

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

MINISTRY OF INTERIOR
DAMASCUS GOVERNORATE
SYRIAN ARAB REPUBLIC

THE STUDY
ON
URBAN TRANSPORTATION PLANNING
OF
DAMASCUS CITY
IN
THE SYRIAN ARAB REPUBLIC

Final Report

July 1999

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Preface

In response to a request from The Government of The Syrian Arab Republic, the Government of Japan decided to conduct master plan and feasibility studies on The Study on Urban Transportation Planning of Damascus City and entrusted the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched a study team headed by Dr.Juro Kodera consisting of YACHIYO ENGINEERING CO.,LTD. and KATAHIRA & ENGINEERS INTERNATIONAL to Syria, four times between December 1997 and March 1999. In addition JICA set up an advisory committee headed by Prof.Dr.Mitsuyuki Asano, Waseda University during the same period, which examined the study from specialist and technical points of view.

The team held discussions with the officials concerned of the Government of Syria and conducted field surveys in the study area. Upon returning to Japan, the team conducted further studies and prepared this final report.

I hope that this report will contribute to the promotion of this project and to the enhancement of friendly relationship between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of Syria for their close cooperation extended to the team.

July 1999



Mr.Kimio Fujita
President
Japan International Cooperation Agency

Mr. Kimio Fujita
President
Japan International Cooperation Agency

July 1, 1999

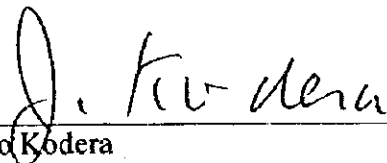
Letter of Transmittal

We are pleased to submit to you the report of The Study on Urban Transportation Planning of Damascus City in the Syrian Arab Republic. The report includes the advises and suggestions of the authorities concerned of the Government of Japan and your Agency as well as the comments made by the Ministry of Interior, Damascus Governorate and other authorities concerned in the Syrian Arab Republic. The report consists of Summary and Main Report.

The report deals with the present and future conditions of Urban Transport in the Damascus City and its Suburb.

We wish to take this opportunity to express our sincere gratitude to your Agency, and the Ministry of Foreign Affairs. We also wish to express our deep gratitude to and the Governmental Agencies concerned of the close cooperation and assistance extended to us during the Study. We hope this report will contribute to the development of transportation in Damascus City.

Very truly yours,



Dr. Juro Kodera
Team Leader of the Study on
Urban Transportation Planning of
Damascus City in the Syrian Arab Republic

Table of Contents

Outline of the Study	1
PART I PRESENT SITUATION	
Chapter 1. INTRODUCTION.....	1-1
1.1 Background of the Study	1-1
1.2 Objectives of the Study.....	1-1
1.3 Study Area	1-1
1.4 Study Framework	1-2
1.5 Planning Concepts.....	1-4
1.6 Study Implementation.....	1-4
Chapter 2. RELATED DEVELOPMENT PLANS	2-1
2.1 General Master Plan of Damascus, Eckoshar and Banshoya, 1968	2-1
2.2 Study on the General Plan for Damascus City, 1997.....	2-6
2.2.1 Metro Network.....	2-7
2.2.2 Road Projects.....	2-7
2.3 Traffic Management Plans, 1986.....	2-9
2.4 Transport Sector Plan 1996 - 2000	2-10
Chapter 3. SOCIOECONOMIC CONDITIONS.....	3-1
3.1 Location and Land Area	3-1
3.2 Population.....	3-1
3.2.1 Syria.....	3-1
3.2.2 Study Area.....	3-1
3.3 Labor Force	3-7
3.3.1 Syria.....	3-7
3.3.2 Study Area.....	3-7
3.4 Students and Pupils.....	3-10
3.4.1 Syria.....	3-10
3.4.2 Study Area.....	3-11
3.5 Economic Activity	3-13
3.5.1 Syria	3-13
3.5.2 Damascus City	3-14
3.6 Household Income.....	3-14
3.7 Vehicle Ownership.....	3-16
3.7.1 Number of Cars Registered and Car Ownership (Damascus).....	3-17
3.8 Government Budget.....	3-18
3.9 Land Use.....	3-19
3.9.1 Study Area.....	3-19
3.9.2 Damascus City	3-20
Chapter 4. CHARACTERISTICS OF PERSON TRIP SURVEY.....	4-1
4.1 Overview of Home Interview Survey and Related Surveys	4-1
4.1.1 Home Interview Survey	4-1
4.1.2 Cordon Line Survey	4-3
4.1.3 Screen Line survey.....	4-3
4.2 Summary of Trip.....	4-5
4.2.1 Number of Trips.....	4-5
4.2.2 Trip Production Unit	4-6
4.3 Trip Generation and Attraction.....	4-9
4.3.1 Generation/Attraction by Zone and Purpose.....	4-9
4.3.2 Trip Generation by Time.....	4-12
4.4 Trip Distribution	4-14
4.4.1 Trips of All Purposes and All Modes	4-14
4.4.2 "To Work" and "To School" Trips	4-14
4.5 Modal Split Traffic	4-19
4.5.1 Modal Split by Purpose.....	4-19
4.5.2 Trip Distribution by Mode	4-20
4.5.3 Travel Time and Distance by Mode	4-21

Chapter 5. ROAD NETWORK AND TRANSPORT FACILITY CONDITION	5-1
5.1 Road and Urban Projects Administration	5-1
5.1.1 Road Administration System.....	5-1
5.1.2 Urban Planning System.....	5-2
5.2 Functional Road Hierarchy of Present Network.....	5-3
5.3 Road Network Characteristics.....	5-7
5.3.1 Road Network Pattern.....	5-7
5.3.2 Road Length.....	5-7
5.3.3 Geometric Features of Arterial Roads.....	5-9
Chapter 6. PUBLIC TRANSPORT	6-1
6.1 Public Transport Network.....	6-1
6.1.1 Introduction.....	6-1
6.1.2 Intra-Urban Buses.....	6-1
6.1.3 Sub-Urban Buses.....	6-4
6.2 Bus Terminals.....	6-5
6.3 Bus Passenger Survey.....	6-8
6.3.1 Survey Items.....	6-8
6.3.2 Basic Statistics.....	6-8
6.3.3 Effects of Level of Services on Line Selection.....	6-9
6.4 Taxi.....	6-11
6.4.1 Taxi Services.....	6-11
6.4.2 Taxi Operators' Attributes.....	6-11
Chapter 7. TRAFFIC MANAGEMENT AND PLANNING	7-1
7.1 Traffic Management Organization.....	7-1
7.2 Driving License System.....	7-3
7.3 Vehicle Registration System.....	7-4
7.4 Traffic Regulations.....	7-4
7.5 Traffic Planning Organization.....	7-4
7.6 Intersection Traffic Volume.....	7-5
7.7 Traffic Signals.....	7-9
7.8 One-way Traffic Control.....	7-11
7.9 Parking Facilities.....	7-11
7.9.1 Off-street parking.....	7-11
7.9.2 On-street parking.....	7-12
7.10 Traffic Signs and Road Marking.....	7-12
7.11 Pedestrian Traffic Conditions in City Center.....	7-14
7.11.1 Definition of Damascus City Center.....	7-14
7.11.2 Pedestrian Facilities Assessment.....	7-15
7.11.3 Pedestrians Movement in The Old City.....	7-15
7.12 Travel Speed.....	7-17
Chapter 8. ENVIRONMENTAL CONDITIONS.....	8-1
8.1 Institution and Legislation.....	8-1
8.1.1 Institutions.....	8-1
8.1.2 Relevant Regulations.....	8-3
8.2 Natural Environment.....	8-4
8.2.1 Meteorology.....	8-4
8.2.2 Topography.....	8-5
8.2.3 Soil Conditions.....	8-5
8.2.4 Land Use.....	8-6
8.3 Social Environment.....	8-6
8.3.1 Population distribution in the city.....	8-6
8.3.2 Informal Housing Settlements.....	8-7
8.3.3 Appropriation and Resettlement.....	8-8
8.3.4 Cultural Resources Management.....	8-12
8.4 Environmental Pollution.....	8-20
8.4.1 Ambient Air Quality in Damascus City.....	8-20
8.4.2 Roadside Air Quality.....	8-22
8.4.3 Water Pollution.....	8-24

PART II TRAFFIC DEMAND FORECAST

Chapter 9. FUTURE SOCIOECONOMIC FRAMEWORK	9-1
9.1 Land Use.....	9-1
9.1.1 Land Use Plan for Damascus City.....	9-1
9.1.2 Development Policies for the Suburbs of the Study Area.....	9-1
9.2 Population.....	9-3
9.2.1 Syria.....	9-3
9.2.2 Study Area.....	9-3
9.3 Employment.....	9-6
9.4 Summary of Future Change of Population and Employment Distribution.....	9-10
9.5 Students.....	9-12
9.6 Average Household Income, Car Ownership of Household and Car Driving License Holders.....	9-14
9.7 GDP and GDP per Capita.....	9-16
Chapter 10. TRAFFIC DEMAND FORECAST	10-1
10.1 Forecast Procedure.....	10-1
10.2 Trip Production.....	10-1
10.3 Trip Generation and Attraction.....	10-1
10.4 Generation (Attraction) of Intra-zonal Trips.....	10-4
10.5 Trip Distribution and Modal Choice.....	10-4
10.6 Traffic Assignment.....	10-6
10.7 Forecast Results.....	10-7
Chapter 11. MASTER PLAN BUDGETING POLICY	11-1
11.1 Basic Planning Policy.....	11-1
11.2 Governorate Road/Transport Budget Scale.....	11-1
11.3 Other Fund Resources.....	11-5

PART III URBAN TRANSPORTATION PLAN

Chapter 12. URBAN TRANSPORTATION MASTER PLAN	12-1
12.1 Planning Formulation Policy.....	12-1
12.2 Sectoral Planning (Components of the Master Plan).....	12-2
12.2.1 Road Network Development.....	12-2
12.2.2 Public Transport Network Development.....	12-4
12.2.3 Traffic Management and Traffic Facility Management.....	12-7
12.3 Budget Assignment.....	12-8
Chapter 13. ROAD NETWORK PLAN	13-1
13.1 Demand Structure.....	13-1
13.2 Network Planning Concept.....	13-1
13.2.1 Objectives and Targets of Road Development Plan.....	13-1
13.2.2 Road Network Development.....	13-3
13.2.3 Arterial Network Plan.....	13-4
13.2.4 Inner City Network Development.....	13-7
13.2.5 Functional Road Hierarchy of Future Network.....	13-7
13.3 Road Network Projects.....	13-9
13.3.1 Road Widening Projects.....	13-12
13.3.2 Road Construction Projects.....	13-14
13.3.3 Structure Projects.....	13-16
13.3.4 Road Projects in Damascus Countryside Governorate.....	13-20
13.4 Preliminary Cost Estimate.....	13-22
13.4.1 Project Type.....	13-22
13.4.2 Basic Cost Elements.....	13-24
13.4.3 Project Cost.....	13-27
13.5 Implementation Plan.....	13-31
13.5.1 Procedure.....	13-31
13.5.2 Priority of Road Projects.....	13-32
13.5.3 Budgetary Framework.....	13-34
13.5.4 Annual Program.....	13-34

Chapter 14. PUBLIC TRANSPORTATION NETWORK PLAN.....	14-1
14.1 Demand Structure	14-1
14.2 Planning Policy.....	14-2
14.3 Bus Improvement Plan	14-3
14.3.1 Bus Rerouting	14-3
14.3.2 Introduction of larger Bus Fleet	14-4
14.3.3 Introduction of Trunk-Bus System.....	14-5
14.3.4 Reinforcement of Bus Fleet	14-6
14.3.5 Transfer Terminals	14-8
14.3.6 Financial Evaluation	14-11
14.4 Urban Rail Transit	14-14
14.4.1 Outline	14-14
14.4.2 Demand on Railway.....	14-14
14.4.3 Operation Plan	14-15
14.4.4 Construction Cost.....	14-15
14.4.5 Operating Cost	14-16
14.4.6 Impact on Traffic Condition.....	14-17
14.4.7 Financial Evaluation	14-17
14.5 Taxi Service Improvement Plan.....	14-18
Chapter 15. TRAFFIC MANAGEMENT PLAN.....	15-1
15.1 Overview	15-1
15.2 Intersection and Traffic Signal.....	15-1
15.2.1 Intersection.....	15-1
15.2.2 Traffic Signalization.....	15-5
15.3 Parking Control	15-8
15.3.1 Parking Demand.....	15-8
15.4 Traffic Safety Requirements and Pedestrianization.....	15-15
15.4.1 Channelization for Traffic Safety.....	15-15
15.4.2 Pedestrianization and Sidewalks.....	15-20
15.5 Education and Organization	15-26
15.5.1 Education	15-26
15.5.2 Organization.....	15-28
15.6 Cost Estimate.....	15-29
15.7 Traffic Management Projects Implementation Schedule.....	15-29
Chapter 16. INITIAL ENVIRONMENTAL EXAMINATION.....	16-1
16.1 Introduction	16-1
16.2 Projects in the Master Plan.....	16-1
16.3 Screening and Scoping of Proposed Plans.....	16-1
16.3.1 Screening and Scoping.....	16-3
16.4 Overall Evaluation and Possible Countermeasures	16-6
16.5 Study Items during the Environmental Impact Assessment (EIA) Study	16-7
16.6 Environmental Improvement Benefit	16-8
16.6.1 Emission Factors and Noise Level in corresponding to Travel Speed.....	16-9
16.6.2 Pollutants.....	16-9
Chapter 17. ECONOMIC AND FINANCIAL EVALUATION.....	17-1
17.1 Vehicle Operating Cost and Travel Time Cost.....	17-1
17.1.1 Characteristics of Representative Vehicles	17-1
17.1.2 Fuel and Lubrication Costs	17-3
17.1.3 Tire Cost.....	17-4
17.1.4 Repair/Maintenance Costs	17-5
17.1.5 Depreciation Costs and Capital Opportunity Cost.....	17-5
17.1.6 Crew cost and Overhead Cost.....	17-6
17.1.7 Summary of VOC	17-6
17.1.8 Travel Time Cost.....	17-7
17.2 Benefit and Cost.....	17-7
17.2.1 Benefit.....	17-7
17.2.2 Costs.....	17-8
17.3 Economic Analysis	17-8

17.4 Financial Analysis.....	17-9
Chapter 18. MASTER PLAN IMPLEMENTATION SCHEDULE	18-1
18.1 Implementation Schedule.....	18-1
18.1.1 Independent Nature due to Fund Source.....	18-1
18.1.2 Staging of Planning Period	18-1
18.1.3 Implementation Program of Road Network Development Projects.....	18-2
18.1.4 Implementation Program of Public Transport Network Development Projects.....	18-10
18.1.5 Off-Road Parking Facilities	18-11
18.2 FS Projects.....	18-12
18.2.1 Requirements on FS Projects	18-12
18.2.2 Selected FS Projects.....	18-13
18.3 Comments and Recommendations	18-13

PART IV FEASIBILITY STUDY ON SELECTED PROJECTS

Chapter 19. Economic and Financial Evaluation of FS Projects.....	19-1
19.1 Method of Feasibility Studies.....	19-1
19.2 Project Packages for the FS.....	19-1
19.3 Economic Evaluation of Project Packages	19-3
19.3.1 Investment Schedule and Annual Economic Costs.....	19-3
19.3.2 Maintenance Costs	19-3
19.3.3 Depreciation and Residual Values.....	19-3
19.3.4 Project Benefits.....	19-3
19.3.5 Evaluation Indicators of Project Packages.....	19-4
19.3.6 Sensitivity Analysis.....	19-5
19.4 Financial Evaluation of Underground Parking Area Project	19-6
19.4.1 Outline of the Project.....	19-6
19.4.2 Assumed Conditions for Financial Cash Flow Analysis of the Project.....	19-6
19.4.3 Financial Cash Flow Analysis of the Project	19-7
19.4.4 Financing Plan and Financial Statement Analysis	19-9
19.4.5 Possibility of Implementation of the Project by BOT System	19-12
19.5 Conclusion and Recommendations.....	19-12
19.5.1 Intersection Improvement Project Packages	19-12
19.5.2 Arnous Underground Parking Area.....	19-13
Chapter 20. AREA TRAFFIC CONTROL SYSTEM.....	20-1
20.1 Objectives of the Project.....	20-1
20.2 Traffic Condition	20-1
20.3 System Design of ATL System.....	20-4
20.3.1 System Concept and Target Year.....	20-4
20.3.2 Road Networks and Intersections to be Covered by ATC System	20-4
20.3.3 System Composition.....	20-5
20.4 Implementation Plan.....	20-11
20.5 Cost Estimate.....	20-12
20.6 Estimation of the benefit of the ATC system	20-13
20.7 Conclusions	20-14
20.7.1 Conclusions.....	20-14
20.7.2 Recommendations.....	20-15
Chapter 21. UMAWYEEEN SQUARE UNDERPASS CONSTRUCTION PROJECT	21-1
21.1 Objectives of the Project.....	21-1
21.1.1 East-West Corridor Traffic Improvement.....	21-1
21.1.2 Objectives of the Project.....	21-2
21.2 Alternatives and Preliminary Selection	21-2
21.3 Traffic Demand.....	21-6
21.4 Preliminary Design.....	21-7
21.4.1 Design Criteria.....	21-7
21.5 Design Loading	21-9
21.5.2 Structure Design.....	21-11
21.6 Cost Estimate.....	21-12

21.7 Implementation Schedule	21-13
21.8 Environmental Consideration	21-13
21.8.1 Environmental Impacts	21-13
21.8.2 Environmental Considerations and Countermeasures.....	21-14
21.9 Conclusion.....	21-14
Chapter 22. AL YARMOUK SQUARE UNDERPASS CONSTRUCTION PROJECT	22-1
22.1 Objectives of the Project.....	22-1
22.2 Alternatives and Scheme Selection.....	22-1
22.3 Traffic Demand.....	22-5
22.4 Preliminary Design.....	22-6
22.5 Cost Estimate.....	22-7
22.6 Implementation Schedule	22-8
22.7 Environmental Considerations	22-8
22.7.1 Environmental Impacts	22-8
22.7.2 Environmental Considerations and Countermeasures.....	22-9
22.8 Conclusion.....	22-9
Chapter 23. ATH THAWRA-AL HEJAZ TRAFFIC IMPROVEMENT PROJECT	23-1
23.1 Objectives of the Project.....	23-1
23.2 Alternatives and Preliminary Selection	23-1
23.3 Traffic Demand.....	23-6
23.4 Preliminary Design.....	23-7
23.5 Cost Estimate.....	23-9
23.6 Implementation Schedule	23-10
23.7 Environmental Considerations	23-11
23.7.1 Environmental Impacts	23-11
23.7.2 Environmental Considerations and Countermeasures.....	23-11
23.8 Conclusion.....	23-12
Chapter 24. 8TH OF MARCH (ARNOUS) SQUARE UNDERGROUND PARKING.....	24-1
24.1 Objectives of the Project.....	24-1
24.2 Parking Demand	24-2
24.3 Alternatives and Preliminary Selection	24-3
24.3.1 Traffic Demand and Intersection Improvement in the Facility Vicinity.....	24-3
24.3.2 Influence of parking demand on the surrounding roads.....	24-4
24.4 Plan.....	24-5
24.4.1 Planning Options.....	24-5
24.4.2 Design Criteria.....	24-6
24.4.3 Structure Design.....	24-9
24.5 Cost Estimate.....	24-10
24.6 Organization and Management.....	24-10
24.7 Environmental Consideration	24-11
24.7.1 Environmental Impacts	24-11
24.7.2 Environmental Considerations and Countermeasures.....	24-11
24.8 Financial Evaluation.....	24-12
24.8.1 Preconditions for the Financial Analysis.....	24-12
24.8.2 Financial Cash Flow.....	24-15
24.8.3 Profitability Analysis.....	24-15
24.9 Conclusion.....	24-22
APPENDIX	
- OD Table	
- Project Profile	
- Traffic Volume in Intersection	

