Palestine Polytechnic University

College of Engineering & Technology
Civil and Architecture Engineering Department

Introduction to
Graduation Project

Rehabilitation of Hebron City Center

Project Team
Ishaq Zatari
Sara Atawna
Medhat Sultan

Project Supervisor
Arch. Abed Al Rahman Al Halawanee

Hebron – Palestine

2008

Palestine Polytechnic University
(PPU)
Hebron-Palestine

جامعة بوليتكنك فلسطين
Palestine Polytechnic University
(PPU)
The Library المكتبة
Acc. 22130 الرقم التسلسل
Class. رقم التصنيف

PROJECT NAME

Rehabilitation of Hebron City Center

Project Team

Ishaq Zatari Sara Atawna Medhat Sultan

According to the project supervisor and according to the agreement of the Testing committee members, this project is submitted to the Department of Civil and Architectural Engineering at College of engineering and Technology in partial fulfillment of the requirements of (B.SC) degree.

Supervisor Signature

.....

Examine community Signature

....

Department Head Signature

.....

24/6/2008

Acknowledgement

Our thanks go first to our supervisor. ARCH. Abed Al Rah man Halawanee

His guidance and support made this work possible. His constant encouragement, intuitive wisdom, and resolute Leadership were instrumental in completing this work.

We wish to thank the Dr: Gassan dweick we sincerely believe that this work would not exist without there inspiration.

And, finally, my ultimate thanks go to all lecturers of doctors and engineers .Their efforts and their nice dealing with us have improved our Characters to become successful Engineers in the future.

Abstract

Hebron is a main commercial city in the West Bank .More over, it has a highest population number; as a result in Hebron City there's a congestion created in its center. Which suffering from lack of planning.

Since we have a crowded center in a small area their must be a dramatic language between urban spaces & the people in these spaces, A high level of relation is needed between these two elements in order to let the center more efficiently. But what if this relation ship was weak or it was absent?

The main goal of this project is to achieve a better situation of the center by organizing the urban spaces, which must serve the Palestinian persons with their daily needs. In addition to create a comfortable, functional, attractive, environmental, beautiful atmosphere.

In order to achieve the goal of the study, it is important to understand the problem by collecting data, analysis it, specific the problems exactly to propose a suitable solutions.

Also this research will study the physical &social aspects, in order to achieve a completely data about the present situation, and to create anew image about the city center which dealing with the citizens in a comfortable conditions.

Table of Contents

TITLE	I
DEPARTMENT HEAD AND SUPERVISOR SIGNATURE	II
DEDICATION	III
ACKNOWLEDGMENTS	IV
ABSTRACT	V
TABLE OF CONTENTS	VI
LIST OF TABLES	X
LIST OF FIGURES	XII
LIST OF MAPS	
CHAPTER ONE: INTRODUCTION	1
1.1 Introduction	1
1.2 Problem Definition	2
1.3 Study Goals	3
1.4 Beneficiation	4
1.5 Justification	4
1.6 Methodology	5
1.7 Time Planning	6
CHAPTER TWO: HISTORICAL BACKGROUND	7
2.1.1 Overview	7
2.1.2 Location	10
2.1.3 Climate	12
2.2 Hebron, Historical view	12

CHAPTER THREE: LITERATURE REVIEW 15
3.1 What is the city? 15
3.2 City center 16
3.3 City center among the age 17
3.4 City center elements 24
3.5 The Central Business District (CBD) 28
3.5.1 Urban Zones 28
3.5.2 The Central Business District (CBD) 29
3.5.3 The central business district (CBD) characteristics 30
3.5.4 The central business district (CBD) problems 31
3.5.4.1 Main problems of city center 31
3.5.4.2 Traffic Congestion 32
3.6 Spaces and elements of CBD 34
3.6.1 Pedestrians and Sidewalk 34
3.6.2 Parking 35
3.6.2.1 Modes of parking 36
3.6.2.2 Parallel parking 36
3.6.2.3 Perpendicular parking 36
3.6.2.4 Angle parking 37
3.6.2.5 Parking lot 38
3.6.2.6 Parking meter 39
3.6.3 Open Space, Public and Private 39
3.6.4 Green structure 41
3.6.5 Plaza 43

CHAPTER FOUR :CASE STUDY (Amman city center) 44

4.1 Location 44
4.2 Existing conditions 48
4.3 Solutions Outline 54
4.4 Implementations 54
4.5 Towards a better city center in Amman 60

CHAPTER FIVE : DATA COLLECTION AND ANALYSIS 64
5.1 Central business district (The creation and evolution) 64
5.2 Existing conditions 65
5.3 Site Problems 71
5.4 Solutions guide lines and concepts 81

CHAPTER SIX :WELCOME TO HEBRON CITY CENTER 2012

CHAPTER SEVEN :RECOMMENDATIONS AND CONCLUSION 85
5.1 Recommendations 85
5.2 Conclusion 89

References
Appendix
Appendix A Maps of site
Appendix B Questioner
Appendix C Case study
Appendix D Site Maps & Proposed Solutions
Appendix E Site Maps & Proposed Solutions
Appendix F Proposed Solution for the Cultural Center

List of Tables

Table number	Description	Page
Table 1.1	The semester Time Plan	6

List of Figures

Figures number	Description	Page
Figure 1.1	Main problem in city center	3
Figure 2.1	Map of Palestine	8
Figure 2.2	Map of west bank	9
Figure 2.3	Aerial photo of Hebron city center 2006	10
Figure 2.4	Average temperature, precipitation, relative humidity, wind speed	11
Figure 2.5	Hebron veiw 1890	13
Figure 3.1	Damascus	17
Figure 3.2	The great Egyptian Pyramids	18
Figure 3.3	Mesopotamian position	19
Figure 3.4	Site of King Untash Napirisha's Ziggurat	19
Figure 3.5	A central area (ancient Greek)	20
Figure 3.6	A model of a central area (Agora)	20
Figure 3.7	Ancient Rome	21
Figure 3.8	A model of Ancient Rome	21
Figure 3.9	The Colosseum	22
Figure 3.10	The Colosseum Medieval (Islamic Cairo), Egypt	23
Figure 3.11	The Umayyad Mosque in Old Damascus	23
Figure 3.12	A square in Damascus. Commercial. 1940s	24
Figure 3.13	Nodes	25
Figure 3.14	Paths	25
Figure 3.15	Park	26
Figure 3.16	Districts	27
Figure 3.17	Landmark	27

