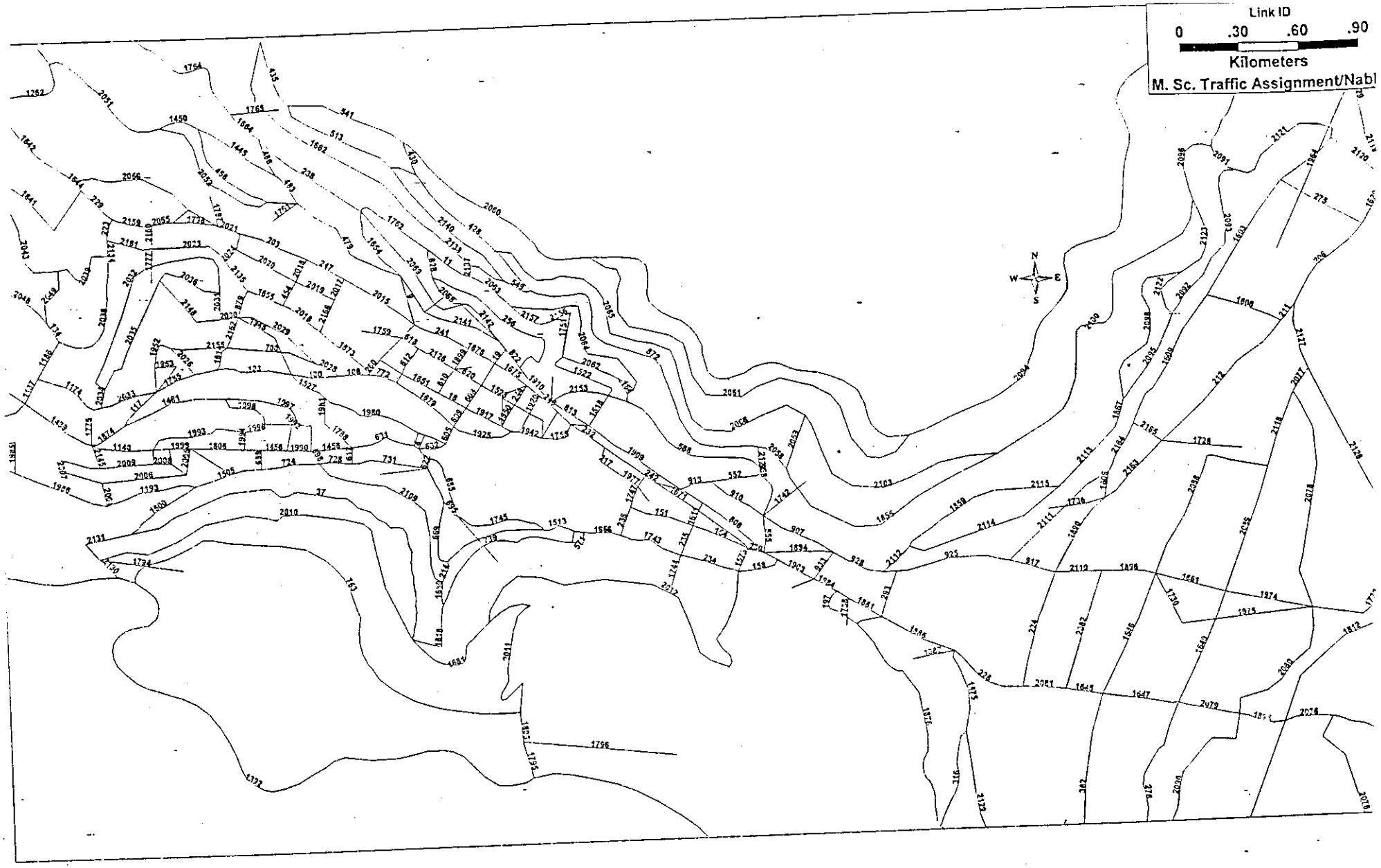




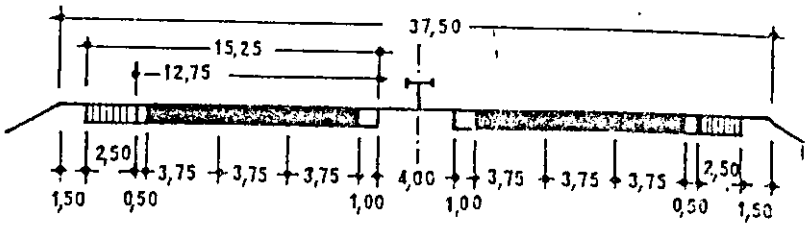
Capacity for Different Cross-Sections

Einsatzbereich			Straßentyp				
Straßenkategorie	Capacity (vph)	Special Conditions	Section Type	Verkehrsart	Max. Speed	Cross-Section	Design Speed
1	2	3	4	5	6	7	8
A I	≤ 3800 bei $\bar{v}$ = 90 km/h ≤ 2800 bei $\bar{v}$ = 110 km/h		a 6 m s	Kfz	–	planfrei ✶ +	120 100
	≤ 2400 bei $\bar{v}$ = 90 km/h ≤ 1800 bei $\bar{v}$ = 110 km/h		a 4 m s	Kfz	–	planfrei	120 100
	≤ 2200 bei $\bar{v}$ = 90 km/h ≤ 1600 bei $\bar{v}$ = 100 km/h	bei geringem Lkw-Verkehr oder bei Zwangsbedingungen	b 4 m s	Kfz	–	planfrei	120 100
	≤ 1700 bei $\bar{v}$ = 70 km/h ≤ 900 bei $\bar{v}$ = 90 km/h		b 2 s	Kfz	≤ 100 (120)	(planfrei) plangleich	100 90
	≤ 1300 bei $\bar{v}$ = 70 km/h ≤ 900 bei $\bar{v}$ = 80 km/h	bei geringem Lkw-Verkehr	b 2	Kfz	≤ 100	(planfrei) plangleich	100 90
A II	≤ 4100 bei $\bar{v}$ = 70 km/h ≤ 3400 bei $\bar{v}$ = 90 km/h		b 6 m s	Kfz	–	planfrei	100 90
	≤ 2600 bei $\bar{v}$ = 70 km/h ≤ 2200 bei $\bar{v}$ = 90 km/h		b 4 m s	Kfz	–	planfrei	100 90
	≤ 2300 bei $\bar{v}$ = 70 km/h ≤ 2100 bei $\bar{v}$ = 80 km/h	bei geringem Lkw-Verkehr oder bei Zwangsbedingungen	c 4 m	Kfz	≤ 100 (80)	planfrei (plangleich)	100 90 (80)
	≤ 1700 bei $\bar{v}$ = 70 km/h ≤ 1400 bei $\bar{v}$ = 80 km/h		b 2 s	Kfz	≤ 100	plangleich	100 90 80
	≤ 1600 bei $\bar{v}$ = 60 km/h ≤ 900 bei $\bar{v}$ = 80 km/h	bei geringem Lkw-Verkehr	b 2	Kfz	≤ 100	plangleich	100 90 80
	≤ 1700 bei $\bar{v}$ = 60 km/h ≤ 900 bei $\bar{v}$ = 80 km/h	bei landwirtschaftlichem Verkehr > 10 Fz/h	b 2 s	Allg	≤ 100	plangleich	100 90 80
	≤ 1300 bei $\bar{v}$ = 60 km/h ≤ 900 bei $\bar{v}$ = 70 km/h		b 2	Allg	≤ 100	plangleich	100 90 80
	≤ 1000 bei $\bar{v}$ = 60 km/h ≤ 700 bei $\bar{v}$ = 70 km/h	bei geringem Lkw-Verkehr	d 2	Allg	≤ 100	plangleich	100 90 80
A III	≤ 2600 bei $\bar{v}$ = 60 km/h ≤ 2100 bei $\bar{v}$ = 80 km/h		c 4 m	Kfz	≤ 80 (100)	(planfrei) plangleich	(100) (90) 80
	≤ 2300 bei $\bar{v}$ = 60 km/h ≤ 1800 bei $\bar{v}$ = 80 km/h	bei geringem Lkw-Verkehr oder bei Zwangsbedingungen	d 4	Kfz	≤ 80	plangleich	80 70
	≤ 1700 bei $\bar{v}$ = 60 km/h ≤ 900 bei $\bar{v}$ = 70 km/h	bei landwirtschaftlichem Verkehr > 20 Fz/h	b 2 s	Allg	≤ 100	✶ plangleich	80 70
	≤ 1800 bei $\bar{v}$ = 50 km/h ≤ 900 bei $\bar{v}$ = 70 km/h	bei starkem Lkw-Verkehr	b 2	Allg	≤ 100	plangleich	80 70
	≤ 1300 bei $\bar{v}$ = 50 km/h ≤ 700 bei $\bar{v}$ = 70 km/h		d 2	Allg	≤ 100	plangleich	80 70 60
	≤ 800 bei $\bar{v}$ = 50 km/h ≤ 700 bei $\bar{v}$ = 60 km/h	bei geringem Lkw-Verkehr	e 2	Allg	≤ 100	plangleich	80 70 60
A IV	≤ 1400 bei $\bar{v}$ = 40 km/h ≤ 1000 bei $\bar{v}$ = 60 km/h	bei starkem Lkw-Verkehr	d 2	Allg	≤ 100	plangleich	80 70 60
	≤ 900 bei $\bar{v}$ = 40 km/h ≤ 700 bei $\bar{v}$ = 60 km/h		e 2	Allg	≤ 100	plangleich	80 70 60
	≤ 300	verkehrstechnische Bemessung nicht sinnvoll	f 2	Allg	≤ 100	plangleich	70 60
B II	≤ 2800 bei $\bar{v}$ = 90 km/h ≤ 2400 bei $\bar{v}$ = 80 km/h	bei starkem Lkw-Verkehr	b 4 m s	Kfz	≤ 80	planfrei	80 70
	≤ 2600 bei $\bar{v}$ = 60 km/h ≤ 2100 bei $\bar{v}$ = 80 km/h		c 4 m	Kfz	≤ 80	planfrei (plangleich)	80 70 (60)
	≤ 2500 bei $\bar{v}$ = 50 km/h ≤ 2100 bei $\bar{v}$ = 70 km/h	bei geringem Lkw-Verkehr oder bei Zwangsbedingungen	d 4	Kfz	≤ 70	plangleich	70 (60)
B III	≤ 2500 bei $\bar{v}$ = 50 km/h ≤ 2100 bei $\bar{v}$ = 80 km/h	bei starkem Lkw-Verkehr	c 4 m	Allg	≤ 70	plangleich	70 60
	≤ 2200 bei $\bar{v}$ = 50 km/h ≤ 1800 bei $\bar{v}$ = 80 km/h		d 4	Allg	≤ 70	plangleich	70 60 (50)
	≤ 1400 bei $\bar{v}$ = 40 km/h ≤ 1000 bei $\bar{v}$ = 50 km/h		d 2	Allg	≤ 70	plangleich	70 60 (50)
	≤ 900 bei $\bar{v}$ = 40 km/h ≤ 700 bei $\bar{v}$ = 50 km/h	bei geringem Lkw-Verkehr Linienbusverk. eingeschränkt	e 2	Allg	≤ 60	plangleich	60 (50)
B IV	≤ 1400 bei $\bar{v}$ = 40 km/h ≤ 1000 bei $\bar{v}$ = 50 km/h		d 2	Allg	≤ 60	plangleich	60 50
	≤ 900 bei $\bar{v}$ = 40 km/h ≤ 700 bei $\bar{v}$ = 50 km/h	bei geringem Lkw-Verkehr Linienbusverk. eingeschränkt	e 2	Allg	≤ 60	plangleich	60 50
C III	≤ 2100		c 4 m p r	Allg	50	plangleich	(70) (60) 50
	≤ 2000	bei geringem Lkw-Verkehr	d 4 m p r	Allg	50	plangleich	(70) (60) 50
	≤ 1900	Sonderfall des c 4 m p r bei Zwangsbedingungen	c 4 p r	Allg	50	plangleich	(70) (60) 50
	≤ 1800	Sonderfall des d 4 m p r bei Zwangsbedingungen	d 4 p r	Allg	50	plangleich	(70) (60) 50
	≤ 1700		c 2 p r	Allg	50	plangleich	(60) 50 (40)
	≤ 1500	bei geringem Lkw-Verkehr	d 2 p r	Allg	50	plangleich	(60) 50 (40)
C IV	≤ 1000	bei starkem Lkw-Verkehr	c 2 p r	Allg	50	plangleich	(60) 50 (40)
	≤ 1000		d 2 p r	Allg	50	plangleich	(60) 50 (40)
	≤ 800	Linienbusverk. eingeschränkt	f 2 p	Allg	50	plangleich	50 (40)

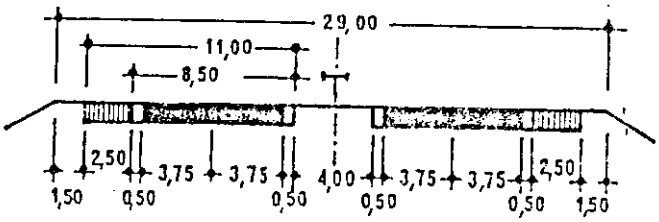
✶ At Grade + Separated



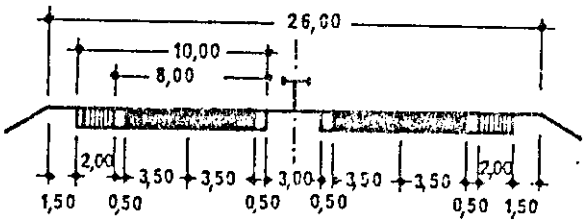
a 6ms
(RQ 37,5)



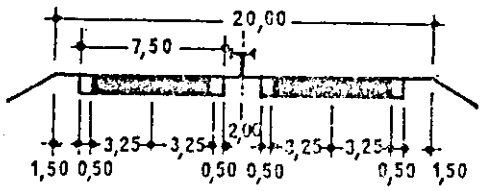
a 4ms
(RQ 29)



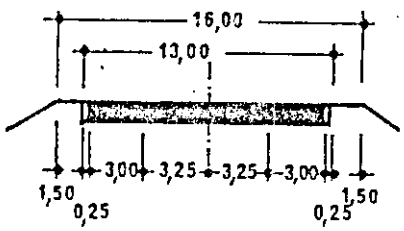
b 4ms
(RQ 26)



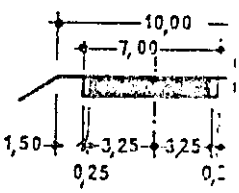
c 4m
(RQ 20)



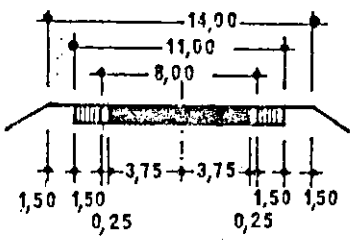
d 4
(RQ 16)



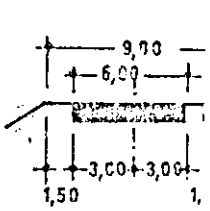
d 2
(RQ 10)



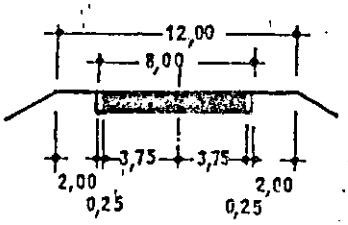
b 2s
(RQ 14)



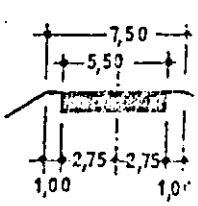
e 2
(RQ 8)



b 2
(RQ12)

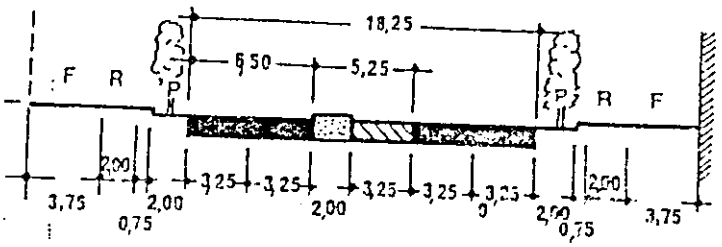


f 2
(RQ 7,5)

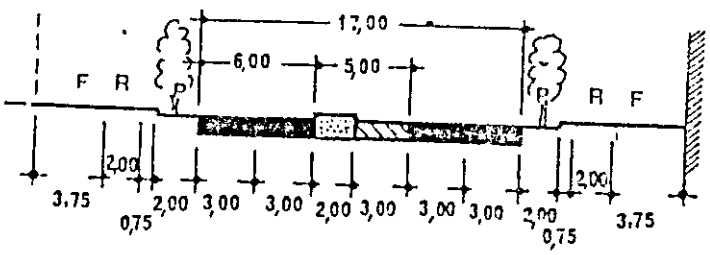


ire (4.1)

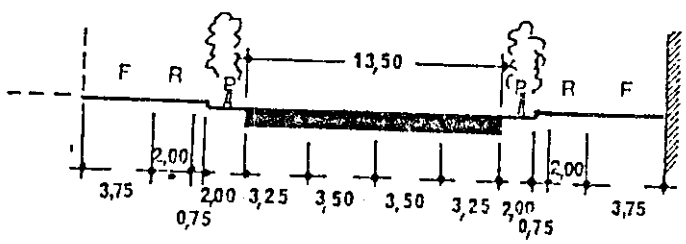
c 4 mpr



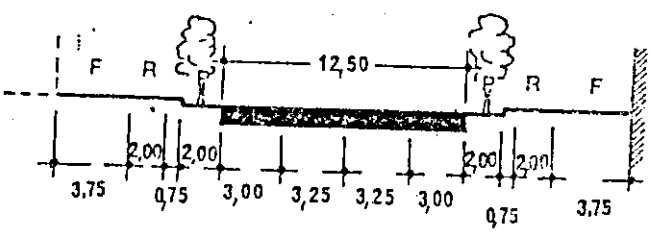
d 4 mpr



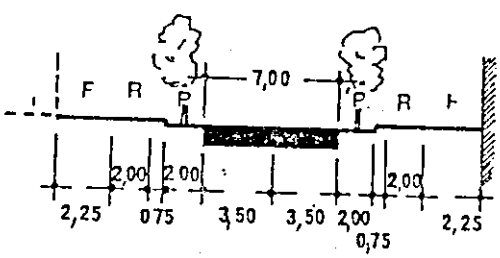
c 4 pr



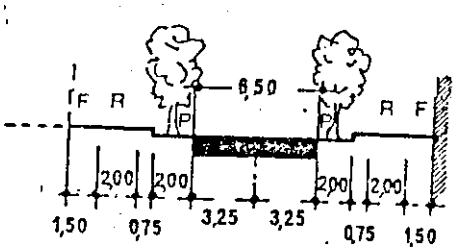
d 4 pr



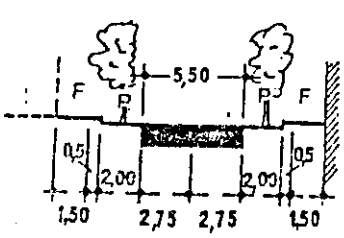
c 2 pr



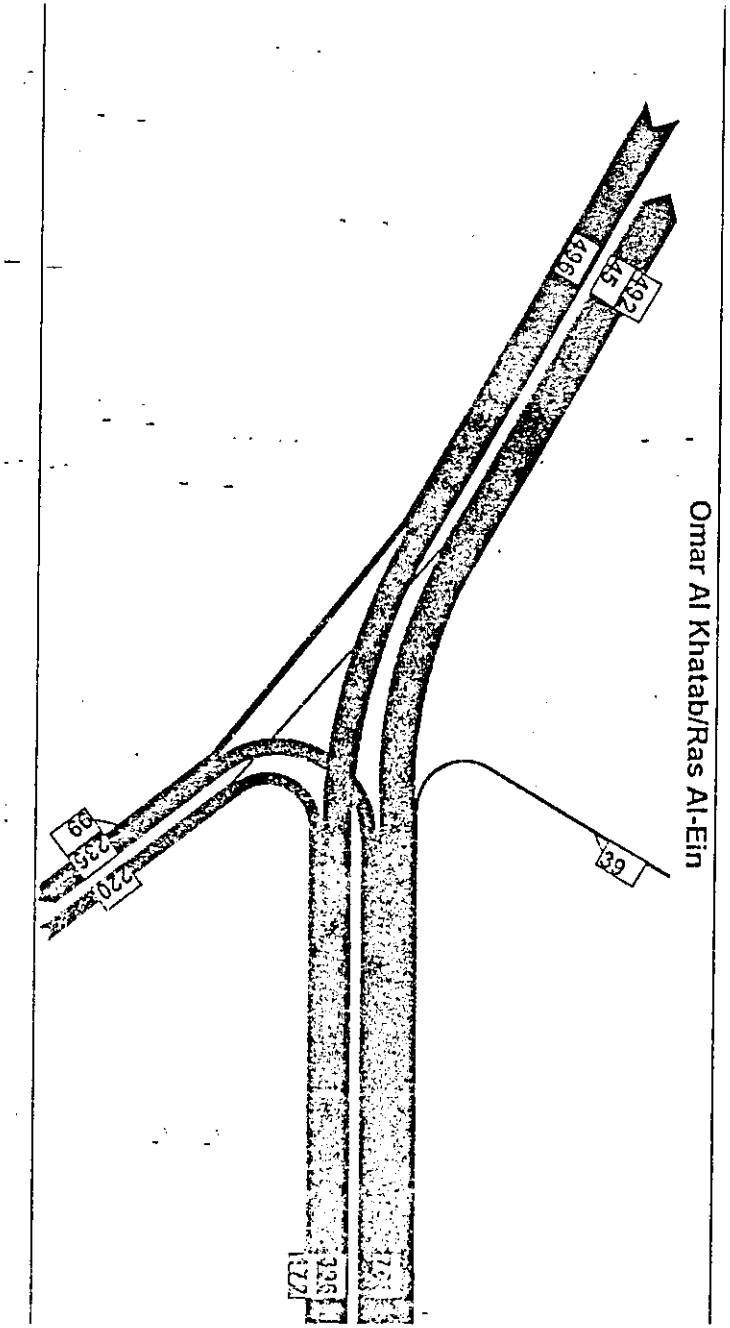
d 2 pr

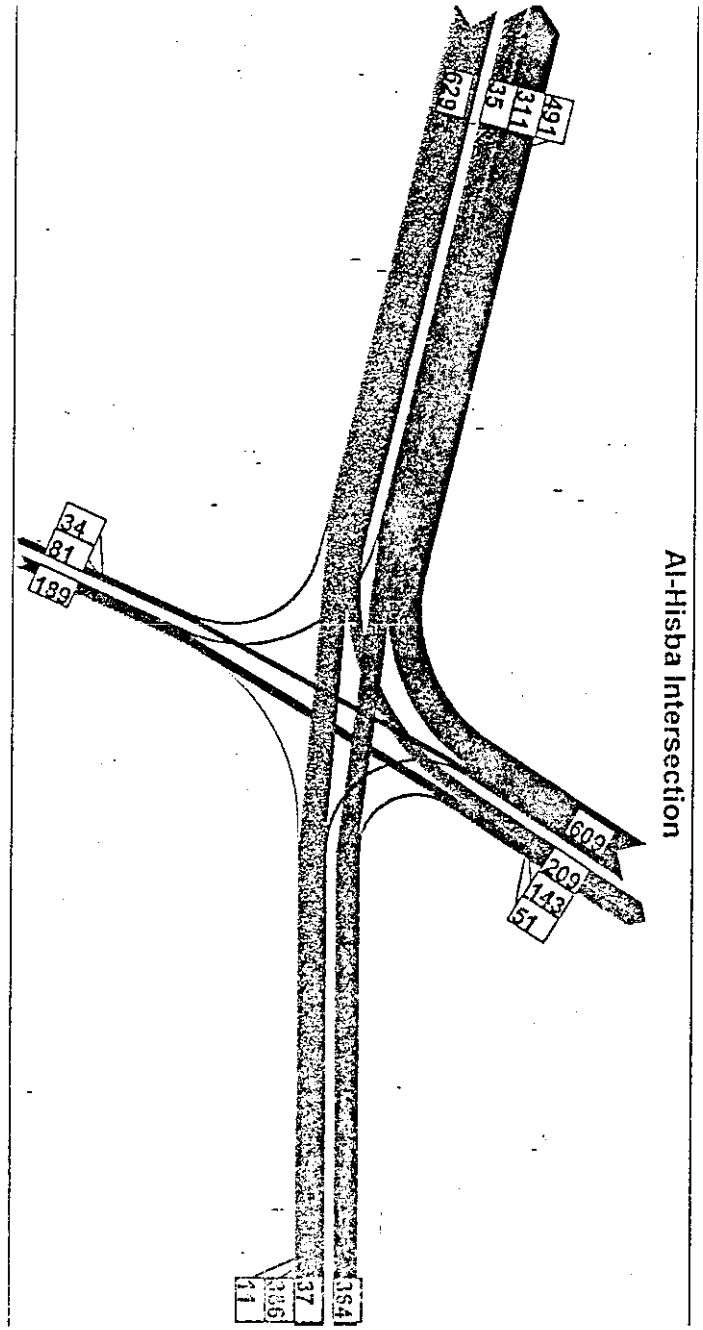


f 2 p

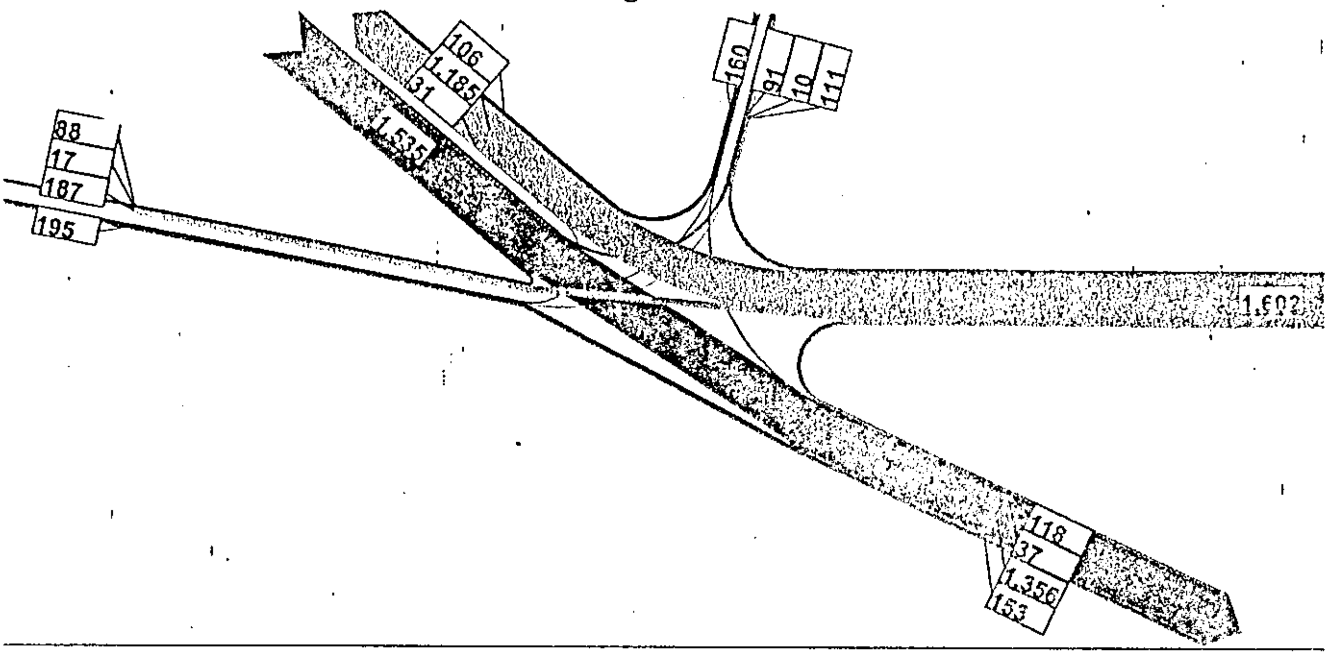


Urban Cross-Sections

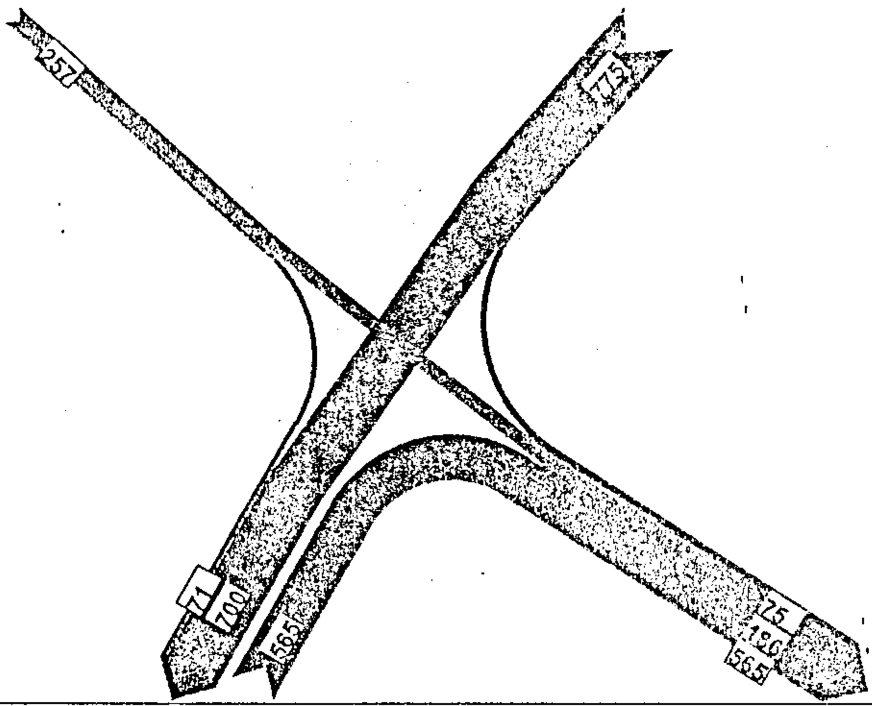




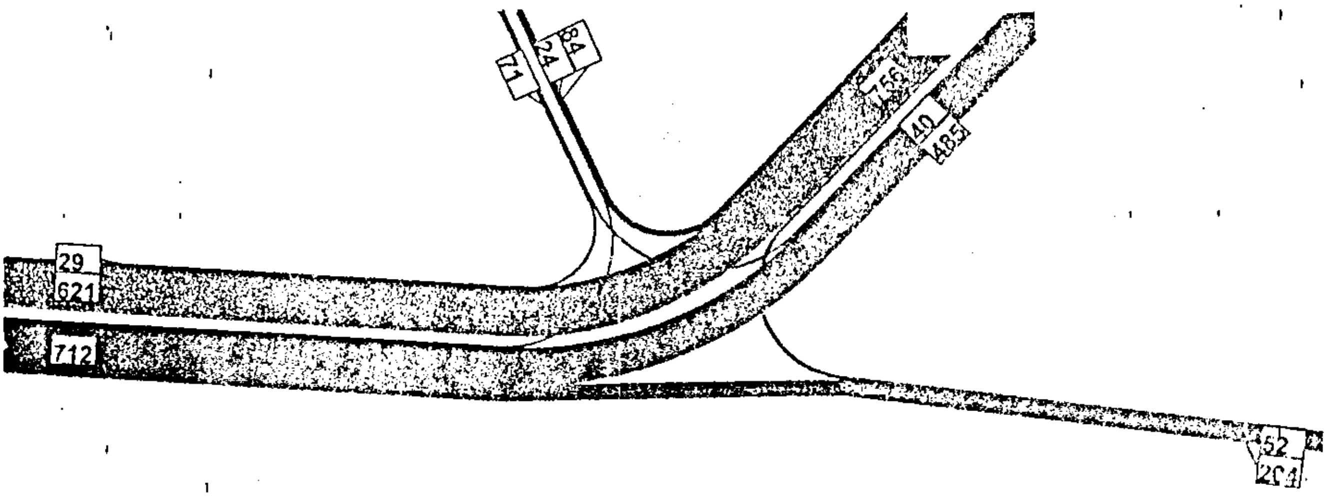
Al-Ashgal Intersection



Girnata-Sufian Intersection



Park Intersection



APPENDIX B

Data Base for Existing Streets Conditions

ID	Length	Dir	LINK_TYPE	CAPACITY	Lanes	Speed	Time	Endpoint	COUNTAB	COUNTBA	Name
3	0.07	1	2	400	1	40	0.10	1684	77	--	
4	0.07	1	2	400	1	40	0.11	1684	45	--	
5	0.03	0	2	500	1	40	0.05	1684	--	--	
9	0.25	0	2	600	1	40	0.38	1656	141	178	شارع اجلادين
11	0.24	0	2	600	1	40	0.36	1658	--	--	
18	0.16	1	1	1600	2	50	0.19	1652	490	--	
19	0.09	1	1	2400	3	50	0.10	1644	2216	--	
21	0.52	0	4	600	1	40	0.78	1640	--	--	
37	2.05	0	4	600	1	40	3.07	1691	--	--	
108	0.14	0	1	800	1	50	0.17	1654	695	557	
117	0.23	0	1	800	1	50	0.28	1670	--	--	
123	0.39	0	1	800	1	50	0.47	1686	613	582	شارع رفيديا
130	0.24	0	1	800	1	50	0.29	1686	--	--	شارع رفيديا
134	0.11	0	4	1200	2	40	0.17	1672	--	--	
151	0.32	0	4	600	1	40	0.48	1700	--	--	الجامعة
154	0.30	0	4	600	1	40	0.45	1700	--	--	
158	0.22	0	2	500	1	40	0.32	1634	--	--	
164	0.12	0	2	600	1	40	0.18	1644	--	--	
191	0.11	0	2	600	1	40	0.16	1632	--	--	
197	0.15	0	2	600	1	40	0.23	1632	--	--	
203	0.36	0	1	1600	2	50	0.44	1656	--	--	
206	0.53	0	1	1600	2	50	0.63	1620	--	--	شارع عمان
211	0.11	0	1	800	1	50	0.13	1620	--	--	
212	0.85	0	1	1600	2	50	1.02	1622	--	--	شارع عمان
214	0.11	0	2	600	1	40	0.17	1640	--	--	
215	0.11	0	1	800	1	50	0.13	1650	640	124	
217	0.20	0	2	600	1	40	0.30	1644	182	65	
223	0.11	0	1	800	1	50	0.13	1695	154	131	
224	0.59	0	1	1600	2	50	0.70	1624	170	222	شارع صقر
226	0.41	0	1	800	1	50	0.49	1626	271	387	الزيوت
229	0.21	0	1	1600	2	50	0.25	1695	436	580	
230	0.08	0	2	600	1	40	0.12	1634	158	439	
232	0.20	1	1	1600	2	50	0.24	1644	1630	--	القزاني
234	0.30	0	2	600	1	40	0.45	1638	220	267	شارع الصلاحية
235	0.16	0	4	600	1	40	0.24	1700	--	--	
236	0.15	0	2	600	1	40	0.22	1700	112	35	المدارس
238	0.62	0	2	600	1	40	0.94	1660	167	206	شارع حصيرة الشما
241	0.29	0	1	1600	2	50	0.35	1652	694	520	شارع حيفا
242	0.06	1	1	2400	3	50	0.07	1700	--	--	
244	0.12	0	2	600	1	40	0.17	1648	197	366	
246	0.12	1	1	2400	3	50	0.14	1644	1748	--	
247	0.21	0	1	1600	2	50	0.25	1656	--	--	
250	0.03	0	1	800	1	50	0.04	1648	606	570	
252	0.05	-1	1	800	1	50	0.06	1648	--	832	
256	0.89	0	2	600	1	40	1.34	1658	--	--	شارع الكرمل
257	0.15	0	1	800	1	50	0.18	1654	591	398	
260	0.09	0	1	800	1	50	0.11	1654	502	694	
263	0.09	1	1	2400	3	50	0.11	1644	1964	--	
264	0.06	-1	2	600	1	40	0.09	1650	--	263	
275	0.46	0	2	600	1	40	0.69	1620	--	--	
276	0.97	0	4	1200	2	40	1.45	1626	--	--	
287	0.08	0	2	600	1	40	0.12	1632	--	--	
289	0.13	0	2	600	1	40	0.19	1632	--	--	
293	0.24	0	2	400	1	40	0.36	1632	--	--	محطة الكهرباء
311	0.39	0	3	1600	2	50	0.46	1626	--	--	
314	0.24	0	3	800	1	50	0.29	1626	--	--	
316	0.50	0	4	600	1	40	0.75	1626	--	--	
337	0.40	0	4	600	1	40	0.60	1626	--	--	

ID	Length	Dir	LINK_TYPE	CAPACITY	Lanes	Speed	Time	Endpoin	COUNTAb	COUNTBA	st_name
362	0.95	0	4	1200	2	40	1.42	1626	--	--	
364	0.19	0	3	1600	2	50	0.23	1628	--	--	
428	0.81	0	4	600	1	40	1.21	1658	--	--	
430	0.17	0	4	600	1	40	0.26	1660	--	--	
435	0.35	0	3	1600	2	50	0.42	1660	--	--	
454	0.13	0	4	1200	2	40	0.20	1654	--	--	
456	0.53	0	2	600	1	40	0.80	1695	--	--	
479	0.64	0	2	600	1	40	0.96	1656	--	--	
483	0.17	0	2	600	1	40	0.26	1660	--	--	
486	0.20	0	4	600	1	40	0.30	1660	--	--	
507	0.13	0	4	600	1	40	0.20	1660	--	--	
513	0.61	0	4	600	1	40	0.91	1660	--	--	
541	0.61	0	3	1600	2	50	0.73	1660	--	--	
549	0.15	0	2	600	1	40	0.22	1646	--	--	
552	0.25	0	2	600	1	40	0.37	1636	344	45	
555	0.18	0	2	600	1	40	0.27	1634	170	174	شارع ابن سينا
558	0.04	0	2	600	1	40	0.05	1636	--	--	
571	0.11	0	4	400	1	40	0.17	1638	--	--	
572	0.06	0	4	600	1	40	0.08	1640	--	--	
588	0.78	0	2	600	1	40	1.17	1636	--	--	شارع ابن رشد
605	0.09	0	1	800	1	50	0.11	1684	656	685	
607	0.13	0	1	800	1	50	0.15	1648	385	40	شارع سلمان
608	0.14	0	1	800	1	50	0.16	1648	438	128	شارع سلمان
609	0.11	1	1	800	1	50	0.13	1648	692	--	
610	0.14	0	2	600	1	40	0.22	1652	--	--	
612	0.15	0	4	600	1	40	0.23	1652	--	--	
617	0.08	1	5	600	1	40	0.12	1684	--	--	
618	0.10	0	2	1200	2	40	0.15	1652	--	--	
620	0.15	0	2	1200	2	40	0.23	1652	276	350	
622	0.05	0	2	600	1	40	0.07	1690	--	--	
626	0.08	0	2	600	1	40	0.12	1684	327	270	
631	0.32	0	1	800	1	50	0.39	1684	543	571	شارع عمر بن الخط
632	0.14	0	1	800	1	50	0.17	1684	669	608	
659	0.33	0	2	600	1	40	0.50	1640	--	--	شارع جرايم
685	0.33	0	2	600	1	40	0.49	1690	--	--	شارع راس العين
695	0.10	0	2	600	1	40	0.16	1640	--	--	
698	0.07	-1	2	600	1	40	0.11	1684	--	--	
699	0.10	-1	2	600	1	40	0.14	1678	--	--	
700	0.46	0	2	600	1	40	0.69	1686	--	--	شارع الملك طلال
724	0.30	0	2	600	1	40	0.44	1690	--	--	
728	0.16	0	2	600	1	40	0.25	1690	--	--	
731	0.38	0	2	600	1	40	0.56	1690	--	--	شارع المامون
739	0.82	0	4	600	1	40	1.23	1640	--	--	
763	2.46	0	4	1200	2	40	3.70	1691	--	--	
772	0.14	1	1	800	1	50	0.17	1652	322	--	
806	0.39	0	1	1600	2	50	0.47	1700	1455	1312	فيصل
813	0.22	1	1	2400	3	50	0.26	1644	1559	--	
822	0.11	1	1	2400	3	50	0.14	1644	1908	--	
828	0.14	0	2	600	1	40	0.22	1658	--	--	
872	1.59	0	2	600	1	40	2.38	1646	--	--	شارع ابو بكر الص
879	0.14	0	2	600	1	40	0.21	1686	--	--	
907	0.40	0	2	600	1	40	0.60	1636	166	55	كلية الروضة
910	0.31	0	2	600	1	40	0.47	1636	211	216	شارع حكمت المصري
913	0.16	1	2	600	1	40	0.24	1636	372	--	لسو
917	0.23	0	1	800	1	50	0.28	1630	833	565	
925	0.58	0	1	800	1	50	0.69	1630	--	--	عمان
928	0.27	0	1	800	1	50	0.33	1632	993	726	عمان
933	0.16	-1	1	2400	3	50	0.20	1634	--	1795	دابة

ID	Length	Dir	LINK_TYPE	CAPACITY	Lanes	Speed	Time	EndpointI	COUNTAB	COUNTBA	Name
1057	1.53	0	1	1600	2	50	1.83	--	--	--	شارع القدس --
1066	0.15	0	1	1600	2	50	0.18	1626	--	--	
1140	0.31	0	1	800	1	50	0.37	1670	269	361	
1170	0.57	0	2	600	1	40	0.85	1668	117	142	شارع عبد الرحيم
1174	0.36	0	4	600	1	40	0.54	1670	--	--	شارع اكرم زعيتر
1186	0.21	0	1	800	1	50	0.26	1670	--	--	
1187	0.14	0	1	800	1	50	0.16	1670	91	44	
1193	0.45	0	2	600	1	40	0.68	1678	211	140	
1233	1.19	0	3	1600	2	50	1.43	1835	--	--	
1243	0.19	0	3	1600	2	50	0.23	1835	--	--	
1262	0.45	0	3	1600	2	50	0.54	1662	--	--	
1321	0.58	0	3	1600	2	50	0.70	1838	--	--	
1340	0.09	0	3	1600	2	50	0.11	1691	--	--	
1392	3.05	0	3	1600	2	50	3.66	1691	--	--	
1439	0.39	0	1	800	1	50	0.47	1670	502	391	
1445	0.46	0	2	600	1	40	0.68	1660	--	--	شارع الشيخ محمد
1450	0.21	0	2	600	1	40	0.31	1695	--	--	
1456	0.14	0	1	800	1	50	0.16	1684	--	--	
1458	0.21	0	1	800	1	50	0.25	1684	--	--	
1461	0.53	0	2	600	1	40	0.79	1698	--	--	شارع محمد عزت دو
1500	0.40	0	2	600	1	40	0.60	1678	143	75	
1505	0.35	0	2	600	1	40	0.52	1678	319	200	شارع علي بن ابي
1509	0.11	-1	2	400	1	40	0.17	1684	--	--	
1513	0.17	0	2	600	1	40	0.25	1640	--	--	
1518	0.18	-1	2	600	1	40	0.27	1644	--	208	شارع الشهداء
1522	0.40	0	4	600	1	40	0.60	1644	--	--	
1523	0.19	0	2	600	1	40	0.29	1648	317	350	
1527	0.21	0	2	600	1	40	0.31	1686	--	--	
1562	0.09	0	2	600	1	40	0.14	1644	--	--	
1573	0.12	0	2	600	1	40	0.18	1634	--	--	
1603	0.68	0	2	600	1	40	1.03	1620	--	--	
1606	0.13	0	4	600	1	40	0.20	1624	--	--	
1608	0.40	0	4	600	1	40	0.60	1620	--	--	
1609	0.74	0	2	600	1	40	1.11	1622	--	--	
1611	0.08	0	4	600	1	40	0.12	1700	--	--	
1628	0.32	-1	3	2400	3	50	0.38	1700	--	--	شارع فيصل الموقر
1629	0.25	0	1	1600	2	50	0.30	1620	--	--	
1630	0.33	0	4	600	1	40	0.49	1620	--	--	
1631	0.09	0	1	800	1	50	0.11	1656	527	370	
1632	0.09	0	2	600	1	40	0.13	1648	194	181	
1633	0.03	0	1	800	1	50	0.03	1684	--	--	
1634	0.79	0	3	1600	2	50	0.95	1662	--	--	
1642	0.51	0	1	1600	2	50	0.62	1662	--	--	شارع طوقان
1644	0.10	0	1	1600	2	50	0.11	1695	--	--	
1645	0.19	0	1	800	1	50	0.22	1626	--	--	
1646	0.65	0	4	1200	2	40	0.98	1624	--	--	
1647	0.39	0	1	800	1	50	0.46	1624	--	--	شارع الزيوت
1649	0.60	0	1	1600	2	50	0.72	1624	--	--	
1651	0.20	1	1	1600	2	50	0.24	1652	--	--	شارع احمد الشكعة
1652	0.13	1	1	1600	2	50	0.16	1652	395	--	
1654	0.39	0	2	600	1	40	0.58	1658	120	230	شارع طارق بن زيا
1655	0.20	0	2	600	1	40	0.29	1686	--	--	
1656	0.19	0	2	600	1	40	0.28	1638	307	38	شارع راس العين
1657	0.05	0	2	600	1	40	0.07	1638	--	--	
1658	0.08	-1	1	2400	3	50	0.10	1634	--	1714	
1661	0.36	0	1	1600	2	50	0.44	1624	--	--	
1662	1.40	0	4	600	1	50	1.68	1660	--	--	
1664	0.18	0	2	600	1	40	0.28	1660	--	--	

ID	Length	Dir	LINK_TYPE	CAPACITY	Lanes	Speed	Time	Endpoint	COUNTYA	COUNTYB	c_name
1666	0.07	0	1	1600	2	50	0.08	1632	--	--	
1668	0.07	0	1	800	1	50	0.08	1632	--	--	
1669	0.13	1	1	1600	2	50	0.15	1700	--	--	
1670	0.13	0	1	1600	2	50	0.16	1700	--	--	
1671	0.25	-1	3	2400	3	50	0.30	1700	--	--	
1672	0.04	0	4	600	1	40	0.07	1700	--	--	
1673	0.05	0	2	600	1	40	0.08	1652	98	242	
1675	0.19	1	1	2400	3	50	0.23	1648	2094	--	
1676	1.18	0	1	800	1	50	1.42	1628	422	174	شارع سليمان الناب
1678	0.05	1	2	600	1	40	0.08	1652	--	--	
1679	0.36	1	1	800	1	50	0.43	1652	468	--	شارع الشوبارة
1680	0.11	0	2	600	1	40	0.17	1640	--	--	
1681	0.55	0	2	600	1	40	0.82	1640	--	--	شارع مرزوم
1683	0.13	0	2	600	1	40	0.19	1630	--	--	
1724	0.47	0	9	600	1	40	0.71	1618	--	--	
1728	0.41	0	9	600	1	40	0.61	1622	--	--	
1729	0.68	0	1	1600	2	50	0.82	1622	--	--	شارع سوق الخضار
1730	0.28	0	9	600	1	40	0.42	1624	--	--	
1736	0.29	0	9	600	1	40	0.43	1630	--	--	
1738	0.13	0	9	600	1	40	0.20	1632	--	--	
1740	0.12	0	9	600	1	40	0.18	1634	--	--	
1741	0.24	1	2	600	1	40	0.36	1636	128	--	
1742	0.28	0	9	600	1	40	0.41	1636	--	--	
1743	0.32	0	2	600	1	40	0.48	1638	269	220	
1744	0.17	0	9	600	1	40	0.26	1638	--	--	
1745	0.46	0	2	600	1	40	0.69	1640	--	--	شارع راس العين
1746	0.30	0	9	600	1	40	0.46	1640	--	--	
1747	0.11	1	2	600	1	40	0.16	1700	--	--	
1750	0.12	0	9	600	1	40	0.18	1644	--	--	
1751	0.25	0	2	700	1	45	0.38	1646	--	--	
1752	0.22	0	9	600	1	25	0.53	1646	--	--	
1754	0.13	0	9	600	1	40	0.19	1648	--	--	
1755	0.19	-1	2	600	1	40	0.28	1650	--	117	شارع حطين
1756	0.08	0	9	600	1	40	0.11	1650	--	--	
1759	0.20	0	9	600	1	40	0.30	1654	--	--	
1761	0.15	0	9	600	1	40	0.23	1656	--	--	
1762	0.41	0	2	600	1	40	0.61	1658	178	125	شارع الظاهر بيبرس
1763	0.16	0	9	600	1	40	0.24	1658	--	--	
1764	0.66	0	2	600	1	40	1.00	1660	--	--	شارع صحيرة الشما
1765	0.24	0	9	600	1	40	0.37	1660	--	--	
1766	0.38	0	1	1600	2	50	0.45	1662	--	--	
1775	0.13	0	9	600	1	40	0.20	1670	--	--	
1777	0.17	0	9	600	1	40	0.25	1672	--	--	
1778	0.55	0	1	1600	2	50	0.66	1674	--	--	شارع رفيديا
1779	0.31	0	9	600	1	40	0.46	1674	--	--	
1782	0.20	0	9	600	1	40	0.29	1678	--	--	
1785	0.21	0	1	800	1	40	0.31	1698	--	--	
1788	0.18	0	9	600	1	40	0.27	1684	--	--	
1790	0.20	0	9	600	1	30	0.40	1686	--	--	
1792	0.18	0	2	600	1	40	0.27	1690	--	--	
1793	0.24	0	9	600	1	40	0.36	1690	--	--	
1794	0.41	0	9	600	1	40	0.62	1691	--	--	
1795	0.19	0	2	600	1	40	0.28	--	--	--	
1796	0.76	0	9	600	1	40	1.15	1693	--	--	
1797	0.16	0	9	600	1	40	0.23	1695	--	--	
1798	0.23	0	1	1600	2	50	0.27	1695	--	--	
1799	0.16	0	9	600	1	25	0.39	1698	--	--	
1803	0.09	0	9	600	1	40	0.14	1700	--	--	