Table and Figure List

Table 1.6.1 Member of the Different Study Organizations	1-5
Table 2.4.1 Sectorial Economic Indices	2-11
Table 2.4.2 Road Projects in 8th plan	2-11
Table 3.2.1 Population Increase of Syria and the Study Area	3-3
Table 3.2.2 Population by Zone, 1981, 1994 and 1998.....	3-4
Table 3.2.3 Population Density by Zone, Damascus City, 1998	3-6
Table 3.3.1 Labor Force Employed by Sector, 1996.....	3-7
Table 3.3.2 Labor Force Employed by Sector in Damascus Capital Area, 1991	3-7
Table 3.3.3 Estimated Labor Force Employed by Sector for the Study Area, 1998.....	3-8
Table 3.3.4 Employed Persons by Sector by Zone (on Work Place Basis), 1998	3-9
Table 3.4.1 Number of Students by Type of School, Syria, 1996.....	3-10
Table 3.4.2 Number of Students by Type of School, Damascus Capital Area, 1996	3-11
Table 3.4.3 Number of Students by Zone.....	3-12
Table 3.5.1 Gross Domestic Product by Sector, 1990-1996.....	3-13
Table 3.5.2 GDP per Capita, 1996	3-13
Table 3.5.3 Employed Labor Force, GDP and Productivity by Sector, 1996.....	3-14
Table 3.5.4 Employed Labor Force and GRDP by Sector of Damascus City, 1998	3-14
Table 3.6.1 Household Income by Zone	3-16
Table 3.7.1 Number of Registered Cars in Syria	3-17
Table 3.7.2 Number of Registered Cars in Damascus.....	3-17
Table 3.7.3 Number of Cars by Source - Damascus 1996	3-18
Table 3.7.4 Vehicle Share of Damascus 1996	3-18
Table 3.8.1 Government Budget	3-19
Table 4.1.1 Home Interview Survey Items.....	4-1
Table 4.3.1 Trip Generation and Attraction by Zone and Purpose (1998)	4-11
Table 4.4.1 OD Table from Home Interview Survey (Trip Base, All Purpose, All Mode)	4-15
Table 4.4.2 OD Table from Home Interview Survey (Trip Base, Work Purpose, All Mode).....	4-16
Table 4.4.3 OD Table from Home Interview Survey (Trip Base, To School , All Mode).....	4-18
Table 4.5.1 Modal Share by Purpose	4-19
Table 5.2.1 Road Classification Criteria	5-4
Table 5.3.1 Road Length by Zone.....	5-7
Table 6.1.1 Intra Urban Buses.....	6-2
Table 6.1.2 Sub-urban Bus Lines from/to Damascus Urban Area	6-4
Table 6.1.3 Sub-urban Bus Lines between Sub-urban Area	6-5
Table 6.2.1 Intra-Urban Bus Terminals.....	6-5
Table 6.3.1 Results of Bus Passenger Survey	6-9
Table 6.3.2 Parameters of Disaggregate Model	6-9
Table 6.3.3 Assumed Standard Values	6-10
Table 7.1.1 TMD Staff	7-3
Table 7.6.1 Summary of Intersection Traffic Volume	7-6
Table 7.7.1 Number and Phasing of Traffic Signals.....	7-9
Table 7.9.1 Off-street and on-street parking capacity (1994).....	7-11
Table 7.10.1 Traffic Signs of Damascus City.....	7-13
Table 8.1.1 Relevant Articles in the Draft Decree.....	8-3
Table 8.1.2 Industrial Wastewater Standards (draft)	8-4
Table 8.1.3 Air Quality Standards (draft).....	8-4
Table 8.2.1 Current Land Use in the Damascus City by Service Department	8-6
Table 8.3.1 Property Appropriation Procedure.....	8-9
Table 8.3.2 Chronology of Damascus	8-14
Table 8.3.3 Classification of Registered Antiquity Sites.....	8-16
Table 8.3.4 List of Registered Antiquities.....	8-19
Table 8.4.1 Air pollution Measurements - 1989.....	8-21
Table 8.4.2 Total Amount of Suspended Particles in the Air - 1990	8-21
Table 8.4.3 Results of Roadside Air Quality Monitoring.....	8-24
Table 8.4.4 Water Quality Monitoring Results of Barada River in Major Points	8-25

Table 9.2.1 Future Population of Syria	9-3
Table 9.2.2 Planned Population by Zone in 2020	9-5
Table 9.3.1 Employed Persons by Sector by Zone (Work Place Basis), 2020	9-7
Table 9.3.2 Employed Persons by Sector by Zone (on Residence Place), 2020	9-9
Table 9.3.3 Employed Persons by Sector by Zone (on Residence Place) 2020 (Cont.).....	9-10
Table 9.4.1 Projection of Population and Employment in Damascus City Area 1998-2020	9-11
Table 9.4.2 Projection of Population and Employment in the Study Area.....	9-12
Table 9.5.1 Number of Students, 2020.....	9-13
Table 9.6.1 Average Income, Car Ownership and Driving License Holders in 2020.....	9-15
Table 9.7.1 Rates of Changes of GDP Growth Rate	9-16
Table 9.7.2 GDP of Syria 1990-2020	9-17
Table 10.3.1 Parameter of Trip Generation/Attraction Models.....	10-2
Table 10.3.2 Ratios of Generation/Attraction of 2020 to 1998 (Excluding "to home" trips).....	10-3
Table 10.4.1 Parameters of Intra-Zonal Models.....	10-4
Table 10.5.1 Parameters of Walking/Two-Wheeler Trips Split Model	10-5
Table 10.5.2 Parameters of Modal Choice of Models.....	10-6
Table 10.6.1 Average Number of Passengers per Vehicle and Passenger Car Equivalent	10-7
Table 10.7.1 Estimate Results.....	10-7
Table 11.2.1 Ratio of Revenues and Expenses to the Last Year Records.....	11-1
Table 11.2.2 Budget of Damascus Governorate in Currency	11-2
Table 11.2.3 Budget of Damascus Governorate in Percentile.....	11-3
Table 11.2.4 Budget of Damascus Governorate in Permill	11-4
Table 11.2.5 Estimates of Road Budget of Damascus Governorate.....	11-5
Table 11.3.1 Investment to Urban Transport Sector by Private Investors	11-5
Table 12.1.1 Governorate Budget Scale for Urban Transportation Improvement.....	12-2
Table 12.2.1 Zones for Transferring.....	12-5
Table 12.2.2 Number of Microbus Passengers estimated	12-5
Table 12.2.3 Number of Taxi Passengers estimated.....	12-6
Table 13.3.1 Future Road and Structure Projects in Damascus Governorate.....	13-11
Table 13.3.2 Assumption of Future Road Projects in Damascus Countryside Governorate	13-22
Table 13.4.1 Net Working Days	13-24
Table 13.4.2 Labor Salary and Allowances.....	13-25
Table 13.4.3 Labor Rate.....	13-25
Table 13.4.4 Equipment Cost.....	13-26
Table 13.4.5 Construction Cost of Road Projects ('000 SP).....	13-28
Table 13.4.6 Financial and Economic Cost of Road Projects ('000 SP).....	13-29
Table 13.4.7 Financial and Economic Cost of Structure Projects ('000 SP)	13-30
Table 13.5.1 Multi-Criteria Ranking.....	13-33
Table 13.5.2 Annual Implementation Program	13-35
Table 14.1.1 Public Transport Demand.....	14-1
Table 14.3.1 Bus Operation Indicators.....	14-6
Table 14.3.2 Bus Fleet required by Passenger Size.....	14-7
Table 14.3.3 Average Annual Expenses and Sales	14-7
Table 14.3.4 Profit Loss Table Pro Forma for Installment of Large Buses	14-8
Table 14.3.5 Number of Services at Major Terminals.....	14-9
Table 14.3.6 Yearly Passengers and Sales.....	14-11
Table 14.3.7 Yearly Operating Costs.....	14-12
Table 14.3.8 FIRR, NPV and B/C at fixed Fare System at present level.....	14-13
Table 14.3.9 FIRR, NPV and B/C at fixed Fare System corresponding to riding km.....	14-13
Table 14.4.1 Railway Operating Indicators in the Year 2020.....	14-15
Table 14.4.2 Unit Construction Cost of Railway	14-16
Table 14.4.3 Railway Construction Cost.....	14-16
Table 14.4.4 Rolling Stock Cost	14-16
Table 14.4.5 Annual Operating Cost.....	14-17
Table 14.4.6 Preliminary Economic Evaluation of Railway	14-17
Table 14.4.7 Comparison of Annual Operating Cost and Annual Turnover	14-18
Table 14.4.8 Operating Index: Turnover/Operating Cost.....	14-18
Table 15.2.1 Saturation Degree at Main Intersections	15-1

Table 15.2.2 Improvement of Intersections.....	15-3
Table 15.3.1 Supply Demand Balance in peak hour.....	15-11
Table 15.3.2 Future Off-Street Parking Facility Project (2010).....	15-13
Table 15.3.3 Parking Supply-Demand Balance in Service Area (2010).....	15-14
Table 15.4.1 Typical Plans for Intersection Markings.....	15-19
Table 15.4.2 Pedestrian Exclusive Streets.....	15-21
Table 15.4.3 Pedestrian Priority Streets.....	15-21
Table 15.6.1 Traffic Management Planning Cost.....	15-29
Table 15.7.1 Implementation Schedule.....	15-31
Table 16.2.1 Project Categories by Feature.....	16-1
Table 16.3.1 Screening of Master Plan.....	16-3
Table 16.3.2 Scoping of Master Plan.....	16-4
Table 16.3.3 Matrix for Scoping Classified by Project.....	16-5
Table 16.4.1 Summary of Scoping for Proposed Projects.....	16-7
Table 16.5.1 Study Items to be emphasized for EIA Study by Project Category.....	16-8
Table 16.6.1 Estimation Results of Environmental Impacts.....	16-10
Table 16.6.2 Improvement Ratios of Subject Items (MP/Do Nothing).....	16-11
Table 17.1.1 Import Tax of Vehicle.....	17-2
Table 17.1.2 Characteristics of Representative Vehicles.....	17-2
Table 17.1.3 Fuel Cost and Lubrication Oil Cost by Vehicle Type.....	17-3
Table 17.1.4 Fuel Composition, and Average Fuel and Oil Costs by Vehicle Type.....	17-3
Table 17.1.5 Fuel Cost (Economic) by Vehicle Type and Speed (SP/km).....	17-4
Table 17.1.6 Oil Consumption by Vehicle Type.....	17-4
Table 17.1.7 Tire Cost.....	17-5
Table 17.1.8 Repair and Maintenance Costs by Vehicle Type.....	17-5
Table 17.1.9 Depreciation Cost by Vehicle Type.....	17-5
Table 17.1.10 Capital Opportunity Cost.....	17-6
Table 17.1.11 Crew Cost and Overhead Cost.....	17-6
Table 17.1.12 Summary of VOC.....	17-6
Table 17.1.13 Present Hourly Income and Travel Time Value.....	17-7
Table 17.1.14 Travel Time Cost (2000, 2005, 2010, 2015, 2020).....	17-7
Table 17.2.1 VOC Savings of 1998, 2005, 2010 and 2020.....	17-8
Table 17.3.1 EIRR, NPV, B/C of Master Plan.....	17-9
Table 17.3.2 Sensitivity of Master Plan.....	17-9
Table 18.1.1 Investment and Budget (Roads).....	18-9
Table 18.1.2 Investment and Budget –Public Transport.....	18-11
Table 18.1.3 Investment and Budget – Off-Parking Facilities.....	18-12
Table 18.2.1 Evaluation of Promising FS Projects.....	18-13
Table 19.2.1 Estimated Investment Costs for FS Project Packages.....	19-2
Table 19.3.1 Annual Investment Costs (Economic Cost) of FS Project Packages.....	19-3
Table 19.3.2 Project Life and Residual Value in 2020.....	19-3
Table 19.3.3 Future Savings in VOC by the FS Project Packages.....	19-4
Table 19.3.4 Results of Economic Evaluation of Project Package A.....	19-4
Table 19.3.5 Results of Economic Evaluation of Project Package B.....	19-5
Table 19.3.6 Results of Sensitivity Analysis.....	19-5
Table 19.4.1 Project Financial Cash Flow Analysis, Case 1 (Parking Facility Only).....	19-8
Table 19.4.2 Project Financial Cash Flow Analysis, Case 2 (Parking Facility / Building).....	19-8
Table 19.4.3 Income Statement of Concessionaire Entity.....	19-10
Table 19.4.4 Balance Sheet of Concessionaire Entity.....	19-11
Table 19.4.5 Cash Flow Statement of Concessionaire Entity.....	19-11
Table 20.4.1 Equipment Installation Component.....	20-12
Table 20.5.1 Cost Estimate of Traffic Control System.....	20-13
Table 20.6.1 Saving Time by ATC-System.....	20-14
Table 21.2.1 Alignment Alternatives of Umawyeen Square.....	21-3
Table 21.3.1 Umawyeen Square Saturation Degrees.....	21-6
Table 21.3.2 Traffic Volumes in Umawyeen Underpass - 2005.....	21-7
Table 21.4.1 Minimum Radius.....	21-7
Table 21.4.2 Maximum Grades.....	21-8

Table 21.4.3 Vertical Radius	21-8
Table 21.4.4 Vertical Curve Length	21-8
Table 21.6.1 Major Work Item Quantities.....	21-13
Table 21.6.2 Umawyeen Underpass Project Cost	21-13
Table 21.7.1 Tentative Implementation Schedule	21-13
Table 21.8.1 Summary of Environmental Impacts-Umawyeen Underpass	21-14
Table 22.2.1 Alignment Alternatives of Al Yarmouk Square.....	22-3
Table 22.3.1 Saturation Degree of Al Yarmouk Square	22-5
Table 22.3.2 Saturation Degree of Al Yarmouk Underpass.....	22-5
Table 22.3.3 Traffic Volumes in Al Yarmouk Underpass - 2005.....	22-5
Table 22.5.1 Major Work Item Quantities.....	22-7
Table 22.5.2 Al Yarmouk Underpass Project Cost	22-8
Table 22.6.1 Tentative Implementation Schedule	22-8
Table 22.7.1 Summary of Environmental Impacts- Al Yarmouk Underpass	22-8
Table 23.2.1 Alignment Alternatives of Ath Thawra – Al Hejaz Tunnel	23-2
Table 23.3.1 Ath Thawra – An Nasr Intersection Saturation Degree	23-6
Table 23.3.2 Traffic Volumes in Ath Thawra – Al Hejaz Tunnel	23-7
Table 23.5.1 Major Work Item Quantities.....	23-10
Table 23.5.2 Ath Thawra – Al Hejaz Tunnel Project Cost	23-10
Table 23.5.3 Tunnel Facility Cost	23-10
Table 23.6.1 Tentative Implementation Schedule	23-11
Table 23.7.1 Summary of Environmental Impacts- Ath Thawra–Al Hejaz Tunnel	23-11
Table 24.2.1 Forecast additional parking demand near Arnous Square	24-3
Table 24.3.1 Saturation Degree to the Traffic Demand.....	24-3
Table 24.3.2 Saturation Degree after Improvement	24-4
Table 24.3.3 Saturation Degree of Intersections	24-5
Table 24.4.1 Parking Options.....	24-5
Table 24.4.2 Vehicular Design Load	24-7
Table 24.4.3 Vehicular Dimensions.....	24-8
Table 24.4.4 Cases of Back-in Type Parking	24-9
Table 24.5.1 Financial Cost of Parking Area	24-10
Table 24.7.1 Summary of Environmental Impacts- Arnous Underground Parking	24-11
Table 24.8.1 Estimated Capital Cost.....	24-14
Table 24.8.2 Profitability Analysis	24-16
Table 24.8.3 Projected Income Statement for ARNOUS Square Underground Parking Area (Base case).....	24-17
Table 24.8.4 Projected Profit and Losses Statement (S.P.1000).....	24-17
Table 24.8.5 Projected Fund Flow Statement (S.P.1000).....	24-17
Table 24.8.6 Projected Income Statement for ARNOUS Square Underground Parking Area (Option-1)	24-18
Table 24.8.7 Projected Profit and Losses Statement (S.P.1000).....	24-18
Table 24.8.8 Projected Fund Flow Statement (S.P.1000).....	24-18
Table 24.8.9 Projected Income Statement for ARNOUS Square Underground Parking Area (Option-2)	24-19
Table 24.8.10 Projected Profit and Losses Statement (S.P.1000).....	24-19
Table 24.8.11 Projected Fund Flow Statement (S.P.1000).....	24-19
Table 24.8.12 Projected Income Statement for ARNOUS Square Underground Parking Area (Option-3)	24-20
Table 24.8.13 Projected Profit and Losses Statement (S.P.1000).....	24-20
Table 24.8.14 Projected Fund Flow Statement (S.P.1000).....	24-20

Figure 1.3.1 Study Area	1-2
Figure 1.4.1 Study Flowchart.....	1-3
Figure 1.6.1 Study Organization Chart	1-4
Figure 2.1.1 Damascus Road Plan – Eckoshar and Banchoya, 1968.....	2-5
Figure 2.1.2 Damascus Road Network condition	2-5
Figure 2.2.1 Location of Proposed Projects of General Plan	2-9
Figure 3.2.1 Location of the Study Area	3-2
Figure 3.2.2 Annual Population Growth, 1981-1994.....	3-3
Figure 3.9.1 Existing Land Use in Study Area (1998).....	3-21

Figure 3.9.2 Existing Land Use in Damascus City (1998).....	3-21
Figure 4.1.1 Zones of Survey Area.....	4-2
Figure 4.1.2 Survey Points of Cordon Line Survey.....	4-3
Figure 4.1.3 Survey Points of Screen Line Survey (Outside Damascus City).....	4-4
Figure 4.1.4 Survey Points of Screen Line Survey (Damascus City).....	4-4
Figure 4.2.1 Total Number of Trips.....	4-5
Figure 4.2.2 Trip composition by Purpose.....	4-5
Figure 4.2.3 Modal Share.....	4-6
Figure 4.2.4 Trip by Age rank, Sex and Purpose (net).....	4-7
Figure 4.2.5 Trip by Age rank, Sex and Purpose (gross).....	4-7
Figure 4.2.6 Trip Production Rate by Industry and Propose.....	4-8
Figure 4.2.7 Trip Production Rate by Income and Purpose.....	4-8
Figure 4.2.8 Trip Production Rate by Car Ownership.....	4-9
Figure 4.2.9 Trip Production Rate by Driving License Holding.....	4-9
Figure 4.3.1 Integrated zoning system of Damascus City.....	4-10
Figure 4.3.2 Composition of Trips Generation and Attracted (To Work).....	4-12
Figure 4.3.3 Trip Generation by Time and Purpose.....	4-13
Figure 4.3.4 Generation by Time and Mode.....	4-13
Figure 4.4.1 Present Desired Line (All Purpose – All Mode).....	4-14
Figure 4.4.2 Present Desire Line (Work Purpose, All Mode).....	4-17
Figure 4.4.3 Present Desire Line (School Purpose, All Mode).....	4-17
Figure 4.5.1 Modal Share by Purpose.....	4-20
Figure 4.5.2 Present Desire Line (All Purpose, Car).....	4-20
Figure 4.5.3 Present Desire Line (All Purpose, Microbus).....	4-21
Figure 4.5.4 Modal Share by Travel Time.....	4-21
Figure 4.5.5 Modal Share by Travel Distance.....	4-22
Figure 5.1.1 Organization Chart of Damascus Governorate.....	5-2
Figure 5.1.2 Road Administration Organization.....	5-2
Figure 5.2.1 Present Road Network Classification –Planning Area.....	5-5
Figure 5.2.2 Present Road Network Classification –Study Area.....	5-5
Figure 5.2.3 Road Network in Urban Area.....	5-6
Figure 5.2.4 Road Network in Study Area.....	5-6
Figure 5.3.1 Road Density by Zone.....	5-9
Figure 5.3.2 Cross Section of Arterial Roads.....	5-10
Figure 6.1.1 Hourly Fluctuation.....	6-3
Figure 6.1.2 Intra-urban Bus Flow.....	6-3
Figure 6.2.1 Bus Terminal Locations.....	6-6
Figure 6.2.2 President Assad Bridge Terminal Layout.....	6-6
Figure 6.2.3 Alkaboun Terminal Layout.....	6-7
Figure 6.3.1 Variables Influence on Line Selection.....	6-10
Figure 7.1.1 Traffic Police Management Organization.....	7-1
Figure 7.6.1 Functions of the Study Area Intersections.....	7-9
Figure 7.7.1 Location of Existing Traffic Signals.....	7-10
Figure 7.8.1 One-way Traffic Regulations on Principal Streets.....	7-11
Figure 7.9.1 Parking Prohibition.....	7-12
Figure 7.11.1 Main Directions of Pedestrian Movement.....	7-14
Figure 7.11.2 Pedestrian Crossings in City Center.....	7-16
Figure 7.12.1 Travel Speed Survey Results.....	7-17
Figure 8.1.1 Organization Chart of Ministry of Environment.....	8-2
Figure 8.2.1 Temperature and Rainfall in Damascus City.....	8-5
Figure 8.3.1 Cultural Resources Areas in Damascus.....	8-16
Figure 8.3.2 Old City and Surrounding Area Antiquities Sites.....	8-17
Figure 8.3.3 Midan St. Antiquities Sites.....	8-17
Figure 8.3.4 Salihiya Area Antiquities Sites.....	8-18
Figure 8.4.1 Air Sampling Locations.....	8-22
Figure 8.4.2 Air Sampling Results -NOx.....	8-23
Figure 8.4.3 Air Sampling Results –NO2.....	8-23
Figure 9.1.1 Future Land Use in Damascus City, 2020.....	9-2