Figure 3.18	Urban Zones	28
Figure 3.19	Vila Olimpia in São Paulo one of the business districts in the city	30
Figure 3.20	Beirut's central district	30
Figure 3.21	A bus lane to help speed up public transport	33
Figure 3.22	A multi-storey car park	34
Figure 3.23	Pedestrians	34
Figure 3.24	Sidewalk	35
Figure 3.25	Parallel parking	36
Figure 3.26	Perpendicular parking	37

Figure 4.11	in the CBD	53
Figure 4.12	Proposed traffic circulation	55
Figure 4..13	King Hussion street	57
Figure 4.14	Grand Husseini Mosque, Amman	58
Figure 4.15	The Tourists Center & Roman Amphitheater	60
Figure 4.16	Roman Amphitheater	61
Figure 5.1	New commercial centers in Ibn Roshd square	63
Figure 5.2	Ibn Roshd square, Source Researchers, 2007	65
Figure 5..3	Alseha square, Source Researchers, 2007	66
Figure 5.4	The vacant land in Almanara Street	66
Figure 5.5	Wedad Naser Aldeen School	67
Figure 5.6	Kadeegeh Abden School	67
Figure 5.7	Neglected historical bulding in the site	68
Figure 5.8	The node front of Hasoneh Gas station	68
Figure 5.9	Al_Shorte square	68
Figure 5.10	The vacant land behind Hasoneh Gas station	69
Figure 5.11	Hebron commercial center	69
Figure 5.12	Alrashad commercial center	70
Figure 5.1.3	Osama Ibn Monketh Boarder	70
Figure 5.14	Alshalaleh square	70
Figure 5.15	The vacant land beside Alshalaleh	71
Figure 5.16	Traffic Jam	71
Figure 5.17	Traffic Jam	72
Figure 5.18	Public parking	72
Figure 5.19	Private parking	72
Figure 5.20	Linear parking	72
Figure 5.21	Narrow side walk	73

Figure 5.22	Unhealthy side walk	73
Figure 5.23	Not effective side walks	73
Figure 5.24	Pedestrian congestion	74
Figure 5.25	No respecting for pedestrian singles	74
Figure 5.26	Mixed use buildings in the CBD	75
Figure 5.27	Neglected buildings behind the linear commercial shops	76
Figure 5.28	Ibn Roshd garden	76
Figure 5.29	Almanarah Street	77
Figure 5.30	a, b Physically pollutions	77
Figure 5.31	a,b Visual pollution	78
Figure 5.32	The of end CBD	78
Figure 5.33	The beginning of CBD	79
Figure 5.34	Unsafe place in the CBD	79
Figure 5.35	Hasonch Gas station	79
Figure 5.36	Congestion between vehicles and pedestrian	79
Figure 5.37	Drop point in sky line	80
Figure 5.38	Decentralization concept	80
Figure 7.1	Street plans	87
Figure 7.2	a. Steel barrier b. Shrubs barrier	88

List of Maps

Map AA-1	Typology	92
Map AA-2	Street analysis	93
Map AA-3	Zone analysis	94
Map AA-4	Extension of central business district	95
Map AA-5	Building use	96
Map AA-6	Open spaces (1)	97
Map AA-7	Open spaces (2)	98
Map AA-8	Architectural problem analysis	99
Map AA-9	Transportation problems	100
Map AA-10	Manara street sky line	101
Map AA-11	King Hussien street sky line	102
Map AA-12	Wadi Tofah old street sky line	103
Map AA-13	Shalaleh street sky line	104
Map AD-1	Location	AD
Map AD-2	Site forces	AD
Map AD-3	Proposed zones	AD
Map AD-4	Proposed transportation situation	AD
Map AD-5	Proposed path for interior buses	AD
Map AD-6	Proposed parking situation	AD
Map AD-7	Proposed plaza	AD
Map AD-8	Proposed node	AD
Map AD-9	Proposed gardens	AD
Map AD-10	Removed, Rehabilitated, Redevelopment Building	AD
Map AD-11	Proposed situation for old building	AD
Map AD-12	Proposed situation for old building	AD
Map AD-13	Proposed situation for old building	AD

Map AE-1	Site plan of Wadi Altufah pedestrian street	AE
Map AE-2	North elevation of Wadi Altufah pedestrian street	AE
Map AE-3	Wadi Altufah pedestrian street perspective	AE
Map AE-4	Wadi Altufah pedestrian street perspective	AE
Map AE-5	Wadi Altufah pedestrian street perspective	AE
Map AE-6	Section and details of Wadi Altufah street	AE
Map AE-7	City plaza	AE
Map AE-8	City plaza	AE
Map AE-9	Bab Alzawyeh plaza	AE
Map AE-10	Bab Alzawyeh plaza	AE
Map AE-11	Old city plaza	AE
Map AE-12	Al-Manara node	AE
Map AE-13	Al-Manara node	AE
Map AE-14	City node	AE
Map AE-15	City node	AE
Map AE-16	Bab Al-Zawyeh Node	AE
Map AE-17	Bab Al-Zawyeh Node	AE
Map AE-18	Ibn - Roshed Node	AE
Map AE-19	Wadi Altufah garden	AE
Map AE-20	Wadi Altufah garden	AE
Map AE-21	Old city garden	AE
Map AE-22	Old city garden	AE
Map AE-23	Parking #1 (Public parking)	AE
Map AE-24	Parking #2 (Buses parking)	AE
Map AE-25	Parking #3 (Private parking)	AE
Map AE-26	Parking #4 (Private parking)	AE
Map AE-27	Parking #5 (Public parking)	AE
Map AE-28	Parking #6 (Private parking)	AE

Map AE-29	Parking #7 (Private parking)	AE
Map AE-30	Parking #9 (Private parking)	AE
Map AE-31	Parking #10 (Private parking)	AE
Map AE-32	Parking #11 (Private parking)	AE
Map AE-33	Ibn- Roshed Bridge	AE
Map AE-34	Bab- Alzawyah Bridge	AE
Map AE-35	Ibn- Roshed commercial center	AE
Map AF-1	Hebron Cultural Center (site plan)	AF
Map AF-2	Old building plan	AF
Map AF-3	Old building plan	AF
Map AF-4	Old building plan	AF
Map AF-5	Old building plan	AF
Map AF-6	New building plan	AF
Map AF-7	New building plan	AF
Map AF-8	New building plan	AF
Map AF-9	New building plan	AF
Map AF-10	Hebron Cultural Center (Elevation)	AF
Map AF-11	Hebron Cultural Center (Elevation)	AF
Map AF-12	Section	AF
Map AF-13	Hebron Cultural Center (Perspective)	AF

CHAPTER ONE

INTRODUCTION

1.1 **Introduction**
1.2 **Problem Definition**
1.3 **Study Goals**
1.4 **Beneficiation**
1.5 **Justification**
1.6 **Methodology**
1.7 **Time Planning**

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Hebron governorate occupies the largest amount of area in the West Bank (6), its population was estimated in 2006 180 thousand person, it lays on 200 thousand square dounms. Hebron, is considered as a strong economic weight in the West Bank.