ID	Length	Dir	LINK_TYPE	CAPACITY	LANES	Speed	Time	Endpoint	COUNTAN	COUNTDA	st_name
1805	0.15	0	2	600	1	40	0.22	1693	--	--	
1806	0.27	0	1	800	1	50	0.33	1678	--	--	
1809	0.34	0	1	1600	2	50	0.41	1838	--	--	شارع عمان
1812	1.16	0	1	800	1	50	1.39	1622	229	50	
1814	0.13	0	2	600	1	40	0.20	1686	48	97	
1818	0.35	0	2	600	1	40	0.53	1640	--	--	
1820	2.19	0	3	1600	2	50	2.63	1668	--	--	
1833	0.52	0	2	600	1	40	0.78	1668	150	150	شارع ابراهيم هاشم
1841	0.86	0	4	600	1	40	1.30	1695	--	--	
1848	0.46	0	1	1600	2	50	0.55	1662	--	--	
1850	0.78	0	3	1600	2	50	0.94	1662	--	--	
1855	1.28	0	4	600	1	40	1.92	1636	--	--	موتة
1859	0.65	0	4	600	1	40	0.98	1630	--	--	
1867	0.15	0	4	600	1	40	0.22	1622	--	--	
1873	0.32	0	2	600	1	40	0.49	1654	78	71	شارع بلا
1874	0.19	0	1	800	1	50	0.23	1670	686	414	
1875	0.42	0	1	1600	2	50	0.50	1626	567	438	شارع القدس
1876	0.15	0	1	800	--	50	0.18	--	--	--	
1878	1.17	0	2	600	1	40	1.75	1772	--	--	شارع المضادية
1881	0.19	0	1	1600	2	50	0.23	1632	--	--	
1884	0.13	0	1	1600	2	50	0.16	1634	1016	964	
1886	0.40	0	1	1600	2	50	0.48	1772	878	755	
1887	0.22	0	9	600	1	40	0.32	1772	--	--	
1890	0.45	0	1	2400	3	50	0.53	1624	518	310	
1894	0.35	1	1	2400	3	50	0.42	1634	1920	--	عمان
1895	0.24	0	1	800	1	50	0.29	1624	200	--	
1896	0.27	0	1	1600	2	50	0.33	1624	--	--	
1899	0.12	0	2	600	1	40	0.18	1652	--	--	
1903	0.21	-1	1	2400	3	50	0.25	1634	--	1743	جبل عبد الناصر
1908	0.25	1	1	2400	3	50	0.30	1700	1617	--	الغزالي
1909	0.55	1	1	2400	3	50	0.66	1700	1606	--	شارع ابيصل
1910	0.23	1	1	2400	3	50	0.27	1644	--	--	شارع الحجاز
1917	0.20	-1	1	800	1	50	0.24	1648	--	833	شارع فلسطين
1920	0.10	0	1	800	1	50	0.12	1650	453	500	
1925	0.31	1	1	800	1	50	0.37	1648	1000	--	شارع شرنبلة
1926	0.07	0	2	600	1	40	0.10	1700	--	--	
1927	1.15	0	1	800	1	50	1.38	1626	--	--	
1928	1.15	0	9	600	1	40	1.72	1628	--	--	
1929	0.16	0	1	1600	2	50	0.19	1618	0	--	
1932	0.41	0	1	1600	2	50	0.49	1662	--	--	
1933	0.45	0	9	600	1	40	0.68	1662	--	--	
1934	0.56	0	2	600	1	40	0.84	1835	--	--	
1937	0.30	0	9	600	1	40	0.44	1835	--	--	
1938	0.29	0	1	1600	2	50	0.35	1838	--	--	
1939	0.49	0	9	600	1	40	0.73	1838	--	--	
1940	0.28	0	9	600	1	40	0.42	1838	--	--	
1941	0.41	0	1	1600	2	50	0.50	1838	--	--	
1942	0.12	1	2	600	1	40	0.18	1650	311	--	شارع المركز الاج
1944	0.12	-1	2	600	1	40	0.19	1698	--	188	
1946	0.21	0	9	600	1	40	0.32	1686	--	--	
1948	0.09	-1	2	600	1	40	0.14	1650	--	263	شارع صور العشائر
1950	0.12	0	2	800	1	45	0.16	1648	216	240	شارع العدل
1952	0.17	-1	2	600	1	40	0.25	1698	--	--	
1953	0.11	0	9	600	1	40	0.17	1698	--	--	
1954	0.85	0	1	800	1	50	1.02	1618	--	--	
1955	1.04	0	9	600	1	40	1.56	1618	--	--	
1957	1.43	0	1	800	1	50	1.72	--	--	--	شارع سليمان النا
1960	4.31	0	3	1600	2	50	5.17	--	--	--	

ID	Length	Dir	LINK_TYPE	CAPACITY	Lanes	Speed	Time	Endpoint	COUNTAB	COUNTBA	Name
1962	0.45	0	1	1600	2	50	0.54	--	--	--	
1963	0.31	0	1	1600	2	50	0.37	1618	--	--	
1964	0.95	0	9	600	1	40	1.42	1620	--	--	
1965	0.37	0	1	1600	2	50	0.44	--	--	--	
1966	0.09	1	2	600	1	40	0.14	1644	113	--	
1967	0.16	0	9	600	1	25	0.39	1648	--	--	
1970	0.81	0	1	1600	2	50	0.97	1626	--	--	
1971	1.24	0	9	600	1	40	1.86	1626	--	--	
1973	0.09	0	9	600	1	30	0.17	1650	--	--	
1974	0.45	0	1	1600	2	50	0.54	1622	--	--	
1975	0.66	0	9	600	1	40	1.00	1624	--	--	
1977	0.10	0	2	600	1	40	0.14	1700	--	--	
1980	0.51	0	2	600	1	40	0.76	1684	--	--	شارع قدري طوقان
1981	0.13	0	9	600	1	40	0.19	1684	--	--	
1982	0.09	0	9	600	1	40	0.13	1652	--	--	
1985	0.15	0	9	600	1	40	0.23	1668	--	--	
1986	0.49	0	2	600	1	40	0.73	1668	--	--	
1988	0.88	0	4	600	1	40	1.32	1668	--	--	
1989	0.79	0	4	600	1	40	1.18	1668	--	--	
1990	0.12	0	1	800	1	50	0.14	1684	--	--	
1991	0.08	0	1	800	1	50	0.10	1678	--	--	
1992	0.27	0	2	600	1	40	0.40	1684	--	--	
1993	0.50	0	2	600	1	40	0.75	1678	--	--	
1994	0.09	0	2	600	1	40	0.13	1678	--	--	
1995	0.08	0	1	800	1	50	0.10	1678	--	--	
1996	0.12	0	2	600	1	40	0.18	1678	--	--	
1997	0.62	0	4	600	1	40	0.93	1684	--	--	
1998	0.27	0	2	600	1	40	0.40	1684	--	--	
1999	0.10	0	1	800	1	50	0.12	1678	--	--	
2000	0.07	0	2	600	1	40	0.10	1678	--	--	
2001	0.08	1	2	600	1	40	0.11	1678	--	--	
2003	0.09	1	2	600	1	40	0.13	1678	--	--	
2004	0.12	0	2	600	1	40	0.17	1668	--	--	
2005	0.13	1	2	600	1	40	0.19	1678	--	--	
2006	0.42	0	4	600	1	40	0.63	1678	--	--	شارع ادیب مهیار
2007	0.49	0	2	600	1	40	0.73	1668	--	--	
2008	0.09	1	2	600	1	40	0.13	1678	--	--	
2009	0.27	0	2	600	1	40	0.40	1670	--	--	
2010	2.01	0	4	600	1	40	3.02	1691	--	--	
2011	1.02	0	2	600	1	40	1.53	1693	--	--	
2012	2.09	0	4	600	1	40	3.13	1693	--	--	خلة العامود
2013	0.91	0	4	600	1	40	1.37	1662	--	--	
2015	0.41	0	1	1600	2	50	0.49	1656	458	478	شارع طولكرم
2016	0.23	0	2	600	1	40	0.34	1654	--	--	
2017	0.11	0	2	600	1	40	0.17	1656	--	--	
2018	0.12	0	4	1200	2	40	0.18	1654	--	--	
2019	0.21	0	4	600	1	40	0.32	1654	--	--	
2020	0.34	0	4	600	1	40	0.51	1656	--	--	
2021	0.12	0	1	1600	2	50	0.14	1695	--	--	
2022	0.08	0	4	600	1	40	0.12	1695	--	--	
2023	0.40	0	2	600	1	50	0.48	1672	--	--	
2024	0.08	0	4	600	1	50	0.10	1672	--	--	
2025	0.11	0	1	800	1	50	0.13	1698	722	620	
2026	0.18	0	2	600	1	40	0.26	1698	--	--	
2027	0.16	0	2	600	1	40	0.24	1698	--	--	
2028	0.13	0	2	600	1	40	0.20	1686	--	--	
2029	0.47	0	4	600	1	40	0.70	1686	--	--	
2030	0.09	0	4	600	1	40	0.14	1686	--	--	

ID	Length	Dir	LINK_TYPE	CAPACITY	Lanes	Speed	Time	Endpoint	COUNTAH	COUNTBA	st_name
2031	0.13	0	4	600	1	40	0.20	1686	--	--	
2032	1.21	0	4	600	1	40	1.81	1698	--	--	
2033	0.29	0	4	600	1	40	0.43	1670	--	--	
2034	0.09	0	4	1200	2	40	0.13	1670	--	--	
2035	0.62	0	4	600	1	40	0.94	1672	--	--	
2036	0.34	0	4	600	1	40	0.51	1672	--	--	
2038	0.64	0	1	800	1	50	0.76	1672	--	--	شارع لولس
2039	0.38	0	4	600	1	40	0.57	1672	--	--	
2040	0.26	0	4	600	1	40	0.39	1838	--	--	
2041	0.71	0	4	600	1	40	1.06	1838	--	--	
2043	0.53	0	4	600	1	40	0.79	1695	--	--	
2044	0.09	0	4	1200	2	40	0.14	1674	--	--	
2045	0.24	0	4	600	1	40	0.37	1674	--	--	
2046	0.62	0	4	600	1	40	0.93	1838	--	--	
2047	0.10	0	4	600	1	40	0.15	1838	--	--	
2048	0.34	0	4	1200	2	40	0.51	1674	--	--	
2049	0.29	0	4	600	1	40	0.43	1674	--	--	
2050	0.16	0	2	600	1	40	0.23	1656	--	--	
2051	0.68	0	4	600	1	40	1.02	1695	--	--	
2052	0.73	0	2	600	1	40	1.10	1695	--	--	
2054	0.17	0	4	600	1	40	0.25	1695	--	--	
2055	0.11	0	1	1600	2	50	0.13	1695	--	--	
2056	0.66	0	4	600	1	40	0.98	1695	--	--	
2057	0.10	0	4	600	1	40	0.15	1695	--	--	
2058	0.18	0	2	600	1	40	0.28	1636	--	--	
2059	0.28	0	2	600	1	40	0.42	1636	--	--	شارع عثمان بن عف
2060	1.12	0	3	1600	2	50	1.34	1658	--	--	
2061	2.32	0	4	600	1	40	3.48	1636	--	--	
2062	0.30	0	2	550	1	35	0.50	1644	--	--	
2063	0.26	0	2	600	1	40	0.39	1646	--	--	
2064	1.01	0	4	600	1	40	1.52	1646	--	--	
2065	1.40	0	4	600	1	40	2.10	1646	--	--	
2066	0.71	0	4	600	1	40	1.07	1636	--	--	شارع الشيخ محمد
2068	0.22	0	2	600	1	40	0.33	1658	--	--	شارع الحلجة عادل
2069	0.75	0	4	600	1	40	1.12	1658	87	12	
2071	0.25	0	1	800	1	50	0.30	1618	--	--	
2072	1.36	0	4	600	1	40	2.04	1618	--	--	
2073	1.00	0	1	800	1	50	1.20	1618	--	--	
2074	1.41	0	4	600	1	40	2.11	1618	--	--	
2075	0.24	0	1	800	1	50	0.29	1624	252	50	
2076	1.00	0	4	600	1	40	1.50	1618	--	--	
2077	0.14	0	4	600	1	40	0.21	1622	--	--	
2078	1.10	0	4	600	1	40	1.66	1622	--	--	
2079	0.32	0	1	800	1	50	0.38	1624	--	--	
2080	0.74	0	4	600	1	40	1.11	1624	--	--	
2081	0.21	0	1	800	1	50	0.25	1626	177	166	
2082	0.61	0	4	1200	2	40	0.91	1624	--	--	
2086	0.51	0	2	600	1	40	0.76	1835	--	--	
2087	0.11	0	2	600	1	40	0.17	1835	--	--	
2088	0.95	0	4	600	1	40	1.43	1624	--	--	
2089	0.66	0	4	1200	2	40	0.99	1624	--	--	
2090	1.10	0	4	600	1	40	1.65	1626	--	--	
2091	0.18	0	3	1600	2	50	0.21	--	--	--	
2092	0.25	0	4	600	1	40	0.37	1620	--	--	
2093	0.63	0	4	600	1	40	0.94	1620	--	--	
2094	5.63	0	3	1600	2	50	6.75	--	--	--	
2095	0.49	0	4	600	1	40	0.74	1622	--	--	
2096	0.39	0	4	600	1	40	0.58	--	--	--	

ID	Length	Dir	LINK_TYPE	CAPACITY	Lanes	Speed	Time	Endpoint	COUNTAB	COUNTBA	st_name
2098	0.86	0	4	600	1	40	1.29	1622	--	--	
2100	1.79	0	4	600	1	40	2.68	1622	--	--	
2103	1.19	0	4	600	1	40	1.79	1636	--	--	
2105	0.37	0	4	600	1	40	0.55	1674	--	--	
2106	0.35	0	4	1200	2	40	0.53	1674	--	--	
2107	0.06	0	4	600	1	40	0.08	1695	--	--	
2108	0.15	0	4	600	1	40	0.22	1662	--	--	
2109	0.97	0	4	600	1	40	1.45	1690	--	--	شارع سليمان طوقا
2110	0.23	0	1	1600	2	50	0.28	1624	310	398	شارع سوق الخضار
2111	0.53	0	2	600	1	40	0.80	1630	--	--	شارع ابراهيم احمد
2112	0.18	0	4	600	1	40	0.27	1632	--	--	
2113	0.41	0	4	600	1	40	0.61	1630	--	--	
2114	0.83	0	4	600	1	40	1.24	1630	--	--	
2115	0.18	0	4	600	1	40	0.28	1630	--	--	
2118	0.39	0	4	600	1	40	0.59	1622	--	--	
2119	0.40	0	1	1600	2	50	0.48	1618	--	--	
2120	0.34	0	3	1600	2	50	0.41	1620	--	--	
2121	0.65	0	3	1600	2	50	0.78	1620	--	--	
2122	0.27	0	4	600	1	40	0.41	1620	--	--	
2123	0.43	0	4	600	1	40	0.65	1620	--	--	
2124	0.10	0	2	600	1	40	0.14	1836	--	--	
2125	0.69	0	1	1600	2	50	0.83	1838	--	--	
2126	0.21	0	2	1200	2	40	0.31	1652	--	--	شارع حمدي كلعان
2127	0.33	0	1	800	1	50	0.40	1620	--	--	
2128	0.94	0	1	800	1	50	1.12	1622	--	--	شارع سليمان النا
2129	0.69	0	1	1600	2	50	0.83	1626	--	--	
2130	0.12	0	2	600	1	40	0.19	1691	--	--	
2131	0.33	0	2	600	1	40	0.50	1678	--	--	
2132	0.07	0	3	1600	2	50	0.09	1838	--	--	
2133	2.14	0	3	1600	2	50	2.57	1838	--	--	
2134	0.08	0	1	800	1	50	0.09	1672	--	--	
2135	0.18	0	2	600	1	40	0.27	1686	--	--	
2136	0.19	0	4	600	1	40	0.28	1658	--	--	
2137	0.05	0	4	600	1	40	0.08	1658	--	--	
2138	0.25	0	4	600	1	40	0.37	1658	--	--	
2139	0.79	0	4	600	1	40	1.19	1658	--	--	
2141	0.40	-1	2	600	1	40	0.61	1658	--	--	شارع السكة
2142	0.26	1	2	600	1	40	0.38	1658	--	--	
2143	0.22	0	2	600	1	40	0.32	1658	--	--	
2144	0.26	0	2	600	1	40	0.39	1668	--	--	
2145	0.12	0	2	600	1	40	0.18	1670	53	122	
2148	0.39	0	4	600	1	40	0.59	1686	--	--	
2149	0.44	0	9	600	1	40	0.66	1668	--	--	
2153	0.29	0	2	600	1	40	0.44	1644	228	--	شارع ابن رشد
2155	0.12	0	2	600	1	40	0.18	1686	--	--	
2156	0.12	0	9	600	1	50	0.14	1646	--	--	شارع الحمراء
2157	0.23	0	2	700	1	50	0.28	1646	--	--	
2158	0.35	0	9	600	1	40	0.52	1658	--	--	
2159	0.20	0	1	1600	2	50	0.24	1695	386	507	
2160	0.11	0	4	600	1	40	0.17	1695	--	--	
2161	0.23	0	2	600	1	40	0.34	1672	--	--	
2162	0.16	0	2	600	1	40	0.24	1686	--	--	
2163	0.40	0	1	1600	2	50	0.49	1624	--	--	
2164	0.27	0	2	600	1	40	0.41	1622	--	--	
2165	0.17	0	4	600	1	40	0.25	1622	--	--	
2166	0.17	0	2	600	1	40	0.26	1654	--	--	
2167	0.08	1	1	2400	3	50	0.10	1644	--	--	

APPENDIX C

Existing O-D Matrix
Future O-D Matrix

(C:\DOS\odme.rep - February 16, 2000 (06:20:59 PM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\JOB.NET
Demand Table : C:\TRAN3.2\CONNEC~1\OD10-1.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
Capacity Field : CAPACITY
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	1406.00
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	2
Conv. Criteria	:	0.1
Relative Gap	:	0.00147112466
Max Flow Change	:	373.95075
Equilibrium reached	:	Yes
Total VHT	:	56713.9447
Total VMT	:	41814.7733
Centroid VHT	:	10912.4669
Centroid VMT	:	6895.46648
VHT w/out Centroids	:	45801.4778
VMT w/out Centroids	:	34919.3068

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
1	0	13	7	1	1	1	1	4	3	0	6	16	7	7	0	16	15	12	14	11	3	5	1	0	1	1	5	4	3	2	2	6	6	3	1	3	9	3
2	103	0	1	9	4	103	4	4	7	1	8	8	8	8	1	15	13	11	8	11	5	6	2	1	1	2	6	5	5	3	3	7	7	3	2	3	9	3
3	15	1	0	53	12	12	12	110	71	1	51	19	14	15	1	27	25	24	17	17	6	7	2	1	1	2	7	6	6	4	4	10	10	4	2	4	13	4
4	1	1	16	0	0	0	0	11	3	0	6	16	7	7	0	16	15	12	14	11	3	5	1	0	1	1	5	4	3	2	2	6	6	3	1	3	9	3
5	1	4	16	3	0	1	1	11	3	0	6	16	7	7	0	17	15	12	15	11	3	5	1	0	1	1	5	4	3	2	2	6	6	3	1	3	9	3
6	1	13	16	3	1	0	1	11	3	0	6	16	7	7	0	17	15	12	15	11	3	5	1	0	1	1	5	4	3	2	2	6	6	3	1	3	9	3
7	3	4	16	3	1	1	0	11	3	0	6	16	7	7	0	17	15	12	15	11	3	5	1	0	1	1	5	4	3	2	2	6	6	3	1	3	9	3
8	8	3	58	45	7	7	7	0	50	1	39	15	12	12	1	24	23	20	13	15	5	6	1	1	1	1	6	5	5	3	3	9	9	3	1	3	11	3
9	10	4	31	11	4	4	4	18	0	0	30	11	10	10	0	23	21	18	10	14	4	5	1	0	1	1	6	4	4	2	2	8	8	3	1	3	10	3
10	5	5	8	5	3	3	3	6	6	0	4	2	16	12	1	1	15	1	1	10	4	10	5	1	1	4	7	2	4	2	2	4	4	7	4	5	5	5
11	5	6	31	5	2	2	2	23	30	0	0	8	9	8	0	22	20	16	8	13	3	5	1	0	1	1	5	4	3	2	2	7	7	2	1	2	10	2
12	9	10	27	9	5	5	5	24	26	0	25	0	9	7	0	33	30	32	14	17	3	5	1	0	0	1	5	4	3	2	2	8	8	6	0	6	11	6
13	5	6	13	5	3	3	3	10	9	0	6	1	0	2	0	19	16	7	116	9	1	2	10	0	6	10	3	2	1	1	1	4	4	4	9	4	7	4
14	4	4	7	4	2	2	2	5	4	0	3	1	11	0	0	0	3	4	2	5	1	2	0	0	0	0	0	0	1	1	1	3	1	0	0	0	5	0
15	5	5	8	5	3	3	3	6	6	1	4	2	16	12	0	1	15	1	1	10	4	10	5	1	1	4	7	2	4	2	2	4	4	7	4	5	5	5
16	6	6	10	6	4	4	4	9	8	22	7	5	8	5	22	0	157	4	9	12	1	12	40	22	12	40	73	99	1	1	1	8	81	35	23	26	15	26
17	9	9	16	9	6	6	6	15	14	5	13	8	24	8	5	95	0	8	26	29	2	29	10	5	4	10	32	34	2	1	1	16	23	11	8	9	24	9
18	11	11	18	11	8	8	8	17	17	7	16	10	25	11	7	34	29	0	1	10	0	2	11	7	6	11	3	2	0	0	0	3	3	4	9	4	7	4
19	9	10	21	9	5	5	5	19	19	8	17	215	25	8	8	32	28	27	0	12	0	2	12	8	7	12	4	2	75	23	23	4	4	4	10	4	8	4
20	5	5	8	5	4	4	4	7	6	7	5	4	5	3	7	228	1	3	5	0	0	1	14	7	5	14	16	10	0	0	0	8	5	16	10	13	22	13
21	11	11	18	11	8	8	8	17	16	7	16	12	24	10	7	33	26	12	1	10	0	0	5	7	6	11	1	0	1	0	0	0	0	2	6	2	2	2
22	9	9	13	9	6	6	6	12	12	9	11	8	14	8	9	9	8	8	1	1	0	0	2	9	6	6	6	2	0	0	0	8	8	8	8	7	22	7
23	2	2	3	2	2	2	2	2	2	2	2	1	1	5	2	2	22	1	2	27	2	27	0	2	1	1	33	2	2	1	1	3	2	14	5	7	11	7
24	3	3	4	3	2	2	2	3	3	1	2	1	4	12	1	1	15	1	1	10	4	10	5	0	1	4	7	2	4	2	2	4	4	7	4	5	5	5
25	2	3	3	2	2	2	2	3	2	5	2	2	2	7	5	2	14	1	2	10	4	10	5	5	0	5	7	5	4	3	3	5	4	4	3	4	4	4
26	2	2	3	2	2	2	2	2	2	1	2	1	1	5	2	2	22	1	2	13	6	28	1	1	1	0	33	30	6	3	3	7	7	14	1	7	7	7
27	3	4	4	3	3	3	3	4	4	5	3	3	3	7	5	4	37	2	4	16	4	16	10	5	2	4	0	10	4	2	2	6	2	6	8	5	6	5
28	3	3	4	3	2	2	2	3	3	3	3	2	2	5	3	3	91	2	3	27	2	27	1	3	3	5	1	0	2	1	1	1	1	7	9	6	7	6
29	5	5	6	5	3	3	3	6	5	2	4	3	4	3	2	2	1	2	9	0	1	0	0	2	2	2	1	0	0	0	0	0	0	2	2	2	2	2
30	4	4	5	4	3	3	3	5	4	2	4	3	3	3	2	2	1	2	33	0	2	0	1	2	2	2	1	1	2	0	1	0	0	2	2	2	2	2
31	4	4	5	4	3	3	3	5	4	2	4	3	3	3	2	2	1	2	33	0	2	0	1	2	2	2	1	1	2	1	0	0	0	2	2	2	2	2
32	9	9	14	9	7	7	7	13	13	7	12	9	15	8	7	14	10	9	1	6	0	2	1	7	2	5	7	7	0	0	0	0	13	7	8	5	83	5
33	4	4	5	4	3	3	3	4	4	2	4	3	3	3	2	2	10	2	2	5	1	5	2	2	1	3	1	1	1	1	1	8	0	4	5	1	7	1
34	2	2	3	2	2	2	2	2	2	2	2	1	2	4	2	2	15	1	2	32	6	32	2	2	1	2	92	40	6	3	3	6	4	0	19	4	6	4
35	3	3	3	3	2	2	2	3	3	28	3	2	2	18	28	3	23	2	2	15	6	25	23	23	1	1	21	25	6	3	3	12	39	7	0	39	11	39
36	2	3	3	2	2	2	2	3	2	5	2	2	2	5	3	2	14	1	2	23	6	28	5	5	2	5	31	30	6	3	3	8	1	14	47	0	7	1
37	12	12	18	12	9	9	9	17	17	3	16	13	22	12	5	25	22	13	4	26	3	12	6	4	3	6	17	17	3	1	1	151	17	8	9	6	0	6
38	2	3	3	2	2	2	2	3	2	5	2	2	2	5	3	2	14	1	2	28	6	28	5	5	2	5	31	30	6	3	3	8	1	14	47	1	7	0

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
1	0	35	20	3	3	3	2	12	8	1	15	42	20	18	1	44	40	31	39	28	9	13	3	1	2	3	14	11	9	6	6	17	17	7	3	23	7
2	277	0	3	25	12	277	12	11	18	3	22	22	22	21	3	39	36	30	22	28	12	15	5	3	4	5	15	13	12	9	9	19	19	9	5	9	24	9
3	41	3	0	144	33	33	33	297	190	2	139	51	37	41	2	72	67	64	45	47	16	20	5	2	4	4	19	16	16	10	10	27	27	10	5	10	35	10
4	3	2	43	0	1	1	1	30	9	1	17	42	20	18	1	44	40	31	39	28	9	13	3	1	2	3	14	11	9	6	6	17	17	7	3	7	23	7
5	3	10	44	9	0	3	3	31	9	1	17	42	20	18	1	45	40	31	39	28	9	13	3	1	2	3	14	11	9	6	6	17	17	7	3	7	23	7
6	3	35	44	9	3	0	3	31	9	1	17	42	20	18	1	45	40	31	39	28	9	13	3	1	2	3	14	11	9	6	6	17	17	7	3	7	23	7
7	9	10	44	9	3	3	0	31	9	1	17	42	20	18	1	45	40	31	39	23	9	13	3	1	2	3	14	11	9	6	6	17	17	7	3	7	23	7
8	14	4	96	74	12	12	12	0	83	1	64	24	19	20	1	40	37	34	22	25	8	10	2	1	2	2	10	8	8	5	5	14	14	5	2	5	19	5
9	16	7	52	19	6	6	6	30	0	1	50	19	16	16	1	37	34	30	17	23	6	9	2	1	1	2	9	7	6	4	4	12	12	5	2	5	17	5
10	12	14	21	12	8	8	8	17	15	0	12	6	44	33	3	3	40	3	4	28	10	28	15	3	2	10	19	6	10	6	6	10	10	19	12	14	12	14
11	8	10	50	8	3	3	3	38	49	0	0	14	14	13	0	36	33	27	15	21	5	8	1	0	1	1	8	7	5	3	3	11	11	4	1	4	16	4
12	15	16	45	15	8	8	8	39	42	0	41	0	14	12	0	54	50	52	22	28	5	9	1	0	0	1	9	7	5	3	3	13	13	10	1	10	19	10
13	9	10	22	9	5	5	5	17	15	0	10	2	0	4	0	32	26	12	191	14	1	4	17	0	10	17	6	4	1	1	1	6	6	7	15	6	11	6
14	6	7	11	6	4	4	4	9	7	0	5	1	18	0	0	0	5	6	3	9	2	4	0	0	0	0	0	0	2	2	2	5	1	0	0	0	8	0
15	8	8	13	8	5	5	5	11	9	2	7	4	27	20	0	2	25	2	2	17	6	17	9	2	1	7	12	4	6	4	4	6	6	12	7	9	8	9
16	10	11	16	10	7	7	7	14	13	37	12	7	14	8	37	0	260	6	15	20	2	20	66	37	20	66	121	164	2	1	1	14	134	58	37	44	25	44
17	15	15	27	15	10	10	10	24	24	8	22	14	39	13	8	157	0	12	43	48	4	48	17	8	6	17	54	57	4	2	2	27	39	18	13	15	40	15
18	19	19	30	19	13	13	13	28	28	12	27	17	42	18	12	56	47	0	2	16	0	3	19	12	10	19	5	3	0	0	0	5	5	6	16	6	11	6
19	15	16	35	15	9	9	9	31	31	14	28	355	42	13	14	54	46	45	0	20	1	4	20	14	11	20	6	4	125	38	38	7	7	7	17	7	13	7
20	8	9	13	8	6	6	6	11	10	12	9	6	8	6	12	376	2	4	9	0	0	2	23	12	8	23	26	17	0	0	0	13	9	27	16	21	37	21
21	18	18	30	18	13	13	13	27	27	12	26	19	39	17	12	54	43	20	2	16	0	0	9	12	9	18	2	1	2	1	1	0	0	3	10	3	3	3
22	14	15	22	14	10	10	10	20	19	14	18	14	22	13	14	14	13	13	2	2	0	0	4	14	9	10	10	4	0	0	0	13	13	13	14	11	37	11
23	4	4	5	4	3	3	3	4	4	3	3	2	2	8	3	3	37	2	2	45	4	45	0	3	1	2	54	2	4	2	2	5	4	24	8	11	18	11
24	5	5	6	5	3	3	3	5	5	2	4	2	7	20	2	2	25	2	2	17	6	17	9	0	1	6	12	4	6	4	4	6	6	12	7	8	8	8
25	7	7	8	7	5	5	5	7	7	13	6	4	5	20	13	5	37	4	5	28	12	28	13	13	0	13	19	12	12	7	7	12	10	10	8	10	12	10
26	4	4	5	4	3	3	3	4	4	2	3	2	2	8	3	3	37	2	2	22	10	47	2	2	1	0	54	50	10	5	5	12	11	24	2	11	11	11
27	6	6	7	6	5	5	5	6	6	8	5	4	5	11	9	6	61	3	7	27	6	27	16	8	3	7	0	16	6	3	3	9	3	10	14	8	9	8
28	5	5	6	5	4	4	4	5	5	4	4	3	3	9	4	5	151	3	5	45	4	45	2	4	4	8	2	0	4	2	2	1	2	11	14	10	12	10
29	7	8	10	7	6	6	6	9	8	4	7	5	7	5	4	3	1	4	16	0	2	0	1	4	4	3	2	1	0	1	1	0	0	3	3	3	3	3
30	11	11	14	11	8	8	8	12	11	6	10	8	9	8	6	4	3	6	89	1	5	1	2	6	6	5	3	2	5	0	3	1	1	4	5	5	5	5
31	11	11	14	11	8	8	8	12	11	6	10	8	9	8	6	4	3	6	89	1	5	1	2	6	6	5	3	2	5	3	0	1	1	4	5	5	5	5
32	25	25	38	25	18	18	18	35	34	20	32	24	41	23	20	38	27	23	3	17	1	6	2	20	7	14	19	19	1	1	1	0	35	18	22	14	223	14
33	10	11	14	10	8	8	8	12	11	6	10	7	9	8	6	5	26	6	4	13	2	13	6	6	4	8	3	3	2	2	2	21	0	10	14	4	19	4
34	4	4	5	4	3	3	3	4	4	4	3	2	3	7	5	3	24	2	3	53	9	53	4	4	1	4	153	67	9	4	4	10	6	0	31	6	9	6
35	8	8	9	8	6	6	6	8	8	76	7	5	6	49	76	7	62	4	6	40	15	68	76	76	4	3	57	66	15	8	8	33	106	18	0	106	30	106
36	7	7	8	7	5	5	5	7	7	14	6	5	5	13	8	5	39	4	6	76	17	76	14	14	4	14	84	80	17	8	8	21	3	38	127	0	19	3
37	32	32	48	32	24	24	24	45	45	9	43	35	59	32	14	63	59	36	10	69	7	32	16	10	7	15	46	46	7	3	3	407	45	20	24	17	0	17
38	7	7	8	7	5	5	5	7	7	14	6	5	5	13	8	5	39	4	6	76	17	76	14	14	4	14	84	80	17	8	8	21	3	38	127	3	19	0

APPENDIX D

Existing Condition Simulation Output

(C:\DOS\assign.rep - February 16, 2000 (06:13:31 PM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\JOB.NET
Demand Table : C:\TRAN3.2\CONNEC~1\SCEN1\ES2-20.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
Capacity Field : CAPACITY
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	11439.45
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	2
Conv. Criteria	:	0.1
Relative Gap	:	0.00112466163
Max Flow Change	:	198.120242
Equilibrium reached	:	Yes
Total VHT	:	56660.5914
Total VMT	:	41866.0969
Centroid VHT	:	10970.0241
Centroid VMT	:	6897.75155
VHT w/out Centroids	:	45690.5673
VMT w/out Centroids	:	34968.3453

Total Running Time 00:00:01.589.

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	39	--	39	0.106	0.000	0.106	0.098	0.000	0.098
4	56	--	56	0.105	0.000	0.105	0.140	0.000	0.140
5	--	56	56	0.048	0.046	0.048	0.000	0.112	0.112
9	201	245	446	0.353	0.371	0.371	0.335	0.409	0.409
11	122	91	213	0.358	0.357	0.358	0.203	0.152	0.203
18	344	--	344	0.180	0.000	0.180	0.215	0.000	0.215
19	2,075	--	2,075	0.114	0.000	0.114	0.865	0.000	0.865
21	--	--	0	0.773	0.800	0.800	0.000	0.000	--
37	--	--	0	2.874	3.390	3.390	0.000	0.000	--
108	729	661	1,390	0.206	0.184	0.206	0.911	0.826	0.911
117	690	333	1,023	0.305	0.264	0.305	0.862	0.416	0.862
123	655	507	1,162	0.577	0.471	0.577	0.819	0.633	0.819
130	743	661	1,404	0.298	0.322	0.322	0.929	0.826	0.929
134	--	--	0	0.158	0.173	0.173	0.000	0.000	--
151	--	--	0	0.478	0.580	0.580	0.000	0.000	--
154	--	--	0	0.460	0.439	0.460	0.000	0.000	--
158	--	--	0	0.346	0.328	0.346	0.000	0.000	--
164	318	569	887	0.193	0.197	0.197	0.530	0.948	0.948
191	--	--	0	0.160	0.149	0.160	0.000	0.000	--
197	--	--	0	0.243	0.261	0.261	0.000	0.000	--
203	386	483	869	0.410	0.474	0.474	0.241	0.302	0.302
206	237	215	452	0.657	0.607	0.657	0.148	0.134	0.148
211	202	134	336	0.127	0.138	0.138	0.252	0.168	0.252
212	202	134	336	1.011	1.030	1.030	0.126	0.084	0.126
214	149	184	333	0.162	0.159	0.162	0.248	0.306	0.306
215	523	319	842	0.130	0.125	0.130	0.654	0.398	0.654
217	--	--	0	0.284	0.290	0.290	0.000	0.000	--
223	166	134	301	0.141	0.125	0.141	0.208	0.168	0.208
224	117	190	307	0.675	0.658	0.675	0.073	0.118	0.118
226	297	386	683	0.491	0.523	0.523	0.372	0.483	0.483
229	395	543	937	0.255	0.268	0.268	0.247	0.339	0.339
230	194	343	537	0.127	0.123	0.127	0.323	0.572	0.572
232	1,544	--	1,544	0.264	0.000	0.264	0.965	0.000	0.965
234	194	343	537	0.448	0.496	0.496	0.323	0.572	0.572
235	--	--	0	0.240	0.232	0.240	0.000	0.000	--
236	146	--	146	0.219	0.216	0.219	0.244	0.000	0.244
238	173	226	398	0.905	0.894	0.905	0.288	0.376	0.376
241	846	650	1,497	0.358	0.340	0.358	0.529	0.406	0.529
242	1,659	--	1,659	0.070	0.000	0.070	0.691	0.000	0.691
244	157	317	474	0.171	0.168	0.171	0.262	0.528	0.528
246	1,587	--	1,587	0.150	0.000	0.150	0.661	0.000	0.661
247	483	386	869	0.247	0.256	0.256	0.302	0.241	0.302
250	523	319	842	0.052	0.042	0.052	0.654	0.398	0.654
252	--	980	980	0.000	0.078	0.078	0.000	1.226	1.226
256	--	--	0	1.294	1.393	1.393	0.000	0.000	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
257	567	352	919	0.20	0.19	0.20	0.71	0.44	0.71
260	567	764	1,331	0.12	0.16	0.16	0.71	0.96	0.96
263	1,681	--	1,681	0.10	0.00	0.10	0.70	0.00	0.70
264	--	94	94	0.00	0.08	0.08	0.00	0.16	0.16
275	--	--	0	0.70	0.69	0.70	0.00	0.00	--
276	--	--	0	1.44	1.59	1.59	0.00	0.00	--
287	--	--	0	0.12	0.12	0.12	0.00	0.00	--
289	--	--	0	0.20	0.22	0.22	0.00	0.00	--
293	--	47	47	0.35	0.33	0.35	0.00	0.12	0.12
311	--	--	0	0.44	0.45	0.45	0.00	0.00	--
314	--	--	0	0.29	0.30	0.30	0.00	0.00	--
316	--	--	0	0.76	0.80	0.80	0.00	0.00	--
337	--	--	0	0.55	0.64	0.64	0.00	0.00	--
362	--	--	0	1.66	1.50	1.66	0.00	0.00	--
364	--	--	0	0.28	0.23	0.28	0.00	0.00	--
428	--	--	0	1.11	1.12	1.12	0.00	0.00	--
430	--	--	0	0.26	0.23	0.26	0.00	0.00	--
435	--	--	0	0.42	0.44	0.44	0.00	0.00	--
454	--	--	0	0.21	0.28	0.28	0.00	0.00	--
456	--	--	0	0.79	0.80	0.80	0.00	0.00	--
479	184	95	279	0.94	0.93	0.94	0.31	0.16	0.31
483	--	--	0	0.25	0.26	0.26	0.00	0.00	--
486	--	--	0	0.28	0.30	0.30	0.00	0.00	--
507	--	--	0	0.18	0.20	0.20	0.00	0.00	--
513	--	--	0	0.85	0.97	0.97	0.00	0.00	--
541	--	--	0	0.70	0.71	0.71	0.00	0.00	--
549	--	--	0	0.23	0.26	0.26	0.00	0.00	--
552	342	--	342	0.36	0.36	0.36	0.57	0.00	0.57
555	161	223	384	0.29	0.26	0.29	0.27	0.37	0.37
558	144	342	486	0.05	0.05	0.05	0.24	0.57	0.57
571	--	--	0	0.16	0.17	0.17	0.00	0.00	--
572	--	--	0	0.08	0.09	0.09	0.00	0.00	--
588	144	342	486	1.16	1.23	1.23	0.24	0.57	0.57
605	700	564	1,264	0.12	0.11	0.12	0.87	0.71	0.87
607	233	73	305	0.15	0.15	0.15	0.29	0.09	0.29
608	145	--	145	0.15	0.16	0.16	0.18	0.00	0.18
609	700	--	700	0.14	-0.00	0.14	0.87	0.00	0.87
610	68	--	68	0.22	0.23	0.23	0.11	0.00	0.11
612	--	--	0	0.22	0.23	0.23	0.00	0.00	--
617	--	--	0	0.11	0.00	0.11	0.00	0.00	--
618	205	244	449	0.14	0.16	0.16	0.17	0.20	0.20
620	405	501	906	0.23	0.29	0.29	0.34	0.42	0.42
622	146	173	319	0.07	0.07	0.07	0.24	0.29	0.29
626	234	315	549	0.13	0.13	0.13	0.39	0.52	0.52
631	456	493	949	0.40	0.39	0.40	0.57	0.62	0.62

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
632	564	700	1,264	0.19	0.19	0.19	0.71	0.87	0.87
669	149	184	333	0.47	0.48	0.48	0.25	0.31	0.31
681	142	88	230	0.49	0.47	0.49	0.24	0.15	0.24
695	183	80	263	0.17	0.15	0.17	0.31	0.13	0.31
698	--	288	288	0.00	0.10	0.10	0.00	0.48	0.48
699	--	197	197	0.00	0.14	0.14	0.00	0.33	0.33
700	--	14	14	0.69	0.66	0.69	0.00	0.02	0.02
724	367	38	405	0.45	0.50	0.50	0.61	0.06	0.61
728	168	128	296	0.24	0.24	0.24	0.28	0.21	0.28
731	168	128	296	0.54	0.54	0.54	0.28	0.21	0.28
739	--	--	0	1.21	1.17	1.21	0.00	0.00	--
763	--	--	0	3.49	3.60	3.60	0.00	0.00	--
772	212	--	212	0.18	0.00	0.18	0.26	0.00	0.26
806	1,275	1,547	2,822	0.49	0.50	0.50	0.80	0.97	0.97
813	1,660	--	1,660	0.29	0.00	0.29	0.69	0.00	0.69
822	1,926	--	1,926	0.14	0.00	0.14	0.80	0.00	0.80
828	61	--	61	0.21	0.21	0.21	0.10	0.00	0.10
872	--	--	0	2.50	2.26	2.50	0.00	0.00	--
879	70	25	95	0.23	0.21	0.23	0.12	0.04	0.12
907	151	--	151	0.63	0.57	0.63	0.25	0.00	0.25
910	181	215	396	0.52	0.53	0.53	0.30	0.36	0.36
913	308	--	308	0.27	0.00	0.27	0.51	0.00	0.51
917	838	632	1,470	0.32	0.31	0.32	1.05	0.79	1.05
925	838	632	1,470	0.83	0.72	0.83	1.05	0.79	1.05
928	790	632	1,423	0.37	0.33	0.37	0.99	0.79	0.99
933	--	1,597	1,597	0.00	0.20	0.20	0.00	0.67	0.67
1057	1	1	2	1.91	1.85	1.91	0.00	0.00	0.00
1066	589	445	1,034	0.18	0.18	0.18	0.37	0.28	0.37
1140	275	367	643	0.41	0.37	0.41	0.34	0.46	0.46
1170	116	141	257	0.83	0.88	0.88	0.19	0.24	0.24
1174	--	--	0	0.55	0.52	0.55	0.00	0.00	--
1186	93	168	261	0.26	0.26	0.26	0.12	0.21	0.21
1187	93	168	261	0.16	0.15	0.16	0.12	0.21	0.21
1193	208	140	348	0.68	0.67	0.68	0.35	0.23	0.35
1233	--	--	0	1.57	1.43	1.57	0.00	0.00	--
1243	--	--	0	0.24	0.22	0.24	0.00	0.00	--
1262	--	--	0	0.53	0.48	0.53	0.00	0.00	--
1321	--	--	0	0.78	0.70	0.78	0.00	0.00	--
1340	--	--	0	0.10	0.10	0.10	0.00	0.00	--
1392	--	--	0	3.78	3.27	3.78	0.00	0.00	--
1439	501	386	887	0.44	0.49	0.49	0.63	0.48	0.63
1445	--	--	0	0.65	0.65	0.65	0.00	0.00	--
1450	--	--	0	0.31	0.32	0.32	0.00	0.00	--
1455	246	488	734	0.15	0.15	0.16	0.31	0.61	0.61
1458	440	394	834	0.24	0.28	0.28	0.55	0.49	0.55