Figure 9.1.2 Residential and Industrial Development until 2020.....	9-3
Figure 9.4.1 Projection of Population and Employment in Damascus City, 1998 – 2020.....	9-11
Figure 9.4.2 Projection of Population and Employment in Study Area, 1998 – 2020.....	9-12
Figure 12.2.1 Traffic Demand at Present and in the Year 2020.....	12-3
Figure 13.2.1 Assigned Traffic Volumes – 1998.....	13-2
Figure 13.2.2 Assigned Traffic Volumes – 2020.....	13-2
Figure 13.2.3 Arterial Network Planning Concept.....	13-5
Figure 13.2.4 Future Road Network Classification - 2020.....	13-8
Figure 13.3.1 Future Road and Structure Projects.....	13-10
Figure 13.3.2 Mt. Kassiouh Tunnel Layout.....	13-21
Figure 13.4.1 Typical Road Cross-Sections.....	13-23
Figure 13.5.1 Road Network Scheduling Work Flow.....	13-31
Figure 13.5.2 Annual Benefit and Project Cost.....	13-34
Figure 13.5.3 Annual Investment Plan.....	13-36
Figure 14.1.1 Main Bus Terminal Locations.....	14-1
Figure 14.1.2 1998 Bus Passenger Flow on 1998 Bus Network.....	14-2
Figure 14.1.3 2020 Bus Passenger Flow on 1998 Bus Network.....	14-2
Figure 14.3.1 Bus Routes with 105 Passenger Buses.....	14-4
Figure 14.3.2 Bus Routes with 50 Passenger Buses.....	14-4
Figure 14.3.3 Trunk Bus Demand in the Year 2020.....	14-5
Figure 14.3.4 Mezzeh Terminal.....	14-9
Figure 14.3.5 Assad Bridge Terminal.....	14-10
Figure 14.3.6 Kaboun Terminal.....	14-11
Figure 14.4.1 Railway Line Locations.....	14-14
Figure 14.4.2 Railway Demand in 2020.....	14-15
Figure 15.2.1 Saturated Main Intersections.....	15-2
Figure 15.2.2 Location of Intersections to be improved.....	15-4
Figure 15.2.3 Intersection Improvement Plan - Arnous Square.....	15-5
Figure 15.2.4 Coverage Area of Traffic Signal Control System.....	15-6
Figure 15.2.5 Function and Hardware of the Traffic Control System.....	15-7
Figure 15.3.1 Flow Chart Estimate Parking Demand by Area.....	15-9
Figure 15.3.2 Peak Hour Parking Demand Density in 1998.....	15-9
Figure 15.3.3 Peak Hour Parking Demand Density in 2020.....	15-10
Figure 15.3.4 Peak Hour Parking Supply Demand in 1998.....	15-10
Figure 15.3.5 Peak Hour Parking Supply Demand in 2020.....	15-11
Figure 15.3.6 Parking Prohibition in the Parking Service District during Peak Hour.....	15-12
Figure 15.3.7 On Street Parking Permitted Road & Parking meter Installation Road.....	15-13
Figure 15.3.8 Future Off-Street Parking Facilities Locations in 2010.....	15-14
Figure 15.4.1 Channelization for Cross Intersection.....	15-16
Figure 15.4.2 Channelization for the Four-way and Rotary Intersections.....	15-17
Figure 15.4.3 Typical Plans for Intersection Marking.....	15-18
Figure 15.4.4 Pedestrian Streets in Damascus 2020.....	15-23
Figure 15.4.5 Pedestrian Facilities Proposal for Downtown and Surrounding Area, 2020.....	15-25
Figure 16.3.1 Impact Identification Flow by Phases.....	16-2
Figure 16.6.1 Speed Related Emission Factors NO _x , CO ₂ and dB(A).....	16-9
Figure 16.6.2 Estimation of NO _x and CO ₂ Emissions.....	16-10
Figure 16.6.3 Total Length of Roads with more than 55dB Noise Level.....	16-10
Figure 18.1.1 Do Nothing Case(1998).....	18-2
Figure 18.1.2 Do Nothing Case (2005).....	18-2
Figure 18.1.3 Master Plan Project, (2000-2005).....	18-3
Figure 18.1.4 Master Plan Case (2005).....	18-4
Figure 18.1.5 Do Nothing after 2006 with Demand of 2010.....	18-5
Figure 18.1.6 Master Plan Projects (2006-2010).....	18-6
Figure 18.1.7 Master Plan Case (2010).....	18-6
Figure 18.1.8 Do Nothing after 2011 with Demand of 2020.....	18-7
Figure 18.1.9 Master Plan Projects (2011-2020).....	18-8
Figure 18.1.10 Master Plan (2020).....	18-8
Figure 18.1.11 Location Map of Bus Terminal.....	18-10

Figure 18.1.12 Location Map Off-Road Parking Facilities.....	18-11
Figure 19.2.1 Locations of FS Projects.....	19-2
Figure 19.4.1 Arnous Underground Parking Area.....	19-6
Figure 20.1.1 Issues and Objectives.....	20-1
Figure 20.2.1 Comparison of Travel Time on Inner Ring Road	20-2
Figure 20.2.2 Congested Intersections and Link.....	20-3
Figure 20.3.1 ATC Coverage Area and Control Segments.....	20-4
Figure 20.3.2 System Functions.....	20-5
Figure 20.3.3 Key Intersection and Segment.....	20-5
Figure 20.3.4 Determination of Signal parameter.....	20-6
Figure 20.3.5 Conceptual Configuration of Area Traffic Control System	20-7
Figure 20.3.6 Traffic Signals.....	20-7
Figure 20.3.7 Vehicle Detector Installation Plan.....	20-8
Figure 20.3.8 Location of TV Camera Installation	20-9
Figure 20.3.9 Control Center Room Layout	20-10
Figure 20.3.10 Perspective of Control Center Room.....	20-10
Figure 20.4.1 Construction Schedule of ATC Project.....	20-11
Figure 20.6.1 Calculation Routes.....	20-14
Figure 21.1.1 Planned Projects on East-West Corridor.....	21-1
Figure 21.2.1 Plan of Umawyeen Underpass.....	21-6
Figure 21.5.1 Design Loading.....	21-10
Figure 21.5.2 Underpass Cross Section	21-12
Figure 22.3.1 Plan of Al Yarmouk Underpass.....	22-6
Figure 22.4.1 Al Yarmouk Underpass Typical Cross Sections.....	22-7
Figure 23.2.1 Plan of Ath Thawra – Al Hejaz Tunnel.....	23-6
Figure 23.4.1 Cross Section of Ath Thawra – Al Hejaz Tunnel.....	23-9
Figure 24.3.1 Arnus Square and Access Roads.....	24-4
Figure 24.3.2 Access Routes to Arnus Square Parking.....	24-5
Figure 24.4.1 Plan of Parking Area.....	24-6
Figure 24.4.2 Profile of Parking Structure.....	24-6
Figure 24.4.3 Vehicle Dimensions	24-7
Figure 24.4.4 Parking Details	24-8
Figure 24.4.5 Parking Cases	24-9
Figure 24.8.1 Average Number of Car Parking at Hourly Basis	24-13

Outline of the Study

1. City Plan and Population Increase

The land in Damascus City has been highly developed and there is no room for further development except in such areas as Kafar Soussah, Dummar, Lowan and to a small extent in Bab Sharqi.

Urbanisation around Damascus City proceeds in all directions. Industrial zones are located alongside the highways to Da'ra and Adra. On the other hand, agriculture is prosperous in agrarian lands spreading in the south and east directions. Considerable parts inside these areas are maintained as security zones.

The present 3.08 million population in the study area will increase to 7.10 million (2.3 times) in the year 2020. A population of two million population is distributed to areas in Damascus City and the remaining 5.1 million to areas in Damascus Countryside Governorate.

2. Present Transport Issues

Intersection

Most intersections at which traffic volumes exceed capacities are rotary intersections. These intersections are operated with traffic signals under fixed-time phasing control system. During peak hours, these intersections are controlled manually by policemen.

On-street Parking

The central area of Damascus City suffers severe shortage of parking facilities. As a result most cars are parked on the roads thereby decreasing the road traffic capacities. The majority of trip purpose of the parked cars is "to work" and parking duration is for a long time.

Concentration of Microbuses

The majority of public transport service is provided by microbuses. Congestion due to microbus passengers boarding and alighting is conspicuous at areas where the demand is concentrated.

3. Traffic Demand in the Year 2020

Increase of Trips

The number of daily trips, which was 4.26 million in 1998, is forecast to be 9.83 million trips in the year 2020. The amount of increase in trips is significant in the area outside of Damascus City.

OD Structure

Population increase is significant in the area outside of Damascus City. Due to this population increase outside the City, trips completed within Damascus City will decrease from 34% in 1998 to 15% in 2020 of the share of all trips in the study area. The trips from outside Damascus City to the center of the City will increase from 26% in 1998 to 28% in 2020.

Change of Transport Modes

The share of passenger car trips is expected to increase from 21% in 1998 to 28% in 2020. On

the other hand, trip by taxis and minibuses will decrease from 18% to 17% and from 56% to 52%, respectively.

4. Master Plan Formulation Policy

Master Plan Components

The Master Plan is composed of three functional plans; the Road Plan, Public Transport Plan and Traffic Management Plan.

Planning Period

The Master Plan is divided into three-term plans; Short-Term Plan with the target year of 2005, Middle-Term Plan with the target year of 2010 and Long-Term Plan with the target year of 2020. Consequently, the planning schedule is divided into Phase 1 (2000-2005), Phase 2 (2006-2010) and Phase 3 (2011-2020).

Planning Target

Planning Target is set as to maintain the present service level for the increase in traffic demand until 2020.

Basic Policy

The basic policies for the Master Plan formulation are as follows;

- 1) To formulate a transport network development plan maintaining continuity of previous plans
- 2) To establish a road plan within the budget limitations of Damascus City in order to secure viability of proposed project
- 3) To establish a public transport plan securing profitability for bus operators with the present fare levels in order to induce private capital investment in the public transport sector
- 4) To introduce the BOT concept for promising projects
- 5) To conserve historical areas, buildings and antiquities

Road Network

Damascus City has a road pattern composed of radial arterial and ring roads. Ring roads are composed of 3 ring roads, and arterial roads of 11 radial roads. Two arterial roads from north to south and east to west divide the central part of the city into four divisions surrounded by the inner ring road. The main objective of the plan is to strengthen the road network composed of these arterial and ring roads.

Public Transport

In terms of modal share 56% of all trips excluding walking trips, in person base will be by the microbus, while the taxi will handle 18%. The microbus transport service is cheap and convenient but its problem is the congestion created at boarding and alighting points. It is planned to introduce larger size buses to the routes where heavy demands are anticipated.

Conversion of a part of passenger-car use trips to taxi use trips is necessary in connection with enforcing parking control in the central area of the city, because trip conversion from passenger car to bus is not anticipated in near future. A new taxi service with good quality and better vehicles shall be introduced.

Traffic Management

Most of the traffic congestion occurs at rotary intersections. Therefore, improvement of intersections highly contributes to increase in the capacity of the road network in the central part of the city. The improvement of intersection control starts from the improvement of the traffic signal system and, in case that traffic signal improvement is not sufficient to the demand, then as a second step grade-separation is examined.

The decrease of the road capacity due to the on-street parking in the central area of the city is a pressing issue. The on-street parking control is to be enforced in the central area in correspondence with the establishment of off-street parking facilities.

Budget and Investment Scale

The road budget of Damascus Governorate is used for financing both Road Projects and Traffic Management Projects. Estimated amount of the budget is 9.01 billion SP in the first 5 years including repair and maintenance costs, 10.3 billion SP in the second 5 years and 31.2 billion SP for the last 10 years.

Private capital is used for Public Transport Projects. The required investments are 10.5 billion SP in the first 5 years, 8.1 billion SP in the second 5 years and 21.5 billion SP for the last 10 years.

5. Road Plan

Planning Concept

The basic policy to formulate the plan of road network development is summarized as follows;

- 1) To complete the skeletal structure of the road pattern.
- 2) To minimize construction works in urbanized areas and to apply traffic management techniques for solving transport issues.
- 3) To improve efficiency of existing facilities.
- 4) To support improvements for efficiencies of public transport systems.
- 5) To develop road infrastructures in coordination with the land use plan.

Road and Structure Projects

A total of 59 projects are listed in the projects long list and 50 projects out of the list are adopted as master plan projects (see Table 13.5.2).

6. Public Transport Plan

Planning Concept

- 1) Bus is considered the basic mass transport mode during this planning period. To accommodate growing traffic demand, reinforcement of bus fleet including the introduction of transfer terminals is planned.
- 2) Taxi is the basic transport mode to absorb converted demand from passenger car trips, which will occur because of the enforcement of parking control in the city central area.
- 3) Railway shall be the basic mass transport mode in the future. The modernization of the existing railway network is to be an important study item.

Large Size Bus

Large Size Buses are introduced in correspondence to the increase in number of passengers. A number of 1,864 units of 105-passenger capacity, 3,585 units of 50-passenger capacity and 4,347 units of 25-passenger capacity shall be in service by 2020 with 16,143 minibuses.

Transfer Terminal

Bus rerouting scheme is designed to classify existing routes into trunk lines and feeder lines. Transfer terminals are unified to three terminals, which are Assad Bridge Terminal, Kabuon Terminal and Mezzeh Terminal. The public-transport modes of Baramkeh Terminal and Abbas Terminal converge into Assad Bridge Terminal.

Taxi

A higher quality taxi service with different fare system is introduced. Accordingly, two different taxi fares shall co-exist.

7. Traffic Control Plan

Intersections

The crowded intersections are observed at

- 1) The north-to-south corridor which connects the south entrance road and Al Thawra, and
- 2) The Inner Ring Road

Improvement of the congested intersections is planned in two phases as follows;

- 1) Improvement of traffic signal system, and
- 2) Construction of underpass when traffic signal improvement is not sufficient to solve the traffic congestion.

Area Traffic Control (ATC)

Traffic signals on and inside the Inner Ring Road are systematically controlled by segment operation under an ATC system as the first stage. After completion of the first stage, it is planned to expand the ATC system to cover all the signals in Damascus City.

Parking Control

Parking control is enforced in the city center in areas where the demand far exceeds the supply. The construction of off-street parking facilities in this area is given higher priority and a charge system for on street parking is prepared before the enforcement of parking control. Parking control is valid only during daytime considering that most of the residences in the area do not have parking facilities.

8. Environment

Preservation of Antiquities

Locations of antiquities were surveyed and construction works are planned to avoid areas near the antiquities.

Resettlement

It is planned to maintain resettlement of inhabitants to the minimum. Most of the projects which require resettlement are arranged to be in the second half of the planning period to give

Damascus Governorate enough time for preparation of unavoidable resettlement.

NO_x, CO₂, dB (A)

Increase of emission of pollutants due to increase of vehicle-km in future is unavoidable. The Master Plan, however, can ease that situation. Total emission of NO_x in 2020 in the Master Plan case is 87% of that of the Do Nothing case. As for CO₂ emission, the Master Plan case is 81% of the Do Nothing case. Road length with more than 55 dB in daily average at the road side in the Master Plan case is 97% of the Do Nothing case.

9. FS Projects

Improvement of Intersections and Construction of Tunnel Road

Three grade-separation projects are selected at Umawyeen Square, Al Yarmouk Square as well as the construction of Hejaz Tunnel. For the Hejaz Tunnel two alternative alignments are proposed: one is away from Damascus Citadel (Tunnel A), the other is adjacent to it (Tunnel B).

Installment of ATC (Area Traffic Control) System

The ATC System Instalment Project includes two (2) step implementation; Steps 1 and 2. Step 1 covers the south part of the Inner Ring Road and central areas within it, and Step 2 covers the remaining area within the Inner Ring Road.

Construction of Off-Street Parking Facility

This project includes the construction of an underground parking facility at Arnous square Intersection.

IRR

The F/S projects start during the period 2000 to 2005 and terminate before 2009. The amounts of public investment for the package of instalment of ATC system, improvement of intersections and construction of tunnel will be 2,852 million SP in Tunnel A Case and 2,462 million SP in Tunnel B Case. The private sector investments for the off-street parking facility will amount to 309 million SP in Case 1 and 525 million SP in Case 2.

The EIRR (Economic Internal Rate of Return) of the public investment for the project package is about 12%. This figure means that the project package is feasible for its implementation. The Financial Internal Rate of Return on equity of the private sector investment is 18%.

10. Intersection Traffic Improvement Project Package

The grade-separation of Umawyeen Square

The selected scheme is to provide a grade separation structure in which a 2-way underpass is proposed to connect Shoukry Al Quwatly street, on the city center side, with Fayez Mansour motorway, to the west of the city, with two lanes in each direction. In addition, this scheme has one branch for the underpass to handle traffic in one direction from Shoukry Al Quwatly Street to Jawaher Lal Nohru Street in the direction of Dummar. The construction period is scheduled for 4 years from 2001 to 2004, and the investment amount is estimated at 646.8 million SP.

The grade-separation of Al Yarmouk Square

The selected scheme is to construct a 600 meter 2-way underpass with two lanes in each direction, under both of Al-Yarmouk Square and the intersection with Al Quds Street. The construction period is scheduled at 4 years from 2001 to 2004, and the investment amount is estimated at 337.4 million SP.

Construction of Hejaz Tunnel

Hejaz Tunnel is intended to complete the north-south transport corridor connecting Ath Thawra street and Othman Ibn Afaan street, which will alleviate the present traffic congestion around Hejaz Station area. Seven alternative schemes were studied and two schemes are left. The first is to construct a long tunnel of 1,180 meters far from Damascus Citadel (Tunnel A), and the second is a shorter tunnel of 740 meters adjacent to the citadel (Tunnel B). The construction period is scheduled at 5 years from 2005 to 2009, and the investment amounts are estimated at 1,247.4 million SP for Tunnel A and 857.5 million SP for Tunnel B.

11. Installment of ATC System

The first stage will be implemented between 2000 and 2001, covering 28 intersections on the Inner Ring Road and the southern part of the central area. The second step is scheduled from 2001 to 2002, covering 39 intersections at the northern part of the central area. The control center will be located within the executing agency. The investment amounts are 328.5 million SP for the first step and 291.7 million SP for the second step, totaling to 620.2 million SP.

12. Arnous Underground Parking Area Construction Project

This public parking facility will be constructed under Arnous Square, with 500 parking lots. There is a plan to construct a public-facility building of Damascus City at Arnous Square. The parking facility is scheduled to be constructed in 2000, and the initial investment cost is estimated at 309 million SP for Case 1 (parking facility only) or 525 million SP for Case 2 (parking facility and building). It is recommended that this project be implemented through the BOT system.

13. Concluding Remarks

Early Implementation of the Master Plan

The economic feasibility of the Master Plan is confirmed, and the necessity for its implementation is clear. Execution based on the Master Plan implementation program is strongly recommended.

Implementation of F/S Projects on Schedule

The north-south corridor and Inner ring road compose fundamental links of the road network and serve heavy traffic demands during the whole planning period. The F/S projects target these roads.

Though road budget balances show a slight shortage of the budget at present for execution of the F/S projects, execution of these projects by loans is considered reasonable because the balance of the budget during the total planning period is assured.

Importance of the Public Transport System Improvement

The improvement of the public transport system is of no less importance than the

improvement of the road network as is understandable from the fact that the share of public transport use trip occupies 74% of total trips excluding walking trips on a person trip base.

Projects proposed in the Master Plan are vitally important for the improvement of the public transport system. It is expected that Damascus Governorate shall play a larger public role in improving the public transport system even if it continues to depend on the private sector for investments in the public transport field.

Necessity of an Organization for Urban Transport Planning in Damascus Capital Region

The establishment of an organization responsible for transport planning in the Damascus Capital Region is necessary in order to ensure co-ordination among the various authorities in the region. The three major issues that require co-ordination work are as follows;

- 1) The Outer Ring Road passes mostly through Damascus Countryside Governorate area. Coordination work on matters such as construction funding and land acquisition is required for the timely completion of this Ring Road.
- 2) There is a city development project of 1 million-population scale in Qatana which greatly influences the trunk bus project and other road projects in the master plan. Coordination on development scheduling and provision of required transport to the City are important
- 3) Many bus operators serve routes to connect between the City and surrounding rural areas and more investments from private sector are expected to accommodate growing demands. It is necessary to coordinate a fare system applicable to buses licensed in either municipality in order to induce new investments.