As most of the Palestinian cities, Hebron has no master plan that organizes and regulates the city. Serious problems are evidencing by time, such as traffic congestion, un organized land use, random expansion areas, lack of open spaces and green structure that will be explained in this research.

The center of the city is gathering people and vehicles because of the presence of the commercial services, transportation lines, and some schools. It is also working as a connection way between south and the northern side of the city. All of these factors played a role in making the center suffer with many urban Problems. All of the problems the center suffers with, will be all mentioned in a separate chapter with alternative solutions.

The downtown is mostly crowded especially in the last few years, because of the increasing number of the city's population, in addition to the daily migration of the residents in the nearby villages to it.

1.2 Problem Definition

Hebron city is one of the most important commercial cities in the West-Bank; this is reflected very clearly in its center "Bab Alzawyeh".

Unfortunately it is noted the absence of urban elements that constitute the city center, ,and give its features such as public open spaces, street furniture, absence of green areas due to high land values, as a result this contributes the growth of the city center buildings, so shortage of the open spaces.

Another major problem is traffic jam in the center and the absence of parking areas and transportation station. Other problems the center faced are mixed use buildings, pollution, lack of street furniture, pavements negligence, building appearance …etc.

Figure 1.1 Main problem in city center (Source: Researcher)

1.3 Study Goals

The main goal of this research is to create a comfortable urban environment for people in the center, In order to make it more environmental, functional, beautiful, attractive, and healthy. All of that will be achieved by reorganizing the transportation system, enhancing and adding green built up structures in addition to reorienting the building situation.

In addition to that, there are other goals such as: Improve the quality of life for the Palestinian citizens through the city center, reflect a legible image of the city, reducing pollution (environmental and Visual) and noise, -solve traffic jam problems, solve mixed

use problems, provide the trade process, enhance the social relations between the people themselves and between the urban spaces.

1.4 Beneficiation

After achieving this research, it is expected a birth of suggestion distinct image for the new city center; an image with clear milestones, attractive appearance, healthy and environment and more functional.

We expect the city center in the future allocation which embraces its sons and welcomes its visitors and tells the story of the city.

1.5 Justification

How we will deal with the existing conditions?

The Center is the heart of the city; it reflects its image. How can we change the image and give it the obvious features in the situation.

In this planning process there are several obstacles against implementation, such as an existing building, spaces, existing paths and roads, lands and building ownership, financial shortage, and unclear future political plans.

Besides all of these physically aspects, we cannot forget the socially factors that are represented in dealing with citizens who are afraid of change of any kind. We also must be aware of how to deal with the spirit of the place, texture, color, materials, scales…etc

The most important issue is paying attention through the planning process to put permanent and continuous solutions, and avoiding temporary solutions which create accumulate future problems.

1.6 Methodology

As a scientific researches. After identification the problems, this research is based on collecting data, and analysis it, to find the solution. To do this we relay on some methods such:

Literature review: Contained books, researches, internet, magazines, case studies which are similar with our case in its elements (scale, problems, land use…etc), approaches solutions towards rehabilitation.

Observation: Visits and working on site to observe the real site situation, collecting data from it, determine the problems, study the traffic issues, land use…..etc, also to be closer to the people & understand their needs in the site.

Maps & aerial photos: we get it from the Municipality of Hebron, analyze &study it to suggest our proposed situation.

Interviews: with engineers at the municipality of Hebron to understand the present situation, & our vision to the city center, also interviews with people & citizens in the site.

1.7 Time Planning

The project plan follows the following time schedule, which includes the related tasks of study and system analysis.
The following time plan is through the semester

1.7.1 The Semester Time Plan

Task/Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Collecting Information about the project																
Study the historical back ground.																
Analysis of case study																
Collecting Information from the site																
Analysis of the data																
Project Documentation																

Tabele 1.1 The semester Time Plan (Source: Researcher)

CHAPTER TWO

HISTORICAL BACK GROUND

2.1. Overview

2.1.1. Location

Hebron is one of the oldest continuously occupied cities in the world. Located 20 miles south-southwest of Jerusalem, between 31°32′N 35°05′E/ 31.533, 35.083 it is nestled in the southern Judean Hills in the West Bank (Palestine). Its high elevation (3,050) feet above sea level. (6).

Figure 2.1 Map of Palestine

(Source: Palestine - Wikipedia, the free encyclopedia.htm)

Figure 2.2 Map of west bank

(Source: Palestine - Wikipedia, the free encyclopedia.htm)