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1461	--	--	0	0.78	0.76	0.78	0.00	0.00	--
1500	150	87	237	0.56	0.59	0.59	0.25	0.14	0.25
1505	322	191	513	0.50	0.53	0.53	0.54	0.32	0.54
1509	--	--	0	0.00	0.17	0.17	0.00	0.00	--
1513	262	66	329	0.25	0.25	0.25	0.44	0.11	0.44
1518	--	173	173	0.00	0.28	0.28	0.00	0.29	0.29
1522	--	--	0	0.58	0.55	0.58	0.00	0.00	--
1523	236	317	553	0.29	0.26	0.29	0.39	0.53	0.53
1527	63	168	231	0.30	0.28	0.30	0.10	0.28	0.28
1562	227	174	400	0.14	0.14	0.14	0.38	0.29	0.38
1573	194	343	537	0.18	0.18	0.18	0.32	0.57	0.57
1603	--	--	0	1.11	1.03	1.11	0.00	0.00	--
1606	--	--	0	0.20	0.18	0.20	0.00	0.00	--
1608	--	--	0	0.62	0.59	0.62	0.00	0.00	--
1609	--	--	0	1.11	1.13	1.13	0.00	0.00	--
1611	--	--	0	0.12	0.12	0.12	0.00	0.00	--
1628	--	--	0	0.00	0.37	0.37	0.00	0.00	--
1629	237	215	452	0.32	0.34	0.34	0.15	0.13	0.15
1630	--	--	0	0.44	0.48	0.48	0.00	0.00	--
1631	522	387	909	0.11	0.10	0.11	0.65	0.48	0.65
1632	236	209	445	0.13	0.14	0.14	0.39	0.35	0.39
1633	492	491	983	0.03	0.03	0.03	0.62	0.61	0.62
1634	--	--	0	0.90	0.89	0.90	0.00	0.00	--
1642	395	543	937	0.62	0.65	0.65	0.25	0.34	0.34
1644	543	395	937	0.11	0.11	0.11	0.34	0.25	0.34
1645	196	213	409	0.23	0.23	0.23	0.24	0.27	0.27
1646	--	--	0	0.97	1.00	1.00	0.00	0.00	--
1647	196	213	409	0.45	0.49	0.49	0.24	0.27	0.27
1649	9	1	10	0.70	0.72	0.72	0.01	0.00	0.01
1651	412	--	412	0.26	0.00	0.26	0.26	0.00	0.26
1652	412	--	412	0.15	0.00	0.15	0.26	0.00	0.26
1654	91	235	325	0.58	0.63	0.63	0.15	0.39	0.39
1655	209	75	284	0.31	0.30	0.31	0.35	0.12	0.35
1656	262	66	329	0.27	0.27	0.27	0.44	0.11	0.44
1657	262	66	329	0.07	0.07	0.07	0.44	0.11	0.44
1658	--	1,664	1,664	0.00	0.10	0.10	0.00	0.69	0.69
1661	176	160	336	0.43	0.42	0.43	0.11	0.10	0.11
1662	--	--	0	1.49	1.60	1.60	0.00	0.00	--
1664	173	226	398	0.28	0.29	0.29	0.29	0.38	0.38
1666	963	942	1,904	0.08	0.08	0.08	0.60	0.59	0.60
1668	790	632	1,423	0.09	0.09	0.09	0.99	0.79	0.99
1669	1,659	--	1,659	0.19	0.00	0.19	1.04	0.00	1.04
1670	1,515	1,786	3,301	0.18	0.18	0.18	0.95	1.12	1.12
1671	--	--	0	0.00	0.36	0.36	0.00	0.00	--
1672	--	--	0	0.06	0.08	0.08	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1673	148	298	446	0.08	0.08	0.08	0.25	0.50	0.50
1675	2,079	--	2,079	0.24	0.00	0.24	0.87	0.00	0.87
1676	400	206	606	1.42	1.42	1.42	0.50	0.26	0.50
1678	--	--	0	0.07	0.00	0.07	0.00	0.00	--
1679	212	--	212	0.45	0.00	0.45	0.26	0.00	0.26
1680	149	184	333	0.17	0.17	0.17	0.25	0.31	0.31
1681	149	184	333	0.85	0.84	0.85	0.25	0.31	0.31
1683	--	--	0	0.19	0.20	0.20	0.00	0.00	--
1724	--	--	493	0.70	0.70	0.70	0.32	0.50	--
1728	--	--	344	0.63	0.59	0.63	0.34	0.23	--
1729	168	160	328	0.85	0.79	0.85	0.10	0.10	0.10
1730	--	--	481	0.40	0.41	0.41	0.33	0.47	--
1736	--	--	346	0.43	0.42	0.43	0.35	0.23	--
1738	--	--	689	0.20	0.22	0.22	0.50	0.65	--
1740	--	--	618	0.17	0.17	0.17	0.44	0.59	--
1741	144	--	144	0.37	0.00	0.37	0.24	0.00	0.24
1742	--	--	814	0.40	0.47	0.47	0.59	0.76	--
1743	176	226	401	0.46	0.48	0.48	0.29	0.38	0.38
1744	--	--	357	0.26	0.25	0.26	0.13	0.46	--
1745	262	66	329	0.70	0.74	0.74	0.44	0.11	0.44
1746	--	--	332	0.45	0.45	0.45	0.31	0.24	--
1747	146	--	146	0.16	0.00	0.16	0.24	0.00	0.24
1750	--	--	634	0.18	0.18	0.18	0.56	0.49	--
1751	--	--	0	0.38	0.36	0.38	0.00	0.00	--
1752	--	--	887	0.28	0.25	0.28	0.95	0.53	--
1754	--	--	896	0.20	0.20	0.20	0.63	0.86	--
1755	--	--	0	0.00	0.26	0.26	0.00	0.00	--
1756	--	--	1,478	0.16	0.14	0.16	1.22	1.24	--
1759	--	--	649	0.31	0.31	0.31	0.44	0.64	--
1761	--	--	279	0.24	0.22	0.24	0.16	0.31	--
1762	181	90	272	0.60	0.62	0.62	0.30	0.15	0.30
1763	--	--	76	0.24	0.24	0.24	0.02	0.11	--
1764	87	114	201	0.97	1.05	1.05	0.15	0.19	0.19
1765	--	--	201	0.36	0.34	0.36	0.19	0.15	--
1766	395	543	937	0.45	0.46	0.46	0.25	0.34	0.34
1775	--	--	558	0.21	0.21	0.21	0.53	0.40	--
1777	--	--	428	0.25	0.25	0.25	0.19	0.52	--
1778	581	417	998	0.62	0.73	0.73	0.36	0.26	0.36
1779	--	--	501	0.51	0.45	0.51	0.49	0.35	--
1782	--	--	420	0.30	0.32	0.32	0.39	0.31	--
1785	637	-539	1,176	0.33	0.31	0.33	0.80	0.67	0.80
1788	--	--	276	0.28	0.27	0.28	0.16	0.30	--
1790	--	--	591	0.36	0.38	0.38	0.35	0.63	--
1792	246	178	424	0.27	0.26	0.27	0.41	0.30	0.41
1793	--	--	299	0.39	0.38	0.39	0.25	0.25	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1794	--	--	237	0.60	0.58	0.60	0.25	0.14	--
1795	--	--	0	0.28	0.27	0.28	0.00	0.00	--
1796	--	--	333	1.1	1.07	1.15	0.31	0.25	--
1797	--	--	700	0.23	0.23	0.23	0.57	0.60	--
1798	379	495	875	0.26	0.27	0.27	0.24	0.31	0.31
1799	--	--	473	0.39	0.39	0.39	0.00	0.79	--
1803	--	--	646	0.15	0.13	0.15	0.51	0.56	--
1805	149	184	333	0.21	0.23	0.23	0.25	0.31	0.31
1806	303	348	651	0.34	0.33	0.34	0.38	0.43	0.43
1809	--	--	0	0.42	0.40	0.42	0.00	0.00	--
1812	240	37	277	1.31	1.34	1.34	0.30	0.05	0.30
1814	52	--	52	0.19	0.19	0.19	0.09	0.00	0.09
1818	149	184	333	0.56	0.52	0.56	0.25	0.31	0.31
1820	--	--	0	2.56	2.67	2.67	0.00	0.00	--
1833	--	--	0	0.75	0.73	0.75	0.00	0.00	--
1841	--	--	0	1.23	1.41	1.41	0.00	0.00	--
1848	395	543	937	0.55	0.53	0.55	0.25	0.34	0.34
1850	--	--	0	0.96	0.98	0.98	0.00	0.00	--
1855	--	--	0	1.75	1.90	1.90	0.00	0.00	--
1859	--	--	0	0.97	1.05	1.05	0.00	0.00	--
1867	--	--	0	0.20	0.21	0.21	0.00	0.00	--
1873	129	75	204	0.48	0.48	0.48	0.22	0.12	0.22
1874	690	333	1,023	0.27	0.28	0.28	0.86	0.42	0.86
1875	589	445	1,034	0.50	0.54	0.54	0.37	0.28	0.37
1876	813	650	1,464	0.09	0.08	0.09	1.02	0.81	1.02
1878	--	--	0	1.66	1.78	1.78	0.00	0.00	--
1881	893	783	1,676	0.23	0.22	0.23	0.56	0.49	0.56
1884	963	942	1,904	0.16	0.16	0.16	0.60	0.59	0.60
1886	846	783	1,628	0.49	0.49	0.49	0.53	0.49	0.53
1887	--	--	867	0.36	0.35	0.36	0.73	0.72	--
1890	607	403	1,010	0.55	0.51	0.55	0.25	0.17	0.25
1894	1,603	--	1,603	0.43	0.00	0.43	0.57	0.00	0.67
1895	205	214	419	0.30	0.27	0.30	0.26	0.27	0.27
1896	363	434	797	0.30	0.33	0.33	0.23	0.27	0.27
1899	--	33	33	0.19	0.17	0.19	0.00	0.05	0.05
1903	--	1,664	1,664	0.00	0.25	0.25	0.00	0.69	0.69
1904	813	650	1,464	0.12	0.10	0.12	1.02	0.81	1.02
1908	1,544	--	1,544	0.30	0.00	0.30	0.64	0.00	0.64
1909	1,695	--	1,695	0.71	0.00	0.71	0.71	0.00	0.71
1910	1,926	--	1,926	0.29	0.00	0.29	0.80	0.00	0.80
1917	--	899	899	0.00	0.32	0.32	0.00	1.12	1.12
1920	483	292	776	0.12	0.12	0.12	0.60	0.37	0.60
1925	776	--	776	0.46	0.00	0.46	0.97	0.00	0.97
1926	307	193	500	0.10	0.10	0.10	0.51	0.32	0.51
1927	400	206	606	1.42	1.35	1.42	0.50	0.26	0.50

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1928	--	--	608	1.76	1.80	1.80	0.67	0.34	--
1929	237	215	452	0.19	0.19	0.19	0.15	0.13	0.15
1932	--	--	0	0.46	0.46	0.46	0.00	0.00	--
1933	--	--	937	0.73	0.72	0.73	0.90	0.66	--
1934	87	114	201	0.84	0.85	0.85	0.15	0.19	0.19
1937	--	--	201	0.42	0.53	0.53	0.19	0.15	--
1938	292	209	501	0.36	0.35	0.36	0.18	0.13	0.18
1939	--	--	501	0.71	0.68	0.71	0.49	0.35	--
1940	--	--	0	0.42	0.39	0.42	0.00	0.00	--
1941	--	--	0	0.49	0.49	0.49	0.00	0.00	--
1942	--	--	0	0.18	0.00	0.18	0.00	0.00	--
1944	--	214	214	0.00	0.18	0.18	0.00	0.36	0.36
1946	--	--	67	0.30	0.33	0.33	0.07	0.04	--
1948	--	94	94	0.00	0.14	0.14	0.00	0.16	0.16
1950	211	160	370	0.17	0.18	0.18	0.35	0.27	0.35
1952	--	26	26	0.00	0.29	0.29	0.00	0.04	0.04
1953	--	--	240	0.17	0.16	0.17	0.36	0.04	--
1954	--	--	0	1.01	1.03	1.03	0.00	0.00	--
1955	--	--	0	1.58	1.59	1.59	0.00	0.00	--
1957	1	1	2	1.63	1.65	1.65	0.00	0.00	0.00
1960	--	--	0	5.18	6.02	6.02	0.00	0.00	--
1962	--	--	0	0.53	0.58	0.58	0.00	0.00	--
1963	--	--	0	0.34	0.37	0.37	0.00	0.00	--
1964	--	--	452	1.37	1.38	1.38	0.36	0.40	--
1965	--	--	0	0.46	0.42	0.46	0.00	0.00	--
1966	137	--	137	0.13	0.00	0.13	0.23	0.00	0.23
1967	--	--	462	0.32	0.33	0.33	0.27	0.50	--
1970	589	445	1,034	1.01	1.02	1.02	0.37	0.28	0.37
1971	--	--	1,036	2.20	2.00	2.20	0.98	0.74	--
1973	--	--	94	0.17	0.18	0.18	0.16	0.00	--
1974	167	159	326	0.54	0.55	0.55	0.10	0.10	0.10
1975	--	--	2	0.97	0.92	0.97	0.00	0.00	--
1977	--	--	0	0.14	0.15	0.15	0.00	0.00	--
1980	39	56	95	0.79	0.71	0.79	0.07	0.09	0.09
1981	--	--	135	0.20	0.20	0.20	0.19	0.04	--
1982	--	--	963	0.14	0.16	0.16	0.78	0.82	--
1985	--	--	463	0.23	0.22	0.23	0.51	0.27	--
1986	303	160	463	0.73	0.68	0.73	0.51	0.27	0.51
1988	--	--	0	1.37	1.42	1.42	0.00	0.00	--
1989	--	--	0	1.14	1.16	1.16	0.00	0.00	--
1990	246	488	734	0.14	0.15	0.15	0.31	0.61	0.61
1991	276	369	645	0.09	0.09	0.09	0.35	0.46	0.46
1992	--	--	0	0.40	0.40	0.40	0.00	0.00	--
1993	--	--	0	0.74	0.75	0.75	0.00	0.00	--
1994	--	--	0	0.14	0.14	0.14	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1995	303	348	651	0.11	0.10	0.11	0.38	0.43	0.43
1996	--	--	0	0.20	0.18	0.20	0.00	0.00	--
1997	--	--	0	0.91	0.92	0.92	0.00	0.00	--
1998	--	--	0	0.42	0.38	0.42	0.00	0.00	--
1999	276	369	645	0.12	0.13	0.13	0.35	0.46	0.46
2000	1	1	2	0.10	0.11	0.11	0.00	0.00	0.00
2001	--	--	0	0.00	0.11	0.11	0.00	0.00	--
2003	--	--	0	0.13	0.00	0.13	0.00	0.00	--
2004	51	127	178	0.18	0.18	0.18	0.09	0.21	0.21
2005	--	--	0	0.19	0.00	0.19	0.00	0.00	--
2006	--	--	0	0.60	0.70	0.70	0.00	0.00	--
2007	51	127	178	0.72	0.70	0.72	0.09	0.21	0.21
2008	--	--	0	0.14	0.00	0.14	0.00	0.00	--
2009	1	1	2	0.39	0.39	0.39	0.00	0.00	0.00
2010	--	--	0	2.96	3.21	3.21	0.00	0.00	--
2011	149	184	333	1.51	1.53	1.53	0.25	0.31	0.31
2012	--	--	0	2.77	2.95	2.95	0.00	0.00	--
2013	--	--	0	1.45	1.35	1.45	0.00	0.00	--
2015	482	465	947	0.53	0.48	0.53	0.30	0.29	0.30
2016	209	75	284	0.38	0.36	0.38	0.35	0.12	0.35
2017	105	26	131	0.18	0.16	0.18	0.18	0.04	0.18
2018	--	--	0	0.18	0.19	0.19	0.00	0.00	--
2019	--	--	0	0.32	0.33	0.33	0.00	0.00	--
2020	--	--	0	0.52	0.50	0.52	0.00	0.00	--
2021	386	483	869	0.14	0.14	0.14	0.24	0.30	0.30
2022	--	--	0	0.11	0.11	0.11	0.00	0.00	--
2023	233	145	377	0.49	0.48	0.49	0.39	0.24	0.39
2024	--	--	0	0.09	0.09	0.09	0.00	0.00	--
2025	635	539	1,174	0.16	0.14	0.16	0.79	0.67	0.79
2026	2	--	2	0.27	0.25	0.27	0.00	0.00	0.00
2027	2	26	28	0.24	0.23	0.24	0.00	0.04	0.04
2028	--	14	14	0.19	0.18	0.19	0.00	0.04	0.04
2029	--	--	0	0.70	0.63	0.70	0.00	0.00	--
2030	--	--	0	0.13	0.12	0.13	0.00	0.00	--
2031	--	--	0	0.22	0.21	0.22	0.00	0.00	--
2032	--	--	0	1.74	1.88	1.88	0.00	0.00	--
2033	--	--	0	0.38	0.42	0.42	0.00	0.00	--
2034	--	--	0	0.12	0.14	0.14	0.00	0.00	--
2035	--	--	0	0.93	0.86	0.95	0.00	0.00	--
2036	--	--	0	0.54	0.49	0.54	0.00	0.00	--
2038	93	168	261	0.75	0.80	0.80	0.12	0.21	0.21
2039	--	--	0	0.59	0.55	0.59	0.00	0.00	--
2040	--	--	0	0.38	0.39	0.39	0.00	0.00	--
2041	--	--	0	0.99	0.93	0.99	0.00	0.00	--
2043	--	--	0	0.84	0.73	0.84	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2044	--	--	0	0.14	0.14	0.14	0.00	0.00	--
2045	--	--	0	0.34	0.40	0.40	0.00	0.00	--
2046	--	--	0	0.92	0.92	0.92	0.00	0.00	--
2047	--	--	0	0.14	0.15	0.15	0.00	0.00	--
2048	--	--	0	0.51	0.49	0.51	0.00	0.00	--
2049	--	--	0	0.41	0.44	0.44	0.00	0.00	--
2050	--	--	0	0.21	0.24	0.24	0.00	0.00	--
2051	--	--	0	1.13	1.02	1.13	0.00	0.00	--
2052	--	--	0	1.15	1.15	1.15	0.00	0.00	--
2054	--	--	0	0.25	0.25	0.25	0.00	0.00	--
2055	379	495	875	0.12	0.13	0.13	0.24	0.31	0.31
2056	--	--	0	1.03	1.04	1.04	0.00	0.00	--
2057	--	--	0	0.15	0.14	0.15	0.00	0.00	--
2058	--	--	0	0.26	0.27	0.27	0.00	0.00	--
2059	--	--	0	0.38	0.41	0.41	0.00	0.00	--
2060	--	--	0	1.40	1.16	1.40	0.00	0.00	--
2061	--	--	0	3.76	3.18	3.76	0.00	0.00	--
2062	318	569	887	0.45	0.51	0.51	0.53	0.95	0.95
2063	122	91	213	0.38	0.40	0.40	0.20	0.15	0.20
2064	--	--	0	1.38	1.34	1.38	0.00	0.00	--
2065	--	--	0	2.06	2.32	2.32	0.00	0.00	--
2066	--	--	0	1.10	0.97	1.10	0.00	0.00	--
2068	61	--	61	0.32	0.35	0.35	0.10	0.00	0.10
2069	--	--	0	1.21	1.06	1.21	0.00	0.00	--
2071	--	--	0	0.33	0.30	0.33	0.00	0.00	--
2072	--	--	0	1.99	2.03	2.03	0.00	0.00	--
2073	--	--	0	1.17	1.18	1.18	0.00	0.00	--
2074	--	--	0	1.94	2.14	2.14	0.00	0.00	--
2075	--	--	0	0.31	0.29	0.31	0.00	0.00	--
2076	--	--	0	1.72	1.43	1.72	0.00	0.00	--
2077	--	--	0	0.23	0.22	0.23	0.00	0.00	--
2078	--	--	0	1.60	2.04	2.04	0.00	0.00	--
2079	205	214	419	0.41	0.36	0.41	0.26	0.27	0.27
2080	--	--	0	1.04	1.09	1.09	0.00	0.00	--
2081	196	213	409	0.25	0.26	0.26	0.24	0.27	0.27
2082	--	--	0	0.79	0.98	0.98	0.00	0.00	--
2086	87	114	201	0.70	0.77	0.77	0.15	0.19	0.19
2087	--	--	0	0.17	0.17	0.17	0.00	0.00	--
2088	--	--	0	1.38	1.40	1.40	0.00	0.00	--
2089	--	--	0	1.05	0.97	1.05	0.00	0.00	--
2090	--	--	0	1.67	1.56	1.67	0.00	0.00	--
2091	--	--	0	0.19	0.21	0.21	0.00	0.00	--
2092	--	--	0	0.35	0.38	0.38	0.00	0.00	--
2093	--	--	0	0.94	0.90	0.94	0.00	0.00	--
2094	--	--	0	6.99	6.99	6.99	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2095	--	--	0	0.66	0.76	0.76	0.00	0.00	--
2096	--	--	0	0.58	0.58	0.58	0.00	0.00	--
2098	--	--	0	1.21	1.32	1.32	0.00	0.00	--
2100	--	--	0	2.60	2.74	2.74	0.00	0.00	--
2103	--	--	0	1.99	1.80	1.99	0.00	0.00	--
2105	--	--	0	0.55	0.55	0.55	0.00	0.00	--
2106	--	--	0	0.49	0.61	0.61	0.00	0.00	--
2107	--	--	0	0.07	0.09	0.09	0.00	0.00	--
2108	--	--	0	0.22	0.20	0.22	0.00	0.00	--
2109	--	--	0	1.39	1.57	1.57	0.00	0.00	--
2110	363	434	797	0.28	0.28	0.28	0.23	0.27	0.27
2111	--	--	0	0.80	0.81	0.81	0.00	0.00	--
2112	--	--	0	0.29	0.26	0.29	0.00	0.00	--
2113	--	--	0	0.59	0.58	0.59	0.00	0.00	--
2114	--	--	0	1.17	1.31	1.31	0.00	0.00	--
2115	--	--	0	0.26	0.26	0.26	0.00	0.00	--
2118	--	--	0	0.69	0.57	0.69	0.00	0.00	--
2119	237	215	452	0.49	0.46	0.49	0.15	0.13	0.15
2120	--	--	0	0.42	0.42	0.42	0.00	0.00	--
2121	--	--	0	0.78	0.78	0.78	0.00	0.00	--
2122	--	--	0	0.42	0.42	0.42	0.00	0.00	--
2123	--	--	0	0.56	0.63	0.63	0.00	0.00	--
2124	--	--	0	0.14	0.15	0.15	0.00	0.00	--
2125	292	209	501	0.79	0.84	0.84	0.18	0.13	0.18
2126	205	244	449	0.31	0.31	0.31	0.17	0.20	0.20
2127	105	15	120	0.42	0.40	0.42	0.13	0.02	0.13
2128	105	15	120	1.18	1.19	1.19	0.13	0.02	0.13
2129	589	445	1,034	0.96	0.80	0.96	0.37	0.28	0.37
2130	--	--	0	0.18	0.18	0.18	0.00	0.00	--
2131	87	150	237	0.51	0.49	0.51	0.14	0.25	0.25
2132	--	--	0	0.09	0.09	0.09	0.00	0.00	--
2133	--	--	0	2.41	2.50	2.50	0.00	0.00	--
2134	93	168	261	0.09	0.09	0.09	0.12	0.21	0.21
2135	233	145	377	0.29	0.26	0.29	0.39	0.24	0.39
2136	--	--	0	0.28	0.27	0.28	0.00	0.00	--
2137	--	--	0	0.08	0.08	0.08	0.00	0.00	--
2138	--	--	0	0.37	0.39	0.39	0.00	0.00	--
2140	--	--	0	1.07	1.28	1.28	0.00	0.00	--
2141	--	44	44	0.00	0.63	0.63	0.00	0.07	0.07
2142	61	--	61	0.36	0.00	0.36	0.10	0.00	0.10
2143	55	65	120	0.33	0.31	0.33	0.09	0.11	0.11
2144	116	141	257	0.36	0.39	0.39	0.19	0.24	0.24
2145	50	126	176	0.19	0.18	0.19	0.08	0.21	0.21
2148	--	--	0	0.59	0.80	0.80	0.00	0.00	--
2149	--	--	257	0.63	0.70	0.70	0.24	0.19	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2153	227	1	228	0.44	0.48	0.48	0.38	0.00	0.38
2155	2	26	28	0.17	0.18	0.18	0.00	0.04	0.04
2156	--	--	213	0.24	0.25	0.25	0.20	0.15	--
2157	122	91	213	0.32	0.35	0.35	0.20	0.15	0.20
2158	--	--	343	0.50	0.51	0.51	0.50	0.07	--
2159	379	495	875	0.23	0.25	0.25	0.24	0.31	0.31
2160	--	--	0	0.19	0.17	0.19	0.00	0.00	--
2161	38	145	183	0.35	0.37	0.37	0.06	0.24	0.24
2162	78	16	94	0.26	0.24	0.26	0.13	0.03	0.13
2163	403	269	672	0.47	0.47	0.47	0.25	0.17	0.25
2164	--	--	0	0.41	0.44	0.44	0.00	0.00	--
2165	--	--	0	0.25	0.24	0.25	0.00	0.00	--
2166	105	26	131	0.25	0.24	0.25	0.18	0.04	0.18
2167	1,778	--	1,778	0.10	0.00	0.10	0.74	0.00	0.74

APPENDIX E

Scenarios; 1, 2, 3A, 3B, 3C, 4A, and 4B Simulation Output

(C:\DOS\assign.rep - February 16, 2000 (06:05:58 PM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\SCEN1\SCEN1-20.NET
Demand Table : C:\TRAN3.2\CONNEC~1\SCEN1\ES2-20.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
Capacity Field : CAPACITY
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	23691.84
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	4
Conv. Criteria	:	0.1
Relative Gap	:	0.07850192789
Max Flow Change	:	601.655901

Equilibrium reached : Yes

Total VHT	:	174076.07
Total VMT	:	95994.7765
Centroid VHT	:	41418.8386
Centroid VMT	:	15498.9694
VHT w/out Centroids	:	132657.231
VMT w/out Centroids	:	80495.8071

Total Running Time 00:00:02.640.

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2098	--	--	0	1.46	1.63	1.63	0.00	0.00	--
2100	--	--	0	2.64	2.45	2.64	0.00	0.00	--
2103	--	--	0	1.71	1.64	1.71	0.00	0.00	--
2105	--	--	0	0.58	0.54	0.58	0.00	0.00	--
2106	--	--	0	0.48	0.50	0.50	0.00	0.00	--
2107	--	--	0	0.07	0.09	0.09	0.00	0.00	--
2108	--	--	0	0.23	0.24	0.24	0.00	0.00	--
2109	--	--	0	1.74	1.68	1.74	0.00	0.00	--
2110	703	907	1,609	0.28	0.28	0.28	0.44	0.57	0.57
2111	--	--	0	0.78	0.80	0.80	0.00	0.00	--
2112	--	--	0	0.29	0.25	0.29	0.00	0.00	--
2113	--	--	0	0.68	0.55	0.68	0.00	0.00	--
2114	--	--	0	1.42	1.10	1.42	0.00	0.00	--
2115	--	--	0	0.28	0.23	0.28	0.00	0.00	--
2118	--	--	0	0.52	0.54	0.54	0.00	0.00	--
2119	553	578	1,131	0.49	0.47	0.49	0.35	0.36	0.36
2120	--	--	0	0.47	0.51	0.51	0.00	0.00	--
2121	--	--	0	0.74	0.70	0.74	0.00	0.00	--
2122	--	--	0	0.40	0.35	0.40	0.00	0.00	--
2123	--	--	0	0.62	0.57	0.62	0.00	0.00	--
2124	--	--	0	0.16	0.14	0.16	0.00	0.00	--
2125	785	436	1,221	0.83	0.87	0.87	0.49	0.27	0.49
2126	894	495	1,389	0.34	0.32	0.34	0.75	0.41	0.75
2127	283	46	329	0.39	0.40	0.40	0.35	0.06	0.35
2128	283	46	329	1.21	1.11	1.21	0.35	0.06	0.35
2129	1,734	885	2,619	0.95	0.81	0.95	1.08	0.55	1.08
2130	--	--	0	0.20	0.19	0.20	0.00	0.00	--
2131	167	405	571	0.51	0.51	0.51	0.28	0.67	0.67
2132	--	--	0	0.08	0.09	0.09	0.00	0.00	--
2133	--	--	0	2.53	2.36	2.53	0.00	0.00	--
2134	246	663	909	0.09	0.09	0.09	0.31	0.83	0.83
2135	497	519	1,016	0.31	0.30	0.31	0.83	0.87	0.87
2136	--	--	0	0.33	0.28	0.33	0.00	0.00	--
2137	--	--	0	0.09	0.08	0.09	0.00	0.00	--
2138	--	--	0	0.35	0.36	0.36	0.00	0.00	--
2140	--	--	0	1.41	1.13	1.41	0.00	0.00	--
2141	--	193	193	0.00	0.69	0.69	0.00	0.32	0.32
2142	45	--	45	0.38	0.00	0.38	0.08	0.00	0.08
2143	220	142	361	0.33	0.31	0.33	0.37	0.24	0.37
2144	313	455	768	0.38	0.41	0.41	0.52	0.76	0.76
2145	102	271	373	0.17	0.18	0.18	0.17	0.45	0.45
2148	--	--	0	0.52	0.60	0.60	0.00	0.00	--
2149	--	--	768	0.74	0.66	0.74	0.76	0.52	--
2153	547	164	712	0.49	0.44	0.49	0.91	0.27	0.91
2155	33	228	261	0.17	0.18	0.18	0.05	0.38	0.38
2156	--	--	528	0.13	0.14	0.14	0.44	0.44	--
2157	263	266	528	0.29	0.29	0.29	0.38	0.38	0.38
2158	--	--	586	0.53	0.48	0.53	0.81	0.17	--
2159	841	1,509	2,350	0.25	0.27	0.27	0.53	0.94	0.94
2160	--	--	0	0.16	0.14	0.16	0.00	0.00	--
2161	147	503	651	0.33	0.38	0.38	0.25	0.84	0.84
2162	191	33	223	0.23	0.23	0.23	0.32	0.05	0.32
2163	1,080	552	1,632	0.51	0.53	0.53	0.67	0.34	0.67
2164	--	--	0	0.39	0.38	0.39	0.00	0.00	--
2165	--	--	0	0.29	0.24	0.29	0.00	0.00	--
2166	324	41	365	0.27	0.26	0.27	0.54	0.07	0.54
2167	3,286	--	3,286	0.14	0.00	0.14	1.37	0.00	1.37
2168	904	622	1,525	0.11	0.10	0.11	0.38	0.26	0.38

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2031	--	--	0	0.18	0.21	0.21	0.00	0.00	--
2032	--	--	0	1.81	1.97	1.97	0.00	0.00	--
2033	--	--	0	0.40	0.42	0.42	0.00	0.00	--
2034	--	--	0	0.16	0.15	0.16	0.00	0.00	--
2035	--	--	0	0.90	1.06	1.06	0.00	0.00	--
2036	--	--	0	0.62	0.43	0.62	0.00	0.00	--
2038	246	663	909	0.84	0.93	0.93	0.31	0.83	0.83
2039	--	--	0	0.49	0.54	0.54	0.00	0.00	--
2040	--	--	0	0.45	0.37	0.45	0.00	0.00	--
2041	--	--	0	1.00	0.91	1.00	0.00	0.00	--
2043	--	--	0	0.73	0.85	0.85	0.00	0.00	--
2044	--	--	0	0.15	0.14	0.15	0.00	0.00	--
2045	--	--	0	0.36	0.36	0.36	0.00	0.00	--
2046	--	--	0	0.96	0.94	0.96	0.00	0.00	--
2047	--	--	0	0.15	0.14	0.15	0.00	0.00	--
2048	--	--	0	0.53	0.45	0.53	0.00	0.00	--
2049	--	--	0	0.45	0.42	0.45	0.00	0.00	--
2050	--	--	0	0.26	0.23	0.26	0.00	0.00	--
2051	--	--	0	0.96	1.02	1.02	0.00	0.00	--
2052	--	--	0	1.18	1.10	1.18	0.00	0.00	--
2054	--	--	0	0.26	0.21	0.26	0.00	0.00	--
2055	841	1,509	2,350	0.14	0.15	0.15	0.53	0.94	0.94
2056	--	--	0	1.04	0.95	1.04	0.00	0.00	--
2057	--	--	0	0.16	0.19	0.19	0.00	0.00	--
2058	--	--	0	0.28	0.27	0.28	0.00	0.00	--
2059	--	--	0	0.43	0.43	0.43	0.00	0.00	--
2060	--	--	0	1.44	1.22	1.44	0.00	0.00	--
2061	--	--	0	3.24	3.42	3.42	0.00	0.00	--
2062	622	904	1,525	0.56	0.66	0.66	1.04	1.51	1.51
2063	263	266	528	0.45	0.36	0.45	0.44	0.44	0.44
2064	--	--	0	1.50	1.25	1.50	0.00	0.00	--
2065	--	--	0	1.93	1.89	1.93	0.00	0.00	--
2066	--	--	0	1.27	0.97	1.27	0.00	0.00	--
2068	45	--	45	0.33	0.31	0.33	0.08	0.00	0.08
2069	--	--	0	1.20	1.14	1.20	0.00	0.00	--
2071	--	--	0	0.31	0.29	0.31	0.00	0.00	--
2072	--	--	0	1.95	2.08	2.08	0.00	0.00	--
2073	--	--	0	1.15	1.22	1.22	0.00	0.00	--
2074	--	--	0	1.95	2.21	2.21	0.00	0.00	--
2075	--	--	0	0.29	0.29	0.29	0.00	0.00	--
2076	--	--	0	1.56	1.54	1.56	0.00	0.00	--
2077	--	--	0	0.26	0.26	0.26	0.00	0.00	--
2078	--	--	0	1.64	2.00	2.00	0.00	0.00	--
2079	360	354	714	0.36	0.37	0.37	0.45	0.44	0.45
2080	--	--	0	1.20	1.28	1.28	0.00	0.00	--
2081	641	381	1,022	0.26	0.26	0.26	0.80	0.48	0.80
2082	--	--	0	0.95	0.92	0.95	0.00	0.00	--
2086	181	307	488	0.84	0.72	0.84	0.30	0.51	0.51
2087	--	--	0	0.16	0.17	0.17	0.00	0.00	--
2088	--	--	0	1.30	1.43	1.43	0.00	0.00	--
2089	--	--	0	0.98	0.91	0.98	0.00	0.00	--
2090	--	--	0	2.02	1.52	2.02	0.00	0.00	--
2091	--	--	0	0.20	0.17	0.20	0.00	0.00	--
2092	--	--	0	0.30	0.35	0.35	0.00	0.00	--
2093	--	--	0	0.97	0.91	0.97	0.00	0.00	--
2094	--	--	0	6.79	8.81	8.81	0.00	0.00	--
2095	--	--	0	0.82	0.65	0.82	0.00	0.00	--
2096	--	--	0	0.57	0.53	0.57	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1962	--	--	0	0.60	0.53	0.60	0.00	0.00	--
1963	--	--	0	0.40	0.35	0.40	0.00	0.00	--
1964	--	--	1.131	1.54	1.52	1.54	0.96	0.92	--
1965	--	--	0	0.43	0.43	0.43	0.00	0.00	--
1966	299	--	299	0.13	0.00	0.13	0.50	0.00	0.50
1967	--	--	1,004	0.33	0.41	0.41	0.55	1.12	--
1970	1.734	885	2,619	1.16	0.91	1.16	1.08	0.55	1.08
1971	--	--	2.473	7.96	2.64	7.96	2.65	1.47	--
1973	--	--	222	0.17	0.17	0.17	0.26	0.11	--
1974	481	373	854	0.52	0.53	0.53	0.30	0.23	0.30
1975	--	--	12	1.03	0.98	1.03	0.01	0.01	--
1977	--	--	0	0.14	0.14	0.14	0.00	0.00	--
1980	175	219	394	0.76	0.79	0.79	0.29	0.37	0.37
1981	--	--	526	0.20	0.19	0.20	0.65	0.22	--
1982	--	--	1.811	0.18	0.23	0.23	1.30	1.72	--
1985	--	--	1.028	0.28	0.22	0.28	1.24	0.48	--
1986	742	286	1.028	0.94	0.72	0.94	1.24	0.48	1.24
1988	--	--	0	1.24	1.21	1.24	0.00	0.00	--
1989	--	--	0	1.12	1.26	1.26	0.00	0.00	--
1990	542	956	1.498	0.14	0.20	0.20	0.68	1.19	1.19
1991	544	666	1.210	0.10	0.11	0.11	0.68	0.83	0.83
1992	--	--	0	0.44	0.42	0.44	0 00	0.00	--
1993	--	--	0	0.69	0.83	0.83	0.00	0.00	--
1994	--	--	0	0.14	0.13	0.14	0.00	0.00	--
1995	628	718	1.345	0.11	0.12	0.12	0.78	0.90	0.90
1996	--	--	0	0.18	0.19	0.19	0.00	0.00	--
1997	--	--	0	0.87	0.89	0.89	0.00	0.00	--
1998	--	--	0	0.41	0.39	0.41	0.00	0.00	--
1999	544	666	1.210	0.14	0.14	0.14	0.68	0.83	0.83
2000	1	61	62	0.10	0.11	0.11	0.00	0.10	0.10
2001	--	--	0	0.00	0.11	0.11	0.00	0.00	--
2003	--	--	0	0.13	0.00	0.13	0.00	0.00	--
2004	103	332	435	0.18	0.18	0.18	0.17	0.55	0.55
2005	--	--	0	0.19	0.00	0.19	0.00	0.00	--
2006	--	--	0	0.74	0.62	0.74	0.00	0.00	--
2007	103	332	435	0.75	0.72	0.75	0.17	0.55	0.55
2008	--	--	0	0.13	0.00	0.13	0.00	0.00	--
2009	61	1	62	0.43	0.42	0.43	0.10	0.00	0.10
2010	--	--	0	3.29	2.88	3.29	0 00	0.00	--
2011	313	495	808	1.65	1.72	1.72	0.52	0.82	0.82
2012	--	--	0	2.86	2.97	2.97	0.00	0.00	--
2013	--	--	0	1.38	1.32	1.38	0.00	0.00	--
2015	1.507	1.054	2,561	0.59	0.49	0.59	0.94	0.66	0.94
2016	449	213	661	0.36	0.33	0.36	0.75	0.35	0.75
2017	324	41	365	0.17	0.16	0.17	0.54	0.07	0.54
2018	--	--	0	0.19	0.23	0.23	0.00	0.00	--
2019	--	--	0	0.30	0.37	0.37	0.00	0.00	--
2020	--	--	0	0.51	0.52	0.52	0.00	0.00	--
2021	765	1.501	2,266	0.14	0.20	0.20	0.48	0.94	0.94
2022	--	--	0	0.12	0.12	0.12	0.00	0.00	--
2023	497	519	1.016	0.52	0.50	0.52	0.83	0.87	0.87
2024	--	--	0	0.10	0.10	0.10	0.00	0.00	--
2025	1.075	714	1,789	0.18	0.14	0.18	1.34	0.89	1.34
2026	33	--	33	0.27	0.26	0.27	0.05	0.00	0.05
2027	33	228	261	0.25	0.26	0.26	0.05	0.38	0.38
2028	--	70	70	0.20	0.19	0.20	0.00	0.18	0.18
2029	--	--	0	0.59	0.79	0.79	0.00	0.00	--
2030	--	--	0	0.14	0.12	0.14	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1806	628	718	1,345	0.35	0.40	0.40	0.78	0.90	0.90
1809	--	--	0	0.41	0.45	0.45	0.00	0.00	--
1812	569	69	638	1.51	1.39	1.51	0.71	0.09	0.71
1814	33	--	33	0.19	0.19	0.19	0.05	0.00	0.05
1818	313	495	808	0.55	0.56	0.56	0.52	0.82	0.82
1820	--	--	0	2.48	2.50	2.50	0.00	0.00	--
1833	--	--	0	0.82	0.81	0.82	0.00	0.00	--
1841	--	--	0	1.34	1.13	1.34	0.00	0.00	--
1848	854	1,461	2,315	0.55	0.59	0.59	0.53	0.91	0.91
1850	--	--	0	0.96	0.87	0.96	0.00	0.00	--
1855	--	--	0	1.81	1.70	1.81	0.00	0.00	--
1859	--	--	0	0.91	0.87	0.91	0.00	0.00	--
1867	--	--	0	0.24	0.20	0.24	0.00	0.00	--
1873	158	205	363	0.48	0.48	0.48	0.26	0.34	0.34
1874	1,281	476	1,757	0.38	0.24	0.38	1.60	0.59	1.60
1875	1,734	885	2,619	0.62	0.49	0.62	1.08	0.55	1.08
1876	1,450	928	2,378	0.14	0.09	0.14	1.81	1.16	1.81
1878	--	--	0	1.93	1.72	1.93	0.00	0.00	--
1881	2,781	1,417	4,197	0.34	0.25	0.34	1.74	0.89	1.74
1884	2,934	2,113	5,047	0.23	0.23	0.23	1.83	1.32	1.83
1886	3,190	1,863	5,053	0.96	0.60	0.96	1.99	1.16	1.99
1887	--	--	1,666	0.43	0.58	0.58	1.20	1.57	--
1890	1,628	828	2,456	0.55	0.51	0.55	0.68	0.34	0.68
1894	1,154	--	1,154	0.45	0.00	0.45	0.48	0.00	0.48
1895	360	354	714	0.27	0.26	0.27	0.45	0.44	0.45
1896	703	907	1,609	0.33	0.32	0.33	0.44	0.57	0.57
1899	165	197	362	0.19	0.18	0.19	0.28	0.33	0.33
1903	2,661	3,328	5,988	0.27	0.38	0.38	1.11	1.39	1.39
1904	1,450	928	2,378	0.16	0.11	0.16	1.81	1.16	1.81
1908	2,811	--	2,811	0.38	0.00	0.38	1.17	0.00	1.17
1909	3,359	--	3,359	0.93	0.00	0.93	1.40	0.00	1.40
1910	3,589	--	3,589	0.45	0.00	0.45	1.50	0.00	1.50
1917	--	1,297	1,297	0.00	0.40	0.40	0.00	1.62	1.62
1920	783	315	1,098	0.14	0.13	0.14	0.98	0.39	0.98
1925	1,404	--	1,404	0.76	0.00	0.76	1.76	0.00	1.76
1926	508	445	953	0.11	0.11	0.11	0.85	0.74	0.85
1927	929	424	1,353	1.74	1.45	1.74	1.16	0.53	1.16
1928	--	--	1,509	3.41	1.72	3.41	1.50	0.72	--
1929	553	578	1,131	0.22	0.18	0.22	0.35	0.36	0.36
1932	--	--	0	0.53	0.49	0.53	0.00	0.00	--
1933	--	--	2,315	2.38	0.94	2.38	2.43	1.42	--
1934	181	307	488	0.83	0.78	0.83	0.30	0.51	0.51
1937	--	--	488	0.43	0.50	0.50	0.51	0.30	--
1938	785	436	1,221	0.38	0.34	0.38	0.49	0.27	0.49
1939	--	--	959	0.70	0.73	0.73	0.87	0.73	--
1940	--	--	262	0.44	0.42	0.44	0.44	0.00	--
1941	262	--	262	0.53	0.49	0.53	0.16	0.00	0.16
1942	202	--	202	0.19	0.00	0.19	0.34	0.00	0.34
1944	--	369	369	0.00	0.19	0.19	0.00	0.61	0.61
1946	--	--	447	0.33	0.31	0.33	0.29	0.46	--
1948	--	292	292	0.00	0.14	0.14	0.00	0.49	0.49
1950	244	184	428	0.18	0.21	0.21	0.41	0.31	0.41
1952	--	228	228	0.00	0.26	0.26	0.00	0.38	0.38
1953	--	--	567	0.17	0.17	0.17	0.59	0.36	--
1954	--	--	0	0.96	0.98	0.98	0.00	0.00	--
1955	--	--	0	1.58	1.45	1.58	0.00	0.00	--
1957	20	164	184	1.82	1.61	1.82	0.03	0.21	0.21
1960	--	--	0	5.84	4.99	5.84	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1666	2,720	1,776	4,496	0.10	0.10	0.10	1.70	1.11	1.70
1668	1,321	964	2,285	0.22	0.09	0.22	1.65	1.20	1.65
1669	--	--	0	0.15	0.00	0.15	0.00	0.00	--
1670	2,410	--	2,410	0.21	0.00	0.21	1.51	0.00	1.51
1671	--	2,874	2,874	0.00	0.40	0.40	0.00	1.20	1.20
1672	--	--	0	0.06	0.05	0.06	0.00	0.00	--
1673	338	483	821	0.08	0.08	0.08	0.56	0.80	0.80
1675	3,309	--	3,309	0.30	0.00	0.30	1.38	0.00	1.38
1676	929	424	1,353	1.72	1.45	1.72	1.16	0.53	1.16
1678	--	--	0	0.08	0.00	0.08	0.00	0.00	--
1679	467	--	467	0.46	0.00	0.46	0.58	0.00	0.58
1680	313	495	808	0.18	0.18	0.18	0.52	0.82	0.82
1681	313	495	808	0.78	0.82	0.82	0.52	0.82	0.82
1683	--	--	0	0.20	0.18	0.20	0.00	0.00	--
1724	--	--	1,196	0.74	0.85	0.85	0.87	1.12	--
1728	--	--	841	0.66	0.68	0.68	0.92	0.48	--
1729	489	376	865	0.78	0.81	0.81	0.31	0.23	0.31
1730	--	--	1,119	0.47	0.49	0.49	0.88	0.98	--
1736	--	--	845	0.46	0.45	0.46	0.93	0.48	--
1738	--	--	1,295	0.23	0.28	0.28	0.83	1.33	--
1740	--	--	1,171	0.19	0.23	0.23	0.73	1.22	--
1741	439	--	439	0.40	0.00	0.40	0.73	0.00	0.73
1742	--	--	1,497	0.46	0.63	0.63	0.98	1.51	--
1743	610	715	1,326	0.57	0.52	0.57	1.02	1.19	1.19
1744	--	--	728	0.25	0.31	0.31	0.22	1.00	--
1745	782	428	1,210	0.82	0.68	0.82	1.30	0.71	1.30
1746	--	--	614	0.46	0.44	0.46	0.51	0.51	--
1747	250	--	250	0.16	0.00	0.16	0.42	0.00	0.42
1750	--	--	1,181	0.20	0.21	0.21	0.93	1.04	--
1751	--	--	0	0.36	0.38	0.38	0.00	0.00	--
1754	--	--	1,487	0.21	0.27	0.27	0.94	1.54	--
1755	--	--	0	0.00	0.27	0.27	0.00	0.00	--
1756	--	--	2,562	0.27	0.34	0.34	2.02	2.25	--
1759	--	--	1,237	0.34	0.39	0.39	0.73	1.33	--
1761	157	367	524	0.22	0.24	0.24	0.26	0.61	0.61
1762	306	264	570	0.61	0.61	0.61	0.51	0.44	0.51
1763	--	--	168	0.23	0.26	0.26	0.04	0.24	--
1764	181	307	488	0.97	0.97	0.97	0.30	0.51	0.51
1765	--	--	488	0.38	0.36	0.38	0.51	0.30	--
1766	854	1,461	2,315	0.44	0.51	0.51	0.53	0.91	0.91
1775	--	--	1,013	0.22	0.23	0.23	0.87	0.82	--
1777	--	--	963	0.26	0.31	0.31	0.52	1.08	--
1778	1,565	866	2,431	0.77	0.65	0.77	0.98	0.54	0.98
1779	--	--	1,221	0.58	0.47	0.58	1.31	0.73	--
1782	--	--	742	0.29	0.29	0.29	0.64	0.59	--
1785	1,108	714	1,822	0.45	0.36	0.45	1.38	0.89	1.38
1788	--	--	656	0.26	0.29	0.29	0.28	0.82	--
1790	--	--	1,208	0.40	0.50	0.50	0.75	1.26	--
1792	560	626	1,186	0.33	0.31	0.33	0.93	1.04	1.04
1793	--	--	563	0.34	0.35	0.35	0.41	0.52	--
1794	--	--	571	0.68	0.61	0.68	0.67	0.28	--
1795	--	--	0	0.26	0.28	0.28	0.00	0.00	--
1796	--	--	808	1.28	1.12	1.28	0.82	0.52	--
1797	--	--	1,767	0.38	0.38	0.38	1.53	1.42	--
1798	841	1,509	2,350	0.27	0.30	0.30	0.53	0.94	0.94
1799	--	--	781	0.39	0.48	0.48	0.00	1.30	--
1803	--	--	1,202	0.15	0.16	0.16	0.85	1.16	--
1805	313	495	808	0.24	0.25	0.25	0.52	0.82	0.82