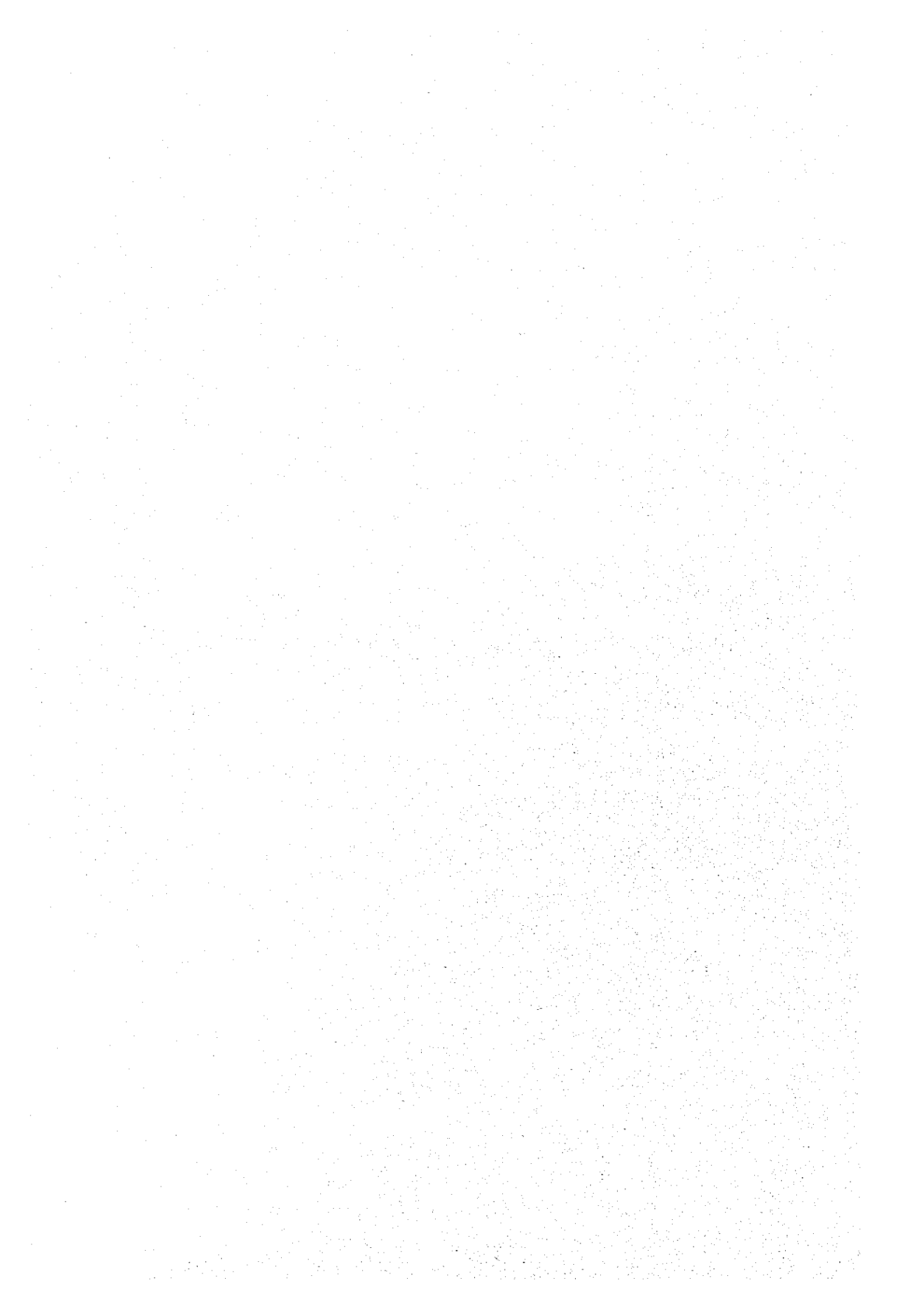
Establishment of Rolling Plan Review System

This Master Plan is formulated to cover transport demand for the time period from 2000 to 2020. However, several possibilities with high impact on the economic development of Syria should be considered, such as development of the open door policy, conclusion of peace treaty in the middle east and success in exploring of oil resources. In corresponding to these possibilities, changes in different socioeconomic parameters including softening of the control policy on car import may be expected. Such changes will surely have impacts on the traffic conditions of Damascus City.

The study team recommends establishing a rolling plan review system and, as a first execution of that rolling system, reviewing this Master Plan after 10 years. At that time, following tasks shall be included in the scope of work.

- 1) Chang of planning area (From Damascus City to Damascus Capital Region)
- 2) Revision of land use plan of Damascus Capital Region
- 3) Reinforcement of existing railway system

PART I
PRESENT SITUATION



Chapter 1. INTRODUCTION

1.1 Background of the Study

Major Capital Cities in the world have been confronted with serious issues resulting from increased road congestion caused by the rapid growth of motorized traffic.

Since the Open Door Policy was introduced, Syrian economic growth had been accelerated. Although motorization and urbanization have increased over the period, Damascus City has not yet been seriously affected by traffic congestion. It is, however, given Syria's continuing rapid growth, only a matter of time before Damascus City is subjected to high levels of traffic congestion. This will retard further economic development of Damascus City.

The Governorate of Syria and the authorities of Damascus City were aware of the problems that would be caused by traffic congestion. They were also aware that such congestion would hamper development of Damascus City as a natural administrative center and major center for business and tourism. They, therefore, decided that a Master Plan of Urban Transport should be developed with a time horizon of 2020, to ensure that Damascus City is not subject to the traffic congestion that is strangling other major Capitals.

In response to the request of the Government of Syria, the Government of Japan decided to conduct the Master Plan Study on Urban Transport of Damascus City. The Government of Japan entrusted the Study to the Japan International Cooperation Agency (JICA), which would undertake it in cooperation with the authorities in Syria.

JICA organized the study team of Yachiyo Engineering Co., Ltd. and Katahira & Engineers International to carry out the Study over a total period of about 20 months from December 1997 to July 1999.

1.2 Objectives of the Study

The objectives of the Study were as follows:

- 1) To formulate a Master Plan for urban transport of Damascus City
- 2) To conduct Feasibility Study for high priority projects.

Target year of the Master Plan was set at 2020 and the target year for the feasibility study projects was set at 2005.

1.3 Study Area

The scope of works defined the planning area as the area under the jurisdiction of Damascus Governorate. Due to the large interaction between this area and surrounding areas in Damascus Countryside Governorate, the study area is composed of two parts respectively called study area and planning area. The study area covers entire Damascus Governorate and Damascus Countryside Governorate while the planning area covers Damascus Governorate area as shown in Figure 1.3.1.

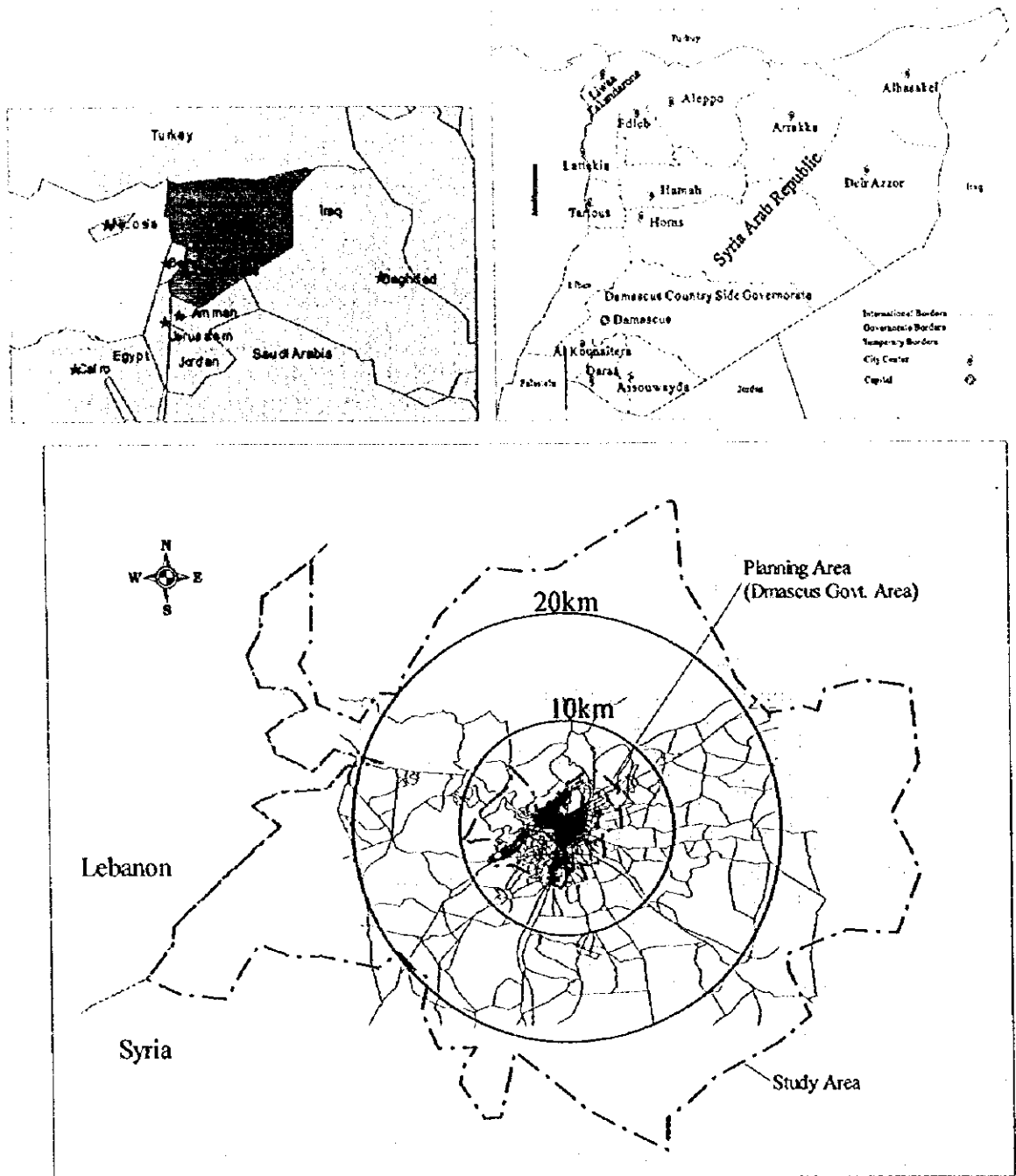


Figure 1.3.1 Study Area

1.4 Study Framework

The study is composed of three phases; present conditions survey, master plan formulation and feasibility study. The Study schedule is shown in Figure 1.4.1 (page 1-3).

Phase	Study Contents	Duration
Phase I	Present Condition Survey	December 1997 – March 1998
Phase II	Mater Plan Formulation	May 1998-September 1998
Phase III	Feasibility Study	October 1998-February 1999

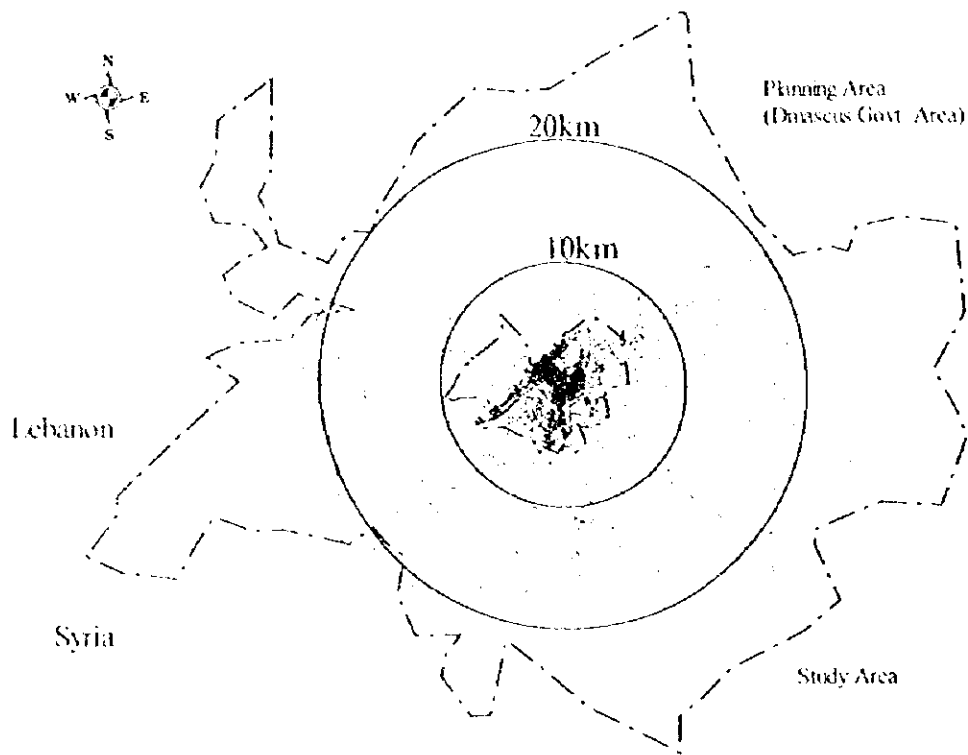
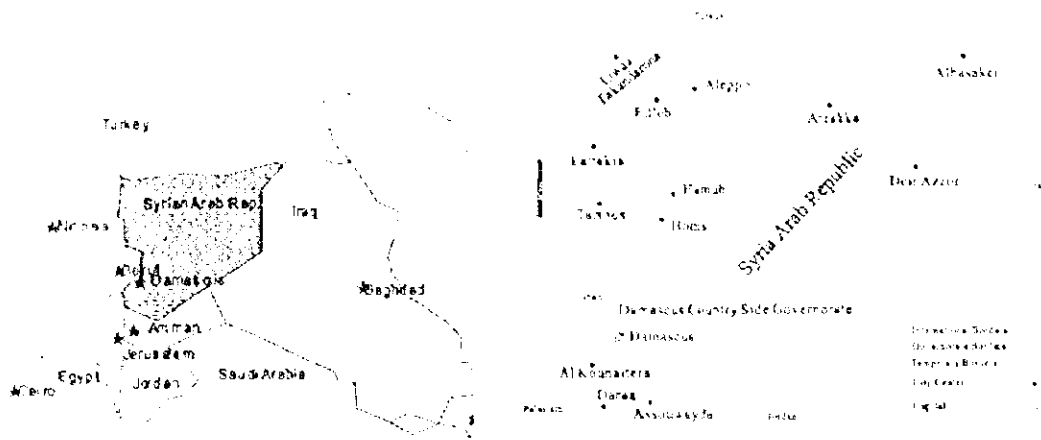


Figure 1.3.1 Study Area

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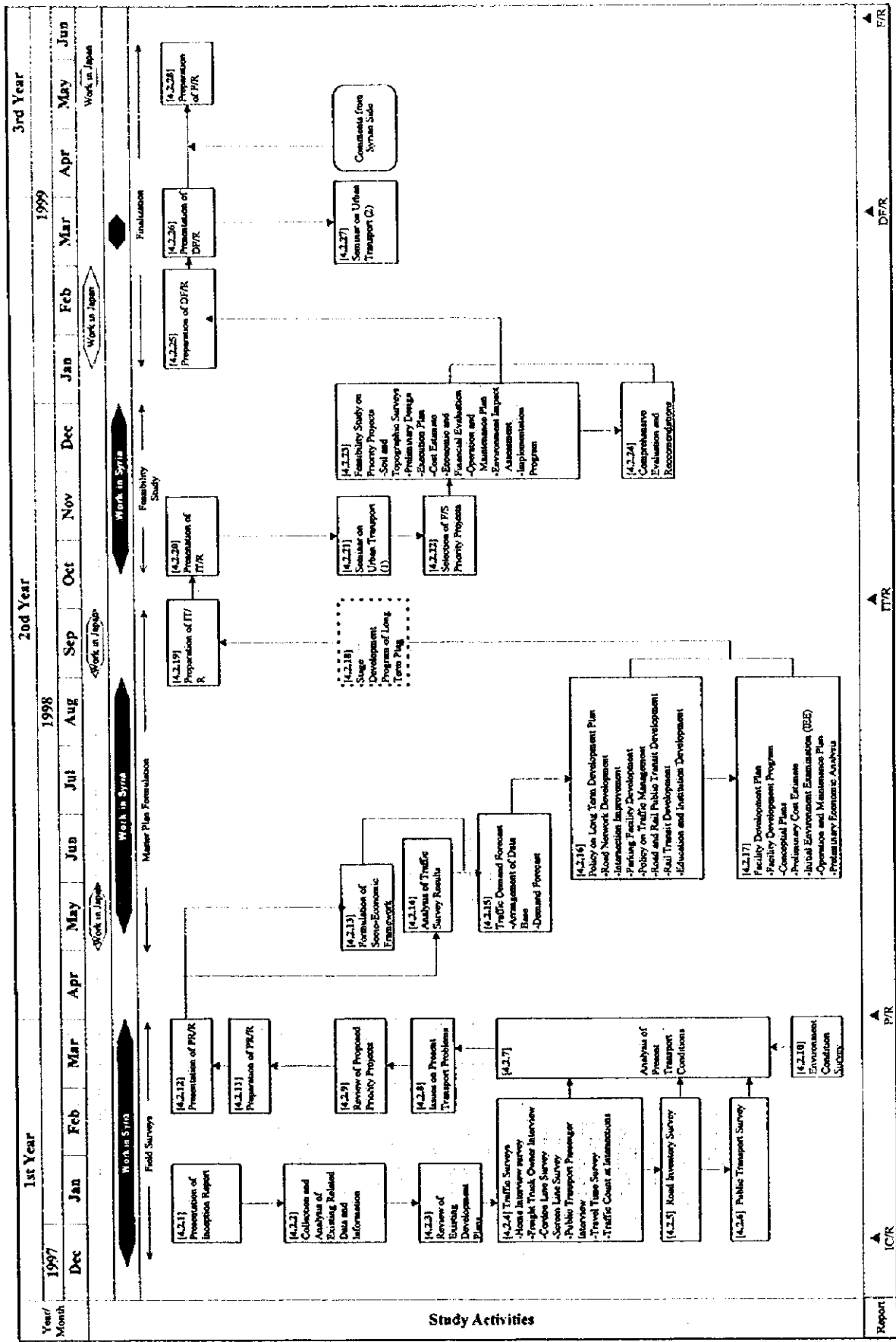


Figure 1.4.1 Study Flowchart

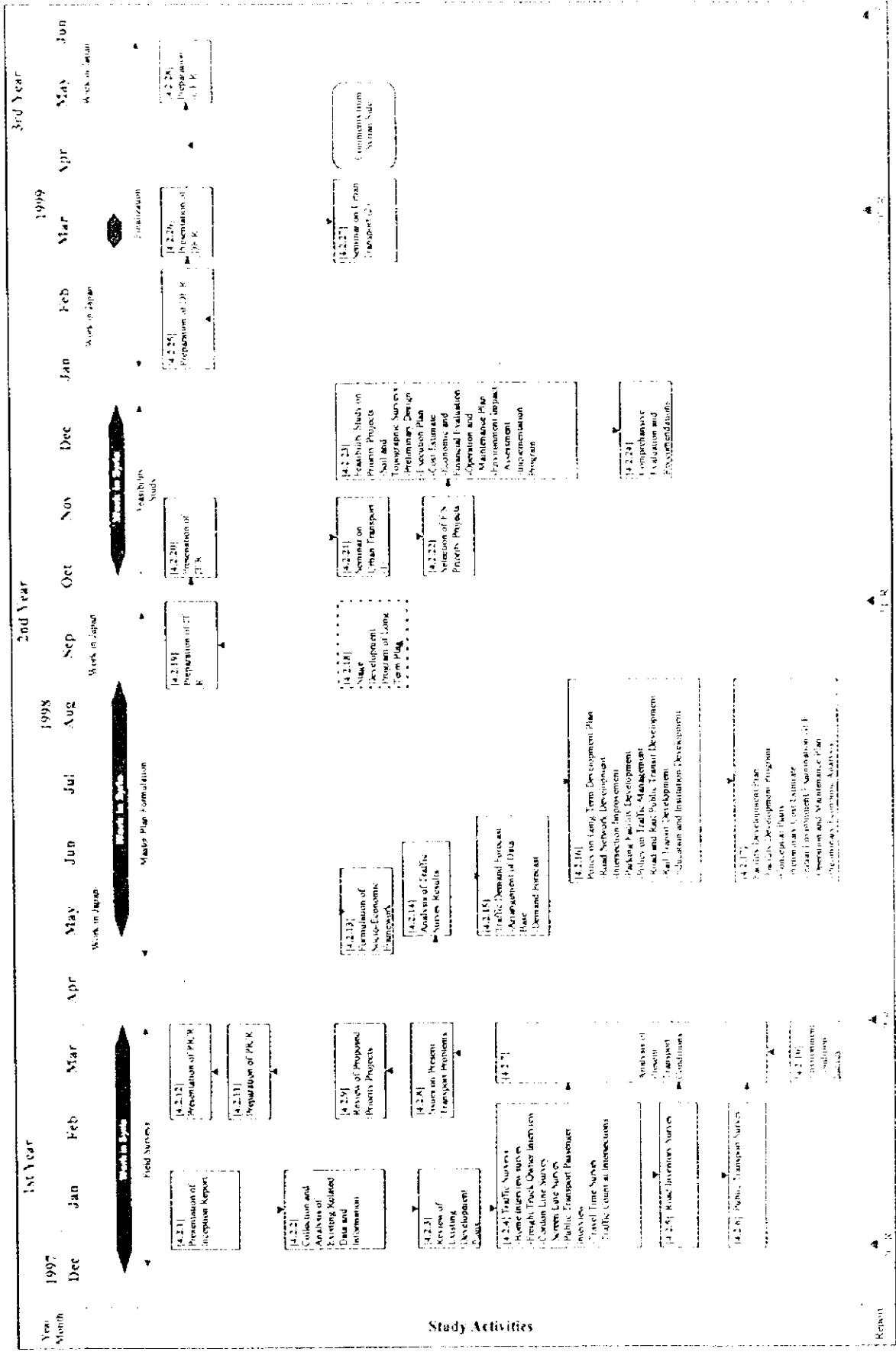


Figure 1.6.1 Study Flowchart

1.5 Planning Concepts

The JICA Study Team set the fundamental planning concepts after the Present Conditions Survey Phase was completed and the results analyzed. These are concepts are as follows:

- 1) To maintain the present transport urban service level of Damascus City during the planning period (year 2000-2020)
- 2) To develop the transport network while maintaining continuity of previous plans.
- 3) To develop the radial ring road pattern
- 4) To give higher priority to the projects of traffic management, especially improving traffic signal system, intersection structure and parking control system
- 5) To control the size of investment in the road network improvement and traffic management projects within the range of the road budget of Damascus City until the year 2020.
- 6) To introduce larger size buses instead of minibuses and promote the policy to convert from use of passenger cars to use of taxis.
- 7) To induce private investment to the public transport mode.