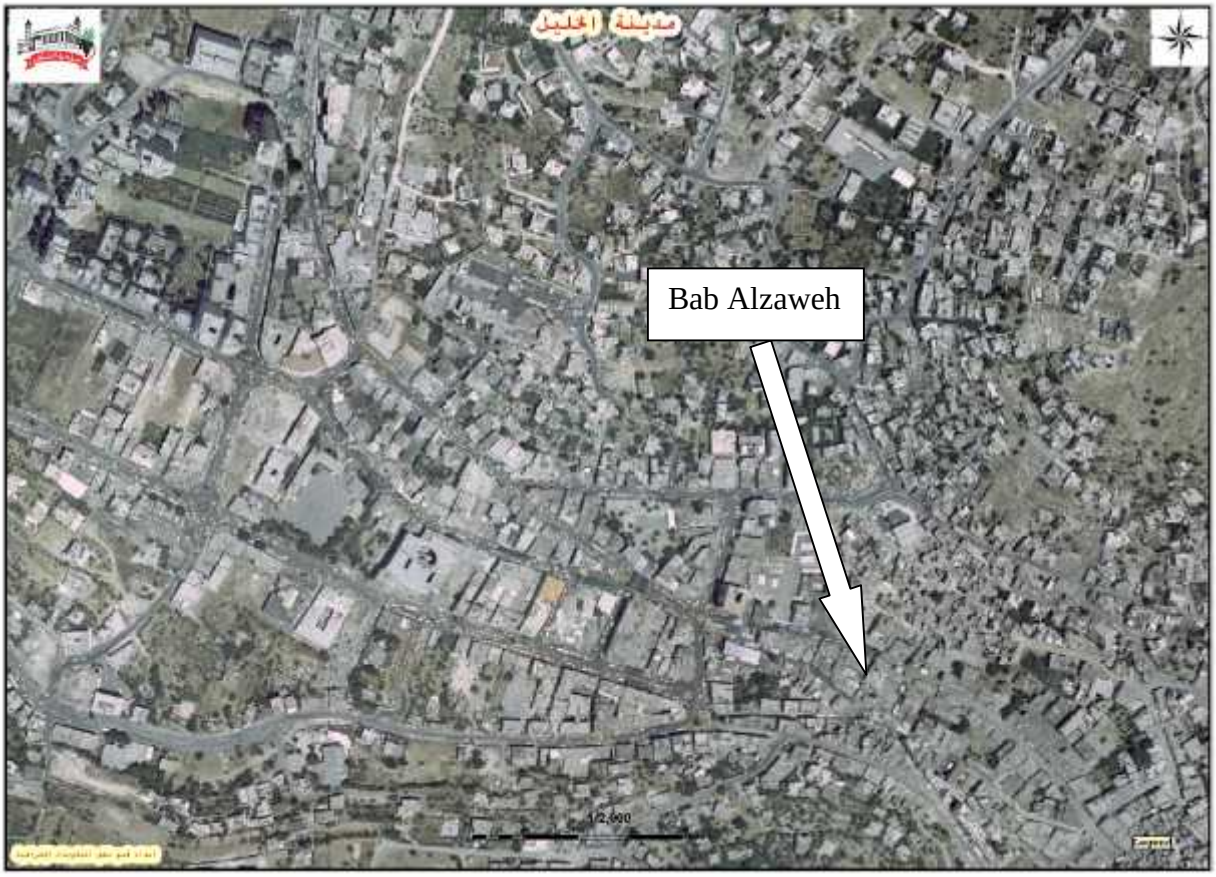


Figure 2.3 Aerial photo of Hebron city center 2006

(Source: Hebron Municipality)

2.1.2 Climate

The climate of Hebron for the greater part of the year is pleasant. Winter lasts for three months, from mid-December to mid-March, and can be severe. During the remainder of the year, the climate is temperate, with the hottest weather in the months of June and August.

The Middle Eastern summer is eased by breezes coming from the Mediterranean Sea. Summer although is hot in the daytime, is fairly cool at night.

The atmosphere of Hebron is clear and its air is pure. Summer temperatures reach 35° centigrade and in the winter temperature may drop to Zero. It receives an average of 700 mm of rainfall annually and the average annual relative humidity is 60% show the fig 2.4 (6).

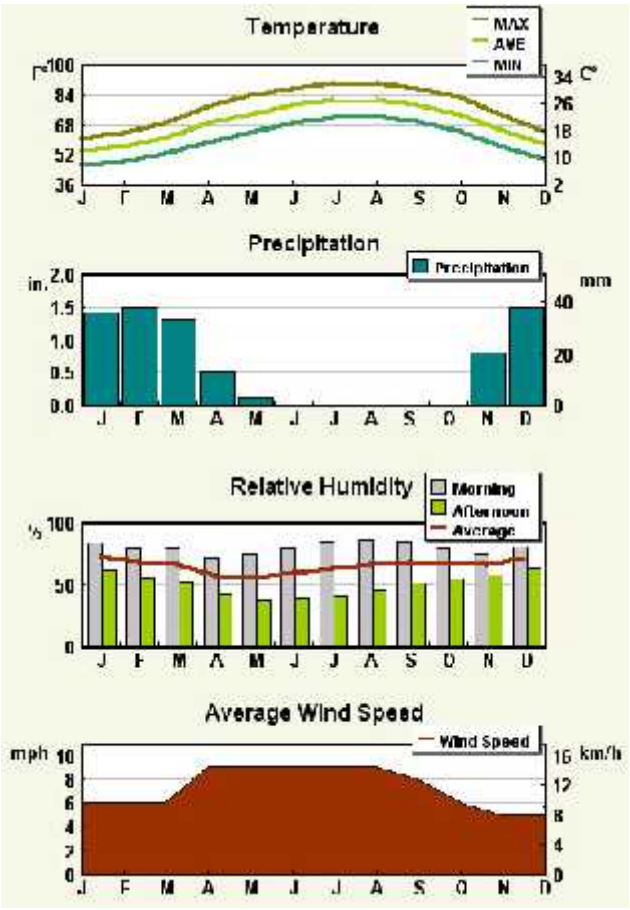


Figure 2.4 Average temperature, precipitation, relative humidity, wind speed (Source: Wikipedia, the free encyclopedia.htm)

2.1.3 Demography

According to Palestinian Central Bureau the population of Hebron in 2006 is approximately 166000 citizens, the center of the city also serves a governorate with 542600 citizens according to the Palestinian ministry of planning. The tables show Population growth (8).

.

Year	Total	Notes
1538	776 h	(h = households) Source: Cohen & Lewis
1922	16,577	British Mandate Census
1931	17,522	British Mandate Census
1944	24,550	Estimate
1967	38,309	Census
1997	130,533	Central Bureau the population

Table 2.1 Population growth.
(Source: Palestinian Central Bureau of Statistics)

2.2 Hebron, Historical view

Hebron, Al-Khalil in Arabic, is the heart of a wide hilly region. Some of its neighborhoods reach the altitude of 1000 meters above sea level. The Old City, also called Qasba in Arabic, and the Ibrahimi Mosque/Cave of Machpela are situated on the northern flank of a valley, at an altitude of approximately 860m. This relatively high altitude grants the city cool weather during summertime and abundant rainfalls in winter.