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1057	164	20	184	1.88	1.83	1.88	0.10	0.01	0.10
1066	1,734	885	2,619	0.23	0.20	0.23	1.08	0.55	1.08
1140	483	665	1,148	0.38	0.40	0.40	0.60	0.83	0.83
1170	313	455	768	0.92	0.88	0.92	0.52	0.76	0.76
1174	--	--	0	0.62	0.48	0.62	0.00	0.00	--
1186	246	663	909	0.29	0.28	0.29	0.31	0.83	0.83
1187	246	663	909	0.16	0.18	0.18	0.31	0.83	0.83
1193	505	278	782	0.73	0.66	0.73	0.84	0.46	0.84
1233	--	--	0	1.42	1.40	1.42	0.00	0.00	--
1243	--	--	0	0.23	0.25	0.25	0.00	0.00	--
1262	--	--	0	0.50	0.58	0.58	0.00	0.00	--
1321	--	--	0	0.80	0.70	0.80	0.00	0.00	--
1340	--	--	0	0.11	0.11	0.11	0.00	0.00	--
1392	--	--	0	3.48	3.52	3.52	0.00	0.00	--
1439	1,102	678	1,780	0.69	0.53	0.69	1.38	0.85	1.38
1445	--	--	0	0.62	0.68	0.68	0.00	0.00	--
1450	--	--	0	0.31	0.30	0.31	0.00	0.00	--
1456	542	956	1,498	0.16	0.22	0.22	0.68	1.19	1.19
1458	879	675	1,554	0.29	0.28	0.29	1.10	0.84	1.10
1461	--	--	0	0.79	0.76	0.79	0.00	0.00	--
1500	405	167	571	0.62	0.61	0.62	0.67	0.28	0.67
1505	802	337	1,139	0.74	0.53	0.74	1.34	0.56	1.34
1509	--	111	111	0.00	0.16	0.16	0.00	0.28	0.28
1513	782	428	1,210	0.33	0.26	0.33	1.30	0.71	1.30
1518	--	387	387	0.00	0.27	0.27	0.00	0.64	0.64
1522	--	--	0	0.52	0.53	0.53	0.00	0.00	--
1523	847	402	1,249	0.55	0.29	0.55	1.41	0.67	1.41
1527	275	578	853	0.31	0.36	0.36	0.46	0.96	0.96
1562	495	499	994	0.15	0.14	0.15	0.83	0.83	0.83
1573	276	886	1,162	0.17	0.47	0.47	0.46	1.48	1.48
1603	--	--	0	0.99	0.97	0.99	0.00	0.00	--
1606	--	--	0	0.21	0.21	0.21	0.00	0.00	--
1608	--	--	0	0.49	0.59	0.59	0.00	0.00	--
1609	--	--	0	1.11	1.17	1.17	0.00	0.00	--
1611	--	--	0	0.12	0.14	0.14	0.00	0.00	--
1628	--	2,874	2,874	0.00	0.51	0.51	0.00	1.20	1.20
1629	553	578	1,131	0.30	0.31	0.31	0.35	0.36	0.36
1630	--	--	0	0.41	0.48	0.48	0.00	0.00	--
1631	969	1,029	1,998	0.14	0.17	0.17	1.21	1.29	1.29
1632	569	518	1,087	0.16	0.15	0.16	0.95	0.86	0.95
1633	890	756	1,646	0.03	0.03	0.03	1.11	0.95	1.11
1634	--	--	0	1.10	0.93	1.10	0.00	0.00	--
1642	854	1,461	2,315	0.64	0.66	0.66	0.53	0.91	0.91
1644	1,461	854	2,315	0.12	0.12	0.12	0.91	0.53	0.91
1645	641	381	1,022	0.23	0.22	0.23	0.80	0.48	0.80
1646	--	--	0	0.94	1.09	1.09	0.00	0.00	--
1647	641	381	1,022	0.45	0.45	0.45	0.80	0.48	0.80
1649	169	423	592	0.70	0.70	0.70	0.11	0.26	0.26
1651	803	--	803	0.25	0.00	0.25	0.50	0.00	0.50
1652	803	--	803	0.16	0.00	0.16	0.50	0.00	0.50
1654	297	591	888	0.57	0.68	0.68	0.50	0.98	0.98
1655	449	213	661	0.32	0.30	0.32	0.75	0.35	0.75
1656	782	428	1,210	0.34	0.29	0.34	1.30	0.71	1.30
1657	782	428	1,210	0.08	0.07	0.08	1.30	0.71	1.30
1658	2,205	2,623	4,828	0.11	0.11	0.11	0.92	1.09	1.09
1661	201	345	546	0.44	0.44	0.44	0.13	0.22	0.22
1662	--	--	0	1.80	1.74	1.80	0.00	0.00	--
1664	357	608	965	0.29	0.32	0.32	0.59	1.01	1.01

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
362	--	--	0	1.36	1.54	1.54	0.00	0.00	--
364	--	--	0	0.23	0.28	0.28	0.00	0.00	--
428	--	--	0	1.24	1.42	1.42	0.00	0.00	--
430	--	--	0	0.22	0.26	0.26	0.00	0.00	--
435	--	--	0	0.41	0.44	0.44	0.00	0.00	--
454	--	--	0	0.19	0.18	0.19	0.00	0.00	--
456	--	--	0	0.94	0.80	0.94	0.00	0.00	--
479	367	157	524	0.96	0.99	0.99	0.61	0.26	0.61
483	--	--	0	0.26	0.26	0.26	0.00	0.00	--
486	--	--	0	0.33	0.26	0.33	0.00	0.00	--
507	--	--	0	0.19	0.20	0.20	0.00	0.00	--
513	--	--	0	0.90	0.82	0.90	0.00	0.00	--
541	--	--	0	0.73	0.77	0.77	0.00	0.00	--
549	--	--	0	0.21	0.26	0.26	0.00	0.00	--
552	724	--	724	0.43	0.37	0.43	1.21	0.00	1.21
555	662	1,250	1,912	0.35	1.61	1.61	1.10	2.08	2.08
558	439	724	1,163	0.06	0.06	0.06	0.73	1.21	1.21
571	--	--	0	0.17	0.18	0.18	0.00	0.00	--
572	--	--	0	0.07	0.07	0.07	0.00	0.00	--
588	439	724	1,163	1.29	1.30	1.30	0.73	1.21	1.21
605	1,171	937	2,108	0.18	0.14	0.18	1.46	1.17	1.46
607	983	35	1,018	0.22	0.15	0.22	1.23	0.04	1.23
608	771	204	975	0.20	0.15	0.20	0.96	0.25	0.96
609	1,171	--	1,171	0.21	0.00	0.21	1.46	0.00	1.46
610	111	--	111	0.22	0.20	0.22	0.18	0.00	0.18
612	--	--	0	0.25	0.22	0.25	0.00	0.00	--
617	--	--	0	0.13	0.00	0.13	0.00	0.00	--
618	894	495	1,389	0.16	0.15	0.16	0.75	0.41	0.75
620	1,101	1,037	2,139	0.26	0.25	0.26	0.92	0.86	0.92
622	471	301	772	0.08	0.07	0.08	0.78	0.50	0.78
626	806	877	1,684	0.20	0.17	0.20	1.34	1.46	1.46
631	715	834	1,549	0.44	0.50	0.50	0.89	1.04	1.04
632	937	1,059	1,997	0.21	0.23	0.23	1.17	1.32	1.32
669	313	495	808	0.50	0.57	0.57	0.52	0.82	0.82
685	576	336	912	0.53	0.52	0.53	0.96	0.56	0.96
695	471	354	825	0.18	0.15	0.18	0.78	0.59	0.78
698	--	618	618	0.00	0.13	0.13	0.00	1.03	1.03
699	--	323	323	0.00	0.15	0.15	0.00	0.54	0.54
700	--	70	70	0.71	0.69	0.71	0.00	0.12	0.12
724	869	81	950	0.67	0.43	0.67	1.45	0.13	1.45
728	528	358	886	0.26	0.28	0.28	0.88	0.60	0.88
731	528	358	886	0.63	0.60	0.63	0.88	0.60	0.88
739	--	--	0	1.37	1.29	1.37	0.00	0.00	--
763	--	--	0	3.39	3.41	3.41	0.00	0.00	--
772	467	--	467	0.17	0.00	0.17	0.58	0.00	0.58
806	2,410	--	2,410	0.64	0.00	0.64	1.51	0.00	1.51
813	3,272	--	3,272	0.37	0.00	0.37	1.36	0.00	1.36
822	3,589	--	3,589	0.26	0.00	0.26	1.50	0.00	1.50
828	45	--	45	0.24	0.21	0.24	0.08	0.00	0.08
872	--	--	0	2.25	2.35	2.35	0.00	0.00	--
879	369	111	480	0.22	0.21	0.22	0.62	0.18	0.62
907	396	--	396	0.59	0.58	0.59	0.66	0.00	0.66
910	949	724	1,673	1.49	0.54	1.49	1.58	1.21	1.58
913	949	--	949	0.80	0.00	0.80	1.58	0.00	1.58
917	1,138	982	2,120	0.61	0.33	0.61	1.42	1.23	1.42
925	1,138	982	2,120	1.54	0.79	1.54	1.42	1.23	1.42
928	1,391	1,034	2,425	1.13	0.40	1.13	1.74	1.29	1.74
933	--	1,192	1,192	0.00	0.20	0.20	0.00	0.50	0.50

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	253	--	253	0.11	0.00	0.11	0.63	0.00	0.63
4	185	--	185	0.11	0.00	0.11	0.46	0.00	0.46
5	--	297	297	0.05	0.05	0.05	0.00	0.59	0.59
9	449	610	1,059	0.39	0.51	0.51	0.75	1.02	1.02
11	263	266	528	0.34	0.36	0.36	0.44	0.44	0.44
18	693	--	693	0.18	0.00	0.18	0.43	0.00	0.43
19	3,734	--	3,734	0.17	0.00	0.17	1.56	0.00	1.56
21	--	--	0	0.75	0.77	0.77	0.00	0.00	--
37	--	--	0	3.42	3.46	3.46	0.00	0.00	--
108	1,295	978	2,274	0.28	0.20	0.28	1.62	1.22	1.62
117	1,281	476	1,757	0.47	0.28	0.47	1.60	0.59	1.60
123	1,075	682	1,756	0.61	0.46	0.61	1.34	0.85	1.34
130	1,295	908	2,204	0.46	0.31	0.46	1.62	1.14	1.62
134	--	--	0	0.17	0.17	0.17	0.00	0.00	--
151	--	--	0	0.42	0.41	0.42	0.00	0.00	--
154	--	--	0	0.47	0.43	0.47	0.00	0.00	--
158	1,028	779	1,808	2.39	0.51	2.39	2.06	1.56	2.06
164	622	904	1,525	0.22	0.32	0.32	1.04	1.51	1.51
191	123	362	485	0.16	0.18	0.18	0.21	0.60	0.60
197	214	337	551	0.24	0.24	0.24	0.36	0.56	0.56
203	765	1,501	2,266	0.43	0.51	0.51	0.48	0.94	0.94
206	553	578	1,131	0.63	0.64	0.64	0.35	0.36	0.36
211	537	275	813	0.13	0.14	0.14	0.67	0.34	0.67
212	537	275	813	1.04	1.07	1.07	0.34	0.17	0.34
214	313	495	808	0.17	0.18	0.18	0.52	0.82	0.82
215	692	315	1,007	0.14	0.13	0.14	0.86	0.39	0.86
217	--	--	0	0.28	0.30	0.30	0.00	0.00	--
223	496	557	1,054	0.13	0.15	0.15	0.62	0.70	0.70
224	1,307	866	2,173	0.70	0.77	0.77	0.82	0.54	0.82
226	1,757	1,057	2,814	0.77	0.72	0.77	2.20	1.32	2.20
229	854	1,461	2,315	0.25	0.28	0.28	0.53	0.91	0.91
230	2,263	--	2,263	0.79	0.00	0.79	3.77	0.00	3.77
232	2,811	--	2,811	0.56	0.00	0.56	1.76	0.00	1.76
234	560	923	1,483	0.46	0.68	0.68	0.93	1.54	1.54
235	--	--	0	0.21	0.32	0.32	0.00	0.00	--
236	250	--	250	0.21	0.21	0.21	0.42	0.00	0.42
238	357	608	965	0.99	1.10	1.10	0.39	1.01	1.01
241	1,482	928	2,409	0.36	0.39	0.39	0.93	0.58	0.93
242	2,874	--	2,874	0.10	0.00	0.10	1.20	0.00	1.20
244	725	391	1,116	0.27	0.21	0.27	1.21	0.65	1.21
246	2,818	--	2,818	0.20	0.00	0.20	1.17	0.00	1.17
247	1,501	765	2,266	0.29	0.26	0.29	0.94	0.48	0.94
250	692	516	1,208	0.05	0.04	0.05	0.86	0.65	0.86
252	--	1,580	1,580	0.00	0.12	0.12	0.00	1.97	1.97
256	--	--	0	1.35	1.34	1.35	0.00	0.00	--
257	1,002	301	1,303	0.23	0.19	0.23	1.25	0.38	1.25
260	1,002	1,105	2,107	0.14	0.14	0.14	1.25	1.38	1.38
263	3,110	--	3,110	0.15	0.00	0.15	1.30	0.00	1.30
264	--	292	292	0.00	0.08	0.08	0.00	0.49	0.49
275	--	--	0	0.69	0.76	0.76	0.00	0.00	--
276	--	--	0	1.34	1.48	1.48	0.00	0.00	--
287	136	20	156	0.13	0.13	0.13	0.23	0.03	0.23
289	123	362	485	0.21	0.21	0.21	0.21	0.60	0.60
293	434	232	666	0.64	0.37	0.64	1.08	0.58	1.08
311	--	--	0	0.45	0.42	0.45	0.00	0.00	--
314	--	--	0	0.32	0.30	0.32	0.00	0.00	--
316	--	--	0	0.73	0.76	0.76	0.00	0.00	--
337	--	--	0	0.65	0.55	0.65	0.00	0.00	--

(C:\DOS\assign.rep - February 16, 2000 (05:38:31 PM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\SCEN2\SCEN2-20.NET
Demand Table : C:\TRAN3.2\CONNEC~1\SCEN1\ES2-20.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
Capacity Field : *CAPACITY
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	23691.84
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	2
Conv. Criteria	:	0.1
Relative Gap	:	0.01091638232
Max Flow Change	:	1111.77454

Equilibrium reached : Yes

Total VHT	:	148242.411
Total VMT	:	92077.7958
Centroid VHT	:	40914.5853
Centroid VMT	:	15427.3339
VHT w/out Centroids	:	107327.825
VMT w/out Centroids	:	76650.4619

Total Running Time 00:00:02.089.

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	75	--	75	0.10	0.00	0.10	0.19	0.00	0.19
4	182	--	182	0.10	0.00	0.10	0.46	0.00	0.46
5	--	182	182	0.05	0.05	0.05	0.00	0.36	0.36
9	341	511	852	0.38	0.87	0.87	0.57	2.01	2.01
11	224	163	387	0.36	0.37	0.37	0.37	0.27	0.37
18	1,028	--	1,028	0.19	0.00	0.19	0.57	0.00	0.57
19	3,495	--	3,495	0.18	0.00	0.18	1.33	0.00	1.33
21	--	--	0	0.79	0.77	0.79	0.00	0.00	--
37	--	--	0	3.00	2.97	3.00	0.00	0.00	--
108	706	727	1,433	0.19	0.24	0.24	0.50	0.81	0.81
117	369	323	692	0.58	0.29	0.58	0.41	0.36	0.41
123	461	242	703	0.73	0.56	0.73	0.51	0.27	0.51
130	792	516	1,308	0.44	0.43	0.44	0.88	0.57	0.88
134	--	414	414	0.17	0.18	0.18	0.00	0.34	0.34
151	525	307	833	0.45	0.48	0.48	0.88	0.51	0.88
154	525	267	793	0.45	0.45	0.45	0.88	0.45	0.88
158	93	836	929	0.35	0.40	0.40	0.19	1.67	1.67
164	617	892	1,508	0.21	0.29	0.29	1.03	1.49	1.49
191	--	--	0	0.16	0.16	0.15	0.00	0.00	--
197	--	--	0	0.21	0.22	0.22	0.00	0.00	--
203	1,120	1,925	3,045	0.43	0.44	0.44	0.41	0.71	0.71
206	523	572	1,095	0.62	0.63	0.63	0.29	0.32	0.32
211	528	244	773	0.13	0.13	0.13	0.29	0.14	0.29
212	528	244	773	1.08	1.03	1.08	0.29	0.14	0.29
214	161	196	356	0.16	0.16	0.16	0.27	0.33	0.33
215	--	--	0	0.14	0.15	0.15	0.00	0.00	--
217	--	--	0	0.29	0.27	0.29	0.00	0.00	--
223	212	692	904	0.13	0.14	0.14	0.12	0.38	0.38
224	675	273	947	0.71	0.67	0.71	0.37	0.45	0.45
226	845	279	1,125	0.52	0.48	0.52	1.28	0.16	1.28
229	826	1,466	2,292	0.27	0.26	0.27	0.31	0.54	0.54
230	2,670	--	2,670	0.11	0.00	0.11	0.99	0.00	0.99
232	2,459	--	2,459	0.50	0.00	0.50	1.37	0.00	1.37
234	106	791	897	0.45	0.51	0.51	0.18	1.32	1.32
235	--	--	0	0.23	0.29	0.29	0.00	0.00	--
236	648	83	732	0.21	0.22	0.22	1.08	0.14	1.08
238	51	105	156	1.05	0.95	1.05	0.09	0.18	0.18
241	1,700	1,100	2,800	0.44	0.45	0.45	0.94	1.00	1.00
242	2,620	--	2,620	0.09	0.00	0.09	0.97	0.00	0.97
244	372	48	420	0.18	0.17	0.18	0.62	0.08	0.62
246	2,368	--	2,368	0.19	0.00	0.19	0.88	0.00	0.88
247	1,925	1,284	3,209	0.25	0.27	0.27	0.71	0.48	0.71
250	--	226	226	0.04	0.05	0.05	0.00	0.28	0.28
252	--	1,047	1,047	0.00	0.16	0.16	0.00	1.31	1.31
256	--	--	0	1.28	1.32	1.32	0.00	0.00	--
257	359	218	577	0.23	0.19	0.23	0.20	0.22	0.22
260	359	727	1,086	0.12	0.14	0.14	0.36	0.70	0.70
263	2,694	--	2,694	0.12	0.00	0.12	0.80	0.00	0.80
264	--	326	326	0.00	0.08	0.08	0.00	0.54	0.54
275	--	--	0	0.64	0.66	0.66	0.00	0.00	--
276	25	2	28	1.44	1.52	1.52	0.02	0.00	0.02
287	--	--	0	0.13	0.13	0.13	0.00	0.00	--
289	--	--	0	0.19	0.20	0.20	0.00	0.00	--
293	--	--	0	0.37	0.43	0.43	0.00	0.00	--
311	503	536	1,039	0.45	0.44	0.45	0.26	0.28	0.28
314	379	516	895	0.29	0.30	0.30	0.20	0.27	0.27
316	--	--	0	0.75	0.76	0.76	0.00	0.00	--
337	--	--	0	0.62	0.58	0.62	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
456	--	--	0	0.76	0.85	0.85	0.00	0.00	--
479	529	478	1.007	0.96	0.96	0.96	0.88	0.80	0.88
483	192	361	553	0.28	0.25	0.28	0.32	0.60	0.60
486	229	370	599	0.30	0.30	0.30	0.38	0.62	0.62
507	--	--	0	0.21	0.19	0.21	0.00	0.00	--
513	--	--	0	0.92	0.87	0.92	0.00	0.00	--
541	9	8	18	0.72	0.73	0.73	0.01	0.00	0.01
549	--	8	8	0.23	0.23	0.23	0.00	0.01	0.01
552	778	--	778	0.41	0.36	0.41	1.30	0.00	1.30
555	694	523	1.217	0.31	0.29	0.31	1.16	0.87	1.16
558	346	778	1.124	0.07	0.06	0.07	0.58	1.30	1.30
571	--	--	0	0.18	0.18	0.18	0.00	0.00	--
572	0	44	44	0.08	0.08	0.08	0.00	0.07	0.07
588	343	792	1.135	1.32	1.38	1.38	0.57	1.32	1.32
605	1.150	921	2.071	0.13	0.12	0.13	1.28	0.46	1.28
607	677	--	677	0.15	0.15	0.15	0.85	0.00	0.85
608	521	--	521	0.17	0.16	0.17	0.96	0.00	0.96
609	1.090	--	1.090	0.14	0.00	0.14	0.55	0.00	0.55
610	113	205	318	0.20	0.20	0.20	0.19	0.34	0.34
612	427	--	427	0.25	0.23	0.25	0.71	0.00	0.71
617	700	--	700	0.12	0.00	0.12	1.17	0.00	1.17
618	629	696	1.325	0.14	0.15	0.15	0.52	0.58	0.58
620	851	655	1.506	0.23	0.24	0.24	0.71	0.55	0.71
622	318	318	637	0.08	0.07	0.08	0.53	0.53	0.53
626	845	502	1.348	0.16	0.13	0.16	1.41	0.84	1.41
631	680	1.145	1.826	0.55	0.43	0.55	0.76	1.27	1.27
632	921	1.150	2.071	0.28	0.21	0.28	1.02	1.28	1.28
669	161	196	356	0.51	0.51	0.51	0.27	0.33	0.33
685	184	527	711	0.53	0.49	0.53	0.31	0.88	0.88
695	753	104	857	0.16	0.17	0.17	1.26	0.17	1.26
698	--	251	251	0.00	0.13	0.13	0.00	0.42	0.42
699	--	275	275	0.00	0.15	0.15	0.00	0.46	0.46
700	--	211	211	0.69	0.66	0.69	0.00	0.35	0.35
724	310	96	406	0.68	0.43	0.68	0.52	0.16	0.52
728	111	131	241	0.24	0.25	0.25	0.18	0.22	0.22
731	811	131	942	0.63	0.56	0.63	1.35	0.22	1.35
739	44	0	44	1.28	1.26	1.28	0.07	0.00	0.07
763	102	27	129	3.62	3.46	3.62	0.09	0.02	0.09
772	411	--	411	0.17	0.00	0.17	0.51	0.00	0.51
806	2.715	--	2.715	0.56	0.00	0.56	1.01	0.00	1.01
813	3.301	--	3.301	0.30	0.00	0.30	0.98	0.00	0.98
822	3.334	--	3.334	0.17	0.00	0.17	0.97	0.00	0.97
828	2	--	2	0.22	0.21	0.22	0.00	0.00	0.00
872	3	8	11	2.33	2.45	2.45	0.01	0.01	0.01
879	417	112	529	0.21	0.20	0.21	0.70	0.19	0.70
907	326	--	326	0.67	0.62	0.67	0.54	0.00	0.54
910	266	778	1.044	0.50	0.50	0.50	0.44	1.30	1.30
913	266	--	266	0.25	0.00	0.25	0.44	0.00	0.44
917	1.669	1.226	2.894	0.36	0.32	0.36	0.93	0.97	0.97
925	1.669	1.226	2.894	0.98	0.74	0.98	0.93	0.68	0.93
928	1.669	1.226	2.894	0.36	0.36	0.36	0.93	0.68	0.93
933	--	1.226	1.226	0.00	0.22	0.22	0.00	0.68	0.68
1057	21	2	23	1.74	1.90	1.90	0.01	0.00	0.01
1066	1.869	1.112	2.981	0.18	0.17	0.18	0.62	0.37	0.62
1140	670	737	1407	0.40	0.44	0.44	0.84	1.38	1.38
1170	197	511	708	0.95	0.87	0.95	0.33	0.85	0.85
1174	451	15	467	0.56	0.54	0.56	0.75	0.03	0.75
1186	256	420	676	0.25	0.24	0.25	0.14	0.23	0.23
1187	256	856	1.112	0.16	0.15	0.16	0.14	0.48	0.48
1193	79	291	371	0.78	0.65	0.78	0.13	0.49	0.49
1233	48	111	159	1.44	1.49	1.49	0.03	0.06	0.06
1243	44	51	95	0.24	0.24	0.24	0.03	0.03	0.03
1262	85	112	197	0.55	0.56	0.56	0.05	0.06	0.06
1321	145	130	274	0.78	0.69	0.78	0.08	0.07	0.08

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1340	109	27	136	0.11	0.10	0.11	0.06	0.02	0.06
1392	7	--	7	3.66	3.57	3.66	0.00	0.00	0.00
1439	554	628	1,181	0.64	0.51	0.64	0.61	0.39	0.61
1445	32	60	93	0.67	0.66	0.67	0.05	0.10	0.10
1450	32	60	93	0.32	0.33	0.33	0.05	0.10	0.10
1456	1,238	1,053	2,291	0.17	0.19	0.19	1.38	1.17	1.38
1458	1,400	964	2,364	0.31	0.28	0.31	1.56	1.07	1.56
1461	--	--	0	0.79	0.85	0.85	0.00	0.00	--
1500	387	236	623	0.60	0.61	0.61	0.64	0.39	0.64
1505	273	334	607	0.68	0.50	0.68	0.45	0.56	0.56
1509	--	--	0	0.00	0.18	0.18	0.00	0.00	--
1513	772	468	1,240	0.27	0.24	0.27	1.29	0.78	1.29
1518	--	272	272	0.00	0.26	0.26	0.00	0.45	0.45
1522	--	--	0	0.55	0.57	0.57	0.00	0.00	--
1523	619	267	886	0.34	0.30	0.34	1.03	0.45	1.03
1527	125	367	491	0.29	0.30	0.30	0.21	0.61	0.61
1562	326	500	826	0.15	0.15	0.15	0.54	0.83	0.83
1573	342	154	496	0.19	0.18	0.19	0.57	0.26	0.57
1603	--	--	0	1.05	1.18	1.18	0.00	0.00	--
1606	--	--	0	0.19	0.21	0.21	0.00	0.00	--
1608	--	--	0	0.54	0.59	0.59	0.00	0.00	--
1609	--	--	0	1.09	1.07	1.09	0.00	0.00	--
1611	356	397	753	0.12	0.15	0.15	0.59	0.66	0.66
1628	--	2,223	2,223	0.00	0.49	0.49	0.00	0.82	0.82
1629	523	572	1,095	0.29	0.29	0.29	0.29	0.32	0.32
1630	--	--	0	0.46	0.52	0.52	0.00	0.00	--
1631	856	1,008	1,864	0.11	0.11	0.11	0.66	0.56	0.66
1632	507	1,210	1,717	0.13	0.14	0.14	0.85	2.02	2.02
1633	752	1,141	1,892	0.04	0.04	0.04	0.84	1.27	1.27
1634	12	49	62	0.90	0.92	0.92	0.01	0.03	0.03
1642	826	1,466	2,292	0.65	0.60	0.65	0.31	0.54	0.54
1644	1,466	826	2,292	0.12	0.11	0.12	0.54	0.31	0.54
1645	214	50	263	0.22	0.21	0.22	0.12	0.03	0.12
1646	144	43	187	0.94	0.99	0.99	0.12	0.04	0.12
1647	190	30	220	0.45	0.45	0.45	0.11	0.02	0.11
1649	25	193	218	0.72	0.66	0.72	0.02	0.12	0.12
1651	936	--	936	0.24	0.00	0.24	0.52	0.00	0.52
1652	509	--	509	0.17	0.00	0.17	0.55	0.00	0.55
1654	56	172	229	0.56	0.58	0.58	0.09	0.29	0.29
1655	163	5	168	0.29	0.29	0.29	0.27	0.01	0.27
1656	816	468	1,284	0.30	0.28	0.30	1.36	0.78	1.36
1657	816	468	1,284	0.07	0.08	0.08	1.36	0.78	1.36
1658	1,702	3,169	4,871	0.10	0.12	0.12	0.63	1.17	1.17
1661	305	318	622	0.45	0.42	0.45	0.16	0.17	0.17
1662	38	103	141	1.71	1.63	1.71	0.06	0.17	0.17
1664	258	453	711	0.27	0.28	0.28	0.43	0.75	0.75
1666	2,558	1,761	4,318	0.08	0.08	0.08	0.95	0.65	0.95
1668	1,669	1,226	2,894	0.10	0.08	0.10	0.93	0.68	0.93
1669	--	--	0	0.13	0.00	0.13	0.00	0.00	--
1670	3,072	--	3,072	0.20	0.00	0.20	1.14	0.00	1.14
1671	--	2,620	2,620	0.00	0.41	0.41	0.00	0.97	0.97
1672	356	--	356	0.06	0.06	0.06	0.59	0.00	0.59
1673	330	492	822	0.08	0.10	0.10	0.55	1.18	1.18
1675	3,418	--	3,418	0.39	0.00	0.39	1.27	0.00	1.27
1676	596	89	686	1.48	1.37	1.48	0.28	0.04	0.28
1678	--	--	0	0.08	0.00	0.08	0.00	0.00	--
1679	411	--	411	0.47	0.00	0.47	0.71	0.00	0.71
1680	198	250	448	0.16	0.18	0.18	0.33	0.42	0.42
1681	198	294	492	0.81	0.88	0.88	0.33	0.49	0.49
1683	--	--	0	0.20	0.18	0.20	0.00	0.00	--
1724	--	--	1,196	0.78	0.85	0.85	0.87	1.12	--
1728	--	--	841	0.69	0.62	0.69	0.92	0.48	--
1729	464	318	782	0.79	0.83	0.83	0.24	0.17	0.24
1730	--	--	1,125	0.45	0.51	0.51	0.88	0.29	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1736	--	--	845	0.50	0.44	0.50	0.93	0.48	--
1738	--	--	1.295	0.22	0.26	0.26	0.83	1.33	--
1740	--	--	1.171	0.19	0.22	0.22	0.73	1.22	--
1741	346	--	346	0.38	0.00	0.38	0.58	0.00	0.58
1742	--	--	1.497	0.47	0.71	0.71	0.98	1.51	--
1743	403	185	589	0.47	0.48	0.48	0.67	0.31	0.67
1744	--	--	728	0.25	0.29	0.29	0.22	1.00	--
1745	772	468	1.240	0.66	0.72	0.72	1.29	0.78	1.29
1746	--	--	614	0.44	0.47	0.47	0.51	0.51	--
1747	347	--	347	0.17	0.00	0.17	0.58	0.00	0.58
1750	--	--	1.181	0.21	0.22	0.22	0.93	1.04	--
1751	500	12	12	0.39	0.37	0.39	0.00	0.02	0.02
1752	--	--	1.497	0.41	0.29	0.41	1.47	1.03	--
1754	--	--	1.513	0.23	0.32	0.32	0.83	1.69	--
1755	--	--	0	0.00	0.26	0.26	0.00	0.00	--
1756	--	--	2.572	0.27	0.36	0.36	2.02	2.27	--
1759	--	--	1.237	0.31	0.42	0.42	0.73	1.33	--
1761	157	367	524	0.22	0.25	0.25	0.26	0.61	0.61
1762	224	161	385	0.62	0.59	0.62	0.37	0.27	0.37
1763	--	--	160	0.24	0.25	0.25	0.03	0.24	--
1764	82	152	234	1.02	1.00	1.02	0.14	0.25	0.25
1765	--	--	488	0.38	0.36	0.38	0.51	0.30	--
1766	854	1.461	2.315	0.43	0.43	0.43	0.32	0.54	0.54
1775	--	--	1.013	0.21	0.22	0.22	0.87	0.82	--
1777	--	--	963	0.25	0.32	0.32	0.52	1.08	--
1778	919	707	1.626	0.70	0.67	0.70	0.51	0.39	0.51
1779	--	--	1.221	0.63	0.45	0.63	1.31	0.73	--
1781	--	--	742	0.30	0.30	0.30	0.64	0.59	--
1785	395	334	728	0.51	0.42	0.51	0.49	0.42	0.49
1788	--	--	517	0.29	0.27	0.29	0.26	0.60	--
1790	--	--	875	0.42	0.49	0.49	0.57	0.88	--
1792	910	295	1.205	0.27	0.30	0.30	1.52	0.49	1.52
1793	--	--	563	0.32	0.35	0.35	0.41	0.52	--
1794	--	--	571	0.61	0.61	0.61	0.67	0.28	--
1795	35	5	40	0.27	0.28	0.28	0.06	0.01	0.06
1796	--	--	808	1.36	1.17	1.36	0.82	0.52	--
1797	--	--	1.767	0.35	0.35	0.35	1.53	1.42	--
1798	1.157	1.748	2.905	0.26	0.29	0.29	0.43	0.65	0.65
1799	--	--	547	0.36	0.58	0.58	0.00	0.91	--
1803	--	--	1.202	0.15	0.17	0.17	0.85	1.16	--
1805	308	460	768	0.24	0.24	0.24	0.51	0.77	0.77
1806	1.308	848	2.156	0.34	0.37	0.37	1.45	0.94	1.45
1809	--	--	0	0.40	0.41	0.41	0.00	0.00	--
1812	626	89	716	1.37	1.34	1.37	0.30	0.04	0.30
1814	167	--	167	0.20	0.19	0.20	0.28	0.00	0.28
1818	198	294	492	0.55	0.51	0.55	0.33	0.49	0.49
1820	18	24	42	2.63	2.42	2.63	0.01	0.01	0.01
1833	--	--	0	0.75	0.76	0.76	0.00	0.00	--
1841	--	--	0	1.31	1.19	1.31	0.00	0.00	--
1848	815	1.444	2.260	0.60	0.53	0.60	0.30	0.53	0.53
1850	44	51	95	0.93	0.90	0.93	0.02	0.03	0.03
1855	--	22	22	1.80	1.83	1.83	0.00	0.04	0.04
1859	--	--	0	0.91	0.98	0.98	0.00	0.00	--
1867	--	--	0	0.23	0.22	0.23	0.00	0.00	--
1873	--	64	64	0.50	0.49	0.50	0.00	0.25	0.25
1874	369	323	692	0.25	0.25	0.25	0.20	0.38	0.38
1875	1.869	1.112	2.981	0.64	0.54	0.64	1.18	0.37	1.18
1876	1.700	1.100	2.800	0.10	0.08	0.10	0.94	0.61	0.94
1878	--	--	0	1.71	1.99	1.99	0.00	0.00	--
1881	2.539	1.438	3.977	0.25	0.23	0.25	0.94	0.53	0.94
1884	2.558	1.761	4.318	0.20	0.16	0.20	0.95	0.65	0.95
1886	2.539	1.438	3.977	0.51	0.50	0.51	0.94	0.57	0.94
1887	--	--	1.666	0.42	0.53	0.53	1.20	1.57	--
1890	1.619	797	2.416	0.60	0.52	0.60	0.88	0.30	0.88

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1894	1.342	--	1.342	0.44	0.00	0.44	0.50	0.00	0.50
1895	--	30	30	0.29	0.28	0.29	0.00	0.02	0.02
1896	754	732	1.486	0.32	0.32	0.32	0.40	0.39	0.40
1899	--	--	0	0.18	0.18	0.18	0.00	0.00	--
1903	2.466	3.190	5.656	0.25	0.30	0.30	0.91	1.18	1.18
1904	1.700	1.100	2.800	0.11	0.10	0.11	0.92	0.61	0.92
1908	2.459	--	2.459	0.36	0.00	0.36	0.91	0.00	0.91
1909	3.338	--	3.338	0.81	0.00	0.81	1.12	0.00	1.12
1910	3.334	--	3.334	0.40	0.00	0.40	1.23	0.00	1.23
1917	--	1.598	1.598	0.00	0.24	0.24	0.00	0.88	0.88
1920	855	--	855	0.14	0.12	0.14	0.95	0.00	0.95
1925	1.273	--	1.273	0.42	0.00	0.42	0.80	0.00	0.80
1926	508	347	855	0.10	0.10	0.10	0.85	0.58	0.85
1927	1.077	409	1.486	1.46	1.62	1.62	0.51	0.20	0.51
1928	--	--	1.509	3.33	1.74	3.33	1.80	0.72	--
1929	553	578	1.131	0.18	0.21	0.21	0.35	0.36	0.36
1932	--	--	0	0.51	0.47	0.51	0.00	0.00	--
1933	--	--	2.315	2.25	0.96	2.25	2.43	1.42	--
1934	82	152	234	0.79	0.84	0.84	0.14	0.25	0.25
1937	--	--	488	0.46	0.43	0.46	0.51	0.30	--
1938	589	277	865	0.33	0.33	0.33	0.33	0.15	0.33
1939	--	--	436	1.18	0.76	1.18	0.00	0.73	--
1940	--	--	785	0.41	0.41	0.41	1.31	0.00	--
1941	785	--	785	0.48	0.51	0.51	0.44	0.00	0.44
1942	226	--	226	0.17	0.00	0.17	0.38	0.00	0.38
1944	--	354	354	0.00	0.19	0.19	0.00	0.59	0.59
1946	--	--	367	0.33	0.34	0.34	0.12	0.49	--
1948	--	326	326	0.00	0.13	0.13	0.00	0.54	0.54
1950	731	--	731	0.17	0.18	0.18	1.22	0.00	1.22
1952	--	447	447	0.00	0.24	0.24	0.00	0.74	0.74
1953	--	--	800	0.17	0.17	0.17	0.59	0.74	--
1954	--	--	0	1.01	1.05	1.05	0.00	0.00	--
1955	--	--	0	1.64	1.51	1.64	0.00	0.00	--
1957	21	3	23	1.67	1.75	1.75	0.01	0.00	0.01
1960	42	5	47	4.95	5.38	5.38	0.02	0.00	0.02
1962	5	42	47	0.50	0.52	0.52	0.00	0.03	0.03
1963	--	--	0	0.39	0.35	0.39	0.00	0.00	--
1964	--	--	1.131	1.58	1.59	1.59	0.96	0.92	--
1965	--	--	0	0.46	0.44	0.46	0.00	0.00	--
1966	235	--	235	0.14	0.00	0.14	0.76	0.00	0.76
1967	--	--	979	0.30	0.34	0.34	0.67	0.97	--
1970	1.587	862	2.449	0.92	0.95	0.95	0.53	0.29	0.53
1971	--	--	2.473	7.76	2.73	7.76	2.65	1.47	--
1973	--	--	212	0.17	0.16	0.17	0.26	0.09	--
1974	461	315	776	0.55	0.54	0.55	0.24	0.17	0.24
1975	--	--	5	1.03	1.00	1.03	0.00	0.00	--
1977	--	--	0	0.14	0.14	0.14	0.00	0.00	--
1980	75	182	258	0.74	0.81	0.81	0.13	0.30	0.30
1981	--	--	234	0.19	0.20	0.20	0.31	0.08	--
1982	--	--	1.811	0.17	0.25	0.25	1.30	1.72	--
1985	--	--	856	0.31	0.24	0.31	0.97	0.46	--
1986	580	276	856	0.92	0.69	0.92	0.97	0.46	0.97
1988	--	--	0	1.37	1.26	1.37	0.00	0.00	--
1989	106	127	232	1.18	1.16	1.18	0.18	0.21	0.21
1990	1.238	1.053	2.291	0.15	0.16	0.16	1.38	1.17	1.38
1991	670	737	1.407	0.10	0.10	0.10	0.74	0.82	0.82
1992	--	--	0	0.41	0.42	0.42	0.00	0.00	--
1993	--	--	0	0.71	0.74	0.74	0.00	0.00	--
1994	--	--	0	0.13	0.13	0.13	0.00	0.00	--
1995	1.308	848	2.156	0.11	0.10	0.11	1.45	0.94	1.45
1996	--	--	0	0.18	0.18	0.18	0.00	0.00	--
1997	--	--	0	0.96	0.91	0.96	0.00	0.00	--
1998	--	--	0	0.40	0.39	0.40	0.00	0.00	--
1999	670	739	1.409	0.12	0.14	0.14	0.74	0.82	0.82

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2000	--	--	0	0.10	0.10	0.10	0.00	0.00	--
2001	--	2	2	0.00	0.11	0.11	0.00	0.00	0.00
2003	2	--	2	0.13	0.00	0.13	0.00	0.00	0.00
2004	78	595	673	0.18	0.18	0.18	0.13	0.99	0.99
2005	496	--	496	0.20	0.00	0.20	0.83	0.00	0.83
2006	496	2	498	0.63	0.60	0.63	0.83	0.00	0.83
2007	76	99	175	0.78	0.77	0.78	0.13	0.16	0.16
2008	--	--	0	0.13	0.00	0.13	0.00	0.00	--
2009	--	--	0	0.39	0.43	0.43	0.00	0.00	--
2010	--	--	0	3.09	3.05	3.09	0.00	0.00	--
2011	206	433	639	1.55	1.49	1.55	0.34	0.72	0.72
2012	8	139	147	3.35	3.02	3.35	0.01	0.23	0.23
2013	17	38	55	1.30	1.35	1.35	0.03	0.06	0.06
2015	1,866	1,284	3,149	0.60	0.47	0.60	1.53	0.48	1.53
2016	--	5	5	0.36	0.33	0.36	0.00	0.01	0.01
2017	59	--	59	0.18	0.19	0.19	0.04	0.00	0.04
2018	--	163	163	0.19	0.18	0.19	0.00	0.14	0.14
2019	--	--	0	0.30	0.42	0.42	0.00	0.00	--
2020	--	--	0	0.50	0.52	0.52	0.00	0.00	--
2021	1,158	1,817	2,976	0.14	0.14	0.14	0.43	0.67	0.67
2022	79	224	303	0.16	0.13	0.16	0.13	0.37	0.37
2023	74	366	440	0.50	0.49	0.50	0.12	0.61	0.61
2024	79	224	303	0.12	0.09	0.12	0.13	0.37	0.37
2025	385	334	719	0.19	0.19	0.19	0.43	0.37	0.43
2026	9	--	9	0.30	0.27	0.30	0.02	0.00	0.02
2027	9	447	456	0.28	0.23	0.28	0.02	0.74	0.74
2028	--	297	297	0.19	0.21	0.21	0.00	0.74	0.74
2029	86	--	86	0.67	0.68	0.68	0.14	0.00	0.14
2030	--	226	226	0.15	0.13	0.15	0.00	0.38	0.38
2031	--	--	0	0.18	0.20	0.20	0.00	0.00	--
2032	--	--	0	1.74	1.79	1.79	0.00	0.00	--
2033	225	15	240	0.41	0.42	0.42	0.37	0.03	0.37
2034	--	226	226	0.14	0.13	0.14	0.00	0.19	0.19
2035	226	--	226	0.89	0.91	0.91	0.38	0.00	0.38
2036	--	--	0	0.64	0.48	0.64	0.00	0.00	--
2038	256	834	1,090	0.75	0.78	0.78	0.14	0.46	0.46
2039	--	--	0	0.56	0.57	0.57	0.00	0.00	--
2040	--	--	0	0.39	0.38	0.39	0.00	0.00	--
2041	36	--	36	1.12	1.01	1.12	0.06	0.00	0.06
2043	--	--	0	0.78	0.77	0.78	0.00	0.00	--
2044	--	449	449	0.13	0.14	0.14	0.00	0.37	0.37
2045	--	--	0	0.34	0.36	0.36	0.00	0.00	--
2046	--	36	36	0.91	0.96	0.96	0.00	0.06	0.06
2047	36	--	36	0.16	0.15	0.16	0.06	0.00	0.06
2048	--	414	414	0.50	0.50	0.50	0.00	0.34	0.34
2049	--	--	0	0.44	0.43	0.44	0.00	0.00	--
2050	--	9	9	0.24	0.23	0.24	0.00	0.02	0.02
2051	42	60	102	1.02	1.07	1.07	0.07	0.10	0.10
2052	9	--	9	1.00	1.12	1.12	0.02	0.00	0.02
2054	--	--	0	0.26	0.24	0.26	0.00	0.00	--
2055	1,157	1,748	2,905	0.13	0.12	0.13	0.43	0.65	0.65
2056	--	--	0	0.96	0.95	0.96	0.00	0.00	--
2057	--	--	0	0.16	0.16	0.16	0.00	0.00	--
2058	--	22	22	0.27	0.27	0.27	0.00	0.04	0.04
2059	--	--	0	0.39	0.38	0.39	0.00	0.00	--
2060	6	8	14	1.28	1.25	1.28	0.00	0.00	0.00
2061	--	--	0	3.32	3.42	3.42	0.00	0.00	--
2062	617	892	1,508	0.50	0.68	0.68	1.03	1.49	1.49
2063	262	258	521	0.37	0.37	0.37	0.44	0.43	0.44
2064	--	--	0	1.52	1.42	1.52	0.00	0.00	--
2065	--	--	0	1.91	2.02	2.02	0.00	0.00	--
2066	--	--	0	1.08	1.02	1.08	0.00	0.00	--
2068	2	--	2	0.35	0.35	0.35	0.00	0.00	0.00
2069	--	--	0	1.21	1.14	1.21	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2071	--	--	0	0.31	0.29	0.31	0.00	0.00	--
2072	--	--	0	2.01	2.19	2.19	0.00	0.00	--
2073	--	--	0	1.18	1.23	1.23	0.00	0.00	--
2074	--	--	0	2.09	2.06	2.09	0.00	0.00	--
2075	--	--	0	0.29	0.28	0.29	0.00	0.00	--
2076	--	--	0	1.57	1.52	1.57	0.00	0.00	--
2077	9	1	10	0.22	0.22	0.22	0.01	0.00	0.01
2078	--	--	0	1.65	1.66	1.66	0.00	0.00	--
2079	--	30	30	0.40	0.38	0.40	0.00	0.02	0.02
2080	--	--	0	1.05	1.20	1.20	0.00	0.00	--
2081	214	50	263	0.26	0.24	0.26	0.12	0.03	0.12
2082	--	--	0	0.91	0.90	0.91	0.00	0.00	--
2086	181	307	488	0.81	0.78	0.81	0.30	0.51	0.51
2087	--	--	0	0.17	0.17	0.17	0.00	0.00	--
2088	1	--	1	1.38	1.48	1.48	0.00	0.00	0.00
2089	9	--	9	1.01	0.97	1.01	0.01	0.00	0.01
2090	--	--	0	1.73	1.58	1.73	0.00	0.00	--
2091	6	30	36	0.21	0.20	0.21	0.00	0.02	0.02
2092	--	--	0	0.35	0.35	0.35	0.00	0.00	--
2093	--	--	0	0.94	1.00	1.00	0.00	0.00	--
2094	6	8	14	6.71	7.14	7.14	0.00	0.00	0.00
2095	--	--	0	0.73	0.74	0.74	0.00	0.00	--
2096	--	22	22	0.62	0.57	0.62	0.00	0.04	0.04
2098	--	--	0	1.34	1.30	1.34	0.00	0.00	--
2100	--	22	22	2.75	2.52	2.75	0.00	0.04	0.04
2103	--	--	0	1.76	1.68	1.76	0.00	0.00	--
2105	--	--	0	0.58	0.54	0.58	0.00	0.00	--
2106	--	414	414	0.54	0.54	0.54	0.00	0.34	0.34
2107	--	--	0	0.08	0.09	0.09	0.00	0.00	--
2108	--	--	0	0.22	0.22	0.22	0.00	0.00	--
2109	54	37	92	1.53	1.42	1.53	0.09	0.06	0.09
2110	754	732	1,486	0.42	0.28	0.42	1.18	0.39	1.18
2111	--	--	0	0.74	0.76	0.76	0.00	0.00	--
2112	--	--	0	0.25	0.26	0.26	0.00	0.00	--
2113	--	--	0	0.60	0.60	0.60	0.00	0.00	--
2114	--	--	0	1.23	1.19	1.23	0.00	0.00	--
2115	--	--	0	0.30	0.27	0.30	0.00	0.00	--
2118	9	1	10	0.60	0.59	0.60	0.01	0.00	0.01
2119	553	578	1,131	0.46	0.49	0.49	0.31	0.32	0.32
2120	30	6	36	0.46	0.41	0.46	0.02	0.00	0.02
2121	6	30	36	0.78	0.75	0.78	0.00	0.02	0.02
2122	--	--	0	0.39	0.38	0.39	0.00	0.00	--
2123	--	--	0	0.65	0.58	0.65	0.00	0.00	--
2124	8	25	33	0.15	0.16	0.16	0.01	0.04	0.04
2125	589	277	865	0.82	0.80	0.82	0.33	0.15	0.33
2126	629	269	898	0.31	0.30	0.31	0.52	0.22	0.52
2127	284	49	333	0.42	0.41	0.42	0.14	0.02	0.14
2128	283	40	323	1.10	1.12	1.12	0.13	0.02	0.13
2129	1,869	1,112	2,981	0.91	0.84	0.91	0.52	0.37	0.62
2130	105	18	123	0.19	0.19	0.19	0.18	0.03	0.18
2131	236	387	623	0.47	0.52	0.52	0.39	0.64	0.64
2132	88	29	117	0.08	0.09	0.09	0.05	0.02	0.05
2133	29	52	81	2.49	2.54	2.54	0.02	0.03	0.03
2134	256	834	1,090	0.09	0.09	0.09	0.14	0.46	0.46
2135	112	259	371	0.28	0.28	0.28	0.19	0.43	0.43
2136	--	8	8	0.27	0.31	0.31	0.00	0.01	0.01
2137	95	38	134	0.09	0.07	0.09	0.16	0.06	0.16
2138	38	103	141	0.36	0.35	0.36	0.06	0.17	0.17
2140	--	--	0	1.35	1.18	1.35	0.00	0.00	--
2141	--	229	229	0.00	0.60	0.60	0.00	0.38	0.38
2142	2	--	2	0.38	0.00	0.38	0.00	0.00	0.00
2143	247	142	389	0.30	0.32	0.32	0.41	0.24	0.41
2144	197	511	708	0.38	0.41	0.41	0.33	0.85	0.85
2145	76	99	175	0.22	0.19	0.22	0.54	0.16	0.54

IDI	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2148	--	226	226	0.63	0.58	0.63	0.00	0.38	0.38
2149	--	--	940	0.67	0.68	0.68	1.03	0.54	--
2153	326	228	554	0.44	0.43	0.44	0.54	0.38	0.54
2155	9	447	456	0.19	0.18	0.19	0.02	0.74	0.74
2156	--	--	509	0.25	0.24	0.25	0.44	0.41	--
2157	262	258	521	0.33	0.34	0.34	0.44	0.43	0.44
2158	--	--	595	0.59	0.52	0.59	0.82	0.17	--
2159	792	1.911	2.703	0.23	0.25	0.25	0.29	0.71	0.71
2160	617	89	705	0.16	0.16	0.16	1.03	0.15	1.03
2161	44	142	186	0.33	0.32	0.33	0.07	0.24	0.24
2162	403	9	412	0.24	0.23	0.24	0.67	0.02	0.67
2163	1.071	521	1.592	0.49	0.47	0.49	0.59	0.29	0.59
2164	--	--	0	0.41	0.40	0.41	0.00	0.00	--
2165	--	--	0	0.24	0.26	0.26	0.00	0.00	--
2166	59	--	59	0.24	0.26	0.26	0.04	0.00	0.04
2167	3.222	--	3.222	0.13	0.00	0.13	1.19	0.00	1.19

(C:\DOS\assign.rep - February 16, 2000 (10:20:05 AM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\SCEN3\SWEED.NET
Demand Table : C:\TRAN3.2\CONNEC~1\SCEN1\ES2-20.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
*Capacity Field : CAPSIG
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	23691.84
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	2
Conv. Criteria	:	0.1
Relative Gap	:	0.006922529176
Max Flow Change	:	1051.08562

Equilibrium reached : Yes

Total VHT	:	141972.639
Total VMT	:	92863.[illegible]41
Centroid VHT	:	41809.5078
Centroid VMT	:	15452.6014
VHT w/out Centroids	:	100163.131
VMT w/out Centroids	:	77411.0628

Total Running Time 00:00:02.029.