1.6 Study Implementation

(I) Study Organizations

The JICA Study Team in conjunction with the Ministry of Interior and Damascus Governorate in Syria undertook the Study. The Steering Committee composed of representatives of relevant agencies in Syria was organized to provide adequate directions and make necessary decisions for the smooth implementation of the study. The Advisory committee was organized by JICA in order to advice on the technical aspects of the study. The organization chart and members of the organization with relevant officials are shown in Figure 1.6.1 and Table 1.6.1 respectively.

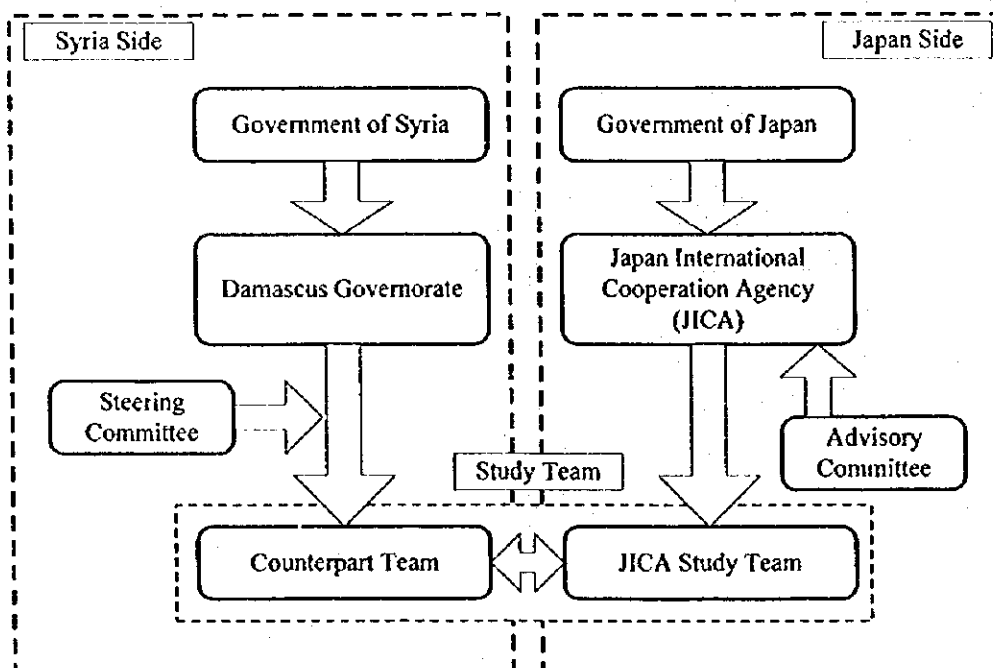


Figure 1.6.1 Study Organization Chart

Table 1.6.1 Member of the Different Study Organizations

Steering Committee of Syrian Side		
Mr. Mouhammad Zouheir Taghlibi	Damascus Governor	
Mr. Mouhammad Samir Al-Abdeh	Chairman, Vice Governor, Damascus Governorate	
Col. Farouk Al-Mousselli	Ministry of Interior	
Dr. Mousa Al-Chaar	Ministry of Transport	
Dr. Nabil Ashraf	Syrian Engineering Syndicate	
Eng. Mamoun Al-Zahabi	Damascus Governorate	
Eng. Khaled Al-Ahmad	Ministry of Communication	
Mr. Bassam Al-Sibai	State Planning Commissar	
Dr. Yarob Badr	Tishreen University	
Counterpart Team		
Mr. Mamoun Al-Zahabi	Chief of Counterpart, Damascus Governorate	
Mr. Anwar Darwish	Ministry of Interior	
Mr. Nabil Barakat	Damascus Governorate	
Mr. Khaled Idilbi	Damascus Governorate	
Mr. Ahmad Al-Sabbagh	Damascus Governorate	
JICA Study Team		
Dr. Juro Kodera	Team Leader	
Mr. Hajime Tanaka	Transportation Plan	
Dr. Hani Abdel-Halim	Road Plan	
Mr. Tetsuo Kawamura	Public Transportation Plan	
Mr. Tetsuo Horie	Traffic Survey/ Traffic Demand Forecast	
Dr. Farouk Sobhy Adli	Traffic Management Plan	
Mr. Yoshimasa Ishii	Transportation Facility Plan	
Mr. Iwane Mizuno	Economic/Financial Analysis	
Mr. Kouzou Fujii	Natural Condition Survey	
Mr. Yasuaki Muramoto	Structure Design	
Mr. Masaaki Tsuda	Traffic System Design	
Mr. Masaaki Ueda	Project Implementation Plan	
Mr. Akitoshi Iio	Environmental Evaluation	
Mr. M-S. Riad	Social Environmental Survey	
JICA Advisory Committee		
Prof. Dr. Mitsuyuki Asano	Chairman	
Mr. Kenichi Katayama	Committee Member	
Mr. Masayuki Kanda	Committee Member	
Dr. Asaichi Miyakawa (Predecessor)	Committee Member	
JICA Syria Office		
Mr. Tatsuhiko Ebina	Representative	
Ms. Ako Mutoh (Predecessor)	Deputy Representative	
Mr. Hiroyuki Mori	Deputy Representative	
JICA Headquarter		
Mr. Takao Kaibara	Director, First Social Development Study Division	
Mr. Masaiei Matsunaga	Deputy Director, First Social Development Study Division	
Mr. Hiroyuki Mori (Predecessor)	First Social Development Study Division	
Mr. Takayuki Ooyama	First Social Development Study Division	
Embassy of Japan in Syria		
Mr. Katsuhito Saka	Fist Secretary	

(2) Technical Transfer

In the course of the study, technical transfer was carried out to the counterpart team from time by time. Major activities of the technical transfer involved meetings with the counterpart team, holding workshop and seminar, and counterpart training in Japan.

1) Discussion Meetings with the Counterpart Team

The meetings were held occasionally and timely between the JICA Study Team and Counterpart Team where key issues related to planning and design were discussed.

2) Workshop and Seminar

The Study Team held the workshop in three cities of Damascus, Aleppo and Latakia, after the Interim Report was presented. The workshop focused on technical level and presenting the Master Plan contents.

A seminar is scheduled in September after the Final Report submission. The seminar is planned to focus on presenting the entire study activities and results and participants will be technical and general audience. The seminar will be held in the three cities of Damascus, Aleppo and Latakia.

3) Counterpart Training in Japan

Three counterparts were sent to Japan for approximately three weeks in order to enhance their knowledge in the fields of urban transport planning and traffic management.

Workshop held in Damascus



Chapter 2. RELATED DEVELOPMENT PLANS

Historically, the planning of Damascus has been developed under the influence of different civilizations and variant colonial and cultural atmospheres, which left clear fingerprints in every spot of the City. This is reflected on the transport system of the city and the behavior of road users. The first plan in this century was established in 1936 and after the independence in 1945, several development projects were implemented to give the city its present pattern.

During the last three decades, the city of Damascus and its surrounding areas have faced a dynamic residential and economic expansion, which reflects a sustained economic growth. The expansion of the urbanized area resulted in increasing the transport demand for people and goods. That gives an urgent importance to the transport sector in Damascus and its surrounding areas, which compose together one metropolitan area.

In the process of planning and implementing transport infrastructure projects for Damascus City, few plans were established in recent decades. Following sections present summarized information on the available related plans and studies.

2.1 General Master Plan of Damascus, Eckoshar and Banshoya, 1968

This master plan can be considered as the last plan for Damascus as it was established in 1968 for a period up to the year 1985. In this plan, the two engineers (Eckoshar of France and Banshoya of Japan/France) proposed to develop a main road and street network of 224 km, which can provide harmony and live entity for the city. The network was planned to serve an estimated population of 1,500,000 with 160,000 vehicles, in an area of 10,625 ha. The main target was to establish a comprehensive land-use plan covering the expected growth in population and the possible directions for the city expansions with infrastructure requirements and control measures for different activities.

A report in French was published as an attachment to the master plan maps in 1968. The Arabic translation was prepared in 1973 and is divided into the following sections:

(1) Physical Profile

This section includes three chapters on the history, climate and geology of Damascus. Historically, the name of the city is mentioned in the ancient Egyptian writings of the 18th dynasty and in the Judaism bible about 1900 BC. It became the capital of the Aramaic Kingdom on 980 BC and continued as a capital city since that time for different civilizations and kingdoms.

Elevation of the city of about 625 to 850 meters above sea level gives a moderate climatic conditions during autumn and spring and relatively hot summer and cold winter. The low annual average rainfall of about 230 mm and surrounding desert provide low humidity levels and most of the strong wind is coming from the northwest direction.

Geologically, the northwestern mountainous area has an anticlinal composition while the southwestern areas are composed of pliocenes and quaternaires. In-between, there is Damascus gap which extends for more than 60 kilometers from northeast to southwest with a width of about 10-15m and up to 40m in some places. The gap is filled with volcanic-age sediments with a breche tectonique at the suburbs.

(2) Damascus and the Middle East

The city has a central and strategic location between many middle-eastern countries with high population densities, which can provide good markets for Syrian products. Transportation is an important factor to achieve this economic integration through developed road railway networks to major ports and cities in the region. Such transport network can connect Asia with each of Europe and Africa as well as countries around the Mediterranean Sea.

(3) Damascus and Syria

This section includes the geographical distribution of the population of Syria between governorates in addition to the origin of people of Damascus and its influence area. The second main city in Syria is Aleppo with almost the same population and following major cities, such as Homs, Hama and Latakia have far lower populations. In addition to serving as the main tourism center, the productivity indicators of Damascus in the agricultural and industrial sectors are half of the total production of Syria,

(4) Population

Population of Damascus in 1946 was about 300,00 and in the years of 1960-1962 was in the range of 550,000 and 570,000 inhabitants with about 43% of the population less than 15 years old and 51.5% males. As the birth and death data was not accurate, growth rates were analyzed and calibrated to estimate average values to be applied in the planning study. The estimated natural growth rate in population of 3.5% was almost constant during these periods with a birth rate of 4.5% and death rate of 1%. The general growth rate of 3.7% was later estimated to consider the influx of migration movements from rural areas.

Based on the above average values, three scenarios were proposed for the future forecast growth rates in population as follows:

- Low Growth	1960 – 1974	3.5%
	1974 – 1984	3.0%
- Medium Growth	1960 – 1984	3.7%
- High Growth	1960 – 1974	4.0%
	1974 – 1984	3.7%

To secure unexpected future expansion, the High Committee of City Planning, however, requested the use of a fixed growth rate of 4.5% for the whole planning period from 1964 to 1984.

(5) Basic Principals of Planning

The expansion of the city was estimated based on the future population with a density of 200 inhabitant/ha. The increase in population from 660,000 in 1964 to 1,500,000 in 1984 required areas of 4,910 ha in 1974, 6,120 ha in 1979 and 7,620 in 1984. That means that the city area increased by 2 to 3 times its existing area. Accordingly, the transport network should be planned to provide access to all new expansion areas, which are proposed to be mainly in the direction of the mountain.

In addition to developing the local urban transport network, the international axes should have great importance due to the regional role they play in connecting all the neighboring countries.

(6) Damascus and Surrounding Areas

Geographically, Damascus has its influence not only on Syria but also on the Arab world and it contains the remains of different civilizations, which qualify it to be a great tourism center in the area. The international road network in the surrounding area of the city requires strong arterial to connect Damascus with Beirut in the west, with Aleppo and Europe in the north, with Baghdad and Saudi Arabia in the east and Amman in the south.

Rural development is also required especially for such areas as Al Ghouta based on the water supply and agricultural activities. These areas may accommodate more population but with lower density providing that an efficient transport network and other infrastructure services are provided.

(7) Traffic

Traffic volumes coming from all the directions outside the city are considerably low when compared with volumes in the central area. Al Nasr street is one of the main arterial in the city with about 1,000 veh/hr. Traffic composition shows that buses have a share of about 15-17% and taxis are 30-40%.

Main arterial roads outside the central area of the city which were subject to the study include the highways of Beirut – Aleppo, international airport, Deraa, Qunaitera and other connecting roads to Dummar, Berzeh, and Seydnaya as well as roads to industrial and expansion areas. A road network plan for the central area was established on a scale 1:2,000 with some new roads in the different directions of the city.

(8) Infrastructure

Housing was a main issue in the plan to provide required areas in the existing zones as well in the new expansion zones for different categories of houses based on the average income for each category. Numbers of schools and hospitals were estimated for each zone based on the population forecast and zonal data. For each type of zones, areas were estimated for the different activities and sectors such as shopping, roads parking, parks and private green areas.

In addition to schools, a plan was prepared for the distribution and re-organization of higher education facilities including the faculties under Damascus University and other higher institutes in specified areas preferably outside the city center.

Public works and other services were investigated and distribution plans were proposed for the water supply and electricity networks. Data were collected and analyzed on other transport modes, including air aviation airports and stations and lines of railway, to establish development measures for these sectors.

(9) The Old City

Historically, the Old City has a special nature and great importance, as it was the center of the city for more than 2000 years. It still contains ancient antiques and palaces in addition to the fact that it is occupied by socioeconomic activities at present. To maintain the nature of the city under a development plan to provide basic services is not an easy task. Comprehensive studies were conducted to cover all the fields and development sub-plans were established separately for each of its zones, which may match and meet its dominant activities.

(10) Land-use Plan

The urban area of Damascus as well as rural areas surrounding the city were under this comprehensive plan which is proposed to be implemented through different authorities and ministries. Areas for each land-use activities were generally classified to include the following:

- A. Rural Activity Areas: to be kept under the present population conditions and to be improved for irrigation and agricultural activities.
- B. Green Protected Areas: to terminate informal housing at these areas, which include mainly Al Ghouta.
- C. Internal Agricultural Areas: to be under the same regulations of class A areas with prohibition policies for all new buildings.
- D. Green Areas: to be for public use under the planning scheme of each zone.
- E. Public Areas: to be used for governmental buildings, schools, hospitals, etc.
- F. Rural Residential Areas: to include the existing Ghouta villages with a maximum of ground and two floors only in specified areas.
- G. Industrial Areas: to be planned under the classification of four categories based on the effect on health.
- H. Planned Areas: to be implemented according to the rules and regulations of the approved plans.
- I. Under-Planning Areas: to be implemented according to the rules and regulations to be established in their plans.
- J. Planned Expansion Areas: to be under the policy of the general plan, without modifications, which is being prepared with attached proposed program.
- K. Residential Local Areas: to increase the minimum area of each house to 70-100m² for old and new buildings and height restrictions based on street widths.
- L. Central Areas: to be regulated to accommodate some housing and small-industry areas in addition to the commercial activities.
- M. Old City: to be developed on zonal basis in order to keep the historical areas under their original nature in one section and to regulate the socioeconomic activities in the other section.
- N. Recreational Areas: Valley of Barada River should be under building restrictions except for recreational purposes.
- O. Historical Buildings: to be specified, recorded and developed for cultural and tourism activities.

The General Master Plan was approved but not completely materialized due to among other reasons, wars and social instabilities in which unplanned and unregulated migration and influx to the capital region caused random implementation of some other projects and delay for planned projects.

Figure 2.1.1 presents the Damascus Road Plan prepared by Eckoshar and Banshoya in 1968, and Figure 2.1.2 shows the general condition of implementing different main arterial streets before and after the plan as concluded in the General Plan in Section 2.2.