Figure 2.5 Hebron veiw 1890

(Source: http--www_pal-chambers_org-chambers-p)

Agricultural areas surround the city. Farmers in the Hebron region usually cultivate fruits such as grapes and plums. In addition to agriculture, local economy relies on handicraft, small- and medium-scale industry and construction. Surrounded by towns as Halhul, Yatta, Dura, Al-Dhahariya, each counting more than 20,000 inhabitants, Hebron is one of the most important marketplaces in the Palestinian Territories

Hebron lived t continuously in throughout the Byzantine, Arab, Mameluke and Ottoman periodsperiods, After the June 1967 Six Day War Hebron came under Israeli control with the rest of the West Bank.

In 1968, a group of Jewish settlers began to reside in the city, though a government compromise soon focused the Jewish presence to the east in the new settlement of Kiryat Arba..

Since early 1997, following the Hebron Agreement, the city has been divided into two sectors: H1 and H2. The H1 sector, home to around 120,000 Palestinians, came under the control of the Palestinian Authority, in accordance with Hebron Protocol. H2, which was inhabited by around 30,000 Palestinians,[23] remained under Israeli military control in order to protect some 600-800 Jewish residents living in the old Jewish quarter. now an enclave near the center of the town. During the years since the outbreak of the Second Intifada, the Palestinian population in H2 has decreased greatly, the drop in large part having been identified with extended curfews and movement restrictions placed on Palestinian residents of the sector by the IDF for what it says are security needs, including the closing of Palestinian shops in certain areas.

CHAPTER THREE

LITERATURE REVIEW

3.1 what is the city?

Gibbered (1982) define it in his book (Town design) as “A place in which citizen, with rights of citizen ship live in a civil life”. (1).

The civil life was derived out of civilization which existed thousand of years ago. In more architectural terms Medhurtst (1969) defined the city as:

Both an arrangement of building and spaces and a location of community with all as cities grew and become specialized in one or more activity after the end of the nineteen century, another definition was introduced by Gallion and Eisner (1980).

The word city implies a concentration of people in a geographical area who can support them selves from the city’s economic activity on a fairly permanent basis. The city can be a center of industry, exchange, education, government, or involve all these activities. These divers’ areas of opportunity attract people from rural areas to cities”. (3).

3.2 City center

The town center is a composition which should have unity to it, had a dominant element which might be a single building such as ziggurat, or it might be a group of building (4).

In 2002 the municipality of Bellingham city defined it as: (The City Center is a collection of smaller “neighborhoods,” each of which has distinct features that reflect historical land uses, topography and geographic location).

Also the City center as a collection of character areas, while respecting and even strengthening the unique features of each of the Character Areas, it is important to ensure that there are a number of unifying elements that cross Character Area boundaries and help strengthen and identify the City Center as a whole. For example, sites should be designed at the street level to appeal to pedestrians, in order to encourage walking.(19)

The photo below fig 3.1 has shown the center in Damascus as an example of city centers.

Figure 3.1 Damascus (City center)

(Source l=http://www.damascus-online.com)

Indeed to that, the city center could be industrial, commercial, educational, governmental, Religion center, or more than one activity. ". (3).

3.3: City center among the age

City center had developed throughout the history from the Stonehenge during the Neolithic period to the use of dominant urban landmark. (1990,Samer abu ghazaleh,21st Century reform the cities,P37).In the beginning and in ancient Egypt the plan of the city shows a form of linear development along the Nile banks, with routes parallel to each other and to the river linking the urban areas together. . (1990, Samer abu ghazaleh, 21st Century reform the cities, P21). All the Pyramids and its expansion were situated on the left bank of the Nile, the pharaohs established by there a stable central government and central location in the fertile Nile Valley (10).

Figure 3.2 The great Egyptian Pyramids (Source:http://images.google.com/images?hl=en&resnum=0&q=Pyramids&um=1&ie=UTF-8&sa=N&tab=wi)

After that in **Mesopotamian** civilization two moment centers appeared, the **ziggurat** (2) complex which surrounded with houses (See fig. 3.4), and the palace of the king , existed in Mesopotamian cities. In the late Sumarian period at Ur, the bazaar was founded. As shown it's noted that the focal point was the temple at the summit of the ziggurat. (1).

1:Mesopotamian: is the collective name given to Sumerian, Akkadian, Assyrian, and Babylonian mythologies from the land between the Tigris and Euphrates rivers in Iraq.(6) (See fig.3.3)

2: Ziggurat: was a temple tower of the ancient Mesopotamian valley and Iran, having the form of a terraced pyramid of successively receding stories or levels. Some modern buildings with a stepped pyramid shape have also been termed ziggurats.(6)

Figure 3.3 Mesopotamian position

Figure 3.4 Site of King Untash Napirisha's Ziggurat (Source:http://images.google.com/imgres?imgurl=http://oznet.net/iran/ziggurat.jpg&imgrefurl=http://oznet.net/iran/ziggurat.htm)

To the common market center during the Greeks, we have seen the Panathenaic way which linked some of the most sacred places in Greece, diagonally cross the originally space and on up the slopes of the acropolis the Parthenon are located, beside it is the agora or market place was established beside it, as shown below the rout of Panathenaic.

Is indicated in blue, the thrust of shaft of space from the temple is shown in yellow and the principal buildings area indicated in black. here we see the evaluation of the form of the agora integrated with the design and development as the center of Athens. (2).

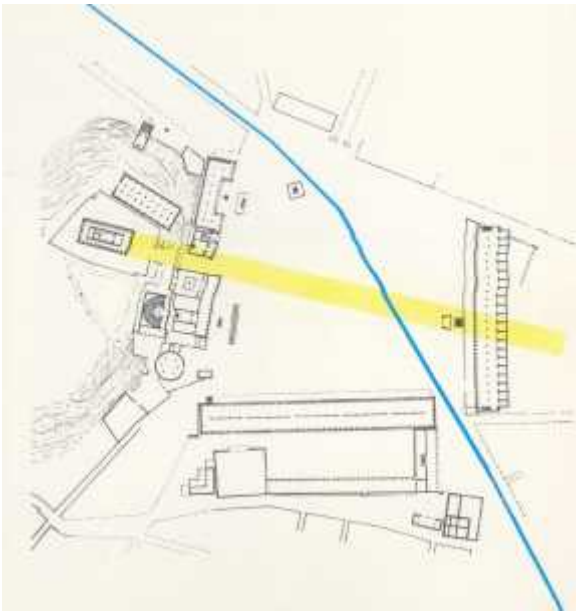


Figure 3.5 a central area (ancient Greek)
(Source: Design of the cities, by: Edmund N. Bacon)