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	25	--	25	0.10	0.00	0.10	0.06	0.00	0.06
4	178	--	178	0.12	0.00	0.12	0.45	0.00	0.45
5	--	178	178	0.05	0.05	0.05	0.00	0.36	0.36
9	534	438	972	0.44	0.59	0.59	0.89	1.72	1.72
11	224	137	361	0.35	0.37	0.37	0.37	0.23	0.37
18	1,061	--	1,061	0.18	0.00	0.18	0.59	0.00	0.59
19	2,789	--	2,789	0.13	0.00	0.13	1.08	0.00	1.08
21	--	--	0	0.81	0.79	0.81	0.00	0.00	--
37	--	--	0	3.02	2.87	3.02	0.00	0.00	--
108	553	747	1,300	0.19	0.18	0.19	0.39	0.83	0.83
117	536	475	1,011	0.51	0.29	0.51	0.60	0.53	0.60
123	356	560	915	0.74	0.48	0.74	0.40	0.62	0.62
130	641	747	1,388	0.45	0.39	0.45	0.71	0.83	0.83
134	--	--	0	0.17	0.17	0.17	0.00	0.00	--
151	--	304	304	0.47	0.50	0.50	0.00	0.51	0.51
154	--	225	225	0.45	0.47	0.47	0.00	0.37	0.37
158	136	558	693	0.31	0.42	0.42	0.27	1.12	1.12
164	636	886	1,522	0.24	0.31	0.31	1.06	1.48	1.48
191	--	--	0	0.16	0.16	0.16	0.00	0.00	--
197	--	--	0	0.22	0.22	0.22	0.00	0.00	--
203	1,226	1,944	3,171	0.47	0.46	0.47	0.45	0.72	0.72
206	544	578	1,122	0.64	0.67	0.67	0.30	0.32	0.32
211	535	266	800	0.14	0.13	0.14	0.30	0.15	0.30
212	535	266	800	0.98	1.09	1.09	0.30	0.15	0.30
214	198	196	394	0.16	0.17	0.17	0.33	0.33	0.33
215	--	370	370	0.13	0.13	0.13	0.00	0.41	0.41
217	--	--	0	0.30	0.28	0.30	0.00	0.00	--
223	298	658	956	0.13	0.13	0.13	0.17	0.78	0.78
224	243	234	477	0.69	0.75	0.75	0.14	0.26	0.26
226	330	225	554	0.49	0.47	0.49	0.50	0.12	0.50
229	828	1,561	2,389	0.26	0.26	0.26	0.31	0.62	0.62
230	1,481	--	1,481	0.11	0.00	0.11	0.50	0.00	0.50
232	1,624	--	1,624	0.26	0.00	0.26	0.90	0.00	0.90
234	240	465	704	0.42	0.53	0.53	0.40	0.77	0.77
235	--	--	0	0.22	0.27	0.27	0.00	0.00	--
236	96	79	175	0.21	0.22	0.22	0.16	0.13	0.16
238	51	370	421	0.93	0.87	0.93	0.09	0.62	0.62
241	725	107	832	0.36	0.37	0.37	0.40	0.10	0.40
242	1,757	--	1,757	0.08	0.00	0.08	0.65	0.00	0.65
244	260	214	473	0.19	0.18	0.19	0.43	0.36	0.43
246	1,728	--	1,728	0.14	0.00	0.14	0.64	0.00	0.64
247	1,944	1,540	3,485	0.32	0.27	0.32	0.72	0.57	0.72
250	--	425	425	0.04	0.04	0.04	0.00	0.53	0.53
252	--	1,240	1,240	0.00	0.16	0.16	0.00	1.55	1.55
256	--	--	0	1.37	1.42	1.42	0.00	0.00	--
257	312	238	550	0.17	0.19	0.19	0.15	0.24	0.24
260	312	747	1,059	0.13	0.12	0.13	0.31	0.72	0.72
263	1,886	--	1,886	0.11	0.00	0.11	0.56	0.00	0.56
264	--	158	158	0.00	0.09	0.09	0.00	0.26	0.26
275	--	--	0	0.70	0.64	0.70	0.00	0.00	--
276	--	--	0	1.54	1.54	1.54	0.00	0.00	--
287	--	--	0	0.12	0.12	0.12	0.00	0.00	--
289	--	--	0	0.20	0.19	0.20	0.00	0.00	--
293	--	270	270	0.37	0.38	0.38	0.00	0.68	0.68
311	503	530	1,033	0.47	0.45	0.47	0.26	0.28	0.28
314	381	535	917	0.29	0.27	0.29	0.20	0.28	0.28
316	--	--	0	0.87	0.76	0.87	0.00	0.00	--
337	--	--	0	0.68	0.60	0.68	0.00	0.00	--
362	193	65	258	1.36	1.35	1.36	0.16	0.05	0.16
364	535	381	917	0.22	0.24	0.24	0.28	0.20	0.28
428	--	--	0	1.18	1.22	1.22	0.00	0.00	--
430	--	--	0	0.25	0.27	0.27	0.00	0.00	--
435	--	--	0	0.40	0.43	0.43	0.00	0.00	--
454	106	314	420	0.20	0.20	0.20	0.09	0.26	0.26

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
456	--	--	0	0.82	0.87	0.87	0.00	0.00	--
479	536	134	670	0.91	0.99	0.99	0.89	0.22	0.89
483	224	33	257	0.26	0.26	0.26	0.37	0.05	0.37
486	252	31	283	0.31	0.33	0.33	0.42	0.05	0.42
507	--	--	0	0.21	0.19	0.21	0.00	0.00	--
513	--	--	0	0.91	0.89	0.91	0.00	0.00	--
541	--	--	0	0.73	0.70	0.73	0.00	0.00	--
549	--	--	0	0.22	0.21	0.22	0.00	0.00	--
552	544	--	544	0.40	0.39	0.40	0.91	0.00	0.91
555	453	467	920	0.27	0.34	0.34	0.65	0.78	0.78
558	343	544	887	0.06	0.06	0.06	0.57	0.91	0.91
571	--	--	0	0.18	0.17	0.18	0.00	0.00	--
572	0	77	77	0.08	0.08	0.08	0.00	0.13	0.13
588	343	553	896	1.20	1.27	1.27	0.57	0.92	0.92
605	1.234	1.419	2.653	0.12	0.13	0.13	0.69	0.70	0.70
607	783	--	783	0.16	0.15	0.16	0.69	0.00	0.69
608	503	--	503	0.16	0.18	0.18	0.92	0.00	0.92
609	1.072	--	1.072	0.13	0.00	0.13	0.54	0.00	0.54
610	113	403	516	0.22	0.21	0.22	0.19	0.67	0.67
612	262	51	313	0.22	0.23	0.23	0.44	0.09	0.44
617	371	--	371	0.12	0.00	0.12	0.62	0.00	0.62
618	139	685	824	0.14	0.15	0.15	0.12	0.66	0.66
620	497	818	1.316	0.26	0.23	0.26	0.77	0.68	0.77
622	352	164	517	0.07	0.08	0.08	0.59	0.27	0.59
626	602	504	1.106	0.12	0.12	0.12	0.73	0.84	0.84
631	1.183	943	2.127	0.42	0.41	0.42	1.31	1.05	1.31
632	1.419	1.234	2.653	0.18	0.17	0.18	0.79	0.91	0.91
669	198	196	394	0.49	0.51	0.51	0.33	0.33	0.33
685	340	250	590	0.48	0.48	0.48	0.57	0.42	0.57
695	330	236	566	0.16	0.15	0.16	0.55	0.39	0.55
698	--	282	282	0.00	0.13	0.13	0.00	0.47	0.47
699	--	265	265	0.00	0.14	0.14	0.00	0.44	0.44
700	--	--	0	0.71	0.74	0.74	0.00	0.00	--
724	273	65	338	0.63	0.44	0.63	0.45	0.11	0.45
728	45	65	110	0.24	0.25	0.25	0.07	0.11	0.11
731	415	65	481	0.55	0.56	0.56	0.69	0.11	0.69
739	77	0	77	1.29	1.23	1.29	0.13	0.00	0.13
763	--	--	0	3.68	3.67	3.68	0.00	0.00	--
772	357	--	357	0.16	0.00	0.16	0.45	0.00	0.45
806	1.670	--	1.670	0.51	0.00	0.51	0.62	0.00	0.62
813	2.156	--	2.156	0.28	0.00	0.28	0.64	0.00	0.64
822	2.422	--	2.422	0.14	0.00	0.14	0.71	0.00	0.71
828	2	--	2	0.22	0.22	0.22	0.00	0.00	0.00
872	--	--	0	2.33	2.48	2.48	0.00	0.00	--
879	518	220	738	0.23	0.21	0.23	0.86	0.37	0.86
907	407	53	461	0.59	0.61	0.61	0.68	0.09	0.68
910	248	544	793	0.47	0.52	0.52	0.41	0.91	0.91
913	248	--	248	0.24	0.00	0.24	0.41	0.00	0.41
917	2.190	1.302	3.492	0.35	0.31	0.35	1.22	1.03	1.22
925	2.190	1.302	3.492	0.88	0.70	0.88	1.22	0.72	1.22
928	1.920	1.302	3.222	0.40	0.32	0.40	1.07	0.72	1.07
933	--	729	729	0.00	0.18	0.18	0.00	0.26	0.26
1057	24	2	26	1.90	1.87	1.90	0.01	0.00	0.01
1066	1.865	1.112	2.977	0.19	0.20	0.20	0.62	0.37	0.62
1140	705	499	1.205	0.35	0.45	0.45	0.88	0.93	0.93
1170	192	511	703	0.79	0.94	0.94	0.32	1.46	1.46
1174	283	15	299	0.56	0.57	0.57	0.47	0.03	0.47
1186	342	800	1.142	0.32	0.25	0.32	0.19	0.44	0.44
1187	342	1.068	1.410	0.17	0.17	0.17	0.39	0.59	0.59
1193	79	291	371	0.73	0.69	0.73	0.13	0.49	0.49
1233	38	95	134	1.41	1.40	1.41	0.02	0.05	0.05
1243	149	53	202	0.22	0.23	0.23	0.09	0.03	0.09
1262	180	114	294	0.53	0.57	0.57	0.10	0.06	0.10
1321	145	130	274	0.67	0.71	0.71	0.08	0.07	0.08

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1340	109	31	140	0.11	0.10	0.11	0.06	0.02	0.06
1392	109	31	140	3.57	3.52	3.57	0.06	0.02	0.06
1439	746	527	1,273	0.70	0.46	0.70	0.83	0.30	0.83
1445	32	60	92	0.65	0.67	0.67	0.05	0.10	0.10
1450	32	60	92	0.32	0.30	0.32	0.05	0.10	0.10
1456	1,300	833	2,133	0.17	0.18	0.18	1.44	0.93	1.44
1458	1,528	778	2,306	0.30	0.26	0.30	1.70	0.86	1.70
1461	--	--	0	0.77	0.80	0.80	0.00	0.00	--
1500	387	233	619	0.64	0.63	0.64	0.64	0.39	0.64
1505	273	330	603	0.64	0.56	0.64	0.45	0.55	0.55
1509	--	--	0	0.00	0.17	0.17	0.00	0.00	--
1513	341	159	500	0.25	0.24	0.25	0.57	0.27	0.57
1518	--	292	292	0.00	0.31	0.31	0.00	0.49	0.49
1522	--	--	0	0.56	0.58	0.58	0.00	0.00	--
1523	390	431	821	0.28	0.26	0.28	0.65	0.45	0.65
1527	90	318	408	0.30	0.32	0.32	0.15	0.53	0.53
1562	333	293	626	0.14	0.15	0.15	0.55	0.49	0.55
1573	443	149	592	0.18	0.17	0.18	0.74	0.25	0.74
1603	--	--	0	0.99	1.01	1.01	0.00	0.00	--
1606	--	--	0	0.20	0.20	0.20	0.00	0.00	--
1608	--	--	0	0.60	0.55	0.60	0.00	0.00	--
1609	--	--	0	1.04	1.13	1.13	0.00	0.00	--
1611	294	373	667	0.12	0.13	0.13	0.49	0.62	0.62
1628	--	1,411	1,411	0.00	0.39	0.39	0.00	0.52	0.52
1629	544	578	1,122	0.31	0.30	0.31	0.30	0.32	0.32
1630	--	--	0	0.49	0.49	0.49	0.00	0.00	--
1631	843	584	1,427	0.12	0.12	0.12	0.65	0.45	0.65
1632	390	1,208	1,599	0.13	0.14	0.14	0.65	2.01	2.01
1633	1,204	939	2,144	0.03	0.03	0.03	0.56	1.04	1.04
1634	12	49	62	0.95	0.90	0.95	0.01	0.03	0.03
1642	828	1,561	2,389	0.65	0.61	0.65	0.31	0.58	0.58
1644	1,561	828	2,389	0.12	0.11	0.12	0.58	0.31	0.58
1645	130	33	163	0.22	0.24	0.24	0.07	0.02	0.07
1646	169	76	245	0.92	0.92	0.92	0.14	0.06	0.14
1647	76	14	90	0.50	0.46	0.50	0.04	0.01	0.04
1649	--	--	0	0.75	0.72	0.75	0.00	0.00	--
1651	771	--	771	0.24	0.00	0.24	0.43	0.00	0.43
1652	509	--	509	0.16	0.00	0.16	0.55	0.00	0.55
1654	21	428	449	0.57	0.61	0.61	0.03	0.71	0.71
1655	314	221	536	0.30	0.29	0.30	0.52	0.37	0.52
1656	418	159	577	0.27	0.34	0.34	0.70	0.27	0.70
1657	418	159	577	0.08	0.07	0.08	0.70	0.27	0.70
1658	707	949	1,656	0.05	0.05	0.05	0.25	0.35	0.35
1661	385	332	717	0.43	0.42	0.43	0.20	0.18	0.20
1662	38	95	134	1.65	1.60	1.65	0.06	0.16	0.16
1664	265	363	629	0.30	0.31	0.31	0.44	0.61	0.61
1666	2,363	1,761	4,124	0.09	0.08	0.09	0.88	0.65	0.88
1668	1,920	1,302	3,222	0.09	0.09	0.09	1.07	0.72	1.07
1669	--	--	0	0.16	0.00	0.16	0.00	0.00	--
1670	1,937	--	1,937	0.16	0.00	0.16	0.72	0.00	0.72
1671	--	1,757	1,757	0.00	0.31	0.31	0.00	0.65	0.65
1672	294	27	321	0.06	0.07	0.07	0.49	0.05	0.49
1673	125	492	616	0.07	0.09	0.09	0.21	1.18	1.18
1675	2,643	--	2,643	0.27	0.00	0.27	0.98	0.00	0.98
1676	596	89	686	1.37	1.40	1.40	0.28	0.04	0.28
1678	51	--	51	0.07	0.00	0.07	0.09	0.00	0.09
1679	408	--	408	0.42	0.00	0.42	0.71	0.00	0.71
1680	198	250	448	0.17	0.17	0.17	0.33	0.42	0.42
1681	198	327	525	0.82	0.87	0.87	0.33	0.55	0.55
1683	--	--	0	0.21	0.19	0.21	0.00	0.00	--
1724	--	--	1,196	0.78	0.87	0.87	0.87	1.12	--
1728	--	--	841	0.64	0.61	0.64	0.92	0.48	--
1729	388	334	721	0.80	0.77	0.80	0.20	0.18	0.20
1730	--	--	1,125	0.47	0.47	0.47	0.88	0.99	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1736	--	--	845	0.46	0.42	0.46	0.93	0.48	--
1738	--	--	1,295	0.22	0.33	0.33	0.83	1.33	--
1740	--	--	1,171	0.19	0.22	0.22	0.73	1.22	--
1741	343	--	343	0.34	0.00	0.34	0.57	0.00	0.57
1742	--	--	1,497	0.46	0.64	0.64	0.98	1.51	--
1743	98	340	438	0.48	0.47	0.48	0.16	0.57	0.57
1744	--	--	728	0.25	0.29	0.29	0.22	1.00	--
1745	341	159	500	0.67	0.68	0.68	0.57	0.27	0.57
1746	--	--	614	0.45	0.52	0.52	0.51	0.51	--
1747	320	--	320	0.17	0.00	0.17	0.53	0.00	0.53
1750	--	--	1,181	0.21	0.21	0.21	0.93	1.04	--
1751	--	6	6	0.38	0.38	0.38	0.00	0.01	0.01
1752	--	--	1,516	0.44	0.29	0.44	1.47	1.06	--
1754	--	--	1,683	0.22	0.33	0.33	1.10	1.70	--
1755	--	--	0	0.00	0.27	0.27	0.00	0.00	--
1756	--	--	2,570	0.38	0.48	0.48	2.01	2.27	--
1759	--	--	1,237	0.31	0.45	0.45	0.73	1.33	--
1761	157	367	524	0.22	0.23	0.23	0.26	0.61	0.61
1762	224	136	359	0.57	0.60	0.60	0.37	0.23	0.37
1763	--	--	158	0.23	0.23	0.23	0.03	0.23	--
1764	89	62	152	1.03	0.92	1.03	0.15	0.10	0.15
1765	--	--	488	0.37	0.37	0.37	0.51	0.30	--
1766	854	1,461	2,315	0.47	0.45	0.47	0.32	0.54	0.54
1775	--	--	1,013	0.24	0.20	0.24	0.87	0.82	--
1777	--	--	963	0.25	0.31	0.31	0.52	1.08	--
1778	1,333	707	2,040	0.65	0.65	0.65	0.76	0.26	0.76
1779	--	--	1,221	0.62	0.47	0.62	1.31	0.73	--
1782	--	--	742	0.31	0.30	0.31	0.64	0.59	--
1785	395	720	1,115	0.56	0.46	0.56	0.49	0.90	0.90
1788	--	--	547	0.25	0.28	0.28	0.34	0.57	--
1790	--	--	718	0.39	0.48	0.48	0.49	0.71	--
1792	360	264	624	0.28	0.27	0.28	0.60	0.44	0.60
1793	--	--	563	0.37	0.40	0.40	0.41	0.52	--
1794	--	--	571	0.61	0.65	0.65	0.67	0.28	--
1795	62	107	169	0.28	0.27	0.28	0.10	0.18	0.18
1796	--	--	808	1.18	1.16	1.18	0.82	0.52	--
1797	--	--	1,767	0.36	0.33	0.36	1.53	1.42	--
1798	865	2,013	2,878	0.29	0.27	0.29	0.32	0.75	0.75
1799	--	--	1,136	0.37	0.52	0.52	0.59	1.30	--
1803	--	--	1,202	0.16	0.17	0.17	0.85	1.16	--
1805	206	433	639	0.22	0.24	0.24	0.34	0.72	0.72
1806	1,333	601	1,933	0.33	0.33	0.33	1.48	0.67	1.48
1809	--	--	0	0.38	0.40	0.40	0.00	0.00	--
1812	610	166	776	1.35	1.32	1.35	0.29	0.08	0.29
1814	186	--	186	0.21	0.19	0.21	0.31	0.00	0.31
1818	198	327	525	0.53	0.52	0.53	0.33	0.55	0.55
1820	18	24	42	2.54	2.69	2.69	0.01	0.01	0.01
1833	--	--	0	0.77	0.77	0.77	0.00	0.00	--
1841	--	--	0	1.27	1.36	1.36	0.00	0.00	--
1848	815	1,444	2,260	0.54	0.59	0.59	0.30	0.53	0.53
1850	149	53	202	1.00	0.94	1.00	0.08	0.03	0.08
1855	--	9	9	1.89	1.93	1.93	0.00	0.02	0.02
1859	--	--	0	0.95	1.02	1.02	0.00	0.00	--
1867	--	--	0	0.22	0.22	0.22	0.00	0.00	--
1873	--	116	116	0.48	0.49	0.49	0.00	0.44	0.44
1874	536	475	1,011	0.26	0.25	0.26	0.30	0.56	0.56
1875	1,865	1,112	2,977	0.62	0.47	0.62	1.17	0.37	1.17
1876	744	107	851	0.08	0.08	0.08	0.41	0.06	0.41
1878	--	--	0	1.66	1.81	1.81	0.00	0.00	--
1881	2,290	1,383	3,673	0.27	0.24	0.27	0.85	0.51	0.85
1884	2,363	1,761	4,124	0.17	0.18	0.18	0.88	0.65	0.88
1886	2,020	1,383	3,403	0.55	0.52	0.55	0.75	0.55	0.75
1887	--	--	1,666	0.42	0.51	0.51	1.20	1.57	--
1890	1,625	818	2,443	0.66	0.58	0.66	1.13	0.30	1.13

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1894	806	--	806	0.38	0.00	0.38	0.39	0.00	0.39
1895	76	14	90	0.27	0.30	0.30	0.04	0.01	0.04
1896	838	748	1,586	0.32	0.32	0.32	0.44	0.39	0.44
1899	120	102	222	0.22	0.19	0.22	0.20	0.17	0.20
1903	2,217	2,639	4,856	0.14	0.15	0.15	0.82	0.98	0.98
1904	744	107	851	0.09	0.09	0.09	0.40	0.05	0.40
1908	1,624	--	1,624	0.29	0.00	0.29	0.60	0.00	0.60
1909	2,185	--	2,185	0.67	0.00	0.67	0.73	0.00	0.73
1910	2,422	--	2,422	0.28	0.00	0.28	0.90	0.00	0.90
1917	--	1,630	1,630	0.00	0.25	0.25	0.00	0.89	0.89
1920	972	370	1,341	0.13	0.12	0.13	1.08	0.41	1.08
1925	1,665	--	1,665	0.42	0.00	0.42	1.04	0.00	1.04
1926	508	374	882	0.10	0.10	0.10	0.85	0.62	0.85
1927	1,070	409	1,480	1.67	1.38	1.67	0.51	0.20	0.51
1928	--	--	1,509	3.37	1.78	3.37	1.80	0.72	--
1929	553	578	1,131	0.19	0.19	0.19	0.35	0.36	0.36
1932	--	--	0	0.50	0.49	0.50	0.00	0.00	--
1933	--	--	2,315	2.56	0.97	2.56	2.43	1.42	--
1934	89	62	152	0.87	0.87	0.87	0.15	0.10	0.15
1937	--	--	488	0.42	0.43	0.43	0.51	0.30	--
1938	589	277	865	0.36	0.35	0.36	0.33	0.15	0.33
1939	--	--	436	0.94	0.75	0.94	0.00	0.73	--
1940	--	--	785	0.40	0.38	0.40	1.31	0.00	--
1941	785	--	785	0.49	0.49	0.49	0.44	0.00	0.44
1942	55	--	55	0.18	0.00	0.18	0.09	0.00	0.09
1944	--	--	0	0.00	0.20	0.20	0.00	0.00	--
1946	--	--	524	0.31	0.33	0.33	0.20	0.67	--
1948	--	158	158	0.00	0.14	0.14	0.00	0.26	0.26
1950	731	--	731	0.18	0.18	0.18	1.22	0.00	1.22
1952	--	212	212	0.00	0.27	0.27	0.00	0.35	0.35
1953	--	--	212	0.17	0.17	0.17	0.00	0.35	--
1954	--	--	0	1.08	0.97	1.08	0.00	0.00	--
1955	--	--	0	1.54	1.61	1.61	0.00	0.00	--
1957	21	9	30	1.59	1.66	1.66	0.01	0.00	0.01
1960	42	8	50	5.00	5.22	5.22	0.02	0.00	0.02
1962	8	42	50	0.52	0.54	0.54	0.01	0.03	0.03
1963	--	--	0	0.36	0.38	0.38	0.00	0.00	--
1964	--	--	1,131	1.54	1.53	1.54	0.96	0.92	--
1965	--	--	0	0.41	0.45	0.45	0.00	0.00	--
1966	263	--	263	0.15	0.00	0.15	0.85	0.00	0.85
1967	--	--	809	0.31	0.34	0.34	0.39	0.96	--
1970	1,587	860	2,446	1.03	0.98	1.03	0.53	0.29	0.53
1971	--	--	2,473	7.99	2.55	7.99	2.65	1.47	--
1973	--	--	214	0.14	0.14	0.14	0.26	0.09	--
1974	385	331	716	0.52	0.57	0.57	0.20	0.17	0.20
1975	--	--	5	0.98	0.98	0.98	0.00	0.00	--
1977	--	--	0	0.14	0.15	0.15	0.00	0.00	--
1980	25	178	204	0.76	0.76	0.76	0.04	0.30	0.30
1981	--	--	204	0.20	0.18	0.20	0.23	0.11	--
1982	--	--	1,811	0.17	0.26	0.26	1.30	1.72	--
1985	--	--	861	0.30	0.23	0.30	0.97	0.47	--
1986	580	281	861	1.00	0.74	1.00	0.97	0.47	0.97
1988	--	--	0	1.25	1.30	1.30	0.00	0.00	--
1989	106	127	232	1.12	1.23	1.23	0.18	0.21	0.21
1990	1,300	833	2,133	0.15	0.16	0.16	1.44	0.93	1.44
1991	705	499	1,205	0.10	0.10	0.10	0.78	0.55	0.78
1992	--	--	0	0.44	0.40	0.44	0.00	0.00	--
1993	--	--	0	0.78	0.74	0.78	0.00	0.00	--
1994	--	--	0	0.13	0.13	0.13	0.00	0.00	--
1995	1,333	601	1,933	0.10	0.11	0.11	1.48	0.67	1.48
1996	--	--	0	0.18	0.19	0.19	0.00	0.00	--
1997	--	--	0	0.94	0.92	0.94	0.00	0.00	--
1998	--	--	0	0.43	0.41	0.43	0.00	0.00	--
1999	705	501	1,207	0.12	0.13	0.13	0.78	0.56	0.78

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2000	--	--	0	0.11	0.11	0.11	0.00	0.00	--
2001	--	2	2	0.00	0.11	0.11	0.00	0.00	0.00
2003	2	--	2	0.14	0.00	0.14	0.00	0.00	0.00
2004	83	595	678	0.19	0.18	0.19	0.14	0.99	0.99
2005	496	--	496	0.20	0.00	0.20	0.83	0.00	0.83
2006	496	2	498	0.66	0.61	0.66	0.83	0.00	0.83
2007	81	99	180	0.70	0.72	0.72	0.14	0.16	0.16
2008	--	--	0	0.14	0.00	0.14	0.00	0.00	--
2009	--	--	0	0.38	0.40	0.40	0.00	0.00	--
2010	--	--	0	3.08	2.91	3.08	0.00	0.00	--
2011	206	433	639	1.69	1.58	1.69	0.34	0.72	0.72
2012	8	105	113	3.59	3.11	3.59	0.01	0.18	0.18
2013	17	38	55	1.37	1.31	1.37	0.03	0.06	0.06
2015	2,384	1,874	4,258	0.17	0.18	0.18	0.88	0.69	0.88
2016	--	116	116	0.37	0.33	0.37	0.00	0.19	0.19
2017	--	106	106	0.23	0.17	0.23	0.00	0.07	0.07
2018	--	314	314	0.18	0.18	0.18	0.00	0.26	0.26
2019	--	106	106	0.34	0.31	0.34	0.00	0.18	0.18
2020	--	--	0	0.49	0.52	0.52	0.00	0.00	--
2021	867	2,083	2,949	0.16	0.13	0.16	0.32	0.77	0.77
2022	535	38	573	0.12	0.14	0.14	0.89	0.06	0.89
2023	473	182	655	0.50	0.47	0.50	0.79	0.30	0.79
2024	535	38	573	0.10	0.09	0.10	0.89	0.06	0.89
2025	330	720	1,050	0.20	0.14	0.20	0.37	0.80	0.80
2026	65	--	65	0.24	0.24	0.24	0.11	0.00	0.11
2027	65	212	277	0.25	0.24	0.24	0.11	0.35	0.35
2028	--	88	88	0.20	0.20	0.20	0.00	0.22	0.22
2029	88	--	88	0.67	0.67	0.67	0.15	0.00	0.15
2030	--	226	226	0.15	0.14	0.15	0.00	0.38	0.38
2031	--	--	0	0.20	0.19	0.20	0.00	0.00	--
2032	--	--	0	1.91	1.78	1.91	0.00	0.00	--
2033	57	15	72	0.46	0.40	0.46	0.10	0.03	0.10
2034	--	226	226	0.13	0.13	0.13	0.00	0.19	0.19
2035	226	--	226	0.91	0.89	0.91	0.38	0.00	0.38
2036	--	--	0	0.48	0.48	0.48	0.00	0.00	--
2038	342	800	1,142	0.72	0.77	0.77	0.19	0.44	0.44
2039	--	--	0	0.58	0.59	0.59	0.00	0.00	--
2040	--	--	0	0.39	0.36	0.39	0.00	0.00	--
2041	36	--	36	1.09	1.13	1.13	0.06	0.00	0.06
2043	--	--	0	0.78	0.90	0.90	0.00	0.00	--
2044	--	36	36	0.14	0.14	0.14	0.00	0.03	0.03
2045	--	--	0	0.38	0.33	0.38	0.00	0.00	--
2046	--	36	36	0.93	0.95	0.95	0.00	0.06	0.06
2047	36	--	36	0.16	0.16	0.16	0.06	0.00	0.06
2048	--	--	0	0.52	0.54	0.54	0.00	0.00	--
2049	--	--	0	0.44	0.42	0.44	0.00	0.00	--
2050	--	--	0	0.22	0.22	0.22	0.00	0.00	--
2051	32	60	92	0.97	1.11	1.11	0.05	0.10	0.10
2052	--	--	0	1.06	1.01	1.06	0.00	0.00	--
2054	--	--	0	0.23	0.27	0.27	0.00	0.00	--
2055	865	2,013	2,878	0.12	0.13	0.13	0.32	0.75	0.75
2056	--	--	0	0.94	0.99	0.99	0.00	0.00	--
2057	--	--	0	0.15	0.15	0.15	0.00	0.00	--
2058	--	9	9	0.27	0.27	0.27	0.00	0.02	0.02
2059	--	--	0	0.39	0.39	0.39	0.00	0.00	--
2060	--	--	0	1.22	1.42	1.42	0.00	0.00	--
2061	--	--	0	3.50	3.76	3.76	0.00	0.00	--
2062	636	886	1,522	0.55	0.78	0.78	1.06	1.48	1.48
2063	262	233	495	0.38	0.44	0.44	0.44	0.39	0.44
2064	--	--	0	1.47	1.54	1.54	0.00	0.00	--
2065	--	--	0	2.26	2.08	2.26	0.00	0.00	--
2066	--	--	0	1.06	1.01	1.06	0.00	0.00	--
2068	2	--	2	0.33	0.32	0.33	0.00	0.00	0.00
2069	--	--	0	1.08	1.14	1.14	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2071	--	--	0	0.31	0.30	0.31	0.00	0.00	--
2072	--	--	0	2.14	2.04	2.14	0.00	0.00	--
2073	--	--	0	1.27	1.20	1.27	0.00	0.00	--
2074	--	--	0	2.22	2.14	2.22	0.00	0.00	--
2075	--	--	0	0.29	0.28	0.29	0.00	0.00	--
2076	--	--	0	1.56	1.47	1.56	0.00	0.00	--
2077	9	1	10	0.21	0.20	0.21	0.01	0.00	0.01
2078	--	--	0	1.66	1.54	1.66	0.00	0.00	--
2079	76	14	90	0.39	0.37	0.39	0.04	0.01	0.04
2080	--	--	0	1.09	1.14	1.14	0.00	0.00	--
2081	130	33	163	0.26	0.27	0.27	0.07	0.02	0.07
2082	--	--	0	0.91	0.85	0.91	0.00	0.00	--
2086	181	307	488	0.73	0.83	0.83	0.30	0.51	0.51
2087	--	--	0	0.18	0.17	0.18	0.00	0.00	--
2088	--	9	9	1.38	1.34	1.38	0.00	0.01	0.01
2089	--	1	1	1.04	0.92	1.04	0.00	0.00	0.00
2090	--	--	0	1.58	1.65	1.65	0.00	0.00	--
2091	--	9	9	0.20	0.22	0.22	0.00	0.00	0.00
2092	--	--	0	0.36	0.35	0.36	0.00	0.00	--
2093	--	--	0	0.98	0.85	0.98	0.00	0.00	--
2094	--	--	0	6.79	6.48	6.79	0.00	0.00	--
2095	--	--	0	0.69	0.74	0.74	0.00	0.00	--
2096	--	9	9	0.55	0.54	0.55	0.00	0.02	0.02
2098	--	--	0	1.31	1.27	1.31	0.00	0.00	--
2100	--	9	9	2.88	2.51	2.88	0.00	0.02	0.02
2103	--	--	0	1.77	1.78	1.78	0.00	0.00	--
2105	--	--	0	0.55	0.56	0.56	0.00	0.00	--
2106	--	--	0	0.57	0.54	0.57	0.00	0.00	--
2107	--	--	0	0.08	0.08	0.08	0.00	0.00	--
2108	--	--	0	0.21	0.22	0.22	0.00	0.00	--
2109	54	--	54	1.38	1.50	1.50	0.09	0.00	0.09
2110	838	748	1,586	0.44	0.27	0.44	1.31	0.39	1.31
2111	--	--	0	0.83	0.79	0.83	0.00	0.00	--
2112	--	--	0	0.26	0.28	0.28	0.00	0.00	--
2113	--	--	0	0.71	0.66	0.71	0.00	0.00	--
2114	--	--	0	1.27	1.44	1.44	0.00	0.00	--
2115	--	--	0	0.27	0.26	0.27	0.00	0.00	--
2118	9	1	10	0.60	0.58	0.60	0.01	0.00	0.01
2119	553	578	1,131	0.49	0.59	0.59	0.31	0.32	0.32
2120	9	--	9	0.41	0.40	0.41	0.00	0.00	0.00
2121	--	9	9	0.75	0.72	0.75	0.00	0.00	0.00
2122	--	--	0	0.40	0.42	0.42	0.00	0.00	--
2123	--	--	0	0.62	0.65	0.65	0.00	0.00	--
2124	--	9	9	0.15	0.14	0.15	0.00	0.02	0.02
2125	589	277	865	0.78	0.77	0.78	0.33	0.15	0.33
2126	88	423	511	0.33	0.31	0.33	0.07	0.35	0.35
2127	284	49	333	0.43	0.39	0.43	0.14	0.02	0.14
2128	283	40	323	1.13	1.07	1.13	0.13	0.02	0.13
2129	1,865	1,112	2,977	0.82	0.82	0.82	0.62	0.37	0.62
2130	105	22	127	0.19	0.20	0.20	0.18	0.04	0.18
2131	233	387	619	0.50	0.51	0.51	0.39	0.64	0.64
2132	88	29	117	0.09	0.09	0.09	0.05	0.02	0.05
2133	29	52	81	2.53	2.56	2.56	0.02	0.03	0.03
2134	342	800	1,142	0.09	0.09	0.09	0.19	0.44	0.44
2135	114	320	434	0.25	0.27	0.27	0.19	0.53	0.53
2136	--	--	0	0.27	0.27	0.27	0.00	0.00	--
2137	95	38	134	0.07	0.09	0.09	0.16	0.06	0.16
2138	38	95	134	0.35	0.35	0.35	0.06	0.16	0.16
2140	--	--	0	1.23	1.11	1.23	0.00	0.00	--
2141	--	21	21	0.00	0.59	0.59	0.00	0.04	0.04
2142	2	--	2	0.41	0.00	0.41	0.00	0.00	0.00
2143	39	140	179	0.34	0.32	0.34	0.07	0.23	0.23
2144	192	511	703	0.39	0.37	0.39	0.32	0.85	0.85
2145	81	99	180	0.19	0.18	0.19	0.58	0.16	0.58

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2148	--	226	226	0.57	0.53	0.58	0.00	0.38	0.38
2149	--	--	935	0.62	0.64	0.64	1.03	0.53	--
2153	333	2	334	0.46	0.42	0.46	0.55	0.00	0.55
2155	65	212	277	0.18	0.20	0.20	0.11	0.35	0.35
2156	--	--	489	0.26	0.25	0.26	0.44	0.38	--
2157	262	233	495	0.35	0.34	0.35	0.44	0.39	0.44
2158	--	--	597	0.56	0.50	0.56	0.82	0.17	--
2159	899	1.992	2.891	0.24	0.23	0.24	0.45	0.74	0.74
2160	229	285	513	0.17	0.16	0.17	0.38	0.47	0.47
2161	44	142	186	0.35	0.34	0.35	0.07	0.24	0.24
2162	398	65	462	0.24	0.24	0.24	0.66	0.11	0.66
2163	1.077	542	1.619	0.49	0.53	0.53	0.60	0.30	0.60
2164	--	--	0	0.42	0.38	0.42	0.00	0.00	--
2165	--	--	0	0.25	0.25	0.25	0.00	0.00	--
2166	--	--	0	0.26	0.26	0.26	0.00	0.00	--
2167	2.330	--	2.330	0.11	0.00	0.11	0.86	0.00	0.86
2168	1.226	770	1.996	0.35	0.32	0.35	1.04	0.29	1.04
2169	1.521	1.467	2.989	1.72	1.74	1.74	0.59	0.56	0.59
2170	573	--	573	0.44	0.00	0.44	0.22	0.00	0.22
2171	760	--	760	0.28	0.00	0.28	0.58	0.00	0.58
2172	949	1.467	2.416	0.19	0.20	0.20	0.36	0.56	0.56
2173	1.160	980	2.140	0.13	0.12	0.13	0.43	0.36	0.43
2174	1.729	--	1.729	0.35	0.00	0.35	0.96	0.00	0.96
2175	--	1.126	1.126	0.00	0.23	0.23	0.00	0.65	0.65

(C:\DOS\assign.rep - February 16, 2000 (04:35:49 PM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\SCEN3\SEN3SIGN\SWEED.NET
Demand Table : C:\TRAN3.2\CONNEC~1\SCEN1\ES2-20.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
Capacity Field : *CAPSIG
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	23691.84
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	2
Conv. Criteria	:	0.1
Relative Gap	:	0.01097381248
Max Flow Change	:	1111.77454
Equilibrium reached	:	Yes
Total VHT	:	147967.689
Total VMT	:	92081.2265
Centroid VHT	:	40901.8514
Centroid VMT	:	15422.2779
VHT w/out Centroids	:	107065.838
VMT w/out Centroids	:	76658.9486

Total Running Time 00:00:02.040.

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	68	--	68	0.10	0.00	0.10	0.17	0.00	0.17
4	160	--	160	0.10	0.00	0.10	0.40	0.00	0.40
5	--	160	160	0.05	0.05	0.05	0.00	0.32	0.32
9	357	511	868	0.38	0.87	0.87	0.59	2.01	2.01
11	224	163	387	0.36	0.37	0.37	0.37	0.27	0.37
18	885	--	885	0.19	0.00	0.19	0.49	0.00	0.49
19	3.495	--	3.495	0.18	0.00	0.18	1.35	0.00	1.35
21	--	--	0	0.79	0.77	0.79	0.00	0.00	--
37	--	--	0	3.00	2.97	3.00	0.00	0.00	--
108	706	727	1.433	0.19	0.24	0.24	0.50	0.81	0.81
117	369	323	692	0.58	0.29	0.58	0.41	0.36	0.41
123	453	242	695	0.73	0.56	0.73	0.50	0.27	0.50
130	770	516	1.286	0.44	0.43	0.44	0.86	0.57	0.86
134	--	422	422	0.17	0.18	0.18	0.00	0.35	0.35
151	525	307	833	0.45	0.48	0.48	0.83	0 51	0.88
154	525	267	793	0.45	0.45	0.45	0.88	0.45	0.88
158	93	836	929	0.35	0.40	0.40	0.19	1.67	1.67
164	617	892	1.508	0.21	0.29	0.29	1.03	1.49	1.49
191	--	--	0	0.16	0.16	0.16	0.00	0.00	--
197	--	--	0	0.21	0.22	0.22	0.00	0.00	--
203	1.143	1.949	3.091	0.43	0.44	0.44	0.42	0.72	0.72
206	523	572	1.095	0.62	0.63	0.63	0.29	0.32	0.32
211	528	244	773	0.13	0.13	0.13	0.29	0.14	0.29
212	528	244	773	1.08	1.03	1.08	0.29	0.14	0.29
214	161	196	356	0.16	0.16	0.16	0.27	0.33	0.33
215	--	--	0	0.14	0.15	0.15	0.00	0.00	--
217	--	--	0	0.29	0.27	0.29	0.00	0.00	--
223	212	700	912	0.13	0.14	0.14	0.12	0.83	0.83
224	675	273	947	0.71	0.67	0.71	0.39	0.30	0.39
226	845	279	1.125	0.52	0.48	0.52	1.28	0.15	1.28
229	819	1.466	2.284	0.27	0.26	0.27	0.30	0.58	0.58
230	2.670	--	2.670	0.11	0.00	0.11	0.91	0.00	0.91
232	2.489	--	2.489	0.50	0.00	0.50	1.38	0.00	1.38
234	106	798	904	0.45	0.51	0.51	0.18	1.33	1.33
235	--	--	0	0.23	0.29	0.29	0.00	0.00	--
236	626	83	709	0.21	0.22	0.22	1.04	0.14	1.04
238	51	105	156	1.05	0.95	1.05	0.09	0.18	0.18
241	1.708	1.100	2.808	0.44	0.45	0.45	0.95	1.00	1.00
242	2.627	--	2.627	0.09	0.00	0.09	0.97	0.00	0.97
244	372	214	585	0.19	0.17	0.19	0.31	0.18	0.31
246	2.375	--	2.375	0.19	0.00	0.19	0.88	0.00	0.88
247	1.949	1.306	3.255	0 25	0.27	0.27	0.72	0.48	0.72
250	--	248	248	0.04	0.05	0.05	0.00	0.31	0.31
252	--	1.069	1.069	0.00	0.16	0.16	0.00	1.24	1.24
256	--	--	0	1.28	1.32	1.32	0.00	0.00	--
257	359	218	577	0.23	0.19	0.23	0.17	0.22	0.22
260	359	727	1.086	0.12	0.14	0.14	0.36	0.70	0.70
263	2.724	--	2.724	0.12	0.00	0.12	0.81	0.00	0.81
264	--	349	349	0.00	0.08	0.08	0.00	0.58	0.58
275	--	--	0	0.64	0.66	0.66	0.00	0.00	--
276	25	2	28	1.44	1.52	1.52	0.02	0.00	0.02
287	--	--	0	0.13	0.13	0.13	0.00	0.00	--
289	--	--	0	0.19	0.20	0.20	0.00	0.00	--
293	--	--	0	0.37	0.43	0.43	0.00	0.00	--
311	503	536	1.039	0.45	0.44	0.45	0.26	0.28	0.28
314	379	516	895	0.29	0.30	0.30	0.20	0.27	0.27
316	--	--	0	0.75	0.76	0.76	0.00	0.00	--
337	--	--	0	0.62	0.58	0.62	0.00	0.00	--
362	167	63	230	1.49	1.49	1.49	0.14	0.05	0.14
364	542	381	923	0.23	0.27	0.27	0.29	0.20	0.29
428	3	--	3	1.19	1.37	1.37	0.01	0.00	0.01
430	3	--	3	0.24	0.24	0.24	0.01	0.00	0.01
435	9	8	18	0.39	0.45	0.45	0.01	0.00	0.01
454	--	163	163	0.19	0.19	0.19	0.00	0.14	0.14