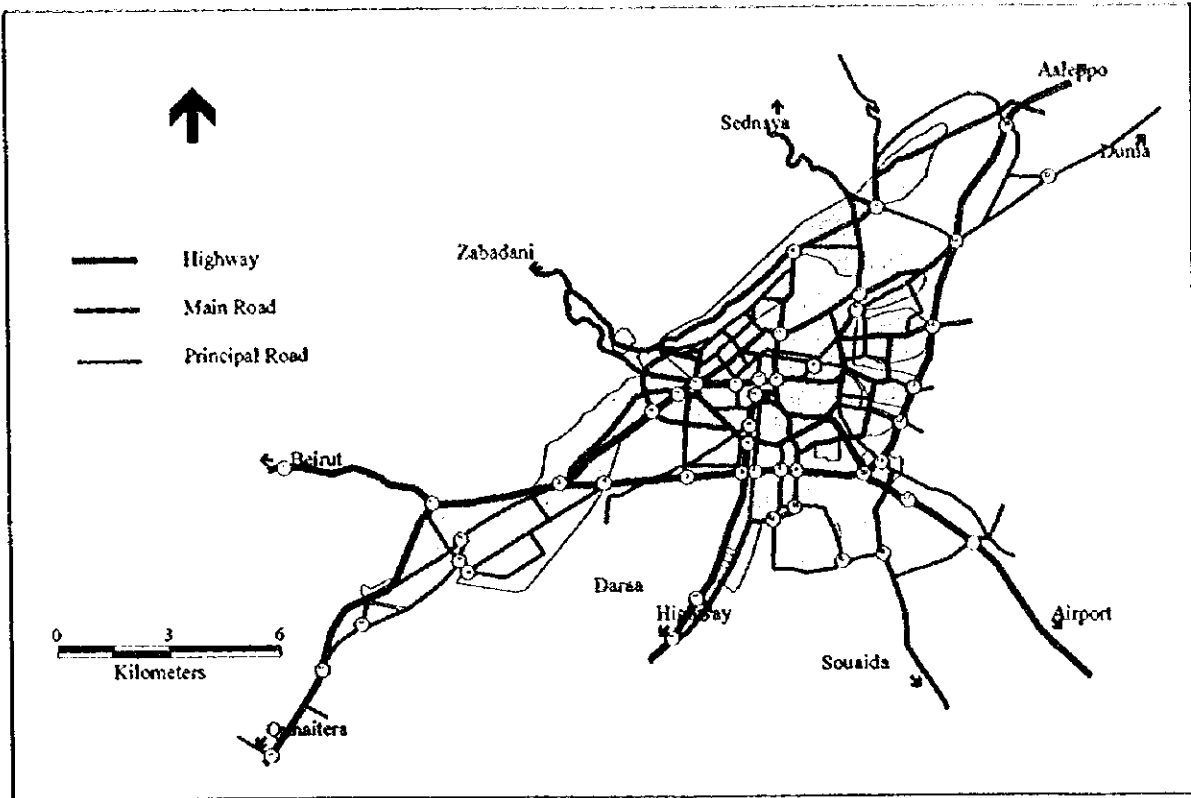


Figure 2.1.1 Damascus Road Plan – Eckoshar and Banshoya, 1968

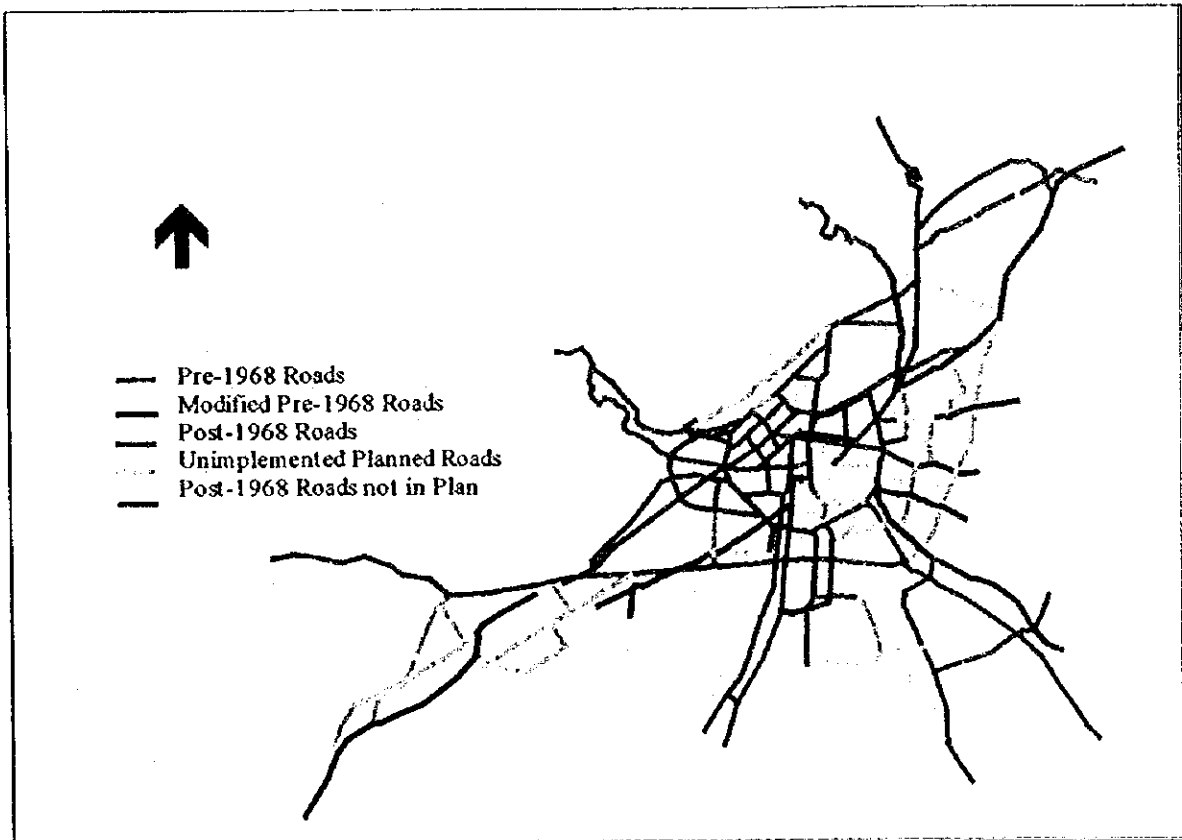


Figure 2.1.2 Damascus Road Network condition

Some of the main projects of the Plan to develop the road network are not completely implemented. However, many planned roads and structure projects were implemented and provided better traffic situations in the city, including the following:

South Bypass:

With a total width of 60 meters, the bypass was planned, and partially implemented, to be an extension of Beirut road from the western area of the city and to overpass the southern intersections, then to surround the western areas up to Homs road.

South Entrance Road:

This road was planned, and partially implemented, to serve southern local traffic as well as international traffic to Jordan and neighboring countries.

New Beirut Road:

This road was planned, and implemented, to serve eastern local traffic as well as the international traffic to Lebanon.

North-South Arterial:

To improve the traffic flow on the north-south direction, the Ath Thawara street was upgraded with grade-separation schemes.

East-West Arterial:

To improve the traffic flow on the east-west direction, the streets connecting the two main squares of Al Umawyeen and Abbasyeen were improved.

Kassioun Road:

This road was proposed to be constructed at the northern areas of the urban city, in which there is no main road serving as an east-west arterial.

Grade-Separation:

To solve traffic congestion problems at main intersections and squares, grade separation schemes were proposed at several locations. These include all intersections of the South Bypass, an overpass and underpass at the Umawyeen square, Ath Thawra overpass, Victoria overpass, Teshreen overpass, among others with a total of 48 schemes in the city.

The North Bypass of the city, recently under-construction, was not included in the Plan as it is considered outside the study area.

2.2 Study on the General Plan for Damascus City, 1997

A new comprehensive ongoing study for a Master Plan for Damascus city up 2020 is being prepared by the General Company for Technical Studies and Consulting under different phases in which the report of Phase-III was prepared in March 1997. This Plan aims to accommodate 7,400,000 people in the city and surrounding areas totaling 270,000 ha based on the following distribution on proposed urban development areas (Phase II Report, 1996).

Area	Inhabitants
Municipality of Damascus	2,000,000
Suburban Areas	1,600,000
Main satellite cities	1,200,000
New development areas and new towns	1,340,000
Other surrounding areas	1,260,000
Total	7,400,000

The preliminary results of 1994 Census, which is the base of this study, show that the population inside the administrative area of Damascus City is 1,444,000 and estimated population in the surrounding area is 1,500,000. The number of registered vehicles in both areas by the end of 1994 was 150,000 vehicles with a car ownership of 50 veh/1000 person which is a low rate compared with international standards.

To prepare this study, traffic surveys were carried out with the objective of analyzing the traffic movement on main streets in the city and to identify existing traffic problems, which require measures in the near future. The surveys included traffic counts at 49 sections and 33 intersections on main streets in addition to travel speed measurements. Collected data were analyzed to estimate peak-hour volumes and off-peak hour volumes, value of time losses due to low peak-hour speeds and the average daily traffic (ADT) on main streets and at intersections.

Under this general plan, the transport sector was investigated and different transport infrastructure projects were proposed as presented in the following sections.

2.2.1 Metro Network

Two studies on underground rail network (Metro) systems are being prepared recently by Armenian and Iranian concerns. The new Master Plan of Damascus considers Metro as the most effective mode of transport for such a city with a population of more than 1 million in addition to the fact that environmentally, this mode is the most suitable. Basic studies show that in 1994 the number of yearly passengers reached more than 800 million distributed on the different transport modes as follows:

Public bus	68.3 million
Microbus	540.2
Taxi	66.0
Car	134.0

Losses in passenger travel time were estimated at SP 895 million and in vehicle operating cost at SP 3,331 million for the year 1994. To develop and improve the transport system of the city, the Metro network was proposed to consist of the following four lines:

Radial Line 1	11.0 km	9 stations
Radial Line 2	10.5 km	9 stations
Radial Line 3	10.5 km	9 stations
Circular Line	12.5 km	9 stations

The proposed Metro requires, in some areas, a depth of 30m due to the groundwater level and to avoid ancient remains probably existing under the old city. The rough cost estimate of the proposed network was about US\$ 2.0 billion for a total network length of 44.5 kilometers.

2.2.2 Road Projects

Regarding the road network of the city, the study proposed different road projects either to construct new roads and underpasses or to improve and widen existing roads. In addition, the functions of some streets were proposed to be changed into pedestrian streets. The proposed projects, which are located in Figure 2.2.1, are as follows:

(1) Projects of New Proposed Streets

1) Northern Street of Old City:

To provide direct access between central-east areas of the city and to the west through the other improved main street of Shoukry El-Quawatly, so volumes on other alternatives will be decreased.

2) Southern Street of Old City:

To support Madhat Basha Street inside the Old City which is the only direct street handling traffic from city center to southern and eastern areas.

3) Kassloun Mt. Street:

Which is passing through informal housing areas and serving a population of 250,000.

4) South Bypass Extension:

To connect international roads south of the city for transit traffic and for heavy vehicles.

5) Quodsayya Street:

To connect the northern bypass with Beirut new road and to serve new proposed residential areas.

6) Dummar Street:

To provide a southern new entrance to Dummar new town and to connect it with New Beirut road and a planned ring road.

7) Eastern Bab Sharki Street:

To be parallel and an alternative to the congested Ibn Assaker st. south of the Old City.

8) Barzeh Street:

To connect the North Bypass with an eastern road so they can provide a ring road when connected with the South Bypass in the future.

9) New Kassloun City Streets:

To provide two main roads in the new residential area to connect it with the network of the city and other local roads.

10) Kafar Sousseh Street:

To connect 17th April street with the South Bypass providing a new center – south arterial.

11) Deraa Highway Connection:

To connect the new Deraa highway with the South Bypass as a new southern entrance for the city.

(2) Projects of Intersections and Narrow Streets

1) Beginning of Aal Al Bait Street:

South of the Old City as an expansion to Ath Thawra street

2) Hassan Al Kharrat Sq. Underpass:

On Ibn Assaker street to provide grade separation at the congested roundabout.

3) Al Mojtahed Sq. Underpass:

To handle about half of the intersection's volume without interfering with the traffic of Khaled Ibn Al Walid street.

(3) Projects of Pedestrian Streets

1) Medhat Basha Street:

Inside the commercial area of the Old City and a popular destination for tourists and shoppers

2) Al Midan Street:

With many ancient buildings, restaurants and tourist attraction spots.

3) Al Kassaa Street:

With many shops for clothes and textiles in a popular commercial area just north of the Old City wall.

In conclusion, three alternative plans were established which differ in the proposed new areas for the urbanization expansion of the city to accommodate an additional population of 350,000 inhabitants up to the year 2020. The three alternatives have the same target of

protecting the green areas surrounding the city as the proposed expansions are to the west and northern directions, which include some mountainous areas. The North Bypass is recommended to be extended to Adra in the north and Al Sabora in the south to serve the expansion to the mountainous areas.

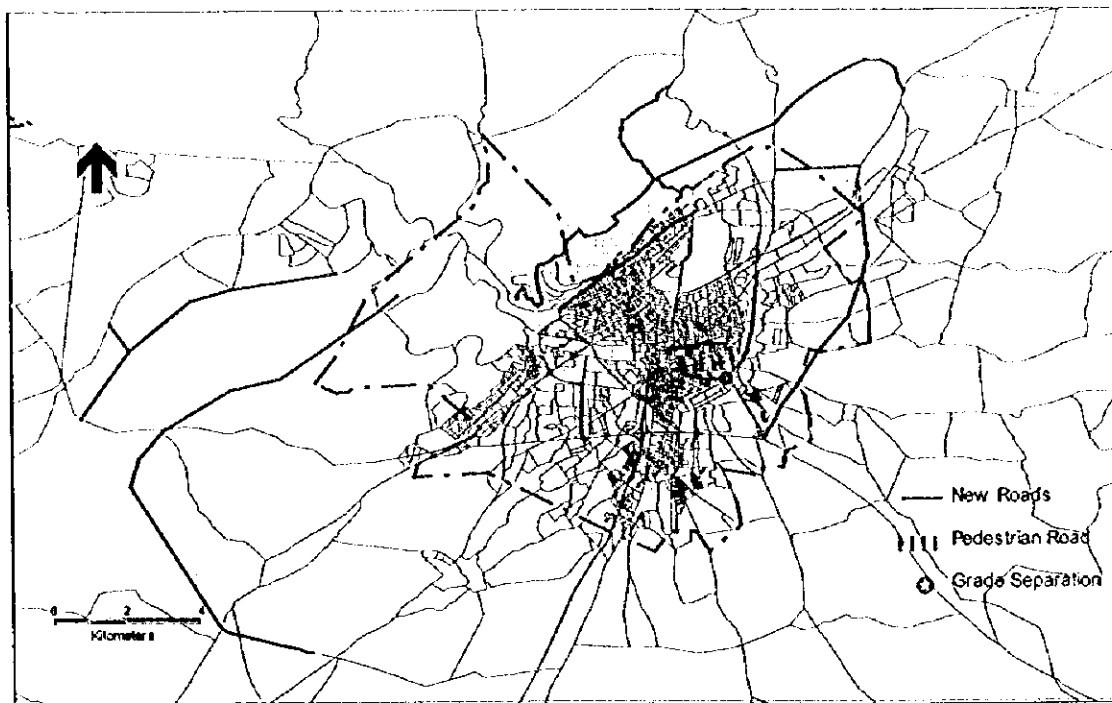


Figure 2.2.1 Location of Proposed Projects of General Plan

The study is still ongoing behind its schedule and it has not yet been approved by the Governorate as there are some points remaining to be resolved, such as:

- The forecast population of the year 2020 in the study of 6 - 7 million is higher than the Governorate targets of keeping the population at only 5 million as the population which can be covered by the available water resources of the city.
- The urbanization alternatives of the study are concentrated outside the city boundaries while the Governorate target is to fully utilize unorganized areas inside its boundaries.

2.3 Traffic Management Plans, 1986

Several traffic management plans were carried out to improve the flow characteristics at some intersections and main squares in the city center. Such plans are concentrated in preparing signalization cycles based on the traffic volumes counted at each intersection. Available plans are those of the following intersections:

Youssef Al Azmeh sq.:	29 th May – Maisaloun – Port Said – Salhiya – Youssef Al Azmeh streets
Al Mokhayam sq.:	Al Yarmouk – Palestine – At Tadamon streets
Borg Al Rous sq.:	Bab Touma – Al Malek Faisal – Gibram K. Gebran streets Baghdad – Ath Thawra intersection
Umawyeen sq.:	Shoukry Al Qouwatly – Al Mahdi Ibn Barakeh – Adnan Malki – Jawaher Lal Nehru – Faiz Mansour – Basel Al Assad streets
Al Matar sq.:	Ibn Assaker – Airport streets

Al Faihaa sq.:	6 th Tishreen – Ath Thawra streets
Al Rodah sq.:	Al Jalaa – Ziad Ibn Abi Sofian – Masr – Al Hijaz – Al Rodah – Al Mansour streets
Bab Mossala sq.:	Ibn Assaker – Abou Baker As Seddik – Az Zahera – Al Midan streets
SANA sq.:	Palestine – Al Jameyah As Soureya streets
Damascus Citadel sq.:	An Naser – Ath Thawra – Saad Zaghoul streets

The calculations of the signal cycle for these intersections are mostly for one plan only, which is not optimized for the different hours of the day.

2.4 Transport Sector Plan 1996 - 2000

The 8th 5-Year Plan for Transport, Communications and Storage Sector (1996 - 2000) under preparation by the State Planning Authority of the Prime Minister Office includes mainly the following contents:

(1) Summary and analysis for the previous period 1990 – 1994

• Total Sector Investments	39,996 m. SP
• Roads	61.4%
Including: Construction of Road, Bridges and Buildings	61.3%
Machinery and Equipment	29.9%
Means of Transport	6.0%
• Telecommunications	26.4%
• Air + Rail + Sea + Pipe + Storage	12.2%

(2) General objectives of the 8th 5-year plan

- Maximum utilization of existing transport facilities
- Modernization of transport sector management
- Maximum utilization of available storage capacities
- Expansion and maintenance of international road network
- Modernization and expansion of telecommunication services

(3) Targets of the plan

- Increasing sector's total productivity from 105,500 m. SP in 1995 to 138,543 m. SP in 2000 with an annual growth rate of 5.7%
- Increasing public sector's productivity from 24,177 m. SP in 1995 to 47,787 m. SP in 2000 with an annual growth rate of 14.6%
- Increasing private sector's productivity from 80,828 m. SP in 1995 to 90,756 m. SP in 2000 with an annual growth rate of 2.3%

(4) Policy and procedure (for the road sector):

- Operating axle-weight check points
- Issuing road and right-of-way protection act
- Applying international standards on road maintenance
- Applying international standards on traffic engineering and management.

(5) Sectional Economic Indices

Table 2.4.1 Sectorial Economic Indices

Parameter	1955	8 th 5-Year Plan					2000/ 1995	Annual Growth
		1996	1997	1998	1999	2000		
Gross Domestic Output	24,177	28,660	32,681	38,503	43,337	47,787	1.98	14.6%
Expenditures	7,394	7,969	8,262	8,640	9,050	9,597	1.30	5.3%
Gross Domestic Product (GDP)	16,783	20,691	24,419	29,863	34,287	38,190	2.28	17.9%
Investments	7,176	7,547	9,333	20,831	16,822	15,466	2.16	16.6%

Note: market price in 1995, unit: mill. SP

(6) Road Projects in 8th Plan

Table 2.4.2 Road Projects in 8th Plan

Ministry of Communications (unit: mill. SP)	
On-going Projects - Total	3,994.570
New Projects - Total	949.417
Including Damascus Region Projects of:	
Completion of Damascus - Swaida Road	35.000
Completion of South Entrance Road of Damascus	115.000
Damascus - Qunaitera Road Construction	210.000
Interchanges on Damascus - Aleppo Highway	383.000
Improvement of Damascus - Derra Old Road	200.000
Maintenance of International Airport Highway	25.000
Damascus Outer Ring Road	254.697
Ministry of Transport	
Damascus Metro Study	1,000.000

Chapter 3. SOCIOECONOMIC CONDITIONS

3.1 Location and Land Area

The Study Area is located within the Damascus Capital Area (Damascus Governorate and Damascus Countryside Governorate). Administrative units included in the Study Area are as follows:

- (1) Damascus City Governorate
- (2) Damascus Countryside Governorate
 - 1) Governorate Center Zone
 - 2) Al Tal Zone
 - 3) Daraya Zone
 - 4) Douma Zone (excluding Sabaa Beyar District)
 - 5) Zabadani Zone (excluding Zabadani Center Village District, Madaya District and Sarghaya District)
 - 6) Qatana Zone (excluding Beat Jn District and Saasaa District)

Qoutaifa Zone, Nabik Zone and Yabroad Zone within the Damascus Countryside Governorate are excluded from the Study Area (see Figure 3.2.1).

The Study Area extends over 2,500 km² around Damascus City with an area of about 100 km².

3.2 Population

3.2.1 Syria

The population of Syria in 1998 is estimated at 15.6 million by the Central Bureau of Statistics, increasing at an annual rate of 3.28% from 13.8 million in 1994 (result of the 1994 Census).

3.2.2 Study Area

The Study Area has a population of 3.08 million in 1998, which covers 89.5% of that of the Damascus Capital Region. The annual average increase rate of the Study Area's population during the period from 1981 to 1994 was 3.29%, which was the same as that of the national total. But recently since 1994, the annual growth rate is estimated to have declined to 3.12%, mainly due to the fact that Damascus City is gradually approaching to the saturation point.

The population of Damascus City (the Planning Area) reached about 1.5 million in 1998. The percentage share of the Study Area's population captured by Damascus City is falling from 61.7% in 1981, 51.0% in 1994, to 48.3% in 1998.