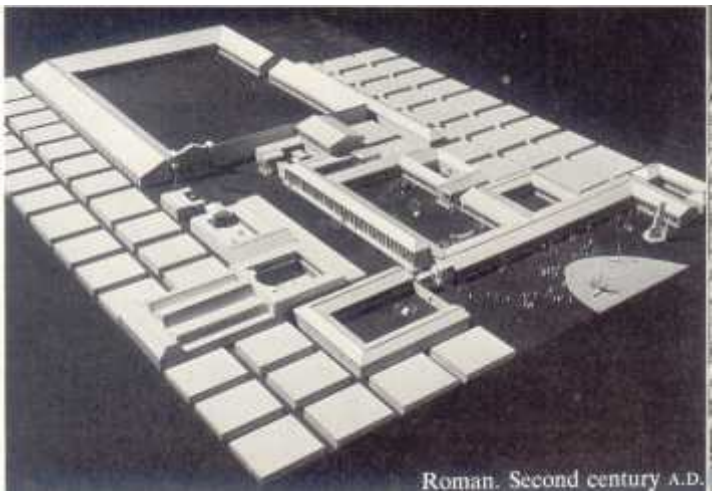


Figure 3.6 a model of a central area (Agora)
(Source: Design of the cities, by: Edmund N. Bacon)

Perhaps insight into the essential difference can best be obtained by comparing the Panathenaic way of Athens with the route of the Triumphal Procession in Rome. Here one might say that the movement system, instead of being extended the length of the city, was coiled into a single self-contained circuit in a space specially set aside for the purpose _the Circus Maximums, at the extreme left of the photo below fig 3.7 ,fig 3.8. The purity of geometry, the use of cylinders, half_ cylinders, half spheres, contrasting with rectangular forms produced areas of great architectural excitements (2).

Figure 3.7 Ancient Rome
(Source: Design of the cities, by: Edmund N. Bacon)

Figure 3.8 Amodel of Ancient Rome
(Source: Design of the cities, by: Edmund N. Bacon)

The Colosseum or Flavian Amphitheater considered a central point was begun by Vespasian. Located on marshy land between the Esquiline and Caelian Hills, it was the first permanent amphitheater to be built in Rome. Its monumental size and grandeur as well as its practical and efficient organization for producing spectacles and controlling the large crowds make it one of the great architectural monuments achieved by the ancient Romans. (20).

Figure 3.9 the Colosseum
(Source:http://www.kellogg.northwestern.edu/student/gim/eu2007/photos)

In the Islamic city, the bazaar was the major spine of the city .inhabiting all the economical and commercial life of the city. Indeed to that, mosque was more than the religious centre of the community. (1990, Samer abu ghazaleh, 21st Century reform the cities, P37). In 1994, Moghaddam says:" Markets of the Islamic cities are one of the greatest achievements of the Islamic civilization and are not to be found in other countries. At the time Islam ruled over a large part of the world, Bazaars had become a common feature of the cities governed by Islam. Economy and religion are the two principal pillars of the Islamic Bazaars, which symbolize their difference from other markets". (1994, Abbas Moghaddam, Newsletter of Chamber of Commerce publication of the Chamber of Commerce), (12) . (see pictures below fig 3.10, fig 3.11)

Figure 3.10 the Colosseum Medieval (Islamic Cairo), Egypt (Source:http://goafrica.about.com/od/egypt/ig/Images.htm)

\

Figure 3.11 the Umayyad Mosque in Old Damascus (Source:http://images.google.com/images?hl=en&resnum=0&q=old+damascus&um=1&ie=UTF-8&sa=N&tab=wi)

Figure 3.12 A square in Damascus. Commercial. 1940s

(Source:http://images.google.com/images?hl=en&resnum=0&q=old+damascus&um=1&ie=UTF-8&sa=N&tab=wi)

3.4 City center elements

In 1960 Lynch describes a five-year study that reveals what elements in the built structure of a city are important in the popular perception of the city. One of Lynch's innovations was the concept of place legibility, which is essentially the ease with which people understand the layout of a place. By introducing this idea, Lynch was able to isolate distinct features of a city, and see what specifically is making it so vibrant, and attractive to people. To understand the layout of a city, people first and foremost create a mental map. Mental maps of a city are mental representations of what the city contains, and its layout according to the individual. These mental representations, along with the actual city, contain many unique elements, which are defined by Lynch as a network of paths, edges, districts, nodes, and landmarks. (13)

A "node" is a distinct location in the environment. This may be a place, a piece of a forest path, a room or whatever - it is a strategic spot in an environment the user can enter.

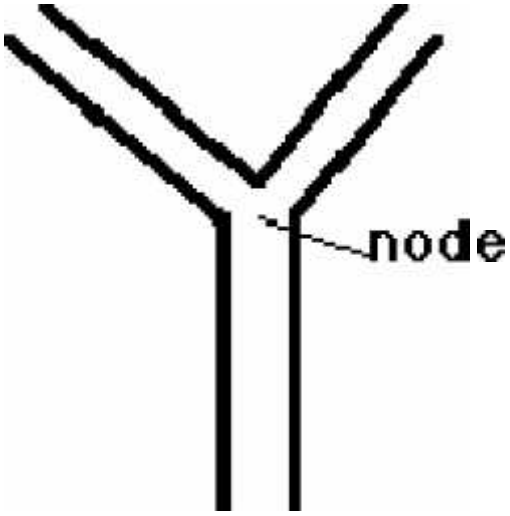


Figure 3.13 Nodes (Source: Researcher)

Another element of the environmental image is the "path". It is a channel along which the observer moves. For many people paths are the dominant environmental elements as people often remember spatial concepts in terms of paths. Paths connect nodes or lead to nodes.

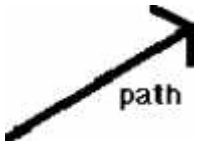


Figure 3.14 Paths (Source: Researcher)

The third linear element of the environment is the "edge". Edges are borders perceived in the environment. The perception of a linear element as border or path depends mainly on the perspective of the observer - what is a path for the one person may well be seen as edge by another person. For instance what is seen as path by a car driver is seen as edge by a pedestrian trying to cross the street.