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
456	--	--	0	0.76	0.85	0.85	0.00	0.00	--
479	545	478	1,023	0.96	0.96	0.96	0.91	0.80	0.91
483	208	361	569	0.28	0.25	0.28	0.35	0.60	0.60
486	229	370	599	0.30	0.30	0.30	0.38	0.62	0.62
507	--	--	0	0.21	0.19	0.21	0.00	0.00	--
513	--	--	0	0.92	0.87	0.92	0.00	0.00	--
541	9	8	18	0.72	0.73	0.73	0.01	0.00	0.01
549	--	8	8	0.23	0.23	0.23	0.00	0.01	0.01
552	778	--	778	0.41	0.36	0.41	1.30	0.00	1.30
555	694	523	1,217	0.30	0.29	0.30	0.99	0.87	0.99
558	346	778	1,124	0.07	0.06	0.07	0.58	1.30	1.30
571	--	--	0	0.18	0.18	0.18	0.00	0.00	--
572	0	44	44	0.08	0.08	0.08	0.00	0.07	0.07
588	343	792	1,135	1.32	1.38	1.38	0.57	1.32	1.32
605	1,150	966	2,115	0.11	0.12	0.12	0.64	0.48	0.64
607	677	--	677	0.15	0.15	0.15	0.59	0.00	0.59
608	581	--	581	0.17	0.16	0.17	1.07	0.00	1.07
609	1,150	--	1,150	0.14	0.00	0.14	0.58	0.00	0.58
610	113	205	318	0.20	0.20	0.20	0.19	0.34	0.34
612	284	--	284	0.25	0.23	0.25	0.47	0.00	0.47
617	678	--	678	0.12	0.00	0.12	1.13	0.00	1.13
618	688	718	1,407	0.14	0.15	0.15	0.57	0.69	0.69
620	910	820	1,731	0.25	0.24	0.25	1.41	0.68	1.41
622	318	318	637	0.08	0.07	0.08	0.53	0.53	0.53
626	845	495	1,340	0.14	0.13	0.14	1.02	0.82	1.02
631	703	1,145	1,848	0.55	0.43	0.55	0.78	1.27	1.27
632	966	1,150	2,115	0.19	0.18	0.19	0.54	0.85	0.85
669	161	196	356	0.51	0.51	0.51	0.27	0.33	0.33
685	176	527	703	0.53	0.49	0.53	0.29	0.88	0.88
695	731	104	835	0.16	0.17	0.17	1.22	0.17	1.22
698	--	251	251	0.00	0.13	0.13	0.00	0.42	0.42
699	--	275	275	0.00	0.15	0.15	0.00	0.46	0.46
700	--	211	211	0.69	0.66	0.69	0.00	0.35	0.35
724	310	96	406	0.68	0.43	0.68	0.52	0.16	0.52
728	111	131	241	0.24	0.25	0.25	0.18	0.22	0.22
731	789	131	919	0.63	0.56	0.63	1.31	0.22	1.31
739	44	0	44	1.28	1.26	1.28	0.07	0.00	0.07
763	102	27	129	3.62	3.46	3.62	0.09	0.02	0.09
772	352	--	352	0.17	0.00	0.17	0.44	0.00	0.44
806	2,715	--	2,715	0.56	0.00	0.56	1.01	0.00	1.01
813	3,301	--	3,301	0.30	0.00	0.30	0.98	0.00	0.98
822	3,334	--	3,334	0.17	0.00	0.17	0.97	0.00	0.97
828	2	--	2	0.22	0.21	0.22	0.00	0.00	0.00
872	3	8	11	2.33	2.45	2.45	0.01	0.01	0.01
879	410	90	499	0.21	0.20	0.21	0.68	0.15	0.68
907	326	--	326	0.67	0.62	0.67	0.54	0.00	0.54
910	266	778	1,044	0.50	0.50	0.50	0.44	1.30	1.30
913	266	--	266	0.25	0.00	0.25	0.44	0.00	0.44
917	1,669	1,226	2,894	0.36	0.32	0.36	0.93	0.97	0.97
925	1,669	1,226	2,894	0.98	0.74	0.98	0.93	0.68	0.93
928	1,669	1,226	2,894	0.36	0.36	0.36	0.93	0.68	0.93
933	--	1,226	1,226	0.00	0.21	0.21	0.00	0.43	0.43
1057	21	2	23	1.74	1.90	1.90	0.01	0.00	0.01
1066	1,869	1,112	2,981	0.18	0.17	0.18	0.62	0.37	0.62
1140	670	737	1,407	0.40	0.44	0.44	0.84	1.38	1.38
1170	197	511	708	0.95	0.93	0.95	0.33	1.46	1.46
1174	451	15	467	0.56	0.54	0.56	0.75	0.03	0.75
1186	256	420	676	0.25	0.24	0.25	0.14	0.23	0.23
1187	256	856	1,112	0.16	0.15	0.16	0.29	0.43	0.48
1193	79	291	371	0.78	0.65	0.78	0.13	0.49	0.49
1233	48	111	159	1.44	1.49	1.49	0.03	0.06	0.06
1243	44	51	95	0.24	0.24	0.24	0.03	0.03	0.03
1262	85	96	181	0.55	0.56	0.56	0.05	0.05	0.05
1321	145	130	274	0.78	0.69	0.78	0.08	0.07	0.08

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	% MAX VOC
1340	109	27	136	0.11	0.10	0.11	0.06	0.02	0.06
1392	7	--	7	3.66	3.57	3.66	0.00	0.00	0.00
1439	554	628	1.181	0.64	0.51	0.64	0.61	0.36	0.61
1445	32	44	77	0.67	0.66	0.67	0.05	0.07	0.07
1450	32	44	77	0.32	0.33	0.33	0.05	0.07	0.07
1456	1.238	1.053	2.291	0.17	0.19	0.19	1.38	1.17	1.38
1458	1.400	964	2.364	0.31	0.28	0.31	1.56	1.07	1.56
1461	--	--	0	0.79	0.85	0.85	0.00	0.00	--
1500	387	236	623	0.60	0.61	0.61	0.64	0.39	0.64
1505	273	334	607	0.68	0.50	0.68	0.45	0.56	0.56
1509	--	--	0	0.00	0.18	0.18	0.00	0.00	--
1513	742	468	1.210	0.27	0.24	0.27	1.24	0.78	1.24
1518	--	272	272	0.00	0.26	0.26	0.00	0.45	0.45
1522	--	--	0	0.55	0.57	0.57	0.00	0.00	--
1523	619	433	1.051	0.34	0.29	0.34	1.03	0.46	1.03
1527	117	345	462	0.29	0.30	0.30	0.20	0.57	0.57
1562	326	500	826	0.15	0.15	0.15	0.54	0.83	0.83
1573	342	162	504	0.19	0.18	0.19	0.57	0.27	0.57
1603	--	--	0	1.05	1.18	1.18	0.00	0.00	--
1606	--	--	0	0.19	0.21	0.21	0.00	0.00	--
1608	--	--	0	0.54	0.59	0.59	0.00	0.00	--
1609	--	--	0	1.09	1.07	1.09	0.00	0.00	--
1611	356	397	753	0.12	0.15	0.15	0.59	0.66	0.66
1628	--	2.231	2.231	0.00	0.49	0.49	0.00	0.83	0.83
1629	523	572	1.095	0.29	0.29	0.29	0.29	0.32	0.32
1630	--	--	0	0.46	0.52	0.52	0.00	0.00	--
1631	878	1.067	1.945	0.11	0.11	0.11	0.67	0.82	0.82
1632	507	1.210	1.717	0.13	0.14	0.14	0.85	2.02	2.02
1633	766	1.141	1.907	0.03	0.04	0.04	0.36	1.27	1.27
1634	12	41	54	0.90	0.92	0.92	0.01	0.02	0.02
1642	819	1.466	2.284	0.65	0.60	0.65	0.30	0.54	0.54
1644	1.466	819	2.284	0.12	0.11	0.12	0.54	0.30	0.54
1645	214	50	263	0.22	0.21	0.22	0.12	0.03	0.12
1646	144	43	187	0.94	0.99	0.99	0.12	0.04	0.12
1647	190	30	220	0.45	0.45	0.45	0.11	0.02	0.11
1649	25	193	218	0.72	0.66	0.72	0.02	0.12	0.12
1651	793	--	793	0.24	0.00	0.24	0.44	0.00	0.44
1652	509	--	509	0.17	0.00	0.17	0.55	0.00	0.55
1654	56	172	229	0.56	0.58	0.58	0.09	0.29	0.29
1655	163	5	168	0.29	0.29	0.29	0.27	0.01	0.27
1656	786	468	1.254	0.30	0.28	0.30	1.31	0.78	1.31
1657	786	468	1.254	0.07	0.08	0.08	1.31	0.78	1.31
1658	1.702	3.169	4.871	0.10	0.12	0.12	0.66	1.17	1.17
1661	305	318	622	0.45	0.42	0.45	0.16	0.17	0.17
1662	38	103	141	1.71	1.63	1.71	0.06	0.17	0.17
1664	258	453	711	0.27	0.28	0.28	0.43	0.75	0.75
1666	2.558	1.761	4.318	0.08	0.08	0.08	0.95	0.65	0.95
1668	1.669	1.226	2.894	0.10	0.08	0.10	0.93	0.68	0.93
1669	--	--	0	0.13	0.00	0.13	0.00	0.00	--
1670	3.072	--	3.072	0.20	0.00	0.20	1.14	0.00	1.14
1671	--	2.627	2.627	0.00	0.41	0.41	0.00	0.97	0.97
1672	356	--	356	0.06	0.06	0.06	0.59	0.00	0.59
1673	330	492	822	0.08	0.10	0.10	0.55	1.18	1.18
1675	3.426	--	3.426	0.39	0.00	0.39	1.27	0.00	1.27
1676	596	89	686	1.48	1.37	1.48	0.28	0.04	0.28
1678	--	--	0	0.08	0.00	0.08	0.00	0.00	--
1679	352	--	352	0.47	0.00	0.47	0.61	0.00	0.61
1680	198	250	448	0.16	0.18	0.18	0.33	0.42	0.42
1681	198	294	492	0.81	0.88	0.88	0.33	0.49	0.49
1683	--	--	0	0.20	0.18	0.20	0.00	0.00	--
1724	--	--	1.196	0.78	0.85	0.85	0.87	1.12	--
1728	--	--	841	0.69	0.62	0.69	0.92	0.48	--
1729	464	318	782	0.79	0.83	0.83	0.24	0.17	0.24
1730	--	--	1.125	0.45	0.51	0.51	0.68	0.99	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1736	--	--	845	0 50	0.44	0.50	0.93	0.48	--
1738	--	--	1.295	0.22	0.26	0.26	0.83	1.33	--
1740	--	--	1.171	0.19	0.22	0.22	0.73	1.22	--
1741	346	--	346	0.38	0.00	0.38	0.58	0.00	0.58
1742	--	--	1.497	0.47	0.71	0.71	0.98	1.51	--
1743	403	178	581	0.47	0.48	0.48	0.67	0.30	0.67
1744	--	--	728	0.25	0.29	0.29	0.22	1.00	--
1745	742	468	1.210	0.66	0.72	0.72	1.24	0.78	1.24
1746	--	--	614	0.44	0.47	0.47	0.51	0.51	--
1747	325	--	325	0.17	0.00	0.17	0.54	0.00	0.54
1750	--	--	1.181	0.21	0.22	0.22	0.93	1.04	--
1751	--	12	12	0.39	0.37	0.39	0.00	0.02	0.02
1752	--	--	1.497	0.41	0.29	0.41	1.47	1.03	--
1754	--	--	1.678	0.23	0.32	0.32	1.10	1.69	--
1755	--	--	0	0.00	0.26	0.26	0.00	0.00	--
1756	--	--	2.572	0.27	0.36	0.36	2.02	2.27	--
1759	--	--	1.237	0.31	0.42	0.42	0.73	1.33	--
1761	157	367	524	0.22	0.25	0.25	0.26	0 61	0.61
1762	224	161	385	0.62	0.59	0.62	0.37	0.27	0.37
1763	--	--	160	0.24	0.25	0.25	0.03	0.24	--
1764	82	152	234	1.02	1.00	1.02	0.14	0.25	0.25
1765	--	--	488	0.38	0.36	0.38	0.51	0.30	--
1766	854	1.461	2.315	0.43	0.43	0.43	0.32	0.54	0.54
1775	--	--	1.013	0.21	0.22	0.22	0.87	0.82	--
1777	--	--	963	0.25	0.32	0.32	0.52	1.08	--
1778	919	707	1.626	0.70	0.66	0.70	0.53	0.26	0.53
1779	--	--	1.221	0.63	0.45	0.63	1.31	0.73	--
1782	--	--	742	0.30	0.30	0.30	0.64	0.59	--
1785	395	334	728	0.51	0.42	0.51	0.49	0.42	0.49
1788	--	--	517	0.29	0.27	0.29	0.26	0.60	--
1790	--	--	875	0.42	0.49	0.49	0.57	0.88	--
1792	887	295	1.183	0.27	0.30	0.30	1.48	0.49	1.48
1793	--	--	563	0.32	0.35	0.35	0.41	0.52	--
1794	--	--	571	0.61	0.61	0.61	0.67	0.28	--
1795	35	5	40	0.27	0.28	0.28	0.06	0.01	0.06
1796	--	--	808	1.36	1.17	1.36	0.82	0.52	--
1797	--	--	1.767	0.35	0.35	0.35	1.53	1.42	--
1798	1.157	1.764	2.921	0.26	0.29	0.29	0.43	0.65	0.65
1799	--	--	547	0.36	0.58	0.58	0.00	0.91	--
1803	--	--	1.202	0.15	0.17	0.17	0.85	1.16	--
1805	308	460	768	0.24	0.24	0.24	0.51	0.77	0.77
1806	1.308	848	2.156	0.34	0.37	0.37	1.45	0.94	1.45
1809	--	--	0	0.40	0.41	0.41	0.00	0.00	--
1812	626	89	716	1.37	1.34	1.37	0.30	0.04	0.30
1814	159	--	159	0.20	0.19	0.20	0.27	0.00	0.27
1818	198	294	492	0.55	0.51	0.55	0.33	0.49	0.49
1820	18	24	42	2.63	2.42	2.63	0 01	0.01	0.01
1833	--	--	0	0.75	0.76	0.76	0.00	0.00	--
1841	--	--	0	1.31	1.19	1.31	0.00	0.00	--
1848	815	1.444	2.260	0.60	0.53	0.60	0.30	0.53	0.53
1850	44	51	95	0.93	0.90	0.93	0.02	0.03	0.03
1855	--	22	22	1.80	1.83	1.83	0.00	0.04	0.04
1859	--	--	0	0.91	0.98	0.98	0.00	0.00	--
1867	--	--	0	0.23	0.22	0.23	0.00	0.00	--
1873	--	5	5	0.50	0.49	0.50	0.00	0.02	0.02
1874	369	323	692	0.25	0.25	0.25	0.20	0.38	0.38
1875	1.869	1.112	2.981	0.64	0.54	0.64	1.18	0.37	1.18
1876	1.708	1.100	2.808	0.10	0.08	0.10	0.95	0.61	0.95
1878	--	--	0	1.71	1.99	1.99	0.00	0.00	--
1881	2.539	1.438	3.977	0.25	0.23	0.25	0.94	0.53	0.94
1884	2.558	1.761	4.318	0.19	0.16	0.19	0.82	0.65	0.82
1886	2.539	1.438	3.977	0.51	0.50	0.51	0.94	0.57	0.94
1887	--	--	1.666	0.42	0.53	0.53	1.20	1.57	--
1890	1.619	797	2.416	0 66	0.52	0.66	1.12	0.30	1.12

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1894	1,342	--	1,342	0.45	0.00	0.45	0.64	0.00	0.64
1895	--	30	30	0.29	0.28	0.29	0.00	0.02	0.02
1896	754	732	1,486	0.32	0.32	0.32	0.40	0.39	0.40
1899	--	--	0	0.18	0.18	0.18	0.00	0.00	--
1903	2,466	3,190	5,656	0.25	0.30	0.30	0.91	1.20	1.20
1904	1,708	1,100	2,808	0.11	0.10	0.11	0.93	0.61	0.93
1908	2,489	--	2,489	0.36	0.00	0.36	0.92	0.00	0.92
1909	3,338	--	3,338	0.81	0.00	0.81	1.12	0.00	1.12
1910	3,334	--	3,334	0.40	0.00	0.40	1.23	0.00	1.23
1917	--	1,454	1,454	0.00	0.24	0.24	0.00	0.80	0.80
1920	855	--	855	0.14	0.12	0.14	0.95	0.00	0.95
1925	1,317	--	1,317	0.42	0.00	0.42	0.82	0.00	0.82
1926	508	370	878	0.10	0.10	0.10	0.85	0.62	0.85
1927	1,077	409	1,486	1.46	1.62	1.62	0.51	0.20	0.51
1928	--	--	1,509	3.33	1.74	3.33	1.80	0.72	--
1929	553	578	1,131	0.18	0.21	0.21	0.35	0.36	0.36
1932	--	--	0	0.51	0.47	0.51	0.00	0.00	--
1933	--	--	2,315	2.25	0.96	2.25	2.43	1.42	--
1934	82	152	234	0.79	0.84	0.84	0.14	0.25	0.25
1937	--	--	488	0.46	0.43	0.46	0.51	0.30	--
1938	589	277	865	0.33	0.33	0.33	0.33	0.15	0.33
1939	--	--	436	1.18	0.76	1.18	0.00	0.73	--
1940	--	--	785	0.41	0.41	0.41	1.31	0.00	--
1941	785	--	785	0.48	0.51	0.51	0.44	0.00	0.44
1942	248	--	248	0.17	0.00	0.17	0.41	0.00	0.41
1944	--	354	354	0.00	0.19	0.19	0.00	0.59	0.59
1946	--	--	367	0.33	0.34	0.34	0.12	0.49	--
1948	--	349	349	0.00	0.13	0.13	0.00	0.58	0.58
1950	731	--	731	0.17	0.18	0.18	0.61	0.00	0.61
1952	--	447	447	0.00	0.24	0.24	0.00	0.74	0.74
1953	[illegible]	--	800	0.17	0.17	0.17	0.59	0.74	--
1954	--	--	0	1.01	1.05	1.05	0.00	0.00	--
1955	--	--	0	1.64	1.51	1.64	0.00	0.00	--
1957	21	3	23	1.67	1.75	1.75	0.01	0.00	0.01
1960	42	5	47	4.95	5.38	5.38	0.02	0.00	0.02
1962	5	42	47	0.50	0.52	0.52	0.00	0.03	0.03
1963	--	--	0	0.39	0.35	0.39	0.00	0.00	--
1964	--	--	1,131	1.58	1.59	1.59	0.96	0.92	--
1965	--	--	0	0.46	0.44	0.46	0.00	0.00	--
1966	235	--	235	0.14	0.00	0.14	0.76	0.00	0.76
1967	--	--	814	0.30	0.34	0.34	0.39	0.97	--
1970	1,587	862	2,449	0.92	0.95	0.95	0.53	0.29	0.53
1971	--	--	2,473	7.76	2.73	7.76	2.65	1.47	--
1973	--	--	212	0.17	0.16	0.17	0.16	0.09	--
1974	461	315	776	0.55	0.54	0.55	0.24	0.17	0.24
1975	--	--	5	1.03	1.00	1.03	0.00	0.00	--
1977	--	--	0	0.14	0.14	0.14	0.00	0.00	--
1980	68	160	228	0.74	0.81	0.81	0.11	0.27	0.27
1981	--	--	234	0.19	0.20	0.20	0.31	0.08	--
1982	--	--	1,811	0.17	0.25	0.25	1.30	1.72	--
1985	--	--	856	0.31	0.24	0.31	0.97	0.46	--
1986	580	276	856	0.92	0.69	0.92	0.97	0.46	0.97
1988	--	--	0	1.37	1.26	1.37	0.00	0.00	--
1989	106	127	232	1.18	1.16	1.18	0.18	0.21	0.21
1990	1,238	1,053	2,291	0.15	0.16	0.16	1.38	1.17	1.38
1991	670	737	1,407	0.10	0.10	0.10	0.74	0.82	0.82
1992	--	--	0	0.41	0.42	0.42	0.00	0.00	--
1993	--	--	0	0.71	0.74	0.74	0.00	0.00	--
1994	--	--	0	0.13	0.13	0.13	0.00	0.00	--
1995	1,308	848	2,156	0.11	0.10	0.11	1.45	0.94	1.45
1996	--	--	0	0.18	0.18	0.18	0.00	0.00	--
1997	--	--	0	0.96	0.91	0.96	0.00	0.00	--
1998	--	--	0	0.40	0.39	0.40	0.00	0.00	--
1999	670	739	1,409	0.12	0.14	0.14	0.74	0.82	0.82

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2000	--	--	0	0.10	0.10	0.10	0.00	0.00	--
2001	--	2	2	0.00	0.11	0.11	0.00	0.00	0.00
2003	2	--	2	0.13	0.00	0.13	0.00	0.00	0.00
2004	78	595	673	0.18	0.18	0.18	0.13	0.99	0.99
2005	496	--	496	0.20	0.00	0.20	0.83	0.00	0.83
2006	496	2	498	0.63	0.60	0.63	0.83	0.00	0.83
2007	76	99	175	0.78	0.77	0.78	0.13	0.16	0.16
2008	--	--	0	0.13	0.00	0.13	0.00	0.00	--
2009	--	--	0	0.39	0.43	0.43	0.00	0.00	--
2010	--	--	0	3.09	3.05	3.09	0.00	0.00	--
2011	206	433	639	1.55	1.49	1.55	0.34	0.72	0.72
2012	8	139	147	3.35	3.02	3.35	0.01	0.23	0.23
2013	17	38	55	1.30	1.35	1.35	0.03	0.06	0.06
2015	1.949	1.306	3.256	0.48	0.47	0.48	0.72	0.48	0.72
2016	--	5	5	0.36	0.33	0.36	0.00	0.01	0.01
2017	--	--	0	0.18	0.19	0.19	0.00	0.00	--
2018	--	163	163	0.19	0.18	0.19	0.00	0.14	0.14
2019	--	--	0	0.30	0.42	0.42	0.00	0.00	--
2020	--	--	0	0.50	0.52	0.52	0.00	0.00	--
2021	1.158	1.833	2.991	0.14	0.14	0.14	0.43	0.68	0.68
2022	79	209	288	0.16	0.13	0.16	0.13	0.35	0.35
2023	74	366	440	0.50	0.49	0.50	0.12	0.61	0.61
2024	79	209	288	0.12	0.09	0.12	0.13	0.35	0.35
2025	385	334	719	0.19	0.19	0.19	0.43	0.37	0.43
2026	9	--	9	0.30	0.27	0.30	0.02	0.00	0.02
2027	9	447	456	0.28	0.23	0.28	0.02	0.74	0.74
2028	--	275	275	0.19	0.21	0.21	0.00	0.69	0.69
2029	64	--	64	0.67	0.68	0.68	0.11	0.00	0.11
2030	--	226	226	0.15	0.13	0.15	0.00	0.38	0.38
2031	--	--	0	0.18	0.20	0.20	0.00	0.00	--
2032	--	--	0	1.74	1.79	1.79	0.00	0.00	--
2033	225	15	240	0.41	0.42	0.42	0.37	0.03	0.37
2034	--	226	226	0.14	0.13	0.14	0.00	0.19	0.19
2035	226	--	226	0.89	0.91	0.91	0.38	0.00	0.38
2036	--	--	0	0.64	0.48	0.64	0.00	0.00	--
2038	256	842	1.098	0.75	0.78	0.78	0.14	0.47	0.47
2039	--	--	0	0.56	0.57	0.57	0.00	0.00	--
2040	--	--	0	0.39	0.38	0.39	0.00	0.00	--
2041	27	--	27	1.12	1.01	1.12	0.05	0.00	0.05
2043	--	--	0	0.78	0.77	0.78	0.00	0.00	--
2044	--	449	449	0.13	0.14	0.14	0.00	0.37	0.37
2045	--	--	0	0.34	0.36	0.36	0.00	0.00	--
2046	--	27	27	0.91	0.96	0.96	0.00	0.05	0.05
2047	27	--	27	0.16	0.15	0.16	0.05	0.00	0.05
2048	--	422	422	0.50	0.50	0.50	0.00	0.35	0.35
2049	--	--	0	0.44	0.43	0.44	0.00	0.00	--
2050	--	9	9	0.24	0.23	0.24	0.00	0.02	0.02
2051	42	44	86	1.02	1.07	1.07	0.07	0.07	0.07
2052	9	--	9	1.00	1.12	1.12	0.02	0.00	0.02
2054	--	--	0	0.26	0.24	0.26	0.00	0.00	--
2055	1.157	1.764	2.921	0.13	0.12	0.13	0.43	0.65	0.65
2056	--	--	0	0.96	0.95	0.96	0.00	0.00	--
2057	--	--	0	0.16	0.16	0.16	0.00	0.00	--
2058	--	22	22	0.27	0.27	0.27	0.00	0.04	0.04
2059	--	--	0	0.39	0.38	0.39	0.00	0.00	--
2060	6	8	14	1.28	1.25	1.28	0.00	0.00	0.00
2061	--	--	0	3.32	3.42	3.42	0.00	0.00	--
2062	617	892	1.508	0.50	0.68	0.68	1.03	1.49	1.49
2063	262	258	521	0.37	0.37	0.37	0.44	0.43	0.44
2064	--	--	0	1.52	1.42	1.52	0.00	0.00	--
2065	--	--	0	1.91	2.02	2.02	0.00	0.00	--
2066	--	--	0	1.08	1.02	1.08	0.00	0.00	--
2068	2	--	2	0.35	0.35	0.35	0.00	0.00	0.00
2069	--	--	0	1.21	1.14	1.21	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2071	--	--	0	0.31	0.29	0.31	0.00	0.00	--
2072	--	--	0	2.01	2.19	2.19	0.00	0.00	--
2073	--	--	0	1.18	1.23	1.23	0.00	0.00	--
2074	--	--	0	2.09	2.06	2.09	0.00	0.00	--
2075	--	--	0	0.29	0.28	0.29	0.00	0.00	--
2076	--	--	0	1.57	1.52	1.57	0.00	0.00	--
2077	9	1	10	0.22	0.22	0.22	0.01	0.00	0.01
2078	--	--	0	1.65	1.66	1.66	0.00	0.00	--
2079	--	30	30	0.40	0.38	0.40	0.00	0.02	0.02
2080	--	--	0	1.05	1.20	1.20	0.00	0.00	--
2081	214	50	263	0.26	0.24	0.26	0.12	0.03	0.12
2082	--	--	0	0.91	0.90	0.91	0.00	0.00	--
2086	181	307	488	0.81	0.78	0.81	0.30	0.51	0.51
2087	--	--	0	0.17	0.17	0.17	0.00	0.00	--
2088	1	--	1	1.38	1.48	1.48	0.00	0.00	0.00
2089	9	--	9	1.01	0.97	1.01	0.01	0.00	0.01
2090	--	--	0	1.73	1.58	1.73	0.00	0.00	--
2091	6	30	36	0.21	0.20	0.21	0.00	0.02	0.02
2092	--	--	0	0.35	0.35	0.35	0.00	0.00	--
2093	--	--	0	0.94	1.00	1.00	0.00	0.00	--
2094	6	8	14	6.71	7.14	7.14	0.00	0.00	0.00
2095	--	--	0	0.73	0.74	0.74	0.00	0.00	--
2096	--	22	22	0.62	0.57	0.62	0.00	0.04	0.04
2098	--	--	0	1.34	1.30	1.34	0.00	0.00	--
2100	--	22	22	2.75	2.52	2.75	0.00	0.04	0.04
2103	--	--	0	1.76	1.68	1.76	0.00	0.00	--
2105	--	--	0	0.58	0.54	0.58	0.00	0.00	--
2106	--	422	422	0.54	0.54	0.54	0.00	0.35	0.35
2107	--	--	0	0.08	0.09	0.09	0.00	0.00	--
2108	--	--	0	0.22	0.22	0.22	0.00	0.00	--
2109	54	37	92	1.53	1.42	1.53	0.09	0.06	0.09
2110	754	732	1,486	0.42	0.28	0.42	1.18	0.39	1.18
2111	--	--	0	0.74	0.76	0.76	0.00	0.00	--
2112	--	--	0	0.25	0.26	0.26	0.00	0.00	--
2113	--	--	0	0.60	0.60	0.60	0.00	0.00	--
2114	--	--	0	1.23	1.19	1.23	0.00	0.00	--
2115	--	--	0	0.30	0.27	0.30	0.00	0.00	--
2118	9	1	10	0.60	0.59	0.60	0.01	0.00	0.01
2119	553	578	1,131	0.46	0.49	0.49	0.31	0.32	0.32
2120	30	6	36	0.46	0.41	0.46	0.02	0.00	0.02
2121	6	30	36	0.78	0.75	0.78	0.00	0.02	0.02
2122	--	--	0	0.39	0.38	0.39	0.00	0.00	--
2123	--	--	0	0.65	0.58	0.65	0.00	0.00	--
2124	8	25	33	0.15	0.16	0.16	0.01	0.04	0.04
2125	589	277	865	0.82	0.80	0.82	0.33	0.15	0.33
2126	688	434	1,123	0.31	0.30	0.31	0.57	0.36	0.57
2127	284	49	333	0.42	0.41	0.42	0.14	0.02	0.14
2128	283	40	323	1.10	1.12	1.12	0.13	0.02	0.13
2129	1,869	1,112	2,981	0.91	0.84	0.91	0.62	0.37	0.62
2130	105	18	123	0.19	0.19	0.19	0.18	0.03	0.18
2131	236	387	623	0.47	0.52	0.52	0.39	0.64	0.64
2132	80	29	109	0.08	0.09	0.09	0.04	0.02	0.04
2133	29	52	81	2.49	2.54	2.54	0.02	0.03	0.03
2134	256	842	1,098	0.09	0.09	0.09	0.14	0.47	0.47
2135	90	251	341	0.28	0.28	0.28	0.15	0.42	0.42
2136	--	8	8	0.27	0.31	0.31	0.00	0.01	0.01
2137	95	38	134	0.09	0.07	0.09	0.16	0.06	0.16
2138	38	103	141	0.36	0.35	0.36	0.06	0.17	0.17
2140	--	--	0	1.35	1.18	1.35	0.00	0.00	--
2141	--	229	229	0.00	0.60	0.60	0.00	0.38	0.38
2142	2	--	2	0.38	0.00	0.38	0.00	0.00	0.00
2143	247	142	389	0.30	0.32	0.32	0.41	0.24	0.41
2144	197	511	708	0.38	0.41	0.41	0.33	0.85	0.85
2145	76	99	175	0.22	0.19	0.22	0.54	0.16	0.54

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2148	--	226	226	0.63	0.58	0.63	0.00	0.38	0.38
2149	--	--	940	0.67	0.68	0.68	1.03	0.54	--
2153	326	228	554	0.44	0.43	0.44	0.54	0.38	0.54
2155	9	447	456	0.19	0.18	0.19	0.02	0.74	0.74
2156	--	--	509	0.25	0.24	0.25	0.44	0.41	--
2157	262	258	521	0.33	0.34	0.34	0.44	0.43	0.44
2158	--	--	595	0.59	0.52	0.59	0.82	0.17	--
2159	792	1,927	2,719	0.23	0.25	0.25	0.39	0.71	0.71
2160	617	89	705	0.16	0.16	0.16	1.03	0.15	1.03
2161	44	142	186	0.33	0.32	0.33	0.07	0.24	0.24
2162	395	9	405	0.24	0.23	0.24	0.66	0.02	0.66
2163	1,071	521	1,592	0.49	0.47	0.49	0.59	0.29	0.59
2164	--	--	0	0.41	0.40	0.41	0.00	0.00	--
2165	--	--	0	0.24	0.26	0.26	0.00	0.00	--
2166	--	--	0	0.24	0.26	0.26	0.00	0.00	--
2167	3,230	--	3,230	0.13	0.00	0.13	1.20	0.00	1.20

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	119	--	119	0.10	0.00	0.10	0.30	0.00	0.30
4	141	--	141	0.11	0.00	0.11	0.35	0.00	0.35
5	--	141	141	0.05	0.05	0.05	0.00	0.28	0.28
9	485	400	886	0.43	1.11	1.11	0.81	1.58	1.58
11	260	159	420	0.36	0.37	0.37	0.43	0.27	0.43
18	718	--	718	0.20	0.00	0.20	0.40	0.00	0.40
19	1.657	--	1.657	0.11	0.00	0.11	0.64	0.00	0.64
21	--	--	0	0.73	0.79	0.79	0.00	0.00	--
37	--	--	0	3.38	3.32	3.38	0.00	0.00	--
108	658	880	1.538	0.19	0.19	0.19	0.46	0.98	0.98
117	536	766	1.302	0.49	0.28	0.49	0.60	0.85	0.85
123	425	734	1.160	0.74	0.50	0.74	0.47	0.82	0.82
130	707	880	1.587	0.47	0.35	0.47	0.79	0.98	0.98
134	--	430	430	0.15	0.18	0.18	0.00	0.36	0.36
151	55	74	129	0.45	0.57	0.57	0.09	0.12	0.12
154	55	14	69	0.44	0.47	0.47	0.09	0.02	0.09
158	140	513	653	0.33	0.41	0.41	0.28	1.03	1.03
164	614	849	1.463	0.22	0.28	0.28	1.02	1.42	1.42
191	--	--	0	0.15	0.15	0.15	0.00	0.00	--
197	--	--	0	0.23	0.24	0.24	0.00	0.00	--
203	1.335	2.016	3.351	0.45	0.56	0.56	0.49	0.75	0.75
206	553	572	1.125	0.63	0.62	0.63	0.31	0.32	0.32
211	485	283	768	0.13	0.12	0.13	0.27	0.16	0.27
212	485	283	768	1.00	0.97	1.00	0.27	0.16	0.27
214	198	198	396	0.16	0.16	0.16	0.33	0.33	0.33
215	--	667	667	0.20	0.14	0.20	0.00	0.74	0.74
217	--	--	0	0.29	0.29	0.29	0.00	0.00	--
223	339	696	1.035	0.13	0.14	0.14	0.19	0.82	0.82
224	199	273	472	0.85	0.67	0.85	0.12	0.30	0.30
226	286	321	608	0.53	0.48	0.53	0.43	0.18	0.43
229	903	1.623	2.526	0.25	0.28	0.28	0.33	0.64	0.64
230	400	--	400	0.11	0.00	0.11	0.14	0.00	0.14
232	591	--	591	0.24	0.00	0.24	0.33	0.00	0.33
234	111	656	767	0.43	0.48	0.48	0.19	1.09	1.09
235	--	--	0	0.22	0.23	0.23	0.00	0.00	--
236	365	60	425	0.21	0.21	0.21	0.61	0.10	0.61
238	188	99	287	0.93	1.00	1.00	0.31	0.17	0.31
241	1.092	222	1.314	0.35	0.36	0.36	0.61	0.20	0.61
242	728	--	728	0.08	0.00	0.08	0.27	0.00	0.27
244	--	437	437	0.22	0.16	0.22	0.00	0.73	0.73
246	779	--	779	0.14	0.00	0.14	0.29	0.00	0.29
247	2.067	1.761	3.828	0.25	0.25	0.25	0.77	0.65	0.77
250	--	718	718	0.08	0.05	0.08	0.00	0.90	0.90
252	--	821	821	0.00	0.38	0.38	0.00	1.03	1.03
256	--	--	0	1.36	1.32	1.36	0.00	0.00	--
257	573	285	859	0.18	0.20	0.20	0.28	0.29	0.29
260	573	880	1.454	0.12	0.13	0.13	0.57	0.85	0.85
263	831	--	831	0.11	0.00	0.11	0.25	0.00	0.25
264	--	52	52	0.00	0.09	0.09	0.00	0.09	0.09
275	--	--	0	0.68	0.66	0.68	0.00	0.00	--
276	--	46	46	1.44	1.36	1.44	0.00	0.04	0.04
287	--	--	0	0.13	0.11	0.13	0.00	0.00	--
289	--	--	0	0.19	0.19	0.19	0.00	0.00	--
293	--	270	270	0.35	0.39	0.39	0.00	0.68	0.68
311	510	576	1.086	0.49	0.53	0.53	0.27	0.30	0.30
314	386	582	968	0.28	0.29	0.29	0.20	0.31	0.31
316	--	--	0	0.85	0.70	0.85	0.00	0.00	--
337	--	--	0	0.65	0.57	0.65	0.00	0.00	--
362	193	63	255	1.35	1.38	1.38	0.16	0.05	0.16
364	538	389	926	0.24	0.25	0.25	0.28	0.20	0.28
428	--	--	0	1.19	1.23	1.23	0.00	0.00	--
430	--	--	0	0.24	0.24	0.24	0.00	0.00	--
435	6	--	6	0.40	0.41	0.41	0.00	0.00	0.00
454	51	427	477	0.20	0.21	0.21	0.04	0.36	0.36

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
456	--	--	0	0.88	0.76	0.88	0.00	0.00	--
479	335	343	678	0.92	0.92	0.92	0.56	0.57	0.57
483	7	203	210	0.25	0.27	0.27	0.01	0.34	0.34
486	38	236	274	0.32	0.32	0.32	0.06	0.39	0.39
507	--	--	0	0.19	0.20	0.20	0.00	0.00	--
513	--	--	0	0.96	0.91	0.96	0.00	0.00	--
541	6	--	6	0.72	0.70	0.72	0.00	0.00	0.00
549	--	--	0	0.22	0.22	0.22	0.00	0.00	--
552	496	--	496	0.38	0.39	0.39	0.83	0.00	0.83
555	458	467	925	0.28	0.30	0.30	0.65	0.78	0.78
558	343	496	839	0.06	0.05	0.06	0.57	0.83	0.83
571	--	--	0	0.18	0.17	0.18	0.00	0.00	--
572	--	44	44	0.08	0.08	0.08	0.00	0.07	0.07
588	343	496	839	1.21	1.20	1.21	0.57	0.83	0.83
605	923	1.454	2.376	0.12	0.12	0.12	0.51	0.72	0.72
607	397	--	397	0.15	0.15	0.15	0.35	0.00	0.35
608	385	205	590	0.18	0.16	0.18	0.71	0.30	0.71
609	871	--	871	0.14	0.00	0.14	0.44	0.00	0.44
610	129	--	129	0.21	0.22	0.22	0.21	0.00	0.21
612	252	51	304	0.21	0.23	0.23	0.42	0.09	0.42
617	620	--	620	0.13	0.00	0.13	1.03	0.00	1.03
618	184	402	586	0.14	0.15	0.15	0.15	0.39	0.39
620	482	741	1.222	0.24	0.24	0.24	0.75	0.62	0.75
622	365	297	662	0.08	0.07	0.08	0.61	0.49	0.61
626	541	473	1.014	0.12	0.12	0.12	0.65	0.79	0.79
631	1.104	618	1.722	0.49	0.53	0.53	1.23	0.69	1.23
632	1.454	923	2.376	0.18	0.21	0.21	0.81	0.68	0.81
669	198	198	396	0.51	0.51	0.51	0.33	0.33	0.33
685	176	175	352	0.52	0.47	0.52	0.29	0.29	0.29
695	290	104	394	0.15	0.15	0.15	0.48	0.17	0.48
698	--	361	361	0.00	0.13	0.13	0.00	0.60	0.60
699	--	37	37	0.00	0.15	0.15	0.00	0.06	0.06
700	--	--	0	0.65	0.67	0.67	0.00	0.00	--
724	280	261	541	0.59	0.45	0.59	0.47	0.43	0.47
728	49	349	399	0.25	0.25	0.25	0.08	0.58	0.58
731	451	131	581	0.56	0.62	0.62	0.75	0.22	0.75
739	44	--	44	1.24	1.41	1.41	0.07	0.00	0.07
763	--	27	27	4.04	3.68	4.04	0.00	0.02	0.02
772	85	--	85	0.17	0.00	0.17	0.11	0.00	0.11
806	503	--	503	0.47	0.00	0.47	0.19	0.00	0.19
813	999	--	999	0.27	0.00	0.27	0.30	0.00	0.30
822	1.285	--	1.285	0.13	0.00	0.13	0.38	0.00	0.38
828	2	--	2	0.22	0.21	0.22	0.00	0.00	0.00
872	--	--	0	2.35	2.45	2.45	0.00	0.00	--
879	728	125	854	0.20	0.20	0.20	1.21	0.21	1.21
907	407	--	407	0.64	0.58	0.64	0.68	0.00	0.68
910	248	496	743	0.48	0.47	0.48	0.41	0.83	0.83
913	248	--	248	0.24	0.00	0.24	0.41	0.00	0.41
917	2.184	1.214	3.398	0.34	0.31	0.34	1.21	0.96	1.21
925	2.184	1.214	3.398	0.91	0.73	0.91	1.21	0.67	1.21
928	1.914	1.214	3.128	0.38	0.33	0.38	1.06	0.67	1.06
933	--	138	138	0.00	0.19	0.19	0.00	0.05	0.05
1057	21	2	23	1.77	1.85	1.85	0.01	0.00	0.01
1066	1.865	1.075	2.941	0.19	0.18	0.19	0.62	0.36	0.62
1140	714	230	944	0.38	0.57	0.57	0.89	0.43	0.89
1170	197	511	708	0.82	0.95	0.95	0.33	1.46	1.46
1174	283	15	299	0.56	0.55	0.56	0.47	0.03	0.47
1186	383	408	791	0.24	0.25	0.25	0.21	0.23	0.23
1187	383	676	1.059	0.16	0.16	0.16	0.44	0.38	0.44
1193	79	259	338	0.75	0.71	0.75	0.13	0.43	0.43
1233	45	95	140	1.48	1.34	1.48	0.02	0.05	0.05
1243	199	108	308	0.24	0.22	0.24	0.12	0.07	0.12
1262	239	169	408	0.53	0.54	0.54	0.13	0.09	0.13
1321	145	130	274	0.71	0.66	0.71	0.08	0.07	0.08

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1340	102	31	133	0.11	0.11	0.11	0.06	0.02	0.06
1392	102	4	106	3.73	3.69	3.73	0.06	0.00	0.06
1439	743	510	1.252	0.62	0.46	0.62	0.82	0 29	0.82
1445	40	37	77	0.68	0.77	0.77	0.07	0.06	0.07
1450	40	37	77	0.31	0.31	0.31	0.07	0.06	0.07
1456	1.296	324	1.621	0.16	0.20	0.20	1.44	0.36	1.44
1458	1.527	194	1.720	0.32	0.29	0.32	1.70	0.22	1.70
1461	--	--	0	0.81	0.78	0.81	0.00	0.00	--
1500	394	233	627	0.63	0.65	0.65	0.66	0.39	0.66
1505	280	298	578	0.70	0.57	0.70	0.47	0.50	0.50
1509	--	--	0	0.00	0.18	0.18	0.00	0.00	--
1513	271	87	358	0.31	0.24	0.31	0.45	0.14	0.45
1518	--	269	269	0.00	0.25	0.25	0.00	0.45	0.45
1522	--	--	0	0.63	0.59	0.63	0.00	0.00	--
1523	390	433	824	0.30	0.27	0.30	0.65	0.46	0.65
1527	188	374	562	0.33	0.31	0.33	0.31	0.62	0.62
1562	353	271	624	0.15	0.14	0.15	0.59	0.45	0.59
1573	118	150	267	0.20	0.17	0.20	0.20	0.25	0.25
1603	--	--	0	0.99	1.03	1.03	0.00	0.00	--
1606	--	--	0	0.19	0.20	0.20	0.00	0.00	--
1608	--	--	0	0.58	0.57	0.58	0.00	0.00	--
1609	--	--	0	1.17	1.08	1.17	0.00	0.00	--
1611	305	364	669	0.12	0.13	0.13	0.51	0.61	0.61
1628	--	391	391	0.00	0.38	0.38	0.00	0.14	0.14
1629	553	572	1.125	0.30	0.29	0.30	0.31	0.32	0.32
1630	--	--	0	0.48	0.48	0.48	0.00	0.00	--
1631	776	631	1.406	0.11	0.10	0.11	0.60	0.49	0.60
1632	719	1.713	2.432	0.13	0.25	0.25	1.20	2.85	2.85
1633	1.223	618	1.841	0.03	0.05	0.05	0.57	0.69	0.69
1634	12	33	45	0.90	1.03	1.03	0.01	0.02	0.02
1642	903	1.623	2.526	0.62	0.61	0.62	0.33	0.60	0.60
1644	1.623	903	2.526	0.11	0.12	0.12	0.60	0.33	0.60
1645	100	92	192	0.21	0.21	0.21	0.06	0.05	0.06
1646	169	43	212	0.94	1.03	1.03	0.14	0.04	0.14
1647	76	72	149	0.46	0.46	0.46	0.04	0.04	0.04
1649	--	46	46	0.71	0.75	0.75	0.00	0.03	0.03
1651	847	--	847	0.24	0.00	0.24	0.47	0.00	0.47
1652	595	--	595	0.15	0.00	0.15	0.64	0.00	0.64
1654	183	209	392	0.56	0.59	0.59	0.30	0.35	0.35
1655	427	51	477	0.27	0.33	0.33	0.71	0.08	0.71
1656	315	87	402	0.28	0.28	0.28	0.52	0.14	0.52
1657	315	87	402	0.07	0.07	0.07	0.52	0.14	0.52
1658	1,395	1.613	3.008	0.05	0.06	0.06	0.52	0.60	0.60
1661	385	267	652	0.47	0.41	0.47	0.20	0.14	0.20
1662	38	95	134	1.80	1.73	1.80	0.06	0.16	0.16
1664	204	313	517	0.33	0.28	0.33	0.34	0.52	0.52
1666	2,309	1.810	4.119	0.09	0.08	0.09	0.86	0.67	0.86
1668	1.914	1.214	3.128	0.11	0.09	0.11	1.06	0.67	1.06
1669	--	--	0	0.13	0.00	0.13	0.00	0 00	--
1670	780	--	780	0.16	0.00	0.16	0.29	0.00	0.29
1671	--	728	728	0.00	0.29	0.29	0.00	0.27	0.27
1672	305	27	332	0.06	0.06	0.06	0.51	0.05	0.51
1673	134	507	641	0.07	0.09	0.09	0.22	1.22	1.22
1675	1.988	--	1.988	0.23	0.00	0.23	0.74	0.00	0.74
1676	596	89	686	1.35	1.37	1.37	0.28	0.04	0.28
1678	51	--	51	0.07	0.00	0.07	0.09	0.00	0.09
1679	136	--	136	0.45	0.00	0.45	0.24	0.00	0.24
1680	198	240	438	0.18	0.16	0.18	0.33	0.40	0.40
1681	198	284	482	0.83	1.12	1.12	0.33	0.47	0.47
1683	--	--	0	0.20	0.19	0.20	0.00	0.00	--
1724	--	--	1.196	0.77	0.83	0.83	0.87	1.12	--
1728	--	--	841	0.68	0.66	0.68	0.92	0.48	--
1729	388	267	654	0.85	0.81	0.85	0.20	0.14	0.20
1730	--	--	1.125	0.45	0.48	0.48	0.88	0.99	--

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1736	--	--	845	0.51	0.42	0.51	0.93	0.48	--
1738	--	--	1.295	0.22	0.27	0.27	0.83	1.33	--
1740	--	--	1.171	0.18	0.23	0.23	0.73	1.22	--
1741	343	--	343	0.36	0.00	0.36	0.57	0.00	0.57
1742	--	--	1.497	0.46	0.64	0.64	0.98	1.51	--
1743	255	178	433	0.51	0.50	0.51	0.43	0.30	0.43
1744	--	--	728	0.26	0.29	0.29	0.22	1.00	--
1745	271	87	358	0.66	0.66	0.66	0.45	0.14	0.45
1746	--	--	614	0.43	0.48	0.48	0.51	0.51	--
1747	325	--	325	0.16	0.00	0.16	0.54	0.00	0.54
1750	--	--	1.181	0.20	0.21	0.21	0.93	1.04	--
1751	--	--	0	0.37	0.39	0.39	0.00	0.00	--
1752	--	--	614	0.56	0.46	0.56	0.00	1.02	--
1754	--	--	1.225	0.23	0.34	0.34	1.10	0.94	--
1755	--	--	0	0.00	0.28	0.28	0.00	0.00	--
1756	--	--	2.681	0.44	0.47	0.47	2.19	2.28	--
1759	--	--	1.237	0.33	0.40	0.40	0.73	1.33	--
1761	157	367	524	0.24	0.24	0.24	0.26	0.61	0.61
1762	260	158	418	0.59	0.69	0.69	0.43	0.26	0.43
1763	--	--	133	0.21	0.23	0.23	0.00	0.22	--
1764	28	12	40	1.02	1.04	1.04	0.05	0.02	0.05
1765	--	--	488	0.41	0.37	0.41	0.51	0.30	--
1766	854	1.461	2.315	0.46	0.45	0.46	0.32	0.54	0.54
1775	--	--	1.013	0.21	0.22	0.22	0.87	0.82	--
1777	--	--	963	0.26	0.30	0.30	0.52	1.08	--
1778	919	707	1.626	0.79	0.64	0.79	0.53	0.26	0.53
1779	--	--	1.221	0.58	0.50	0.58	1.31	0.73	--
1782	--	--	742	0.29	0.29	0.29	0.64	0.59	--
1785	395	899	1.293	0.70	0.34	0.70	0.49	1.12	1.12
1788	--	--	449	0.27	0.27	0.27	0.18	0.56	--
1790	--	--	631	0.41	0.56	0.56	0.48	0.57	--
1792	483	298	782	0.26	0.28	0.28	0.81	0.50	0.81
1793	--	--	563	0.35	0.36	0.36	0.41	0.52	--
1794	--	--	571	0.61	0.61	0.61	0.67	0.28	--
1795	35	107	142	0.26	0.29	0.29	0.06	0.18	0.18
1796	--	--	808	1.29	1.12	1.29	0.82	0.52	--
1797	--	--	1.767	0.36	0.33	0.36	1.53	1.42	--
1798	953	2.085	3.038	0.29	0.26	0.29	0.35	0.77	0.77
1799	--	--	670	0.38	0.60	0.60	0.00	1.12	--
1803	--	--	1.202	0.15	0.17	0.17	0.85	1.16	--
1805	206	460	666	0.24	0.23	0.24	0.34	0.77	0.77
1806	1.333	324	1.658	0.34	0.37	0.37	1.48	0.36	1.48
1809	--	--	0	0.44	0.44	0.44	0.00	0.00	--
1812	669	166	834	1.36	1.41	1.41	0.32	0.08	0.32
1814	288	--	288	0.20	0.20	0.20	0.48	0.00	0.48
1818	198	284	482	0.53	0.50	0.53	0.33	0.47	0.47
1820	18	24	42	2.50	2.44	2.50	0.01	0.01	0.01
1833	--	--	0	0.81	0.80	0.81	0.00	0.00	--
1841	--	--	0	1.35	1.31	1.35	0.00	0.00	--
1848	815	1.444	2.260	0.54	0.57	0.57	0.30	0.53	0.53
1850	199	108	308	0.92	0.96	0.96	0.11	0.06	0.11
1855	--	--	0	1.87	2.08	2.08	0.00	0.00	--
1859	--	--	0	1.00	0.97	1.00	0.00	0.00	--
1867	--	--	0	0.22	0.21	0.22	0.00	0.00	--
1873	--	--	0	0.50	0.48	0.50	0.00	0.00	--
1874	536	766	1.302	0.26	0.22	0.26	0.30	0.91	0.91
1875	1.865	1.075	2.941	0.60	0.50	0.60	1.17	0.36	1.17
1876	949	222	1.172	0.08	0.08	0.08	0.53	0.12	0.53
1878	--	--	0	1.72	1.72	1.72	0.00	0.00	--
1881	2.290	1.487	3.777	0.25	0.25	0.25	0.85	0.55	0.35
1884	2.423	1.924	4.347	0.18	0.18	0.18	0.90	0.71	0.90
1886	2.020	1.487	3.507	0.50	0.46	0.50	0.75	0.59	0.75
1887	--	--	1.666	0.42	0.51	0.51	1.20	1.57	--
1890	1.567	827	2.394	0.63	0.52	0.63	1.09	0.31	1.09