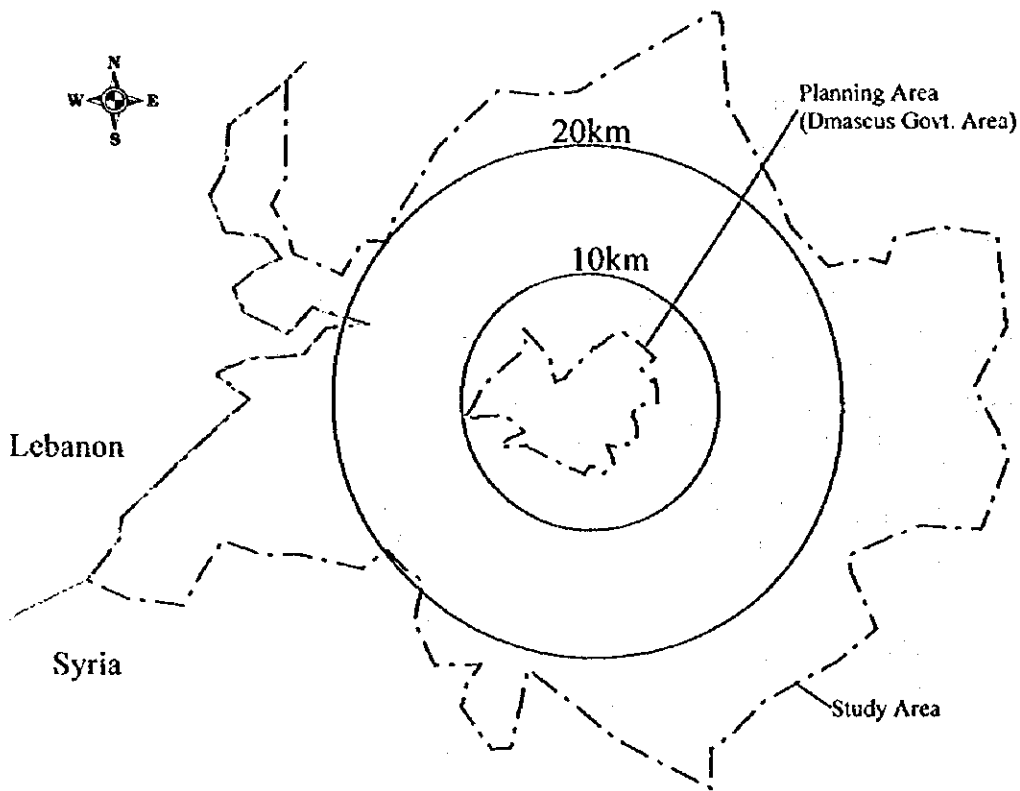
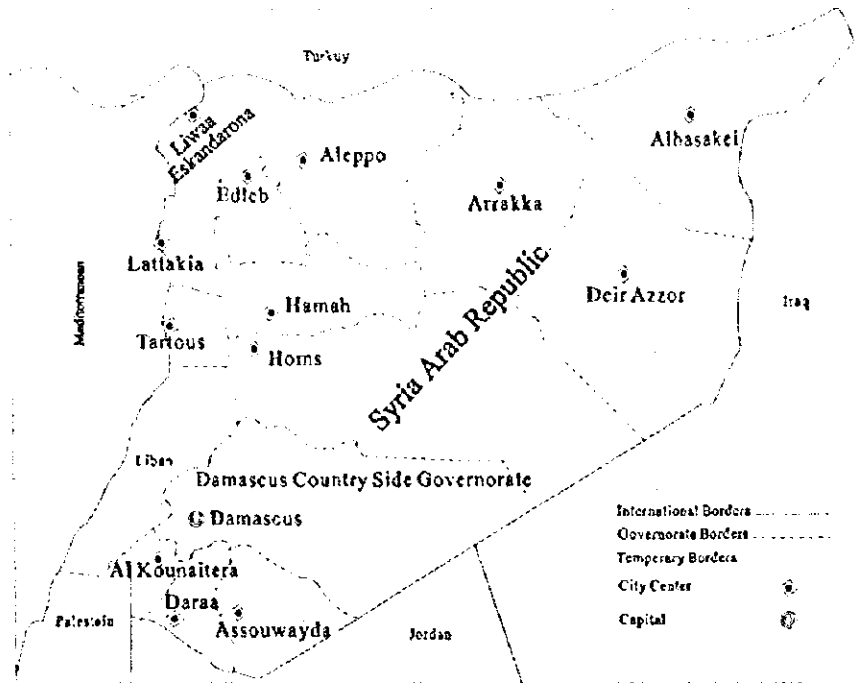


Figure 3.2.1 Location of the Study Area

Table 3.2.1 Population Increase of Syria and the Study Area

	Population ('000)			Annual Growth Rate	
	1981 Census	1994 Census	1998 CBS Estim. ²⁾	1981-94 (%)	1994-98 (%)
Syria (A)	9,046	13,782	15,597	3.29	3.28
Damascus C.A. (B) ¹⁾	2,026	3,041	3,439	3.17	3.26
Study Area (C)	1,797	2,736	3,078	3.29	3.12
Damascus City (D)	1,109	1,394	1,488	1.77	1.72
Percentage: (B) to (A)	22.4	22.1	22.0		
Percentage: (C) to (B)	88.7	90.0	89.5		
Percentage: (D) to (C)	61.7	51.0	48.3		

Source: Central Bureau of Statistics

1) Damascus Capital Area: Damascus City Governorate + Damascus Countryside Governorate

2) Midyear Population Estimated by Central Bureau of Statistics

3) The number of years is adjusted, as the 1994 Census was conducted in September

In Damascus City, population of the central part of the city is decreasing since 1981. Populations of zones comprising the Old City (Zones 35, 40, 41, 42, 45, 46 and a part of Zone 37) with the exception of Zone 45, are all decreasing. And some zones adjacent to the center are at a stagnant growth stage (see Figure 3.2.2). Zones that are experiencing a recent most rapid population increase in Damascus City are Zone 14 (Dunmar), Zone 47 (Bab Sharqi) and Zone 56 (Barzeh town).

In the suburban areas, populations of all zones are increasing. Zone 69 (Qatana), Zone 74 (Babyla), Zone 68 (Qudsaya), Zone 80 (Arbeen), Zone 70 (Daraya) and Zone 73 (Ghuzlanieh) registered high increase rates of more than 6% per annum between 1981 and 1994.

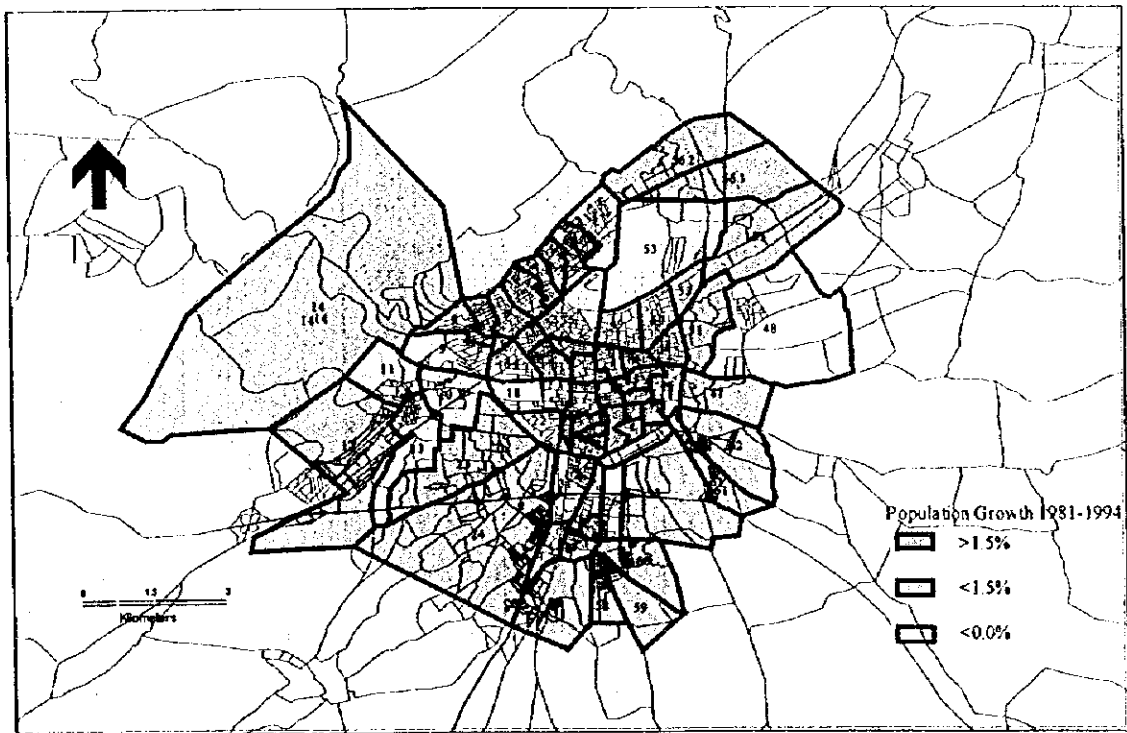


Figure 3.2.2 Annual Population Growth, 1981-1994

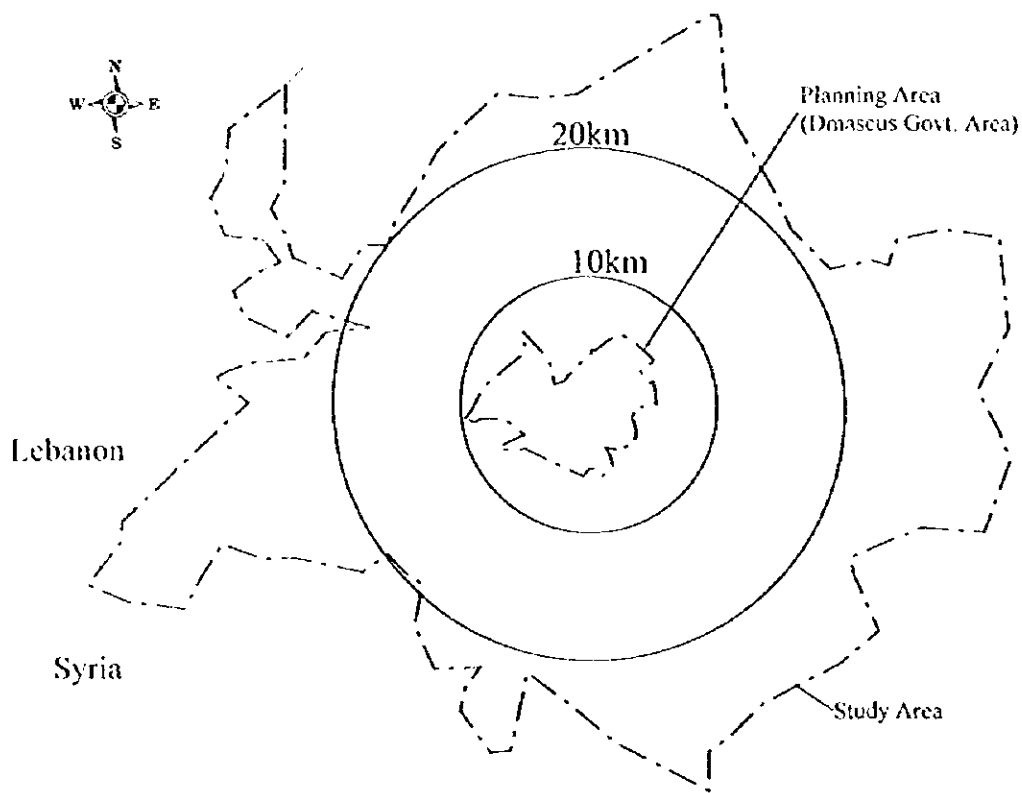
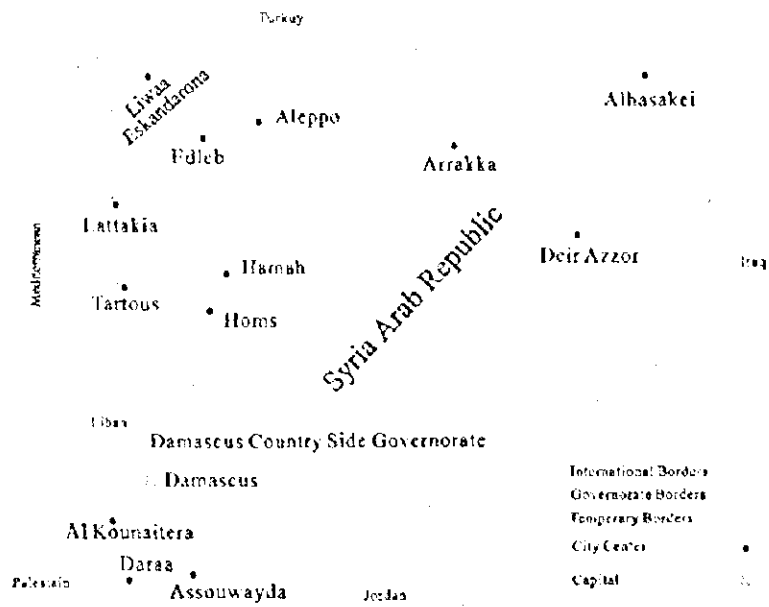


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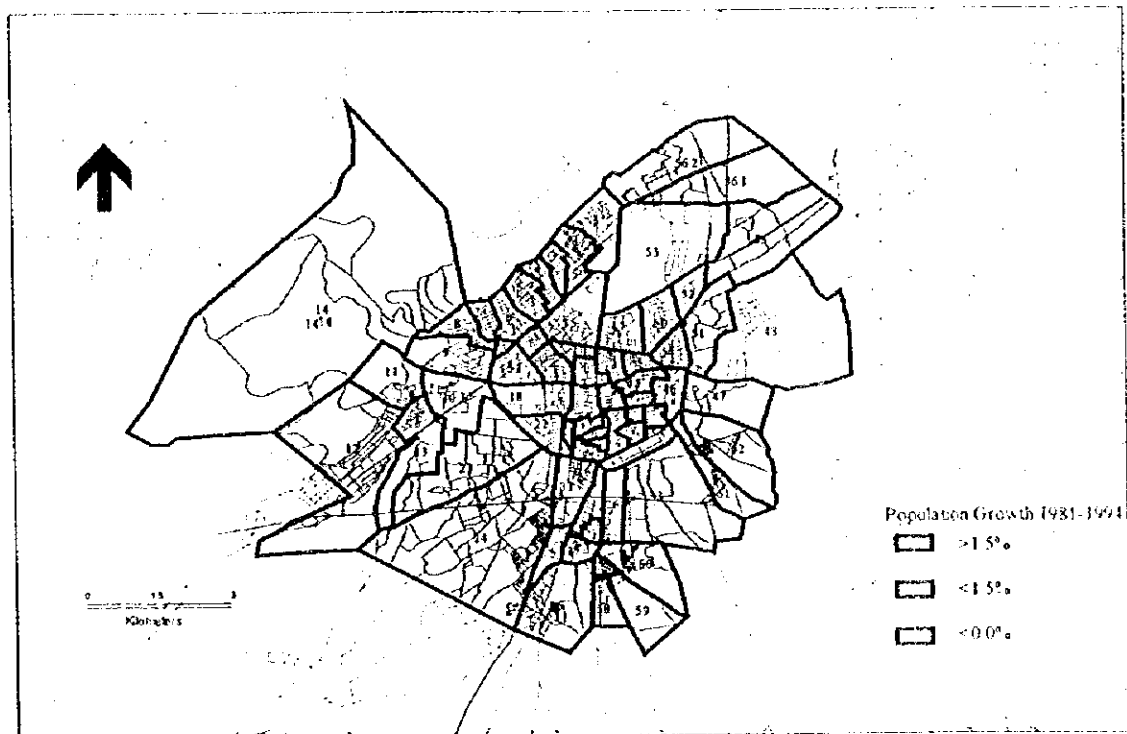


Figure 3.2.2 Annual Population Growth, 1981-1994

Table 3.2.2 Population by Zone, 1981, 1994 and 1998

A. Damascus City						
Zone No.	Zone Name	1981 (Census)	1994 (Census)	1998 Estimated	Annual Growth Rate (%)	
					1981-94	1994-98
1	Assad Addin	42,600	47,295	48,776	0.81	0.81
2	Naqsh Bandi	23,928	29,886	31,897	1.73	1.71
3	Ayubia	16,164	18,476	19,219	1.03	1.03
4	Abu Jaash	22,446	25,825	26,915	1.08	1.08
5	Saliheah	22,764	22,707	22,690	-0.02	-0.02
6	Shoura	23,645	22,368	22,005	-0.43	-0.43
7	Masstaba	10,678	10,986	11,079	0.22	0.22
8	Mrabutti	8,924	8,995	9,016	0.06	0.06
9	West Malki	5,858	4,133	3,729	-2.65	-2.65
10	Kiwan	5,872	5,916	5,929	0.06	0.06
11	Rabwa	6,292	6,763	6,909	0.56	0.56
12	Mazeh	48,912	86,843	100,253	4.51	3.82
13	Old Mazeh	18,620	21,002	21,761	0.93	0.93
14	Dunmar	16,691	48,446	62,583	8.54	6.91
15	Mazraa	24,867	19,309	17,921	-1.93	-1.93
16	Rawda	21,185	16,781	15,667	-1.78	-1.78
17	Sarouja	12,090	10,169	9,663	-1.32	-1.32
18	Hijaz	7,588	5,741	5,288	-2.12	-2.12
19	Kanawat	11,882	8,813	8,070	-2.27	-2.27
20	Bab Sryja	9,446	8,101	7,742	-1.17	-1.18
21	Anssari	9,216	8,186	7,905	-0.91	-0.91
22	Baramrka	22,055	19,946	19,364	-0.77	-0.77
23	Kafer Sussah	21,073	26,315	28,085	1.72	1.71
24	Lowan	42,865	67,823	76,300	3.59	3.12
25	Qadam	46,244	62,917	68,449	2.40	2.22
26	Zahira	21,862	23,278	23,713	0.48	0.48
27	Ka'ah	13,008	13,105	13,134	0.06	0.06
28	Daqaq Mosq	9,105	10,274	10,647	0.93	0.93
29	Haqra	8,091	9,519	9,986	1.26	1.26
30	Bab Massr	10,795	9,641	9,325	-0.87	-0.87
31	Midan Wastani	30,723	30,948	31,015	0.06	0.06
32	Bab Mussalla	9,536	7,423	6,894	-1.91	-1.91
33	Bilal	33,134	46,217	50,558	2.59	2.37
34	Dawanina	4,442	6,192	6,609	2.59	1.71
35	Amin	8,923	3,682	2,836	-6.58	-6.58
36	Souroji	11,126	8,990	8,442	-1.63	-1.63
37	Shaghour	8,760	6,346	5,771	-2.45	-2.45
38	Bab Aljabi	7,629	6,815	6,592	-0.86	-0.86
39	Soweqa	3,923	3,950	3,958	0.05	0.05
40	Tejari	2,730	1,020	763	-7.29	-7.29
41	Ashahem Mosq	3,626	3,342	3,263	-0.63	-0.62
42	Qaynarya	5,455	3,343	2,894	-3.70	-3.69
43	Aaqayba	11,293	8,876	8,268	-1.84	-1.83
44	Aqssar Mosq	14,954	12,481	11,833	-1.38	-1.38
45	Aamara	10,466	10,615	10,659	0.11	0.11
46	Bab Touma	12,821	12,263	12,103	-0.34	-0.34
47	Bab Sharqi	1,162	2,569	3,117	6.29	5.17
48	Jourr	47,543	50,422	51,304	0.45	0.45
49	Dewania	22,265	19,936	19,297	-0.85	-0.85
50	Qusser	25,770	21,222	20,041	-1.48	-1.48
51	Ma'monaya	17,193	25,240	26,938	3.00	1.71
52	Fars Khuri	9,384	9,930	10,097	0.44	0.44
53	Qasser Al Ibad	47,372	26,403	22,223	-4.40	-4.40
54	Zeinabia	15,582	11,934	11,031	-2.03	-2.03
55	Aboun	29,921	50,580	57,750	4.12	3.52
56	Barzeh Town	21,808	74,411	99,826	9.90	7.97
57	Falouja	12,501	24,683	26,344	5.37	1.71
58	Karmil	24,444	55,700	59,447	6.54	1.71
59	Hatteen	22,583	34,086	37,946	3.22	2.84
60	Tadamann	53,223	73,041	79,615	2.46	2.27
61	Wahda	17,146	22,969	24,903	2.27	2.13
62	Dowelaa	0	39,134	41,767		1.71
	Total	1,109,431	1,394,322	1,488,124	1.77	1.71

(Continued)

B. Study Area						
Zone No.	Zone Name	1981 Census	1994 Census	1998 CBS Estim.	Annual Growth Rate (%)	
					1981-94	1994-98
1-62	Damascus City	1,109,431	1,394,322	1,488,124	1.77	1.71
63	Tall	41,903	68,929	81,660	3.90	4.52
64	Sednaya	12,119	17,157	20,326	2.71	4.52
65	Rankous	7,904	9,817	11,630	1.68	4.52
66	Ein Al-Feejeh	10,896	15,851	18,779	2.93	4.52
67	Dimas	6,605	10,159	12,035	3.37	4.52
68	Qudsaya	22,193	51,660	61,201	6.72	4.52
69	Qatana	34,786	112,871	133,717	9.48	4.52
70	Daraya	73,146	159,050	188,425	6.16	4.52
71	Suhnaya	10,730	22,753	26,955	5.95	4.52
72	Kusweh	46,262	82,137	97,307	4.51	4.52
73	Ghuzlanieh	12,096	25,974	30,771	6.05	4.52
74	Babbyla	86,352	220,291	260,977	7.47	4.52
75	Jaramana	64,305	68,329	80,949	0.47	4.52
76	Muleiha	23,439	40,452	47,923	4.29	4.52
77	Nashabyyah	20,813	38,664	45,805	4.88	4.52
78	Harran Al-Auameed	15,862	26,008	30,811	3.88	4.52
79	Kafar Batna	41,880	77,219	91,481	4.82	4.52
80	Arbeen	27,632	61,354	72,686	6.33	4.52
81	Harasta	32,399	64,251	76,118	5.41	4.52
82	Douma	81,263	145,568	172,453	4.59	4.52
83	Dumair	14,815	23,683	28,057	3.67	4.52
63-83	Subtotal	687,400	1,342,177	1,590,066	5.28	4.52
	Total	1,796,831	2,736,499	3,078,190	3.29	3.12

Population density by zone in Damascus City is shown in Table 3.2.3. The average population density of the city is 147 person/ha.