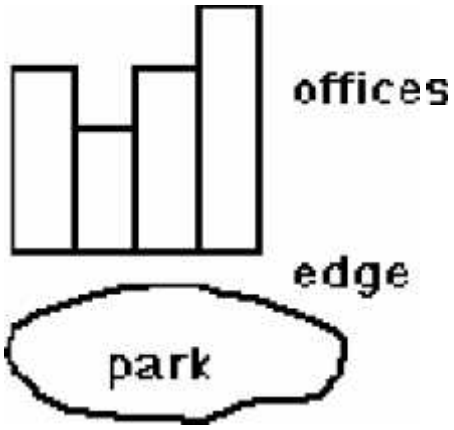


Figure 3.15 park (Source: Researcher)

"Districts" are sections of cities perceived as one area because the objects (buildings) show common character. That common character can be functionality provided in the area, like in a harbor area, or the age of houses, like in the center of old cities. Districts often are surrounded by paths or edges(6).

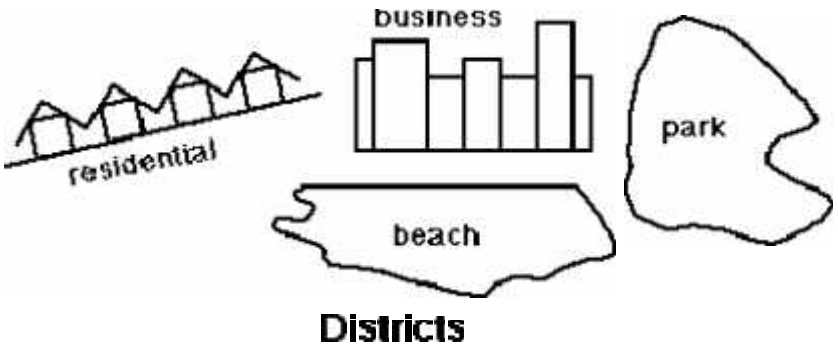


Figure 3.16 districts (Source: Researcher)

The last of the five elements is the "landmark". Landmarks are strong points of reference often to be seen from far off.

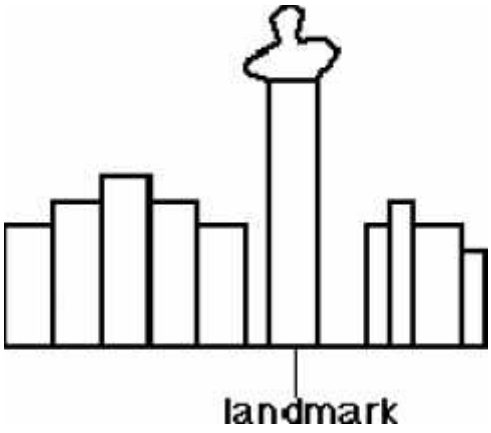


Figure 3.17 landmark (Source: Researcher)

3.5 The Central Business District (CBD)

3.5.1 Urban Zones

When we look at cities we find many have similar patterns of land use. For example, at or near the centre of the settlement there will be a business area with offices, large shops, and main train and bus stations. We will look at the four main land-use areas or zones –:

- The Central Business District (CBD) in western community:
- The Inner City.
- The Suburbs.
- New Industrial Areas.

(See the picture below)

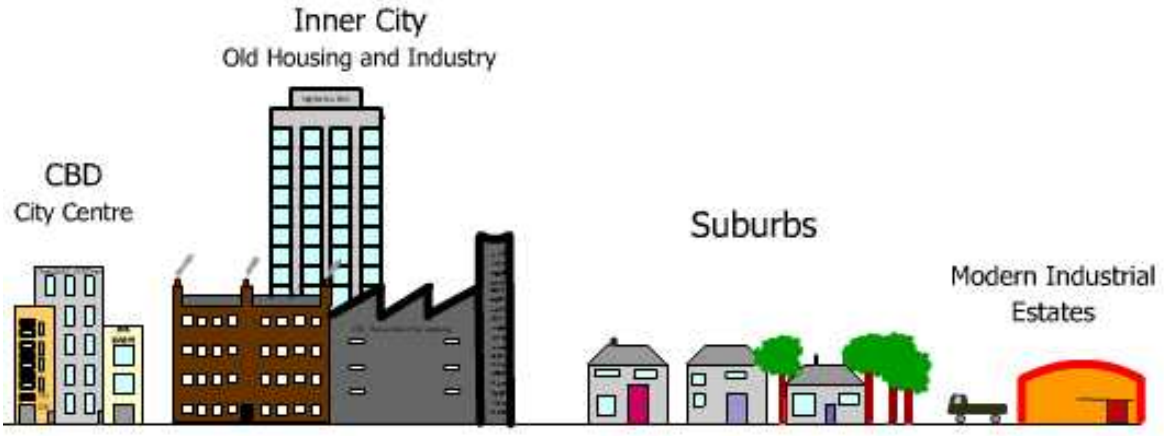


Figure 3.18 Urban Zones

(Source: http://www.google.com/search?hl=en&q=cbd)

Areas zones in the Arab region have a high population density and they currently include: Industrial, trade and residential zones mingled together, in addition to that we have mostly old district in the city, also trade zone mostly similar to CBD.(21)

3.5.2 The Central Business District (CBD)

The CBD or downtown is the central district of a city, usually typified by a concentration of retail and commercial buildings. Although applicable to any city, both terms usually refer to larger cities only.

The term 'city centre' is similar to CBD or downtown in that both serve the same purpose for the city, and both are seen by a higher-than-usual urban density as well as the often having the tallest buildings in a city. 'City centre' differs from 'downtown' in that Downtown can be geographically located anywhere in a city, while city centre is generally located near the geographic heart of the city.

The shape and type of a CBD or downtown will almost always closely reflect that city's history. Cities with maximum building height restrictions will often have a separate historic section quite apart from the financial and administrative district. By contrast in regions where the city grew up suddenly and recently, such as in the western half of North America, a single central area will often contain all the tallest buildings.

Figure 3.19 Vila Olimpia in São Paulo one of the business districts in the city

(Source:http://www.google.com/search?hl=en&q=cbd)

3.5.3 The central business district (CBD) characteristics

Figure 3.20 Beirut's central district

(Source:http://www.google.com/search?hl=en&q=cbd)

The central business district (CBD) has the following characteristics:

- Have the departmental shops, large offices, main railway and bus stations, many churches, pubs, clubs and cinemas and the town hall.
- The main roads head into the CBD
- The value of the land is greatest here.
- Due to the high cost of the land buildings are built upwards.
- C.B.D's suffer from the worst traffic congestion.
- It is often the oldest part of the city.
- It may have a grid-iron street pattern that is parallel straight roads and other roads running at right angles.