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1894	201	--	201	0.40	0.00	0.40	0.10	0.00	0.10
1895	76	72	149	0.30	0.30	0.30	0.04	0.04	0.04
1896	868	681	1.549	0.32	0.35	0.35	0.46	0.36	0.46
1899	112	254	366	0.19	0.17	0.19	0.19	0.42	0.42
1903	2.271	2.206	4.476	0.13	0.14	0.14	0.84	0.82	0.84
1904	949	222	1.172	0.09	0.09	0.09	0.51	0.12	0.51
1908	591	--	591	0.28	0.00	0.28	0.22	0.00	0.22
1909	1.028	--	1.028	0.63	0.00	0.63	0.34	0.00	0.34
1910	1.285	--	1.285	0.26	0.00	0.26	0.48	0.00	0.48
1917	--	1.410	1.410	0.00	0.27	0.27	0.00	0.77	0.77
1920	1.163	293	1.456	0.30	0.12	0.30	1.29	0.33	1.29
1925	1.538	--	1.538	0.54	0.00	0.54	0.96	0.00	0.96
1926	508	370	878	0.11	0.10	0.11	0.85	0.62	0.85
1927	1.073	417	1.490	1.50	1.34	1.50	0.51	0.20	0.51
1928	--	--	1.509	3.47	1.76	3.47	1.80	0.72	--
1929	553	578	1.131	0.20	0.19	0.20	0.35	0.36	0.36
1932	--	--	0	0.47	0.46	0.47	0.00	0.00	--
1933	--	--	2.315	2.28	0.97	2.28	2.43	1.42	--
1934	28	12	40	0.80	0.85	0.85	0.05	0.02	0.05
1937	--	--	488	0.44	0.42	0.44	0.51	0.30	--
1938	589	277	865	0.34	0.35	0.35	0.33	0.15	0.33
1939	--	--	436	1.03	0.74	1.03	0.00	0.73	--
1940	--	--	785	0.40	0.43	0.43	1.31	0.00	--
1941	785	--	785	0.52	0.49	0.52	0.44	0.00	0.44
1942	51	--	51	0.19	0.00	0.19	0.08	0.00	0.08
1944	--	354	354	0.00	0.19	0.19	0.00	0.59	0.59
1946	--	--	611	0.31	0.31	0.31	0.21	0.81	--
1948	--	52	52	0.00	0.14	0.14	0.00	0.09	0.09
1950	1.388	--	1.388	0.18	0.19	0.19	2.31	0.00	2.31
1952	--	324	324	0.00	0.24	0.24	0.00	0.54	0.54
1953	--	--	678	0.17	0.16	0.17	0.59	0.54	--
1954	--	--	0	0.97	1.02	1.02	0.00	0.00	--
1955	--	--	0	1.49	1.55	1.55	0.00	0.00	--
1957	14	6	20	1.66	1.79	1.79	0.01	0.00	0.01
1960	35	8	43	4.94	4.66	4.94	0.02	0.00	0.02
1962	8	35	43	0.53	0.55	0.55	0.01	0.02	0.02
1963	--	--	0	0.35	0.38	0.38	0.00	0.00	--
1964	--	--	1.131	1.60	1.51	1.60	0.96	0.92	--
1965	--	--	0	0.43	0.46	0.46	0.00	0.00	--
1966	240	--	240	0.13	0.00	0.13	0.78	0.00	0.78
1967	--	--	1.266	0.32	0.36	0.36	0.39	1.72	--
1970	1.587	862	2.449	0.99	0.97	0.99	0.53	0.29	0.53
1971	--	--	2.473	7.90	2.84	7.90	2.65	1.47	--
1973	--	--	102	0.16	0.14	0.16	0.09	0.08	--
1974	385	254	649	0.52	0.65	0.65	0.20	0.14	0.20
1975	--	--	5	0.97	0.98	0.98	0.00	0.00	--
1977	--	--	0	0.13	0.15	0.15	0.00	0.00	--
1980	119	141	260	0.76	0.75	0.76	0.20	0.24	0.24
1981	--	--	302	0.19	0.20	0.20	0.39	0.12	--
1982	--	--	1.811	0.18	0.24	0.24	1.30	1.72	--
1985	--	--	856	0.31	0.25	0.31	0.97	0.46	--
1986	580	276	856	1.03	0.75	1.03	0.97	0.46	0.97
1988	--	--	0	1.41	1.42	1.42	0.00	0.00	--
1989	106	127	232	1.18	1.18	1.18	0.18	0.21	0.21
1990	1.296	324	1.621	0.15	0.19	0.19	1.44	0.36	1.44
1991	714	230	944	0.10	0.12	0.12	0.79	0.26	0.79
1992	--	--	0	0.41	0.39	0.41	0.00	0.00	--
1993	--	--	0	0.74	0.71	0.74	0.00	0.00	--
1994	--	--	0	0.14	0.14	0.14	0.00	0.00	--
1995	1.333	324	1.658	0.10	0.11	0.11	1.48	0.36	1.48
1996	--	--	0	0.18	0.19	0.19	0.00	0.00	--
1997	--	--	0	0.91	0.91	0.91	0.00	0.00	--
1998	--	--	0	0.43	0.40	0.43	0.00	0.00	--
1999	714	232	946	0.12	0.13	0.13	0.79	0.26	0.79

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2000	--	--	0	0.10	0.10	0.10	0.00	0.00	--
2001	--	2	2	0.00	0.12	0.12	0.00	0.00	0.00
2003	2	--	2	0.13	0.00	0.13	0.00	0.00	0.00
2004	111	595	705	0.17	0.18	0.18	0.18	0.99	0.99
2005	496	--	496	0.20	0.00	0.20	0.83	0.00	0.83
2006	496	2	498	0.66	0.66	0.66	0.83	0.00	0.83
2007	108	99	207	0.80	0.80	0.80	0.18	0.16	0.18
2008	--	--	0	0.13	0.00	0.13	0.00	0.00	--
2009	--	--	0	0.38	0.42	0.42	0.00	0.00	--
2010	--	--	0	3.12	2.95	3.12	0.00	0.00	--
2011	206	433	639	1.56	1.54	1.56	0.34	0.72	0.72
2012	8	148	157	3.06	3.06	3.06	0.01	0.25	0.25
2013	17	38	55	1.35	1.38	1.38	0.03	0.06	0.06
2015	2,067	1,761	3,828	0.17	0.17	0.17	0.77	0.65	0.77
2016	--	--	0	0.33	0.35	0.35	0.00	0.00	--
2017	--	--	0	0.18	0.17	0.18	0.00	0.00	--
2018	51	427	477	0.21	0.18	0.21	0.04	0.36	0.36
2019	--	--	0	0.30	0.30	0.30	0.00	0.00	--
2020	--	--	0	0.50	0.49	0.50	0.00	0.00	--
2021	954	2,154	3,109	0.13	0.15	0.15	0.35	0.80	0.80
2022	534	16	549	0.13	0.12	0.13	0.89	0.03	0.89
2023	455	164	619	0.51	0.51	0.51	0.76	0.27	0.76
2024	534	16	549	0.09	0.09	0.09	0.89	0.03	0.89
2025	302	899	1,201	0.20	0.15	0.20	0.34	1.00	1.00
2026	92	--	92	0.26	0.25	0.26	0.15	0.00	0.15
2027	92	324	417	0.24	0.25	0.25	0.15	0.54	0.54
2028	--	49	49	0.19	0.19	0.19	0.00	0.12	0.12
2029	49	--	49	0.69	0.73	0.73	0.08	0.00	0.08
2030	--	226	226	0.14	0.15	0.15	0.00	0.38	0.38
2031	--	--	0	0.19	0.21	0.21	0.00	0.00	--
2032	--	--	0	1.78	1.69	1.78	0.00	0.00	--
2033	57	15	72	0.42	0.43	0.43	0.10	0.03	0.10
2034	--	226	226	0.14	0.13	0.14	0.00	0.19	0.19
2035	226	--	226	0.89	0.92	0.92	0.38	0.00	0.38
2036	--	--	0	0.54	0.52	0.54	0.00	0.00	--
2038	383	838	1,221	0.74	0.74	0.74	0.21	0.47	0.47
2039	--	--	0	0.57	0.54	0.57	0.00	0.00	--
2040	--	--	0	0.36	0.40	0.40	0.00	0.00	--
2041	19	--	19	1.06	1.12	1.12	0.03	0.00	0.03
2043	--	--	0	0.76	0.80	0.80	0.00	0.00	--
2044	--	449	449	0.15	0.15	0.15	0.00	0.37	0.37
2045	--	--	0	0.36	0.36	0.36	0.00	0.00	--
2046	--	19	19	0.89	0.97	0.97	0.00	0.03	0.03
2047	19	--	19	0.14	0.15	0.15	0.03	0.00	0.03
2048	--	430	430	0.49	0.51	0.51	0.00	0.36	0.36
2049	--	--	0	0.41	0.39	0.41	0.00	0.00	--
2050	24	--	24	0.23	0.23	0.23	0.04	0.00	0.04
2051	40	60	100	1.08	1.00	1.08	0.07	0.10	0.10
2052	--	24	24	1.05	1.06	1.06	0.00	0.04	0.04
2054	--	--	0	0.27	0.25	0.27	0.00	0.00	--
2055	953	2,085	3,038	0.12	0.13	0.13	0.35	0.77	0.77
2056	--	--	0	0.92	0.97	0.97	0.00	0.00	--
2057	--	--	0	0.15	0.14	0.15	0.00	0.00	--
2058	--	--	0	0.28	0.26	0.28	0.00	0.00	--
2059	--	--	0	0.40	0.44	0.44	0.00	0.00	--
2060	6	--	6	1.32	1.35	1.35	0.00	0.00	0.00
2061	--	--	0	3.54	3.74	3.74	0.00	0.00	--
2062	614	--	614	0.93	1.71	1.71	1.54	0.00	1.54
2063	299	255	554	0.38	0.39	0.39	0.50	0.42	0.50
2064	--	849	849	1.47	1.51	1.51	0.00	1.42	1.42
2065	--	--	0	2.21	2.24	2.24	0.00	0.00	--
2066	--	--	0	1.09	1.10	1.10	0.00	0.00	--
2068	2	--	2	0.35	0.30	0.35	0.00	0.00	0.00
2069	13	--	13	1.12	1.08	1.12	0.02	0.00	0.02

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2071	--	--	0	0.30	0.29	0.30	0.00	0.00	--
2072	--	--	0	2.07	2.12	2.12	0.00	0.00	--
2073	--	--	0	1.30	1.27	1.30	0.00	0.00	--
2074	--	--	0	2.07	2.13	2.13	0.00	0.00	--
2075	--	--	0	0.28	0.31	0.31	0.00	0.00	--
2076	--	--	0	1.53	1.39	1.53	0.00	0.00	--
2077	52	1	53	0.21	0.21	0.21	0.09	0.00	0.09
2078	--	--	0	1.65	1.60	1.65	0.00	0.00	--
2079	76	72	149	0.38	0.37	0.38	0.04	0.04	0.04
2080	--	--	0	1.11	1.03	1.11	0.00	0.00	--
2081	130	92	222	0.24	0.24	0.24	0.07	0.05	0.07
2082	30	--	30	0.89	0.95	0.95	0.03	0.00	0.03
2086	181	307	488	0.73	0.71	0.73	0.30	0.51	0.51
2087	--	--	0	0.17	0.16	0.17	0.00	0.00	--
2088	1	9	10	1.33	1.29	1.33	0.00	0.01	0.01
2089	44	--	44	0.96	0.96	0.96	0.04	0.00	0.04
2090	--	--	0	1.70	1.64	1.70	0.00	0.00	--
2091	6	--	6	0.20	0.21	0.21	0.00	0.00	0.00
2092	--	--	0	0.38	0.40	0.40	0.00	0.00	--
2093	--	--	0	0.88	0.97	0.97	0.00	0.00	--
2094	6	--	6	6.54	6.71	6.71	0.00	0.00	0.00
2095	--	--	0	0.71	0.77	0.77	0.00	0.00	--
2096	--	--	0	0.54	0.59	0.59	0.00	0.00	--
2098	--	--	0	1.23	1.23	1.28	0.00	0.00	--
2100	--	--	0	2.80	2.61	2.80	0.00	0.00	--
2103	--	--	0	1.74	2.08	2.08	0.00	0.00	--
2105	--	--	0	0.50	0.56	0.56	0.00	0.00	--
2106	--	430	430	0.52	0.54	0.54	0.00	0.36	0.36
2107	--	--	0	0.09	0.09	0.09	0.00	0.00	--
2108	--	--	0	0.24	0.23	0.24	0.00	0.00	--
2109	42	--	42	1.37	1.56	1.56	0.07	0.00	0.07
2110	838	681	1,519	0.39	0.28	0.39	1.31	0.36	1.31
2111	--	--	0	0.79	0.84	0.84	0.00	0.00	--
2112	--	--	0	0.27	0.27	0.27	0.00	0.00	--
2113	--	--	0	0.58	0.58	0.58	0.00	0.00	--
2114	--	--	0	1.16	1.29	1.29	0.00	0.00	--
2115	--	--	0	0.26	0.28	0.28	0.00	0.00	--
2118	52	1	53	0.61	0.59	0.61	0.09	0.00	0.09
2119	553	578	1,131	0.46	0.47	0.47	0.31	0.32	0.32
2120	--	6	6	0.43	0.38	0.43	0.00	0.00	0.00
2121	6	--	6	0.78	0.73	0.78	0.00	0.00	0.00
2122	--	--	0	0.39	0.40	0.40	0.00	0.00	--
2123	--	--	0	0.73	0.62	0.73	0.00	0.00	--
2124	--	--	0	0.14	0.16	0.16	0.00	0.00	--
2125	589	277	865	0.82	0.77	0.82	0.33	0.15	0.33
2126	133	150	283	0.32	0.31	0.32	0.11	0.12	0.12
2127	284	101	385	0.39	0.40	0.40	0.14	0.05	0.14
2128	283	49	332	1.03	1.15	1.15	0.13	0.02	0.13
2129	1,865	1,075	2,941	0.80	0.78	0.80	0.52	0.36	0.62
2130	98	22	120	0.19	0.21	0.21	0.16	0.04	0.16
2131	233	394	627	0.60	0.49	0.60	0.39	0.66	0.66
2132	71	29	100	0.09	0.09	0.09	0.04	0.02	0.04
2133	29	52	81	2.51	2.40	2.51	0.02	0.03	0.03
2134	383	838	1,221	0.09	0.10	0.10	0.21	0.47	0.47
2135	75	302	376	0.27	0.25	0.27	0.12	0.50	0.50
2136	--	--	0	0.31	0.28	0.31	0.00	0.00	--
2137	95	38	134	0.08	0.08	0.08	0.16	0.06	0.16
2138	38	95	134	0.36	0.36	0.36	0.06	0.16	0.16
2140	--	--	0	1.14	1.16	1.16	0.00	0.00	--
2141	--	9	9	0.00	0.58	0.58	0.00	0.01	0.01
2142	14	--	14	0.37	0.00	0.37	0.02	0.00	0.02
2143	11	130	142	0.39	0.31	0.39	0.02	0.22	0.22
2144	197	511	708	0.39	0.40	0.40	0.33	0.85	0.85
2145	108	99	207	0.19	0.19	0.19	0.77	0.16	0.77

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2148	--	226	226	0.57	0.58	0.58	0.00	0.38	0.38
2149	--	--	940	0.71	0.71	0.71	1.03	0.54	--
2153	353	2	355	0.46	0.45	0.46	0.59	0.00	0.59
2155	92	324	417	0.18	0.17	0.18	0.15	0.54	0.54
2156	--	--	1,391	0.17	0.17	0.17	1.90	0.41	--
2157	1,142	249	1,391	0.34	0.36	0.36	1.63	0.36	1.63
2158	--	--	622	0.53	0.52	0.53	0.85	0.19	--
2159	970	2,047	3,017	0.26	0.23	0.26	0.48	0.76	0.76
2160	217	272	489	0.19	0.16	0.19	0.36	0.45	0.45
2161	44	142	186	0.34	0.38	0.38	0.07	0.24	0.24
2162	612	92	704	0.24	0.24	0.24	1.02	0.15	1.02
2163	1,027	560	1,587	0.52	0.49	0.52	0.57	0.31	0.57
2164	--	--	0	0.39	0.40	0.40	0.00	0.00	--
2165	--	--	0	0.25	0.27	0.27	0.00	0.00	--
2166	--	--	0	0.29	0.25	0.29	0.00	0.00	--
2167	1,649	--	1,649	0.11	0.00	0.11	0.61	0.00	0.61
2168	1,037	228	1,265	0.33	0.32	0.33	0.85	0.08	0.88
2169	1,314	1,818	3,132	0.76	0.79	0.79	0.51	0.70	0.70
2170	1,076	--	1,076	0.51	0.00	0.51	0.41	0.00	0.41
2171	1,306	--	1,306	0.48	0.00	0.48	1.00	0.00	1.00
2172	1,613	2,701	4,314	0.23	0.23	0.23	0.62	1.04	1.04
2173	1,790	1,636	3,427	0.13	0.12	0.13	0.66	0.61	0.66
2174	646	--	646	0.29	0.00	0.29	0.36	0.00	0.36
2175	--	557	557	0.00	0.20	0.20	0.00	0.32	0.32
2176	1,633	--	1,633	0.20	0.00	0.20	1.26	0.00	1.26
2177	--	2,124	2,124	0.00	0.23	0.23	0.00	1.63	1.63
2178	1,018	3,154	4,172	0.04	0.05	0.05	0.39	1.21	1.21
2179	2,701	2,689	5,390	0.97	0.92	0.97	1.04	1.03	1.04

(C:\DOS\assign.rep - February 16, 2000 (05:02:55 PM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\SCEN4\SEN4.NET
Demand Table : C:\TRAN3.2\CONNEC~1\SCEN1\ES2-20.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
*Capacity Field : CAPSIG
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	23691.84
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	2
Conv. Criteria	:	0.1
Relative Gap	:	0.01390035784
Max Flow Change	:	1345.6237

Equilibrium reached : Yes

Total VHT	:	150254.094
Total VMT	:	98215.282
Centroid VHT	:	42511.1412
Centroid VMT	:	15429.772
VHT w/out Centroids	:	107742.953
VMT w/out Centroids	:	82785.5101

Total Running Time 00:00:02.029.

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	25	--	25	0.10	0.00	0.10	0.06	0.00	0.06
4	141	--	141	0.10	0.00	0.10	0.35	0.00	0.35
5	--	141	141	0.05	0.05	0.05	0.00	0.28	0.28
9	604	423	1,027	0.41	0.58	0.58	1.01	1.67	1.67
11	223	231	453	0.37	0.34	0.37	0.37	0.38	0.38
18	681	--	681	0.21	0.00	0.21	0.38	0.00	0.38
19	2,432	--	2,432	0.15	0.00	0.15	0.94	0.00	0.94
21	--	--	0	0.75	0.75	0.75	0.00	0.00	--
37	--	--	0	3.06	2.92	3.06	0.00	0.00	--
108	561	608	1,168	0.21	0.20	0.21	0.40	0.68	0.68
117	596	508	1,104	0.52	0.29	0.52	0.66	0.56	0.66
123	359	411	770	0.74	0.49	0.74	0.40	0.46	0.46
130	609	608	1,217	0.45	0.35	0.45	0.68	0.68	0.68
134	--	--	0	0.17	0.17	0.17	0.00	0.00	--
151	11	583	594	0.50	0.50	0.50	0.02	0.97	0.97
154	--	95	95	0.46	0.47	0.47	0.00	0.16	0.16
158	440	448	888	0.35	0.69	0.69	0.88	0.90	0.90
164	553	897	1,450	0.21	0.32	0.32	0.92	1.49	1.49
191	--	--	0	0.16	0.16	0.16	0.00	0.00	--
197	--	--	0	0.23	0.22	0.23	0.00	0.00	--
203	1,349	1,965	3,314	0.43	0.43	0.43	0.50	0.73	0.73
206	544	578	1,122	0.67	0.60	0.67	0.30	0.32	0.32
211	491	266	757	0.12	0.13	0.13	0.27	0.15	0.27
212	491	266	757	1.02	0.99	1.02	0.27	0.15	0.27
214	124	196	319	0.17	0.16	0.17	0.21	0.33	0.33
215	--	--	0	0.15	0.14	0.15	0.00	0.00	--
217	--	--	0	0.29	0.28	0.29	0.00	0.00	--
223	315	607	922	0.13	0.14	0.14	0.18	0.72	0.72
224	229	759	988	0.67	0.70	0.70	0.13	0.84	0.84
226	288	938	1,226	0.52	0.53	0.53	0.41	0.52	0.52
229	893	1,547	2,440	0.24	0.26	0.26	0.33	0.61	0.61
230	1,444	--	1,444	0.11	0.00	0.11	0.49	0.00	0.49
232	2,963	--	2,963	0.27	0.00	0.27	1.65	0.00	1.65
234	235	565	800	0.47	0.46	0.47	0.39	0.94	0.94
235	--	--	0	0.23	0.24	0.24	0.00	0.00	--
236	241	488	729	0.21	0.21	0.21	0.40	0.81	0.81
238	176	125	300	0.99	0.89	0.99	0.29	0.21	0.29
241	1,437	47	1,485	0.38	0.47	0.47	0.80	0.08	0.80
242	3,101	--	3,101	0.07	0.00	0.07	1.15	0.00	1.15
244	863	257	1,120	0.13	0.14	0.14	0.48	0.00	0.48
246	3,014	--	3,014	0.16	0.00	0.16	1.12	0.00	1.12
247	2,071	1,852	3,923	0.28	0.25	0.28	0.77	0.69	0.77
250	--	--	0	0.04	0.04	0.04	0.00	0.00	--
252	--	1,735	1,735	0.00	0.06	0.06	0.00	1.08	1.08
256	--	--	0	1.28	1.44	1.44	0.00	0.00	--
257	319	190	510	0.19	0.19	0.19	0.15	0.19	0.19
260	319	608	927	0.13	0.12	0.13	0.32	0.59	0.59
263	4,381	--	4,381	0.15	0.00	0.15	1.30	0.00	1.30
264	--	1,366	1,366	0.00	0.28	0.28	0.00	2.28	2.28
275	--	--	0	0.72	0.70	0.72	0.00	0.00	--
276	25	46	71	1.37	1.43	1.43	0.02	0.04	0.04
287	--	--	0	0.13	0.12	0.13	0.00	0.00	--
289	--	--	0	0.21	0.20	0.21	0.00	0.00	--
293	--	190	190	0.38	0.39	0.39	0.00	0.47	0.47
311	503	576	1,079	0.54	0.47	0.54	0.26	0.30	0.30
314	379	556	935	0.28	0.28	0.28	0.20	0.29	0.29
316	--	--	0	0.75	0.72	0.75	0.00	0.00	--
337	--	--	0	0.58	0.60	0.60	0.00	0.00	--
362	167	63	230	1.43	1.40	1.43	0.14	0.05	0.14
364	538	--	919	0.22	0.25	0.25	0.23	0.20	0.28
428	--	--	0	1.34	1.17	1.34	0.00	0.00	--
430	--	--	0	0.28	0.26	0.28	0.00	0.00	--
435	--	--	0	0.40	0.40	0.40	0.00	0.00	--
454	106	503	608	0.19	0.22	0.22	0.09	0.42	0.42

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
456	--	--	0	0.79	0.76	0.79	0.00	0.00	--
479	347	372	718	0.92	1.00	1.00	0.58	0.62	0.62
483	163	399	562	0.26	0.28	0.28	0.27	0.67	0.67
486	194	398	592	0.29	0.29	0.29	0.32	0.66	0.66
507	--	--	0	0.18	0.18	0.18	0.00	0.00	--
513	--	--	0	0.87	0.96	0.96	0.00	0.00	--
541	--	--	0	0.77	0.71	0.77	0.00	0.00	--
549	--	--	0	0.23	0.23	0.23	0.00	0.00	--
552	562	--	562	0.39	0.37	0.39	0.94	0.00	0.94
555	453	373	826	0.27	0.32	0.32	0.65	0.62	0.65
558	343	562	905	0.05	0.06	0.06	0.57	0.94	0.94
571	--	--	0	0.16	0.19	0.19	0.00	0.00	--
572	0	80	80	0.08	0.08	0.08	0.00	0.13	0.13
588	343	571	914	1.15	1.27	1.27	0.57	0.95	0.95
605	731	1,493	2,224	0.12	0.11	0.12	0.41	0.74	0.74
607	673	--	673	0.15	0.17	0.17	0.59	0.00	0.59
608	658	--	658	0.18	0.15	0.18	0.60	0.00	0.60
609	587	--	587	0.13	0.00	0.13	0.30	0.00	0.30
610	113	--	113	0.21	0.20	0.21	0.19	0.00	0.19
612	376	51	428	0.22	0.22	0.22	0.63	0.09	0.63
617	352	--	352	0.12	0.00	0.12	0.59	0.00	0.59
618	125	655	780	0.15	0.16	0.16	0.10	0.63	0.63
620	595	782	1,377	0.24	0.22	0.24	0.92	0.65	0.92
622	351	117	468	0.08	0.08	0.08	0.58	0.20	0.58
626	863	374	1,236	0.13	0.12	0.13	1.04	0.62	1.04
631	1,221	831	2,052	0.41	0.41	0.41	1.36	0.92	1.36
632	1,493	731	2,224	0.19	0.20	0.20	0.83	0.54	0.83
669	124	196	319	0.49	0.52	0.52	0.21	0.33	0.33
685	257	512	768	0.47	0.48	0.48	0.43	0.85	0.85
695	339	272	611	0.15	0.15	0.15	0.57	0.45	0.57
698	--	274	274	0.00	0.13	0.13	0.00	0.46	0.46
699	--	227	227	0.00	0.15	0.15	0.00	0.38	0.38
700	--	--	0	0.70	0.66	0.70	0.00	0.00	--
724	310	109	420	0.62	0.42	0.62	0.52	0.18	0.52
728	53	109	162	0.25	0.24	0.25	0.09	0.18	0.18
731	405	109	515	0.58	0.61	0.61	0.68	0.18	0.68
739	80	0	80	1.22	1.21	1.22	0.13	0.00	0.13
763	--	--	0	3.60	3.91	3.91	0.00	0.00	--
772	333	--	333	0.16	0.00	0.16	0.42	0.00	0.42
806	941	--	941	0.52	0.00	0.52	0.35	0.00	0.35
813	1,758	--	1,758	0.31	0.00	0.31	0.52	0.00	0.52
822	2,017	--	2,017	0.17	0.00	0.17	0.59	0.00	0.59
828	2	--	2	0.21	0.22	0.22	0.00	0.00	0.00
872	--	--	0	2.45	2.33	2.45	0.00	0.00	--
879	707	180	887	0.23	0.20	0.23	1.18	0.30	1.18
907	484	98	582	0.56	0.59	0.59	0.81	0.16	0.81
910	204	562	765	0.44	0.55	0.55	0.34	0.94	0.94
913	204	--	204	0.24	0.00	0.24	0.34	0.00	0.34
917	2,188	589	2,777	0.35	0.44	0.44	1.22	0.70	1.22
925	2,188	589	2,777	0.87	1.09	1.09	1.22	0.70	1.22
928	1,999	589	2,587	0.39	0.34	0.39	1.11	0.33	1.11
933	--	449	449	0.00	0.22	0.22	0.00	0.16	0.16
1057	21	2	23	1.77	1.65	1.77	0.01	0.00	0.01
1066	1,865	1,068	2,934	0.19	0.18	0.19	0.62	0.36	0.62
1140	731	499	1,231	0.36	0.43	0.43	0.91	0.93	0.93
1170	192	392	584	0.87	0.94	0.94	0.32	1.12	1.12
1174	226	15	242	0.55	0.58	0.58	0.38	0.03	0.38
1186	359	358	717	0.25	0.24	0.25	0.20	0.20	0.20
1187	359	569	928	0.16	0.16	0.16	0.41	0.32	0.41
1193	79	260	339	0.77	0.64	0.77	0.13	0.43	0.43
1233	38	95	134	1.36	1.41	1.41	0.02	0.05	0.05
1243	156	115	271	0.23	0.25	0.25	0.10	0.07	0.10
1262	185	175	360	0.54	0.54	0.54	0.10	0.10	0.10
1321	145	130	274	0.69	0.67	0.69	0.08	0.07	0.08

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1340	109	31	140	0.11	0.11	0.11	0.03	0.02	0.06
1392	109	31	140	3.36	3.74	3.74	0.06	0.02	0.06
1439	754	508	1,262	0.61	0.48	0.61	0.84	0.29	0.84
1445	28	60	89	0.65	0.65	0.65	0.05	0.10	0.10
1450	28	60	89	0.32	0.30	0.32	0.05	0.10	0.10
1456	1,330	737	2,066	0.16	0.18	0.18	1.48	0.82	1.48
1458	1,549	682	2,232	0.32	0.25	0.32	1.72	0.76	1.72
1461	--	--	0	0.83	0.85	0.85	0.00	0.00	--
1500	387	233	619	0.62	0.66	0.66	0.64	0.39	0.64
1505	273	299	572	0.69	0.55	0.69	0.45	0.50	0.50
1509	--	--	0	0.00	0.17	0.17	0.00	0.00	--
1513	354	544	898	0.25	0.24	0.25	0.59	0.91	0.91
1518	--	208	208	0.00	0.29	0.29	0.00	0.35	0.35
1522	--	--	0	0.64	0.57	0.64	0.00	0.00	--
1523	488	659	1,147	0.29	0.28	0.29	0.81	0.69	0.81
1527	106	283	389	0.31	0.32	0.32	0.18	0.47	0.47
1562	343	227	571	0.14	0.14	0.14	0.57	0.38	0.57
1573	221	486	706	0.23	0.18	0.23	0.37	0.81	0.81
1603	--	--	0	0.96	0.95	0.96	0.00	0.00	--
1606	--	--	0	0.18	0.20	0.20	0.00	0.00	--
1608	--	--	0	0.59	0.67	0.67	0.00	0.00	--
1609	--	--	0	1.09	1.11	1.11	0.00	0.00	--
1611	929	1,405	2,334	0.14	0.13	0.14	1.55	2.34	2.34
1628	--	1,804	1,804	0.00	0.38	0.38	0.00	0.67	0.67
1629	544	578	1,122	0.31	0.30	0.31	0.30	0.32	0.32
1630	--	--	0	0.52	0.47	0.52	0.00	0.00	--
1631	786	488	1,274	0.11	0.12	0.12	0.60	0.38	0.60
1632	--	--	0	0.12	0.13	0.13	0.00	0.00	--
1633	1,242	827	2,069	0.03	0.03	0.03	0.58	0.92	0.92
1634	17	49	67	0.92	1.05	1.05	0.01	0.03	0.03
1642	893	1,547	2,440	0.62	0.66	0.66	0.33	0.57	0.57
1644	1,547	893	2,440	0.12	0.11	0.12	0.57	0.33	0.57
1645	102	222	324	0.21	0.23	0.23	0.06	0.12	0.12
1646	144	43	187	0.98	0.99	0.99	0.12	0.04	0.12
1647	79	203	281	0.49	0.44	0.49	0.04	0.11	0.11
1649	25	46	71	0.77	0.69	0.77	0.02	0.03	0.03
1651	794	--	794	0.24	0.00	0.24	0.44	0.00	0.44
1652	417	--	417	0.15	0.00	0.15	0.45	0.00	0.45
1654	104	47	151	0.60	0.71	0.71	0.17	0.08	0.17
1655	503	138	641	0.29	0.28	0.29	0.84	0.23	0.84
1656	434	544	977	0.29	0.27	0.29	0.72	0.91	0.91
1657	434	544	977	0.07	0.08	0.08	0.72	0.91	0.91
1658	1,667	879	2,546	0.08	0.09	0.09	0.62	0.33	0.62
1661	416	145	561	0.44	0.41	0.44	0.22	0.08	0.22
1662	38	95	134	1.58	1.71	1.71	0.06	0.16	0.16
1664	203	356	559	0.29	0.28	0.29	0.34	0.59	0.59
1666	2,230	2,419	4,650	0.09	0.08	0.09	0.83	0.90	0.90
1668	1,999	589	2,587	0.09	0.08	0.09	1.11	0.33	1.11
1669	--	--	0	0.19	0.00	0.19	0.00	0.00	--
1670	1,762	--	1,762	0.18	0.00	0.18	0.65	0.00	0.65
1671	--	3,101	3,101	0.00	0.31	0.31	0.00	1.15	1.15
1672	929	108	1,036	0.07	0.06	0.07	1.55	0.18	1.55
1673	77	492	569	0.08	0.09	0.09	0.13	1.18	1.18
1675	2,762	--	2,762	0.31	0.00	0.31	1.02	0.00	1.02
1676	596	89	686	1.32	1.37	1.37	0.28	0.04	0.28
1678	51	--	51	0.07	0.00	0.07	0.09	0.00	0.09
1679	385	--	385	0.44	0.00	0.44	0.66	0.00	0.66
1680	161	250	411	0.16	0.18	0.18	0.27	0.42	0.42
1681	161	330	491	0.79	0.85	0.85	0.27	0.55	0.55
1683	--	--	0	0.19	0.20	0.20	0.00	0.00	--
1724	--	--	1,196	0.76	0.81	0.81	0.87	1.12	--
1728	--	--	841	0.65	0.60	0.65	0.92	0.48	--
1729	385	145	530	0.83	0.81	0.83	0.20	0.08	0.20
1730	--	--	1,125	0.44	0.46	0.46	0.88	0.99	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1736	--	--	845	0.47	0.45	0.47	0.93	0.48	--
1738	--	--	1.295	0.21	0.29	0.29	0.83	1.33	--
1740	--	--	1.171	0.19	0.21	0.21	0.73	1.22	--
1741	343	--	343	0.35	0.00	0.35	0.57	0.00	0.57
1742	--	--	1.497	0.47	0 66	0.66	0.98	1.51	--
1743	203	340	544	0.44	0.47	0.47	0.34	0.57	0.57
1744	--	--	728	0.25	0.29	0.29	0.22	1.00	--
1745	354	544	898	0.72	0.71	0.72	0.59	0.91	0.91
1746	--	--	614	0.45	0.44	0.45	0.51	0.51	--
1747	325	--	325	0.16	0.00	0.16	0.54	0.00	0.54
1750	--	--	1.181	0.20	0.20	0.20	0.93	1.04	--
1751	--	16	16	0.41	0.37	0.41	0.00	0.03	0.03
1752	--	--	1.434	0.42	0.34	0.42	1.47	0.92	--
1754	--	--	1.678	0.24	0.33	0.33	1.10	1.69	--
1755	--	1.417	1.417	0.00	0.91	0.91	0.00	2.36	2.36
1756	--	--	0	0.11	0.12	0.12	0.00	0.00	--
1759	--	--	1.237	0.31	0.40	0.40	0.73	1.33	--
1761	157	367	524	0.22	0.24	0.24	0.26	0.61	0.61
1762	223	229	452	0.58	0.59	0.59	0.37	0.38	0.38
1763	--	--	205	0.22	0.24	0.24	0.03	0.31	--
1764	28	55	82	0.99	1.01	1.01	0.05	0.09	0.09
1765	--	--	488	0.38	0.40	0.40	0.51	0.30	--
1766	854	1.461	2.315	0.47	0.45	0.47	0.32	0.54	0.54
1775	--	--	1.013	0.21	0.21	0.21	0.87	0.82	--
1777	--	--	963	0.28	0.30	0.30	0.52	1.08	--
1778	942	686	1.628	0.73	0.73	0.73	0.54	0.25	0.54
1779	--	--	1.221	0.60	0.46	0.60	1.31	0.73	--
1782	--	--	742	0.31	0.32	0.32	0.64	0.59	--
1785	398	626	1.024	0.56	0.38	0.56	0.50	0.78	0.78
1788	--	--	528	0.28	0.27	0.28	0.34	0.54	--
1790	--	--	711	0.42	0.49	0.49	0.49	0.69	--
1792	341	346	687	0.26	0.28	0.28	0.57	0.58	0.58
1793	--	--	563	0.35	0.37	0.37	0.41	0.52	--
1794	--	--	571	0.66	0.64	0.66	0.67	0.28	--
1795	62	107	169	0.27	0.27	0.27	0.10	0.18	0.18
1796	--	--	808	1.16	1.18	1.18	0.82	0.52	--
1797	--	--	1.767	0.38	0.34	0.38	1.53	1.42	--
1798	1.363	1.974	3.338	0.26	0.26	0.26	0.50	0.73	0.73
1799	--	--	1.009	0.36	0.53	0.53	0.59	1.09	--
1803	--	--	1.202	0.16	0.16	0.16	0.85	1.16	--
1805	206	433	639	0.22	0.23	0.23	0.34	0.72	0.72
1806	1.400	580	1.980	0.33	0.32	0.33	1.56	0.64	1.56
1809	--	--	0	0.40	0.40	0.40	0.00	0.00	--
1812	799	168	967	1.38	1.36	1.38	0.38	0.08	0.38
1814	240	--	240	0.19	0.19	0.19	0.40	0.00	0.40
1818	161	330	491	0.53	0.55	0.55	0.27	0.55	0.55
1820	18	24	42	2.66	2.87	2.87	0.01	0.01	0.01
1833	--	--	0	0.74	0.77	0.77	0.00	0.00	--
1841	--	--	0	1.25	1.23	1.25	0.00	0.00	--
1848	815	1.428	2.243	0.54	0.57	0.57	0.39	0.53	0.53
1850	156	115	271	0.94	0.93	0.94	0.09	0.06	0.09
1855	--	9	9	2.07	1.82	2.07	0.00	0.02	0.02
1859	--	--	0	0.94	1.10	1.10	0.00	0.00	--
1867	--	--	0	0.23	0.23	0.23	0.00	0.00	--
1873	--	92	92	0.46	0.48	0.48	0.00	0.35	0.35
1874	596	508	1.104	0.25	0.24	0.25	0.33	0.60	0.60
1875	1.865	1.068	2.934	0.64	0.55	0.64	1.17	0.36	1.17
1876	1.051	47	1.098	0.09	0.08	0.09	0.58	0.03	0.58
1878	--	--	0	1.71	1.71	1.71	0.00	0.00	--
1881	2.212	2.097	4.308	0.26	0.23	0.26	0.82	0.78	0.82
1884	2.230	2.419	4.650	0.18	0.15	0.18	0.83	0.90	0.90
1886	2.022	2.097	4.119	0.49	0.50	0.50	0.75	0.83	0.83
1887	--	--	1.666	0.39	0.49	0.49	1.20	1.57	--
1890	1.582	818	2.399	0.59	0.51	0.59	1.05	0.30	1.05

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1894	1.146	--	1.146	0.45	0.00	0.45	0.55	0.00	0.55
1895	79	203	281	0.27	0.29	0.29	0.04	0.11	0.11
1896	866	559	1.425	0.32	0.34	0.34	0.46	0.29	0.46
1899	--	387	387	0.19	0.20	0.20	0.00	0.64	0.64
1903	1.706	2.639	4.345	0.13	0.16	0.16	0.63	0.98	0.98
1904	1.051	47	1.098	0.10	0.10	0.10	0.57	0.03	0.57
1908	2.963	--	2.963	0.30	0.00	0.30	1.10	0.00	1.10
1909	1.966	--	1.966	0.66	0.00	0.66	0.66	0.00	0.66
1910	2.017	--	2.017	0.35	0.00	0.35	0.75	0.00	0.75
1917	--	610	610	0.00	0.31	0.31	0.00	0.67	0.67
1920	--	--	0	0.11	0.11	0.11	0.00	0.00	--
1925	1.735	--	1.735	0.39	0.00	0.39	1.08	0.00	1.08
1926	508	370	878	0.11	0.10	0.11	0.85	0.62	0.85
1927	1.073	409	1.483	1.43	1.33	1.43	0.51	0.20	0.51
1928	--	--	1.509	3.34	2.16	3.34	1.80	0.72	--
1929	553	578	1.131	0.20	0.18	0.20	0.35	0.36	0.36
1932	--	--	0	0.48	0.48	0.48	0.00	0.00	--
1933	--	--	2.315	2.53	1.01	2.53	2.43	1.42	--
1934	28	55	82	0.78	0.81	0.81	0.05	0.09	0.09
1937	--	--	488	0.44	0.48	0.48	0.51	0.30	--
1938	589	277	865	0.34	0.33	0.34	0.33	0.15	0.33
1939	--	--	436	1.03	0.74	1.03	0.00	0.73	--
1940	--	--	785	0.40	0.40	0.40	1.31	0.00	--
1941	785	--	785	0.48	0.49	0.49	0.44	0.00	0.44
1942	--	--	0	0.19	0.00	0.19	0.00	0.00	--
1944	--	--	0	0.00	0.21	0.21	0.00	0.00	--
1946	--	--	531	0.31	0.32	0.32	0.20	0.68	--
1948	--	1.366	1.366	0.00	0.42	0.42	0.00	2.28	2.28
1950	--	778	778	0.15	0.13	0.15	0.00	0.43	0.43
1952	--	339	339	0.00	0.23	0.23	0.00	0.57	0.57
1953	--	--	339	0.17	0.18	0.18	0.00	0.57	--
1954	--	--	0	1.03	1.02	1.03	0.00	0.00	--
1955	--	--	0	1.57	1.56	1.57	0.00	0.00	--
1957	21	6	27	1.72	1.69	1.72	0.01	0.00	0.01
1960	42	8	50	5.08	5.25	5.25	0.02	0.00	0.02
1962	8	42	50	0.50	0.54	0.54	0.01	0.03	0.03
1963	--	--	0	0.36	0.38	0.38	0.00	0.00	--
1964	--	--	1.131	1.59	1.55	1.59	0.96	0.92	--
1965	--	--	0	0.45	0.46	0.46	0.00	0.00	--
1966	--	--	0	2.31	0.00	2.31	0.00	0.00	--
1967	--	--	814	0.30	0.35	0.35	0.39	0.97	--
1970	1.587	862	2.449	0.95	0.97	0.97	0.53	0.29	0.53
1971	--	--	2.473	8.02	2.93	8.02	2.65	1.47	--
1973	--	--	2.784	0.54	0.55	0.55	2.28	2.36	--
1974	383	142	525	0.55	0.53	0.55	0.20	0.07	0.20
1975	--	--	5	1.01	0.97	1.01	0.00	0.00	--
1977	--	--	0	0.14	0.14	0.14	0.00	0.00	--
1980	25	141	166	0.76	0.80	0.80	0.04	0.24	0.24
1981	--	--	223	0.18	0.19	0.19	0.24	0.13	--
1982	--	--	1.811	0.16	0.24	0.24	1.30	1.72	--
1985	--	--	980	0.27	0.23	0.27	1.17	0.47	--
1986	699	281	980	0.94	0.71	0.94	1.17	0.47	1.17
1988	--	--	0	1.32	1.32	1.32	0.00	0.00	--
1989	106	127	232	1.11	1.15	1.15	0.18	0.21	0.21
1990	1.330	737	2.066	0.14	0.15	0.15	1.48	0.82	1.48
1991	731	499	1.231	0.10	0.10	0.10	0.81	0.55	0.81
1992	--	--	0	0.41	0.39	0.41	0.00	0.00	--
1993	--	--	0	0.81	0.77	0.81	0.00	0.00	--
1994	--	--	0	0.14	0.12	0.14	0.00	0.00	--
1995	1.400	580	1.980	0.10	0.10	0.10	1.56	0.64	1.56
1996	--	--	0	0.18	0.18	0.18	0.00	0.00	--
1997	--	--	0	0.95	0.94	0.95	0.00	0.00	--
1998	--	--	0	0.40	0.40	0.40	0.00	0.00	--
1999	731	501	1.233	0.12	0.12	0.12	0.81	0.56	0.81