Residential zones at the foot of Kassioun Mountain (Zones 1 to 8) which are composed of old residential areas and informal housing areas show considerably high population densities (average 377 person/ha for the 8 zones). The highest densities are 1,550 person/ha in Zone 57 (Falouja) and 1,062 person/ha in Zone 58 (Karmil), where Palestinian immigrants developed a residential-commercial town there.

Population densities of the zones composing the Old City are around 200 person/ha, but that of Zone 40 (Tejari), where Souq al Hamidiyyeh is located, is 29 person/ha and the number of residents is decreasing.

Table 3.2.3 Population Density by Zone, Damascus City, 1998

Zone No.	Zone Name	Zone Area(ha)	Population 1998 (person)	Pop.Density 1998 (person/ha)
A. Damascus City				
1	Assad Addin	116	48,776	420
2	Naqsh Bandi	76	31,897	420
3	Ayubia	38	19,219	506
4	Abu Jaash	43	26,915	626
5	Saliheah	66	22,690	344
6	Shoura	58	22,005	379
7	Masstaba	49	11,079	226
8	Mrabutt	62	9,016	145
9	West Malki	132	3,729	28
10	Kiwan	144	5,929	41
11	Rabiwa	135	6,909	51
12	Mazeh	607	100,253	165
13	Old Mazeh	174	21,761	125
14	Dunmar	2,260	62,583	28
15	Mazraa	137	17,921	131
16	Rawda	145	15,667	108
17	Sarouja	62	9,663	156
18	Hijaz	107	5,288	49
19	Kanawat	43	8,070	188
20	Bab Sryja	18	7,742	430
21	Anssari	12	7,905	659
22	Baramka	69	19,364	281
23	Kafer Sussah	342	28,085	82
24	Lowan	816	76,300	94
25	Qadam	233	68,449	294
26	Zahira	67	23,713	354
27	Ka'ah	35	13,134	375
28	Daqaq Mosq	21	10,647	507
29	Haqra	45	9,986	222
30	Bab Massr	48	9,325	194
31	Midan Wastani	102	31,015	304
32	Bab Mussalla	24	6,894	287
33	Bilal	399	50,558	127
34	Dawanina Qarawana	57	6,609	116
35	Amin	21	2,836	135
36	Souroji	20	8,442	422
37	Shaghour	35	5,771	165
38	Bab Aljabi	15	6,592	439
39	Soweqa	9	3,958	440
40	Tejari	26	763	29
41	Ashahem Mosq	12	3,263	272
42	Qaynarya	16	2,894	181
43	Aaqayba	34	8,268	243
44	Aqssar Mosq	27	11,833	438
45	Aamara	36	10,659	296
46	Bab Touma	56	12,103	216
47	Bab Sharqi	158	3,117	20
48	Jourr	604	51,304	85
49	Dewania	77	19,297	251
50	Qussor	77	20,041	260
51	Ma'monaya	144	26,938	187
52	Fars Khuri	50	10,097	202
53	Qasser Al Ibad	405	22,223	55
54	Zeinabia	51	11,031	216
55	Aboun	335	57,750	172
56	Barzeh Town	528	99,826	189
57	Falouja	17	26,344	1,550
58	Karmil	56	59,447	1,062
59	Hatteen	121	37,946	314
60	Tadamann	146	79,615	545
61	Wahda	101	24,903	247
62	Dowelaa	221	41,767	189
	Total	10,140	1,488,124	147

3.3 Labor Force

3.3.1 Syria

The most recent labor force survey was carried out in 1995. Applying age specific labor force participation rates (labor force employed) and sectoral composition obtained from this survey to the national Syrian population in 1996, labor force employed was estimated as shown in Table 3.3.1. Number of employed persons is 4,507 thousand, which is 30.8% of total population of 14,619 thousand. This ratio is 4.9 points higher than 25.9% of the preceding Labor Force Survey conducted in 1991. As for sectoral composition, primary sector occupies 28.6%, secondary 28.8% and tertiary 42.6%.

Table 3.3.1 Labor Force Employed by Sector, 1996

Sector	Employed Persons ('000)	Percentage (%)
Primary Sector	1,289.0	28.6
Agriculture	1,289.0	28.6
Secondary Sector	1,298.0	28.8
Mining	18.0	0.4
Manufacturing	712.1	15.8
Construction	567.9	12.6
Tertiary Sector	1,920.0	42.6
Electricity, Gas & Water	49.6	1.1
Wholesale/Retail Trade	622.0	13.8
Transport/Communication	234.4	5.2
Financing	67.6	1.5
Services	946.4	21.0
All Sectors	4,507.0	100.0
Total Population ('000)	14,619	
% of Employed to Total Pop.	30.8	

Source: Study Team Estimates Based on the Data from "Statistical Abstract" 1996 and 1997

3.3.2 Study Area

Information concerning labor force of Damascus City and Damascus Countryside Governorate are available only for 1991.

Table 3.3.2 Labor Force Employed by Sector in Damascus Capital Area, 1991

Sector	Damascus City	Damascus Countryside	Damascus Capital Area
Primary Sector	8,154	44,463	52,617
Agriculture	8,154	44,463	52,617
Secondary Sector	119,532	103,783	223,315
Mining	185	0	185
Manufacturing	87,286	49,479	136,765
Construction	32,061	54,304	86,365
Tertiary Sector	294,651	141,205	435,856
Electric./Gas/Water	2,966	3,604	6,570
Trade	82,467	34,933	117,400
Transport/Commun.	26,862	24,238	51,100
Financing	10,749	2,436	13,185
Services	171,607	75,994	247,601
All Sectors	422,337	289,451	711,788

Source: Internal Papers of Central Bureau of Statistics

Based on the above data and results of the "Home Interview Survey, number of employed persons by sector in 1998 is estimated for the Study Area as shown in Table 3.3.3. Distribution of employed persons is expressed in two ways, on residence basis and work place basis.

The Study Area is closed from the standpoint of commuting of employed persons. Number of employed persons is 1,102 thousand, which is 35.8% of the total population. Ratios of number of employed persons (on residence basis) to total population of Damascus City and the Suburbs are 38.7% and 33.1%, respectively. Number of employed persons working in Damascus City is 668 thousand, which is 1.16 times those living in the City, while those working in the Suburbs are 434 thousand persons, 0.83 times those living there.

Table 3.3.3 Estimated Labor Force Employed by Sector for the Study Area, 1998

Sector	Damascus City		Suburbs		Study Area	
	Persons	%	Persons	%	Persons	%
Residence Basis						
Primary	7,917	1.4	40,254	7.7	48,171	4.4
Secondary	164,067	28.5	205,635	39.1	369,704	33.5
Tertiary	404,439	70.1	279,782	53.2	684,221	62.1
Total	576,425	100.0	525,671	100.0	1,102,096	100.0
Population	1,488,124		1,590,066		3,078,190	
Emp./Pop. (%)	38.7		33.1		35.8	
Work Place Basis						
Primary	6,766	1.0	41,405	9.6	48,171	4.4
Secondary	173,936	26.0	195,768	45.1	369,704	33.5
Tertiary	487,564	73.0	196,657	45.3	684,221	62.5
Total	668,266	100.0	433,830	100.0	1,102,096	100.0
W.P.B/ R.B						
Primary	0.85		1.03		1.00	
Secondary	1.06		0.95		1.00	
Tertiary	1.21		0.70		1.00	
Total	1.16		0.83		1.00	

Source: Study Team Estimates

Table 3.3.4 shows the numbers of employed persons on work place basis by zone. There are two indices by zone that express situation of employment concentration, namely, a. Ratio of Employed Persons on Work Place Basis to those on Residence Place Basis (hereinafter referred to as W/R ratio) and b. Employment Density (on Work Place Basis).

The W/R ratio of Zone 40 is 130.51, which is the highest followed by Zone 19 (19.90), Zone 18 (17.14) and Zone 32 (8.02). These zones are especially characterized as commercial/service areas. On the contrary, residential areas like Zones 1, 2, 3 and 4, show W/R ratios lower than 1.00.

Zones 40, 19 and 32 show highest employment densities, namely, 1,305 persons/ha, 1,222 persons/ha and 739 persons/ha, respectively.

Table 3.3.4 Employed Persons by Sector by Zone (on Work Place Basis), 1998

A. Damascus City							
Zone No.	Zone Name	Number of Employed Persons by Economic Sector				Ratio of Working to Living Emp.	Employment Density (person/ha)
		Primary	Secondary	Tertiary	Total		
1	Assad Addin	180	3,130	9,045	12,355	0.63	106.5
2	Naqsh Bandi	35	725	3,124	3,884	0.28	51.1
3	Ayubia	0	732	1,824	2,556	0.30	67.3
4	Abu Jaash	47	1,076	3,964	5,087	0.51	118.3
5	Salibeah	119	1,734	18,971	20,824	2.24	315.5
6	Shoura	19	690	4,873	5,582	0.73	96.2
7	Masstaba	31	379	1,928	2,338	0.52	47.7
8	Mrabutt	26	284	2,042	2,352	0.72	37.9
9	West Malki	27	618	5,338	5,983	3.92	45.3
10	Kiwan	41	258	4,567	4,866	1.98	33.8
11	Rabwa	0	341	939	1,280	0.46	9.5
12	Mazeh	175	5,878	53,438	59,491	1.32	98.0
13	Old Mazeh	30	1,207	5,775	7,012	0.66	40.3
14	Dunmar	0	12,057	10,537	22,594	0.73	10.0
15	Mazraa	159	2,666	25,215	28,040	4.17	204.7
16	Rawda	179	2,331	25,519	28,029	4.22	193.3
17	Sarouja	123	2,764	17,934	20,821	6.69	335.8
18	Hijaz	1,719	3,581	25,681	30,981	17.14	289.5
19	Kanawat	411	17,537	34,597	52,545	19.90	1,222.0
20	Bab Sryja	48	927	3,516	4,491	1.57	249.5
21	Anssari	0	234	1,712	1,946	0.70	162.2
22	Baramka	141	1,495	5,774	7,410	0.97	107.4
23	Kafer Sussah	204	2,327	11,487	14,018	1.56	41.0
24	Lowan	624	2,907	4,920	8,451	0.33	10.4
25	Qadam	372	15,007	8,918	24,297	1.00	104.3
26	Zahira	63	2,263	5,721	8,047	0.96	120.1
27	Ka'ah	0	365	715	1,080	0.25	30.9
28	Daqaq Mosq	0	237	374	611	0.17	29.1
29	Haqra	0	220	709	929	0.26	20.6
30	Bab Massr	0	409	557	966	0.30	20.1
31	Midan Wastani	48	2,627	9,066	11,741	1.08	115.1
32	Bab Mussalla	21	2,408	15,306	17,735	8.02	739.0
33	Bilal	26	4,897	4,165	9,088	0.51	22.8
34	Dawanina	107	620	635	1,362	0.64	23.9
35	Amin	0	1,134	3,641	4,775	4.16	227.4
36	Souroji	0	407	374	781	0.26	39.1
37	Shaghour	0	732	3,145	3,877	1.89	110.8
38	Bab Aljabi	74	900	3,002	3,976	1.74	265.1
39	Soweqa	0	477	707	1,184	0.84	131.6
40	Tejari	133	8,557	25,242	33,932	130.51	1,305.1
41	Ashahem Mosq	0	63	764	827	0.79	68.9
42	Qaynarya	0	857	1,448	2,305	2.41	144.1
43	Aaqayba	0	111	1,413	1,524	0.37	44.8
44	Aqssar Mosq	0	248	1,449	1,697	0.36	62.9
45	Aamara	0	929	3,370	4,299	1.17	119.4
46	Bab Touma	75	2,183	9,010	11,268	2.05	201.2
47	Bab Sharqi	29	1,504	5,338	6,871	4.77	43.5
48	Jourr	42	7,945	5,392	13,379	0.79	22.2
49	Dewania	73	1,563	5,252	6,888	0.90	89.5
50	Qussor	77	1,472	7,998	9,547	1.12	124.0
51	Ma'monaya	519	2,920	9,292	12,731	0.98	88.4
52	Fars Khuri	0	642	2,242	2,884	0.70	57.7
53	Qasser Al Ibad	276	794	4,257	5,327	0.63	13.2
54	Zeinabia	0	413	3,646	4,059	0.91	79.6
55	Aboun	160	16,754	13,173	30,087	1.54	89.8
56	Barzeh Town	269	5,201	17,765	23,235	0.54	44.0
57	Falouja	28	2,661	4,081	6,770	0.80	398.2
58	Karmil	0	3,964	4,696	8,660	0.45	154.6
59	Halteen	0	2,897	5,565	8,462	0.69	69.9
60	Tadamann	36	6,505	8,848	15,389	0.48	105.4
61	Wahda	0	1,707	2,980	4,687	0.48	46.4
62	Dowelaa	0	5,465	4,588	10,053	0.59	45.5
	Total	6,765	173,936	487,564	668,266	1.16	65.9

(Continued)

B. Study Area					
Zone No.	Zone Name	Number of Employed Persons by Economic Sector			
Zone No.	Zone Name	Primary	Secondary	Tertiary	Total
1-62	Damascus City	6,766	173,936	487,564	668,266
63	Tall	606	12,448	5,844	18,898
64	Sednaya	340	1,499	4,668	6,507
65	Rankous	1,520	734	499	2,753
66	Ein Al-Feejeh	163	1,607	2,630	4,400
67	Dimas	1,473	5,862	2,579	9,914
68	Qudsaya	132	9,465	2,631	12,228
69	Qatana	1,806	26,058	14,886	42,750
70	Daraya	1,787	17,945	12,858	32,590
71	Suhnaya	899	7,778	7,330	16,007
72	Kusweh	2,043	14,231	10,833	27,107
73	Ghuzlanieh	2,321	5,171	6,660	14,152
74	Babbyla	3,898	17,661	36,315	57,874
75	Jaramana	155	9,954	7,950	18,059
76	Muleiha	6,218	12,431	2,174	20,823
77	Nashabyyah	697	4,058	4,814	9,569
78	Al-Auameed	6,136	1,111	1,960	9,207
79	Kafar Batna	2,627	3,769	14,165	20,561
80	Arbeen	332	12,088	8,199	20,619
81	Harasta	1,385	13,023	18,079	32,487
82	Douma	6,040	18,443	25,336	49,819
83	Dumair	827	432	6,247	7,506
63-83	Suburbs Total	41,405	195,768	196,657	433,830
	Study Area	48,171	369,704	684,221	1,102,096

3.4 Students and Pupils

3.4.1 Syria

The total number of students and pupils is 3,828 thousand persons in 1996, which represents 25.4% of the total population (15,100 thousand). Nearly 70% are primary school pupils. The number of university students is 161,196 persons, which is equivalent to 4.2% of the total students and pupils.

Table 3.4.1 Number of Students by Type of School, Syria, 1996

Type of School	Number of Students	Percentage
Primary School	2,672,960	69.8
Secondary School	690,679	18.0
High School	156,099	4.1
Technical College	94,443	2.5
Pre-university	17,258	0.4
Vocational School	29,394	0.8
Teachers College	5,897	0.2
University	161,196	4.2
Total	3,827,926	100.0

Source: Statistical Abstract 1997

3.4.2 Study Area

The number of students in the Damascus Capital Region in 1996 is estimated at 841,722 persons as shown in Table 3.4.2. More than half of university students is concentrated in Damascus City. Based on this data and the results of the "Home Interview Survey", the number of students by zone in the Study Area was estimated for 1998 (Table 3.4.3).

As seen in the table, the number of students on residence basis and that on school basis by zone are very similar except for Zone 18, where Damascus University is located.

Table 3.4.2 Number of Students by Type of School, Damascus Capital Area, 1996

Type of School	Damascus City	Damascus Countryside	Damascus Capital Area	Note
Primary School	226,760	288,063	514,823	
Secondary Sch.	83,210	72,845	156,055	
High School	27,667	12,124	39,791	
Tech. College	13,448	8,529	21,977	
Pre-university	8,807	0	8,807	*1
Vocational Sch.	15,000	0	15,000	*1
Teachers College	3,009	0	3,009	*1
University	82,260	0	82,260	*2
Total	460,161	381,561	841,722	

Note: *

1: Applying the same ratio as university students of Damascus/Syria (0.51) to the number of students of each type of school at the national level

2: The ratio of the number of students of the Damascus University to the all university students in Syria is 0.51 (82,260/161,196)

Source: Statistical Abstract 1997

Table 3.4.3 Number of Students by Zone

A. Damascus City				B. Study Area			
Zone No.	Zone name	Number of Students		Zone No.	Zone name	Number of Students	
		Residence basis	School basis			Residence basis	School basis
1	Assad Addin	13,043	14,038	1-62	Damascus City	395,895	410,230
2	Naqsh Bandi	7,746	6,705	63	Tall	25,053	23,427
3	Ayubia	4,816	4,749	64	Sednaya	4,778	4,778
4	Abu Jaash	4,996	5,078	65	Rankous	3,324	3,324
5	Salihzah	5,469	6,006	66	Ein Al-Feejeh	3,696	3,696
6	Shoura	6,363	3,427	67	Dimas	2,653	2,653
7	Masstaba	2,824	2,839	68	Qudsaya	17,597	15,828
8	Mrabutt	2,185	2,281	69	Qatana	33,905	31,604
9	West Malki	789	1,190	70	Daraya	52,307	49,182
10	Kiwan	1,545	1,525	71	Suhnaya	8,479	8,479
11	Rabwa	1,618	1,139	72	Kusweh	25,521	23,453
12	Mazeh	25,626	27,898	73	Ghuzlanieh	7,429	7,464
13	Old Mazeh	4,447	2,874	74	Babbyla	60,552	62,524
14	Dunmar	17,768	15,204	75	Jaramana	19,178	17,654
15	Mazraa	4,045	5,842	76	Mufeiha	15,585	15,616
16	Rawda	2,898	4,366	77	Nashabyyah	14,554	14,573
17	Sarouja	1,605	1,666	78	Al-Avamced	9,755	9,008
18	Hijaz	869	20,644	79	Kafar Batna	27,096	25,131
19	Kanawat	2,023	2,100	80	Arbeen	16,840	16,939
20	Bab Sryja	2,040	2,066	81	Harasta	21,703	20,337
21	Anssari	1,908	1,759	82	Douma	52,286	52,286
22	Baramrka	5,282	6,773	83	Dumair	7,074	7,074
23	Kafer Sussah	7,930	6,891	63-83	Suburbs Total	429,365	415,030
24	Lowan	24,722	25,527		Study Area	825,260	825,260
25	Qadam	17,886	17,999				
26	Zahira	4,744	4,778				
27	Ka'ah	3,850	3,987				
28	Daaq Mosq	2,413	2,210				
29	Haqra	2,951	2,951				
30	Bab Massr	2,661	2,430				
31	Midan Wastani	8,257	8,594				
32	Bab Mussalla	1,748	1,794				
33	Hital	13,728	13,927				
34	Dawanina	1,882	1,882				
35	Amin	554	809				
36	Souroji	1,768	1,748				
37	Shaghour	1,020	1,109				
38	Bab Aljabi	1,662	1,670				
39	Soweqa	1,067	1,067				
40	Tejari	139	393				
41	Ashahem Mosq	810	810				
42	Qaynarya	814	893				
43	Aaqayba	813	752				
44	Aqssar Mosq	2,436	2,436				
45	Aamara	2,621	2,706				
46	Bab Touma	2,059	3,164				
47	Bab Sharqi	694	736				
48	Jourr	14,984	15,003				
49	Dewania	4,636	4,901				
50	Qussor	3,859	4,183				
51	Ma'monaya	5,923	5,511				
52	Fars Khuri	2,836	2,897				
53	Qasser Al Ibad	5,485	6,473				
54	Zeinabia	1,922	1,743				
55	Aboun	20,037	20,690				
56	Barzeh Town	30,678	21,638				
57	Falouja	6,868	7,008				
58	Karmil	20,639	21,312				
59	Halteen	11,946	12,335				
60	Tadamann	21,992	20,599				
61	Wahda	5,403	4,952				
62	Dowetaa	9,553	9,553				
	Total	395,895	410,230				