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2000	--	--	0	0.10	0.10	0.10	0.00	0.00	--
2001	--	2	2	0.00	0.12	0.12	0.00	0.00	0.00
2003	2	--	2	0.13	0.00	0.13	0.00	0.00	0.00
2004	114	714	828	0.17	0.18	0.18	0.19	1.19	1.19
2005	558	--	558	0.19	0.00	0.19	0.93	0.00	0.93
2006	558	2	560	0.67	0.64	0.67	0.93	0.00	0.93
2007	112	156	268	0.72	0.78	0.78	0.19	0.26	0.26
2008	--	--	0	0.14	0.00	0.14	0.00	0.00	--
2009	--	--	0	0.38	0.43	0.43	0.00	0.00	--
2010	--	--	0	2 82	3.00	3.00	0.00	0.00	--
2011	206	433	639	1.53	1.61	1.61	0.34	0.72	0.72
2012	45	103	148	3.03	3.27	3.27	0.08	0.17	0.17
2013	33	38	72	1.42	1.28	1.42	0.06	0.06	0.06
2015	2.345	2.186	4.531	0.23	0.16	0.23	0.87	0.81	0.87
2016	--	32	32	0.35	0.35	0.35	0.00	0.05	0.05
2017	59	--	59	0.18	0.17	0.18	0.04	0.00	0.04
2018	106	503	608	0.19	0.22	0.22	0.09	0.42	0.42
2019	--	--	0	0.32	0.31	0.32	0.00	0.00	--
2020	--	--	0	0.50	0.49	0.50	0.00	0.00	--
2021	1.365	2.044	3.409	0.14	0.14	0.14	0.51	0.76	0.76
2022	79	16	94	0.15	0.12	0.15	0.13	0.03	0.13
2023	59	158	217	0.49	0.50	0.50	0.10	0.26	0.26
2024	79	16	94	0.12	0.09	0.12	0.13	0.03	0.13
2025	333	626	959	0.20	0.15	0.20	0.37	0.70	0.70
2026	65	--	65	0.33	0.28	0.33	0.11	0.00	0.11
2027	65	339	404	0.22	0.25	0.25	0.11	0.57	0.57
2028	--	49	49	0.21	0.24	0.24	0.00	0.12	0.12
2029	49	--	49	0.70	0.73	0.73	0.08	0.00	0.08
2030	--	226	226	0.13	0.13	0.13	0.00	0.38	0.38
2031	--	--	0	0.19	0.19	0.19	0.00	0.00	--
2032	--	--	0	1.72	1.77	1.77	0.00	0.00	--
2033	--	15	15	0.42	0.44	0.44	0.00	0.03	0.03
2034	--	226	226	0.13	0.14	0.14	0.00	0.19	0.19
2035	226	--	226	0.92	0.92	0.92	0.38	0.00	0.38
2036	--	--	0	0.48	0.49	0.49	0.00	0.00	--
2038	359	358	717	0.81	0.95	0.95	0.20	0.20	0.20
2039	--	391	391	0.55	0.59	0.59	0.00	0.65	0.65
2040	--	--	0	0.41	0.39	0.41	0.00	0.00	--
2041	36	21	57	1.00	1.03	1.03	0.06	0.04	0.06
2043	--	--	0	0.78	0.80	0.80	0.00	0.00	--
2044	21	426	448	0.14	0.13	0.14	0.02	0.36	0.36
2045	--	--	0	0.36	0.39	0.39	0.00	0.00	--
2046	21	36	57	0.84	0.91	0.91	0.04	0.06	0.06
2047	36	21	57	0.15	0.15	0.15	0.06	0.04	0.06
2048	--	391	391	0.53	0.54	0.54	0.00	0.33	0.33
2049	391	--	391	0.44	0.45	0.45	0.65	0.00	0.65
2050	--	--	0	0.23	0.22	0.23	0.00	0.00	--
2051	28	60	89	0.99	1.03	1.03	0.05	0.10	0.10
2052	--	--	0	1.20	1.05	1.20	0.00	0.00	--
2054	--	--	0	0.26	0.24	0.26	0.00	0.00	--
2055	1.363	1.974	3.338	0.13	0.13	0.13	0.50	0.73	0.73
2056	--	--	0	0.94	0.97	0.97	0.00	0.00	--
2057	--	--	0	0.14	0.16	0.16	0.00	0.00	--
2058	--	9	9	0.27	0.29	0.29	0.00	0.02	0.02
2059	--	--	0	0.40	0.42	0.42	0.00	0.00	--
2060	--	--	0	1.33	1.34	1.34	0.00	0.00	--
2061	--	--	0	3.16	3.34	3.34	0.00	0.00	--
2062	553	897	1.450	0.56	0.72	0.72	0.92	1.49	1.49
2063	261	326	587	0.38	0.38	0.38	0.44	0.54	0.54
2064	--	--	0	1.56	1.49	1.56	0.00	0.00	--
2065	--	--	0	2.09	2.08	2.09	0.00	0.00	--
2066	--	--	0	1.15	1.02	1.15	0.00	0.00	--
2068	2	--	2	0.32	0.35	0.35	0.00	0.00	0.00
2069	--	--	0	1.10	1.10	1.10	0.00	0.00	--

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2071	--	--	0	0.32	0.32	0.32	0.00	0.00	--
2072	--	--	0	2.10	2.17	2.17	0.00	0.00	--
2073	--	--	0	1.26	1.17	1.26	0.00	0.00	--
2074	--	--	0	2.11	2.10	2.11	0.00	0.00	--
2075	--	--	0	0.30	0.28	0.30	0.00	0.00	--
2076	--	--	0	1.42	1.56	1.56	0.00	0.00	--
2077	52	1	53	0.20	0.21	0.21	0.09	0.00	0.09
2078	--	--	0	1.60	1.69	1.69	0.00	0.00	--
2079	79	203	281	0.37	0.40	0.40	0.04	0.11	0.11
2080	--	--	0	1.03	1.14	1.14	0.00	0.00	--
2081	102	222	324	0.25	0.25	0.25	0.06	0.12	0.12
2082	--	--	0	0.88	0.97	0.97	0.00	0.00	--
2086	181	307	488	0.79	0.72	0.79	0.30	0.51	0.51
2087	--	--	0	0.16	0.16	0.16	0.00	0.00	--
2088	1	--	1	1.35	1.42	1.42	0.00	0.00	0.00
2089	52	--	52	0.92	1.04	1.04	0.04	0.00	0.04
2090	--	--	0	1.63	1.70	1.70	0.00	0.00	--
2091	--	9	9	0.22	0.21	0.22	0.00	0.00	0.00
2092	--	--	0	0.34	0.35	0.35	0.00	0.00	--
2093	--	--	0	0.87	0.90	0.90	0.00	0.00	--
2094	--	--	0	6.58	6.79	6.79	0.00	0.00	--
2095	--	--	0	0.69	0.75	0.75	0.00	0.00	--
2096	--	9	9	0.60	0.59	0.60	0.00	0.02	0.02
2098	--	--	0	1.33	1.30	1.33	0.00	0.00	--
2100	--	9	9	2.57	2.66	2.66	0.00	0.02	0.02
2103	--	--	0	1.68	1.76	1.76	0.00	0.00	--
2105	--	--	0	0.59	0.55	0.59	0.00	0.00	--
2106	--	391	391	0.54	0.53	0.54	0.00	0.33	0.33
2107	--	--	0	0.09	0.08	0.09	0.00	0.00	--
2108	--	--	0	0.20	0.22	0.22	0.00	0.00	--
2109	54	37	92	1.50	1.43	1.50	0.09	0.06	0.09
2110	866	559	1.425	0.42	0.30	0.42	1.35	0.29	1.35
2111	--	--	0	0.78	0.78	0.78	0.00	0.00	--
2112	--	--	0	0.28	0.28	0.28	0.00	0.00	--
2113	--	--	0	0.61	0.59	0.61	0.00	0.00	--
2114	--	--	0	1.35	1.21	1.35	0.00	0.00	--
2115	--	--	0	0.32	0.27	0.32	0.00	0.00	--
2118	52	1	53	0.59	0.62	0.62	0.09	0.00	0.09
2119	553	578	1.131	0.50	0.47	0.50	0.31	0.32	0.32
2120	9	--	9	0.40	0.41	0.41	0.00	0.00	0.00
2121	--	9	9	0.77	0.74	0.77	0.00	0.00	0.00
2122	--	--	0	0.42	0.39	0.42	0.00	0.00	--
2123	--	--	0	0.59	0.63	0.63	0.00	0.00	--
2124	--	9	9	0.14	0.15	0.15	0.00	0.02	0.02
2125	589	277	865	0.82	0.81	0.82	0.33	0.15	0.33
2126	73	278	352	0.31	0.38	0.38	0.06	0.23	0.23
2127	284	92	376	0.39	0.40	0.40	0.14	0.04	0.14
2128	283	40	323	1.10	1.22	1.22	0.12	0.02	0.13
2129	1.865	1.068	2.934	0.92	0.96	0.96	0.62	0.36	0.62
2130	105	22	127	0.18	0.19	0.19	0.18	0.04	0.18
2131	233	387	619	0.52	0.50	0.52	0.39	0.64	0.64
2132	88	50	138	0.09	0.08	0.09	0.05	0.03	0.05
2133	29	52	81	2.70	2.65	2.70	0.02	0.03	0.03
2134	359	749	1.108	0.09	0.08	0.09	0.20	0.42	0.42
2135	75	237	311	0.27	0.26	0.27	0.12	0.39	0.39
2136	--	--	0	0.26	0.27	0.27	0.00	0.00	--
2137	95	38	134	0.08	0.09	0.09	0.16	0.06	0.16
2138	38	95	134	0.35	0.37	0.37	0.06	0.16	0.16
2140	--	--	0	1.18	1.19	1.19	0.00	0.00	--
2141	--	21	21	0.00	0.58	0.58	0.00	0.03	0.03
2142	2	--	2	0.37	0.00	0.37	0.00	0.00	0.00
2143	38	187	226	0.33	0.30	0.33	0.06	0.31	0.31
2144	192	392	584	0.40	0.37	0.40	0.32	0.65	0.65
2145	112	156	268	0.18	0.18	0.18	0.80	0.26	0.80

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2148	--	226	225	0.59	0.56	0.59	0.00	0.38	0.38
2149	--	--	816	0.73	0.68	0.73	0.83	0.53	--
2153	343	19	362	0.46	0.44	0.46	0.57	0.03	0.57
2155	65	339	404	0.20	0.18	0.20	0.11	0.57	0.57
2156	--	--	571	0.27	0.26	0.27	0.44	0.52	--
2157	261	326	587	0.34	0.35	0.35	0.44	0.54	0.54
2158	--	--	550	0.55	0.49	0.55	0.82	0.09	--
2159	984	1,929	2,913	0.25	0.26	0.26	0.49	0.71	0.71
2160	607	272	879	0.16	0.16	0.16	1.01	0.45	1.01
2161	44	142	186	0.35	0.34	0.35	0.07	0.24	0.24
2162	579	65	644	0.23	0.26	0.26	0.97	0.11	0.97
2163	1,033	542	1,576	0.53	0.47	0.53	0.57	0.30	0.57
2164	--	--	0	0.41	0.45	0.45	0.00	0.00	--
2165	--	--	0	0.25	0.26	0.26	0.00	0.00	--
2166	59	--	59	0.25	0.28	0.28	0.04	0.00	0.04
2167	3,014	--	3,014	0.11	0.00	0.11	1.12	0.00	1.12
2168	1,911	638	2,549	0.38	0.36	0.38	1.62	0.24	1.62
2169	1,529	2,643	4,171	1.64	1.52	1.64	0.35	0.60	0.60
2170	650	--	650	0.45	0.00	0.45	0.15	0.00	0.15
2171	976	--	976	0.24	0.00	0.24	0.22	0.00	0.22
2172	879	2,643	3,522	0.22	0.20	0.22	0.20	0.60	0.60
2173	1,706	910	2,616	0.12	0.12	0.12	0.63	0.34	0.63
2174	1,729	--	1,729	0.31	0.00	0.31	0.96	0.00	0.96

(C:\DOS\assign.rep - February 16, 2000 (05:15:53 PM

Method : Stochastic User Equilibrium with Turn Penalties
Network : C:\TRAN3.2\CONNEC~1\SCEN4\SCEN4B\JOB.NET
Demand Table : C:\TRAN3.2\CONNEC~1\SCEN1\ES2-20.MTX
Lookup Table : None
: Default Penalties
: Specific Penalties

Cost Field : newtime
*Capacity Field : CAPSIG
Probability Function: Gumbel

OD Pairs	:	1444
Non zero OD Pairs	:	1406
Demand	:	23691.84
Intranodal Demand	:	0.00
Maximum Iterations	:	50
Iterations	:	4
Conv. Criteria	:	0.1
Relative Gap	:	0.0871834158
Max Flow Change	:	561.000189
Equilibrium reached	:	Yes
Total VHT	:	174995.564
Total VMT	:	101039.447
Centroid VHT	:	41989.2065
Centroid VMT	:	15539.8691
VHT w/out Centroids	:	133006.358
VMT w/out Centroids	:	85499.5776

Total Running Time 00:00:03.680.

(18)

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
3	163	--	163	0.10	0.00	0.10	0.41	0.00	0.41
4	307	--	307	0.13	0.00	0.13	0.77	0.00	0.77
5	--	307	307	0.05	0.05	0.05	0.00	0.61	0.61
9	382	445	827	0.35	0.67	0.67	0.64	1.75	1.75
11	236	327	563	0.36	0.36	0.36	0.39	0.55	0.55
18	982	--	982	0.17	0.00	0.17	0.55	0.00	0.55
19	4.537	--	4.537	0.19	0.00	0.19	1.75	0.00	1.75
21	--	--	0	0.75	0.77	0.77	0.00	0.00	--
37	--	--	0	2.96	2.97	2.97	0.00	0.00	--
108	1.119	946	2.065	0.18	0.20	0.20	0.79	1.05	1.05
117	1.300	606	1.906	0.40	0.29	0.40	1.44	0.67	1.44
123	1.185	876	2.061	0.57	0.55	0.57	1.32	0.97	1.32
130	1.169	946	2.115	0.37	0.33	0.37	1.30	1.05	1.30
134	--	160	160	0.18	0.16	0.18	0.00	0.13	0.13
151	137	610	747	0.48	0.63	0.63	0.23	1.02	1.02
154	121	598	719	0.45	0.45	0.45	0.20	1.00	1.00
158	2.117	1.288	3.406	2.36	0.50	2.36	4.23	2.58	4.23
164	595	912	1.507	0.22	0.28	0.28	0.99	1.52	1.52
191	--	--	0	0.15	0.16	0.16	0.00	0.00	--
197	--	--	0	0.23	0.24	0.24	0.00	0.00	--
203	1.112	1.365	2.477	0.42	0.45	0.45	0.41	0.51	0.51
206	459	900	1.359	0.60	0.66	0.66	0.26	0.50	0.50
211	644	172	816	0.13	0.13	0.13	0.36	0.10	0.36
212	644	172	816	1.09	1.05	1.09	0.36	0.10	0.36
214	229	181	410	0.18	0.17	0.18	0.38	0.30	0.38
215	--	--	0	0.12	0.13	0.13	0.00	0.00	--
217	--	--	0	0.29	0.29	0.29	0.00	0.00	--
223	201	341	542	0.13	0.14	0.14	0.11	0.40	0.40
224	427	259	687	0.70	0.66	0.70	0.25	0.29	0.29
226	500	362	862	0.53	0.52	0.53	0.76	0.20	0.76
229	833	1.352	2.185	0.25	0.26	0.26	0.31	0.53	0.53
230	757	--	757	0.12	0.00	0.12	0.26	0.00	0.26
232	2.755	--	2.755	0.37	0.00	0.37	1.53	0.00	1.53
234	412	773	1.184	0.43	0.55	0.55	0.69	1.29	1.29
235	--	--	0	0.22	0.22	0.22	0.00	0.00	--
236	329	456	785	0.22	0.25	0.25	0.55	0.76	0.76
238	344	445	789	0.99	0.99	0.99	0.57	0.74	0.74
241	1.798	943	2.741	0.38	0.61	0.61	1.00	1.58	1.58
242	2.914	--	2.914	0.09	0.00	0.09	1.08	0.00	1.08
244	--	146	146	0.00	0.16	0.16	0.00	0.08	0.08
246	3.722	--	3.722	0.21	0.00	0.21	1.38	0.00	1.38
247	1.365	1.117	2.482	0.25	0.27	0.27	0.51	0.41	0.51
250	--	--	0	0.04	0.04	0.04	0.00	0.00	--
252	--	1.235	1.235	0.00	0.07	0.07	0.00	0.77	0.77
256	--	--	0	1.33	1.33	1.33	0.00	0.00	--
257	874	487	1.361	0.18	0.19	0.19	0.42	0.49	0.49
260	874	958	1.832	0.12	0.12	0.12	0.87	0.93	0.93
263	5.089	--	5.089	0.16	0.00	0.16	1.51	0.00	1.51
264	--	1.366	1.366	0.00	0.29	0.29	0.00	2.28	2.28
275	--	--	0	0.69	0.65	0.69	0.00	0.00	--
276	28	17	45	1.53	1.46	1.53	0.02	0.01	0.02
287	--	--	0	0.12	0.13	0.13	0.00	0.00	--
289	--	--	0	0.20	0.19	0.20	0.00	0.00	--
293	32	574	606	0.33	1.08	1.08	0.08	1.43	1.43
311	427	547	974	0.43	0.44	0.44	0.22	0.29	0.29
314	291	536	827	0.28	0.30	0.30	0.15	0.28	0.28
316	--	--	0	0.77	0.75	0.77	0.00	0.00	--
337	--	--	0	0.58	0.61	0.61	0.00	0.00	--
362	187	63	250	1.49	1.65	1.65	0.16	0.05	0.16
364	538	283	821	0.23	0.21	0.23	0.28	0.15	0.28
428	--	5	5	1.18	1.21	1.21	0.00	0.01	0.01
430	3	5	8	0.24	0.25	0.25	0.00	0.01	0.01
435	6	147	153	0.43	0.43	0.43	0.00	0.08	0.08
454	--	4	4	0.20	0.20	0.20	0.00	0.00	0.00

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
456	--	--	0	0.81	0.80	0.81	0.00	0.00	--
479	211	114	325	1.03	1.08	1.08	0.35	0.19	0.35
483	44	157	201	0.27	0.27	0.27	0.07	0.26	0.26
486	79	161	240	0.30	0.30	0.30	0.13	0.27	0.27
507	--	3	3	0.19	0.21	0.21	0.00	0.00	0.00
513	--	--	0	0.85	0.92	0.92	0.00	0.00	--
541	6	147	153	0.72	0.71	0.72	0.00	0.08	0.08
549	20	102	122	0.22	0.21	0.22	0.03	0.17	0.17
552	450	--	450	0.39	0.35	0.39	0.75	0.00	0.75
555	252	738	990	0.29	0.40	0.40	0.36	1.23	1.23
558	710	450	1,159	0.08	0.05	0.08	1.18	0.75	1.18
571	0	68	68	0.20	0.16	0.20	0.00	0.17	0.17
572	50	--	50	0.08	0.09	0.09	0.08	0.00	0.08
588	238	576	814	1.11	1.30	1.30	0.40	0.96	0.96
605	979	957	1,936	0.11	0.11	0.11	0.54	0.47	0.54
607	1,548	--	1,548	0.19	0.00	0.19	1.36	0.00	1.36
608	944	--	944	0.16	0.00	0.16	0.87	0.00	0.87
609	846	--	846	0.13	0.00	0.13	0.43	0.00	0.43
610	113	269	382	0.20	0.21	0.21	0.19	0.45	0.45
612	356	71	427	0.24	0.22	0.24	0.59	0.12	0.59
617	168	--	168	0.12	0.00	0.12	0.28	0.00	0.28
618	344	905	1,250	0.14	0.15	0.15	0.29	0.87	0.87
620	186	935	1,121	0.23	0.26	0.26	0.29	0.78	0.78
622	635	335	970	0.10	0.07	0.10	1.06	0.56	1.06
626	920	760	1,681	0.14	0.19	0.19	1.11	1.27	1.27
631	732	771	1,503	0.41	0.42	0.42	0.81	0.86	0.86
632	957	979	1,936	0.18	0.18	0.18	0.53	0.72	0.72
669	229	181	410	0.50	0.48	0.50	0.38	0.30	0.38
685	485	347	832	0.52	0.47	0.52	0.81	0.58	0.81
695	550	724	1,275	0.17	0.30	0.30	0.92	1.21	1.21
698	--	457	457	0.00	0.13	0.13	0.00	0.76	0.76
699	--	351	351	0.00	0.14	0.14	0.00	0.59	0.59
700	--	--	0	0.66	0.70	0.70	0.00	0.00	--
724	624	83	707	0.54	0.43	0.54	1.04	0.14	1.04
728	343	272	615	0.25	0.25	0.25	0.57	0.45	0.57
731	507	268	775	0.56	0.58	0.58	0.85	0.45	0.85
739	68	50	118	1.31	1.22	1.31	0.11	0.08	0.11
763	68	9	77	3.48	3.76	3.76	0.06	0.01	0.06
772	340	--	340	0.17	0.00	0.17	0.42	0.00	0.42
806	2,710	--	2,710	0.63	0.00	0.63	1.00	0.00	1.00
813	4,151	--	4,151	0.33	0.00	0.33	1.23	0.00	1.23
822	4,420	--	4,420	0.19	0.00	0.19	1.29	0.00	1.29
828	60	--	60	0.22	0.20	0.22	0.10	0.00	0.10
872	20	107	127	2.35	2.18	2.35	0.03	0.18	0.18
879	352	77	429	0.21	0.20	0.21	0.59	0.13	0.59
907	402	--	402	0.62	0.57	0.62	0.67	0.00	0.67
910	307	450	757	0.48	0.45	0.48	0.51	0.75	0.75
913	307	--	307	0.24	0.00	0.24	0.51	0.00	0.51
917	1,999	735	2,735	0.36	0.30	0.36	1.11	0.88	1.11
925	1,999	735	2,735	0.87	0.71	0.87	1.11	0.88	1.11
928	1,876	746	2,622	0.37	0.39	0.39	1.04	0.41	1.04
933	--	1,711	1,711	0.00	0.21	0.21	0.00	0.60	0.60
1057	203	4	208	1.91	1.80	1.91	0.07	0.00	0.07
1066	1,906	882	2,788	0.18	0.18	0.18	0.64	0.29	0.64
1140	563	588	1,150	0.41	0.45	0.45	0.70	1.10	1.10
1170	194	360	554	0.86	1.03	1.03	0.32	1.03	1.03
1174	19	14	33	0.55	0.54	0.55	0.03	0.02	0.03
1186	247	376	622	0.25	0.26	0.26	0.14	0.21	0.21
1187	247	380	627	0.16	0.17	0.17	0.28	0.21	0.28
1193	383	286	669	0.72	0.73	0.73	0.64	0.43	0.64
1233	74	245	319	1.51	1.40	1.51	0.04	0.14	0.14
1243	49	151	201	0.24	0.23	0.24	0.03	0.09	0.09
1262	84	217	301	0.50	0.55	0.55	0.05	0.12	0.12
1321	165	130	295	0.74	0.70	0.74	0.09	0.07	0.09

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1340	179	32	212	0.11	0.12	0.12	0.10	0.02	0.10
1392	111	23	134	3.54	3.48	3.54	0.06	0.01	0.06
1439	1,137	667	1,804	0.59	0.47	0.59	1.26	0.38	1.26
1445	34	66	100	0.70	0.68	0.70	0.06	0.11	0.11
1450	34	66	100	0.31	0.33	0.33	0.06	0.11	0.11
1456	682	832	1,514	0.17	0.19	0.19	0.76	0.92	0.92
1458	884	585	1,469	0.28	0.26	0.28	0.98	0.65	0.98
1461	--	6	6	0.80	0.81	0.81	0.00	0.01	0.01
1500	357	264	621	0.69	0.60	0.69	0.59	0.44	0.59
1505	500	310	810	0.57	0.55	0.57	0.83	0.52	0.83
1509	--	--	0	0.00	0.16	0.16	0.00	0.00	--
1513	690	728	1,418	0.31	0.33	0.33	1.15	1.21	1.21
1518	--	356	356	0.00	0.31	0.31	0.00	0.59	0.59
1522	--	--	0	0.59	0.59	0.59	0.00	0.00	--
1523	--	146	146	0.28	0.30	0.30	0.00	0.15	0.15
1527	232	482	714	0.31	0.35	0.35	0.39	0.80	0.80
1562	420	442	863	0.15	0.16	0.16	0.70	0.74	0.74
1573	746	1,857	2,603	0.18	0.82	0.82	1.24	3.10	3.10
1603	--	--	0	1.01	0.93	1.01	0.00	0.00	--
1606	--	--	0	0.19	0.19	0.19	0.00	0.00	--
1608	--	--	0	0.57	0.66	0.66	0.00	0.00	--
1609	--	--	0	1.11	1.15	1.15	0.00	0.00	--
1611	832	828	1,660	0.13	0.20	0.20	1.39	1.38	1.39
1628	--	2,345	2,345	0.00	0.40	0.40	0.00	0.87	0.87
1629	459	900	1,359	0.29	0.29	0.29	0.26	0.50	0.50
1630	--	--	0	0.47	0.46	0.47	0.00	0.00	--
1631	1,219	633	1,852	0.13	0.11	0.13	0.94	0.49	0.94
1632	--	--	0	0.12	0.13	0.13	0.00	0.00	--
1633	891	767	1,657	0.03	0.03	0.03	0.41	0.85	0.85
1634	11	41	53	0.90	1.02	1.02	0.01	0.02	0.02
1642	833	1,352	2,185	0.58	0.59	0.59	0.31	0.50	0.50
1644	1,352	833	2,185	0.12	0.11	0.12	0.50	0.31	0.50
1645	116	146	262	0.23	0.20	0.23	0.06	0.08	0.08
1646	164	43	206	0.90	0.94	0.94	0.14	0.04	0.14
1647	93	126	219	0.47	0.47	0.47	0.05	0.07	0.07
1649	38	17	55	0.75	0.76	0.76	0.02	0.01	0.02
1651	827	--	827	0.24	0.00	0.24	0.46	0.00	0.46
1652	471	--	471	0.15	0.00	0.15	0.50	0.00	0.50
1654	150	322	472	0.58	0.61	0.61	0.25	0.54	0.54
1655	17	53	70	0.32	0.30	0.32	0.03	0.09	0.09
1656	758	778	1,536	0.33	0.39	0.39	1.26	1.30	1.30
1657	690	778	1,468	0.08	0.11	0.11	1.15	1.30	1.30
1658	--	--	0	0.08	0.09	0.09	0.00	0.00	--
1661	480	116	596	0.47	0.44	0.47	0.25	0.06	0.25
1662	68	98	166	1.72	1.76	1.76	0.11	0.16	0.16
1664	229	411	640	0.28	0.28	0.28	0.38	0.69	0.69
1666	2,494	1,316	3,811	0.09	0.07	0.09	0.92	0.49	0.92
1668	1,865	1,142	3,007	0.09	0.08	0.09	1.04	0.63	1.04
1669	--	--	0	0.15	0.00	0.15	0.00	0.00	--
1670	3,283	--	3,283	0.21	0.00	0.21	1.22	0.00	1.22
1671	--	2,914	2,914	0.00	0.46	0.46	0.00	1.08	1.08
1672	965	391	1,356	0.07	0.07	0.07	1.61	0.65	1.61
1673	311	428	738	0.08	0.09	0.09	0.52	1.03	1.03
1675	4,218	--	4,218	0.37	0.00	0.37	1.56	0.00	1.56
1676	605	104	709	1.42	1.37	1.42	0.29	0.05	0.29
1678	71	--	71	0.08	0.00	0.08	0.12	0.00	0.12
1679	411	--	411	0.47	0.00	0.47	0.71	0.00	0.71
1680	311	250	561	0.18	0.18	0.18	0.52	0.42	0.52
1681	361	305	666	0.85	0.82	0.85	0.60	0.51	0.60
1683	--	--	0	0.19	0.20	0.20	0.00	0.00	--
1724	--	--	1,196	0.77	0.92	0.92	0.87	1.12	--
1728	--	--	841	0.71	0.59	0.71	0.92	0.48	--
1729	371	126	497	0.81	0.89	0.89	0.20	0.07	0.20
1730	--	--	1,125	0.47	0.47	0.47	0.88	0.99	--

ID	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1736	--	--	845	0.49	0.48	0.49	0.93	0.48	--
1738	--	--	1.295	0.21	0.29	0.29	0.83	1.33	--
1740	--	--	1.171	0.18	0.23	0.23	0.73	1.22	--
1741	710	--	710	0.52	0.00	0.52	1.18	0.00	1.18
1742	--	--	1.497	0.47	0.71	0.71	0.98	1.51	--
1743	526	632	1.158	0.50	0.51	0.51	0.88	1.05	1.05
1744	--	--	728	0.27	0.28	0.28	0.22	1.00	--
1745	690	728	1.418	0.79	0.91	0.91	1.15	1.21	1.21
1746	--	--	614	0.45	0.46	0.46	0.51	0.51	--
1747	346	--	346	0.16	0.00	0.16	0.58	0.00	0.58
1750	--	--	1.181	0.20	0.21	0.21	0.93	1.04	--
1751	9	6	15	0.37	0.36	0.37	0.02	0.01	0.02
1752	--	--	1.454	0.36	0.27	0.36	1.45	0.98	--
1754	--	--	1.481	0.21	0.29	0.29	0.94	1.53	--
1755	--	1.417	1.417	0.00	0.92	0.92	0.00	2.36	2.36
1756	--	--	0	0.11	0.11	0.11	0.00	0.00	--
1759	--	--	1.237	0.36	0.44	0.44	0.73	1.33	--
1761	157	367	524	0.22	0.25	0.25	0.26	0.61	0.61
1762	236	268	504	0.59	0.62	0.62	0.39	0.45	0.45
1763	--	--	164	0.24	0.25	0.25	0.04	0.23	--
1764	53	110	163	1.05	1.02	1.05	0.09	0.18	0.18
1765	--	--	488	0.37	0.37	0.37	0.51	0.30	--
1766	854	1.461	2.315	0.43	0.46	0.46	0.32	0.54	0.54
1775	--	--	1.013	0.22	0.22	0.22	0.87	0.82	--
1777	--	--	963	0.26	0.30	0.30	0.52	1.08	--
1778	1.139	703	1.842	0.65	0.65	0.65	0.65	0.26	0.65
1779	--	--	1.221	0.61	0.50	0.61	1.31	0.73	--
1782	--	--	742	0.30	0.29	0.30	0.64	0.59	--
1785	1.102	967	2.069	0.41	0.42	0.42	1.38	1.21	1.38
1788	--	--	506	0.26	0.28	0.28	0.28	0.56	--
1790	--	--	1.026	0.41	0.46	0.46	0.57	1.13	--
1792	572	698	1.270	0.32	0.47	0.47	0.95	1.16	1.16
1793	--	--	563	0.37	0.38	0.38	0.41	0.52	--
1794	--	--	571	0.60	0.61	0.61	0.67	0.28	--
1795	273	55	329	0.28	0.27	0.28	0.46	0.09	0.46
1796	--	--	808	1.19	1.17	1.19	0.82	0.52	--
1797	--	--	1.767	0.38	0.32	0.38	1.53	1.42	--
1798	1.007	1.349	2.356	0.28	0.28	0.28	0.37	0.50	0.50
1799	--	--	1.035	0.37	0.59	0.59	0.20	1.53	--
1803	--	--	1.202	0.16	0.18	0.18	0.85	1.16	--
1805	450	413	863	0.24	0.22	0.24	0.75	0.69	0.75
1806	829	628	1.457	0.35	0.34	0.35	0.92	0.70	0.92
1809	--	--	0	0.39	0.39	0.39	0.00	0.00	--
1812	721	197	917	1.35	1.36	1.36	0.34	0.09	0.34
1814	185	--	185	0.20	0.20	0.20	0.31	0.00	0.31
1818	361	318	679	0.55	0.54	0.55	0.60	0.53	0.60
1820	38	24	62	2.60	2.70	2.70	0.02	0.01	0.02
1833	--	--	0	0.79	0.77	0.79	0.00	0.00	--
1841	--	--	0	1.26	1.26	1.26	0.00	0.00	--
1848	815	1.439	2.254	0.52	0.59	0.59	0.30	0.53	0.53
1850	49	151	201	0.88	0.89	0.89	0.03	0.08	0.08
1855	--	678	678	1.82	3.59	3.59	0.00	1.13	1.13
1859	407	--	407	1.14	0.98	1.14	0.68	0.00	0.68
1867	407	--	407	0.24	0.20	0.24	0.68	0.00	0.68
1873	13	94	107	0.46	0.53	0.53	0.02	0.36	0.36
1874	1.293	606	1.900	0.24	0.23	0.24	0.72	0.72	0.72
1875	1.906	882	2.788	0.61	0.53	0.61	1.20	0.29	1.20
1876	2.172	943	3.114	0.10	0.09	0.10	1.21	0.52	1.21
1878	--	--	0	1.75	1.67	1.75	0.00	0.00	--
1881	2.602	1.120	3.722	0.26	0.23	0.26	0.96	0.41	0.96
1884	3.193	2.015	5.207	0.19	0.15	0.19	1.18	0.75	1.18
1886	2.226	1.285	3.511	0.48	0.51	0.51	0.82	0.51	0.82
1887	--	--	1.666	0.41	0.55	0.55	1.20	1.57	--
1890	1.602	591	2.193	0.64	0.52	0.64	1.07	0.22	1.07

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
1894	2.440	--	2.440	0.68	0.00	0.68	1.18	0.00	1.18
1895	93	116	209	0.29	0.31	0.31	0.05	0.06	0.06
1896	852	430	1.282	0.31	0.33	0.33	0.45	0.23	0.45
1899	508	135	643	0.19	0.17	0.19	0.85	0.23	0.85
1903	1.288	2.117	3.406	0.14	0.13	0.14	0.48	0.78	0.78
1904	2.172	943	3.114	0.13	0.09	0.13	1.18	0.52	1.18
1908	2.755	--	2.755	0.35	0.00	0.35	1.02	0.00	1.02
1909	3.590	--	3.590	0.91	0.00	0.91	1.20	0.00	1.20
1910	4.420	--	4.420	0.45	0.00	0.45	1.64	0.00	1.64
1917	--	885	885	0.00	0.27	0.27	0.00	0.97	0.97
1920	--	--	0	0.11	0.11	0.11	0.00	0.00	--
1925	1.235	--	1.235	0.37	0.00	0.37	0.77	0.00	0.77
1926	508	349	856	0.11	0.10	0.11	0.85	0.58	0.85
1927	1.082	325	1.407	1.42	1.39	1.42	0.52	0.15	0.52
1928	--	--	1.509	3.26	2.00	3.26	1.80	0.72	--
1929	553	578	1.131	0.22	0.21	0.22	0.35	0.36	0.36
1932	--	--	0	0.49	0.52	0.52	0.00	0.00	--
1933	--	--	2.315	2.38	0.99	2.38	2.43	1.42	--
1934	53	110	163	0.83	0.80	0.83	0.07	0.18	0.18
1937	--	--	488	0.43	0.42	0.43	0.51	0.39	--
1938	568	278	846	0.37	0.35	0.37	0.32	0.15	0.32
1939	--	--	959	0.81	0.75	0.81	0.87	0.73	--
1940	--	--	262	0.41	0.39	0.41	0.44	0.00	--
1941	262	--	262	0.51	0.49	0.51	0.15	0.00	0.15
1942	--	--	0	0.19	0.00	0.19	0.00	0.00	--
1944	--	236	236	0.00	0.19	0.19	0.00	0.39	0.39
1946	--	--	216	0.32	0.30	0.32	0.12	0.24	--
1948	--	1.366	1.366	0.00	0.42	0.42	0.00	2.28	2.28
1950	--	--	0	0.00	0.18	0.18	0.00	0.00	--
1952	--	77	77	0.00	0.25	0.25	0.00	0.13	0.13
1953	--	--	313	0.17	0.16	0.17	0.39	0.13	--
1954	--	--	0	1.06	0.96	1.06	0.00	0.00	--
1955	--	--	0	1.61	1.59	1.61	0.00	0.00	--
1957	113	6	120	1.72	1.70	1.72	0.05	0.00	0.05
1960	316	10	326	5.57	4.99	5.57	0.18	0.01	0.18
1962	10	316	326	0.51	0.53	0.53	0.01	0.20	0.20
1963	--	--	0	0.41	0.40	0.41	0.00	0.00	--
1964	--	--	1.131	1.58	1.63	1.63	0.95	0.92	--
1965	--	--	0	0.44	0.46	0.46	0.00	0.00	--
1966	917	--	917	0.41	0.00	0.41	2.98	0.00	2.98
1967	--	--	1.011	0.32	0.40	0.40	0.55	1.13	--
1970	1.649	745	2.394	0.96	0.99	0.99	0.55	0.25	0.55
1971	--	--	2.473	7.72	2.69	7.72	2.65	1.47	--
1973	--	--	2.784	0.53	0.54	0.54	2.28	2.36	--
1974	369	123	492	0.52	0.57	0.57	0.19	0.06	0.19
1975	--	--	5	0.97	0.94	0.97	0.00	0.00	--
1977	--	--	0	0.14	0.14	0.14	0.00	0.00	--
1980	163	307	469	0.71	0.81	0.81	0.27	0.51	0.51
1981	--	--	245	0.20	0.18	0.20	0.29	0.12	--
1982	--	--	1.811	0.17	0.24	0.24	1.30	1.72	--
1985	--	--	1.010	0.27	0.23	0.27	1.22	0.47	--
1986	731	279	1.010	0.90	0.71	0.90	1.22	0.47	1.22
1988	--	--	0	1.35	1.35	1.35	0.00	0.00	--
1989	106	127	232	1.19	1.12	1.19	0.18	0.21	0.21
1990	682	839	1.520	0.15	0.16	0.16	0.76	0.93	0.93
1991	563	588	1.150	0.10	0.11	0.11	0.63	0.65	0.65
1992	6	--	6	0.39	0.38	0.39	0.01	0.00	0.01
1993	--	--	0	0.74	0.75	0.75	0.00	0.00	--
1994	--	--	0	0.13	0.15	0.15	0.00	0.00	--
1995	829	628	1.457	0.11	0.11	0.11	0.92	0.70	0.92
1996	--	--	0	0.17	0.20	0.20	0.00	0.00	--
1997	--	--	0	1.01	1.04	1.04	0.00	0.00	--
1998	6	--	6	0.41	0.40	0.41	0.01	0.00	0.01
1999	563	590	1.152	0.13	0.12	0.13	0.63	0.66	0.66

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2000	--	--	0	0.10	0.11	0.11	0.00	0.00	--
2001	--	2	2	0.00	0.12	0.12	0.00	0.00	0.00
2003	2	--	2	0.14	0.00	0.14	0.00	0.00	0.00
2004	117	472	589	0.18	0.19	0.19	0.19	0.79	0.79
2005	196	--	196	0.20	0.00	0.20	0.33	0.00	0.33
2006	196	2	198	0.59	0.61	0.61	0.33	0.00	0.33
2007	115	277	392	0.75	0.79	0.79	0.19	0.46	0.46
2008	--	--	0	0.13	0.00	0.13	0.00	0.00	--
2009	--	--	0	0.40	0.40	0.40	0.00	0.00	--
2010	0	13	13	3.36	3.08	3.36	0.00	0.02	0.02
2011	382	404	786	1.67	1.52	1.67	0.64	0.67	0.67
2012	20	99	120	3.56	3.11	3.56	0.03	0.17	0.17
2013	22	38	61	1.31	1.38	1.38	0.04	0.06	0.06
2015	1,324	1,117	2,441	0.16	0.16	0.16	0.49	0.41	0.49
2016	13	53	66	0.37	0.33	0.37	0.02	0.09	0.09
2017	41	--	41	0.16	0.16	0.16	0.03	0.00	0.03
2018	--	4	4	0.18	0.17	0.18	0.00	0.00	0.00
2019	--	--	0	0.32	0.31	0.32	0.00	0.00	--
2020	--	--	0	0.52	0.49	0.52	0.00	0.00	--
2021	1,008	1,419	2,427	0.14	0.15	0.15	0.37	0.53	0.53
2022	284	126	409	0.12	0.12	0.12	0.47	0.21	0.47
2023	194	347	541	0.50	0.49	0.50	0.32	0.58	0.58
2024	284	126	409	0.10	0.10	0.10	0.47	0.21	0.47
2025	1,092	967	2,059	0.17	0.16	0.17	1.21	1.07	1.21
2026	10	--	10	0.27	0.26	0.27	0.02	0.00	0.02
2027	10	77	87	0.25	0.24	0.25	0.02	0.13	0.13
2028	--	50	50	0.19	0.19	0.19	0.00	0.12	0.12
2029	50	--	50	0.78	0.71	0.78	0.08	0.00	0.08
2030	--	--	0	0.15	0.14	0.15	0.00	0.00	--
2031	--	--	0	0.20	0.19	0.20	0.00	0.00	--
2032	--	--	0	1.95	1.78	1.95	0.00	0.00	--
2033	19	14	33	0.41	0.44	0.44	0.03	0.02	0.03
2034	--	--	0	0.14	0.13	0.14	0.00	0.00	--
2035	--	--	0	0.88	0.93	0.93	0.00	0.00	--
2036	--	--	0	0.50	0.50	0.50	0.00	0.00	--
2038	247	536	783	0.83	0.85	0.85	0.14	0.30	0.30
2039	--	21	21	0.55	0.58	0.58	0.00	0.04	0.04
2040	--	--	0	0.39	0.40	0.40	0.00	0.00	--
2041	27	6	33	1.00	0.97	1.00	0.05	0.01	0.05
2043	--	--	0	0.79	0.76	0.79	0.00	0.00	--
2044	6	209	214	0.14	0.15	0.15	0.00	0.17	0.17
2045	--	--	0	0.37	0.36	0.37	0.00	0.00	--
2046	6	27	33	0.99	0.92	0.99	0.01	0.05	0.05
2047	27	6	33	0.14	0.15	0.15	0.05	0.01	0.05
2048	--	182	182	0.52	0.48	0.52	0.00	0.15	0.15
2049	21	--	21	0.41	0.41	0.41	0.04	0.00	0.04
2050	--	--	0	0.22	0.22	0.22	0.00	0.00	--
2051	34	66	100	1.06	0.99	1.06	0.06	0.11	0.11
2052	--	--	0	1.13	1.10	1.13	0.00	0.00	--
2054	--	--	0	0.24	0.24	0.24	0.00	0.00	--
2055	1,007	1,349	2,356	0.13	0.13	0.13	0.37	0.50	0.50
2056	--	--	0	1.05	0.93	1.05	0.00	0.00	--
2057	--	--	0	0.17	0.15	0.17	0.00	0.00	--
2058	--	685	685	0.28	0.49	0.49	0.00	1.14	1.14
2059	7	--	7	0.40	0.46	0.46	0.01	0.00	0.01
2060	6	144	150	1.32	1.32	1.32	0.00	0.08	0.08
2061	--	--	0	3.56	3.62	3.62	0.00	0.00	--
2062	595	874	1,469	0.52	0.64	0.64	0.99	1.46	1.46
2063	283	321	604	0.40	0.47	0.47	0.47	0.53	0.53
2064	--	38	38	1.58	1.51	1.58	0.00	0.06	0.06
2065	--	--	0	2.00	2.38	2.38	0.00	0.00	--
2066	--	--	0	1.16	1.07	1.16	0.00	0.00	--
2068	60	--	60	0.39	0.31	0.39	0.10	0.00	0.10
2069	104	--	104	1.11	1.08	1.11	0.17	0.00	0.17

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2071	--	--	0	0.31	0.28	0.31	0.00	0.00	--
2072	--	--	0	2.10	1.90	2.10	0.00	0.00	--
2073	--	--	0	1.22	1.21	1.22	0.00	0.00	--
2074	--	--	0	2.07	2.23	2.23	0.00	0.00	--
2075	--	--	0	0.30	0.29	0.30	0.00	0.00	--
2076	--	--	0	1.47	1.43	1.47	0.00	0.00	--
2077	112	12	124	0.20	0.20	0.20	0.19	0.02	0.19
2078	--	--	0	1.59	1.65	1.65	0.00	0.00	--
2079	93	116	209	0.37	0.36	0.37	0.05	0.06	0.06
2080	--	--	0	1.09	1.15	1.15	0.00	0.00	--
2081	116	146	262	0.24	0.25	0.25	0.06	0.08	0.08
2082	--	--	0	0.91	0.94	0.94	0.00	0.00	--
2086	181	307	488	0.75	0.82	0.82	0.30	0.51	0.51
2087	--	--	0	0.16	0.17	0.17	0.00	0.00	--
2088	0	3	3	1.42	1.39	1.42	0.00	0.00	0.00
2089	109	12	121	0.93	1.00	1.00	0.09	0.01	0.09
2090	--	--	0	1.65	1.68	1.68	0.00	0.00	--
2091	6	483	489	0.22	0.25	0.25	0.00	0.27	0.27
2092	61	--	61	0.38	0.37	0.38	0.10	0.00	0.10
2093	61	--	61	0.97	0.94	0.97	0.10	0.00	0.10
2094	6	144	150	6.59	6.95	6.95	0.00	0.08	0.08
2095	407	--	407	0.88	0.71	0.88	0.68	0.00	0.68
2096	--	338	338	0.55	0.62	0.62	0.00	0.56	0.56
2098	--	--	0	1.20	1.35	1.35	0.00	0.00	--
2100	--	685	685	2.80	4.73	4.73	0.00	1.14	1.14
2103	7	--	7	1.75	1.79	1.79	0.01	0.00	0.01
2105	--	--	0	0.52	0.53	0.53	0.00	0.00	--
2106	--	182	182	0.58	0.50	0.58	0.00	0.15	0.15
2107	--	--	0	0.08	0.08	0.08	0.00	0.00	--
2108	--	--	0	0.21	0.21	0.21	0.00	0.00	--
2109	69	82	151	1.49	1.38	1.49	0.12	0.14	0.14
2110	852	430	1,282	0.37	0.28	0.37	1.33	0.23	1.33
2111	--	--	0	0.78	0.79	0.79	0.00	0.00	--
2112	407	--	407	0.32	0.27	0.32	0.68	0.00	0.68
2113	407	--	407	0.70	0.64	0.70	0.68	0.00	0.68
2114	--	--	0	1.24	1.25	1.25	0.00	0.00	--
2115	407	--	407	0.32	0.28	0.32	0.68	0.00	0.68
2118	112	12	124	0.62	0.59	0.62	0.19	0.02	0.19
2119	553	578	1,131	0.47	0.47	0.47	0.31	0.32	0.32
2120	422	6	428	0.39	0.40	0.40	0.23	0.00	0.23
2121	6	422	428	0.77	0.76	0.77	0.00	0.23	0.23
2122	347	--	347	0.46	0.41	0.46	0.58	0.00	0.58
2123	347	--	347	0.72	0.60	0.72	0.58	0.00	0.58
2124	10	608	618	0.14	0.22	0.22	0.02	1.01	1.01
2125	568	278	846	0.79	0.80	0.80	0.32	0.15	0.32
2126	273	549	823	0.30	0.29	0.30	0.23	0.46	0.46
2127	295	264	559	0.38	0.39	0.39	0.14	0.13	0.14
2128	283	152	435	1.11	1.08	1.11	0.13	0.07	0.13
2129	1,906	882	2,788	0.89	0.83	0.89	0.64	0.29	0.64
2130	155	23	178	0.24	0.19	0.24	0.25	0.04	0.26
2131	264	357	621	0.50	0.57	0.57	0.44	0.59	0.59
2132	80	34	113	0.10	0.09	0.10	0.04	0.02	0.04
2133	28	52	80	2.55	2.64	2.64	0.02	0.03	0.03
2134	247	557	804	0.09	0.09	0.09	0.14	0.31	0.31
2135	90	401	490	0.27	0.27	0.27	0.15	0.67	0.67
2136	20	105	125	0.27	0.29	0.29	0.03	0.17	0.17
2137	95	150	245	0.09	0.08	0.09	0.16	0.25	0.25
2138	68	98	166	0.37	0.37	0.37	0.11	0.16	0.16
2140	3	--	3	1.15	1.15	1.15	0.00	0.00	0.00
2141	--	103	103	0.00	0.72	0.72	0.00	0.17	0.17
2142	163	--	163	0.45	0.00	0.45	0.27	0.00	0.27
2143	127	140	267	0.32	0.33	0.33	0.21	0.23	0.23
2144	194	360	554	0.37	0.38	0.38	0.32	0.60	0.60
2145	115	277	392	0.21	0.19	0.21	0.81	0.45	0.81

ID1	AB_FLOW	BA_FLOW	TOT_FLOW	AB_TIME	BA_TIME	MAX_TIME	AB_VOC	BA_VOC	MAX_VOC
2148	--	--	0	0.58	0.60	0.60	0.00	0.00	--
2149	--	--	786	0.70	0.65	0.70	0.78	0.53	--
2153	420	87	507	0.47	0.45	0.47	0.70	0.14	0.70
2155	10	77	87	0.19	0.19	0.19	0.02	0.13	0.13
2156	--	--	551	0.27	0.25	0.27	0.46	0.46	--
2157	283	283	566	0.32	0.38	0.38	0.47	0.47	0.47
2158	--	--	591	0.58	0.51	0.58	0.81	0.17	--
2159	760	1,420	2,181	0.27	0.24	0.27	0.38	0.53	0.53
2160	458	140	598	0.17	0.17	0.17	0.76	0.23	0.76
2161	46	216	262	0.35	0.34	0.35	0.08	0.36	0.36
2162	262	10	273	0.27	0.24	0.27	0.44	0.02	0.44
2163	1,121	383	1,503	0.52	0.49	0.52	0.62	0.21	0.62
2164	--	--	0	0.38	0.41	0.41	0.00	0.00	--
2165	--	--	0	0.25	0.24	0.25	0.00	0.00	--
2166	41	--	41	0.27	0.26	0.27	0.03	0.00	0.03
2167	3,722	--	3,722	0.14	0.00	0.14	1.38	0.00	1.38
2168	1,324	1,117	2,441	0.42	0.38	0.42	1.12	0.41	1.12
2173	1,288	2,117	3,406	0.11	0.12	0.12	0.48	0.78	0.78