Central business districts usually have very small resident populations. For example, the population of the City of London declined from over 200,000 in 1700 to less than 10,000 today. In some instances, however, particularly in large Australian cities, CBD populations are to some extent increasing, since younger professional and business workers are moving into city centre apartments.

3.5.4 The central business district (CBD) problems

3.5.4.1 Main problems of city center

As we have a huge technology revolution and a great development in the industrial, commercial, social aspects there is a set of problems had faced the urban zones specially the down towns and the centers of cities, such as prevailing harmful mixture of conflicting

land use, absence of open spaces parks and recreational land use, horizontal type of growth, high density development in most of the developed area, transportation and pedestrian's problem, Healthy aspects such as visual and really pollutions. (5).

The most critical problem we must give attention to it and explain, transportation problem, which considered the main key to proposed solutions.

3.5.4.2 Traffic Congestion

Traffic congestion is a main problem that modern day city centers face, when this part of the city become run down and undesirable to live in. Traffic congestion is caused by:

- Many people working in the C.B.D. which may have narrow streets
- Shortage of off-street parking which means people park on the roads and so increase congestion
- People not using public transport - either because it is less convenient, too expensive or not available
- More people own and use cars

As an example of how bad traffic jams now are, a hundred years ago it took about one hour to travel from Paramatta to the centre of Sydney (Australia) by horse and cart. Today

it takes longer by car. As well as causing aggravation stationary traffic cause severe air pollution from exhaust fumes. Various solutions to these problems have been tried.

- Ring roads and by-passes; these can be unpopular as countryside around towns and cities are lost when they are built
- Park and Ride - you park your car on the edge of the built up area and then ride a bus or train into the C.B.D.
- One way streets to speed up traffic flow
- Multi-storey car parks
- Banning cars from the from the C.B.D., either with pedestrianised streets (e.g. Renfield Street in Glasgow) or by stopping them coming into the city centre at all. Cars are banned from the centre of Milan (Italy) on Sundays.
- Charging car drivers when they enter the city centre

A complete solution to traffic congestion needs people to be able and willing to travel on public transport more.

Figure 3.21 A bus lane to help speed up public transport

(Source:http://www.scalloway.org.uk/sett.htm)

Figure 3.22 A multi-storey car park

(Source:http://www.scalloway.org.uk/sett.htm)

3.6: Spaces and elements of CBD:

3.6.1: Pedestrians and Sidewalk:

A pedestrian is a person traveling on foot, whether walking or running. In modern times, the term mostly refers to someone walking on a road or footpath, but this was not the case historically.

Figure 3.23 Pedestrians (Source:http://en.wikipedia.org/wiki/Pedestrian)

A sidewalk, pavement, footpath or footway is a path for pedestrians that is situated alongside a road or formed like sidewalks that are alongside roads (such as a cement footpath through a park). They are usually constructed of concrete, asphalt, brick, stone or rubber, are designed for pedestrian traffic and are often found running alongside a road.

Figure 3.24 Sidewalk (Source:http://en.wikipedia.org/wiki/Pedestrian)

3.6.2: Parking:

Parking is the act of stopping a vehicle and leaving it unoccupied for more than a brief time. It is against the law virtually everywhere to park a vehicle in the middle of a highway or road; parking on one or both sides of a road, however, is commonly permitted. Parking facilities are constructed in combination with most buildings, to facilitate the coming and going of the buildings' users.

3.6.2.1: Modes of parking:

There are three basic modes of parking, based on the arrangement of vehicles — parallel parking, perpendicular parking, and angle parking. These are self-park configurations where the vehicle driver is able to access the parking independently.

3.6.2.2: Parallel parking:

With parallel parking, cars are arranged in a line, with the front bumper of one car facing the back bumper of an adjacent one. This is done parallel to a curb, when one is provided. Parallel parking is the most common mode of street side parking. It may also be used in parking lots and parking structures, but usually only to supplement parking spaces that use the other modes.

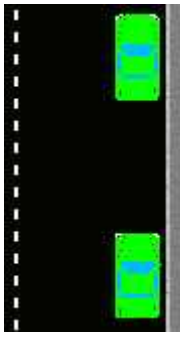


Figure 3.25 Parallel parking

(Source: http://en.wikipedia.org/wiki/Parking#Angle_parking)

3.6.2.3 Perpendicular parking:

With perpendicular parking, cars are parked side to side, perpendicular to an aisle, curb, or wall. This mode of parking is more scalable than parallel parking and is therefore commonly used in parking lots and parking structures.

Often, in parking lots using perpendicular parking, two rows of parking spaces may be arranged front to front, with aisles in between.

Figure 3.26 Perpendicular parking

(Source:http://en.wikipedia.org/wiki/Parking#Angle_parking)

3.6.2.4: Angle parking:

Angle parking is similar to perpendicular parking, except that cars are arranged at an angle to the aisle (an acute angle with the direction of approach). The gentler turn allows easier and quicker parking, narrower aisles, and thus higher density than perpendicular parking. While in theory the aisles are one way, in practice they are typically wide enough to allow two cars to pass slowly when drivers go down the aisles the wrong way.

Angle parking is very common in parking lots. It may also be used in street side parking when there is more width available for parking than would be needed for parallel parking, as it creates a larger number of parking spaces. Some cities have utilized angled parking on-street (as compared to off-street parking facilities). This has been done mostly

in residential, retail and mixed use areas where additional parking compared to parallel parking is desired and traffic volumes are lower.

3.6.2.5: Parking lot:

Parking lot is the term that refers to a cleared area that is more or less level and is intended for parking vehicles. Usually, the term refers to a dedicated area that has been provided with a durable or semi-durable surface.

A parking lot with a angle parking pattern is designed for one-way traffic.

In Hebron, where cars are the dominant mode of transportation, there is a major lack of parking lots, which are very essential.

Figure 3.27 Parking lot

(Source:http://en.wikipedia.org/wiki/Parking#Angle_parking)

3.6.2.6: parking meter :

A parking meter is a device used to collect money in exchange for the right to park a vehicle in a particular place for a limited amount of time. Parking meters can be used by municipalities as a tool for enforcing their integrated on-street parking policy, usually related to their traffic and mobility management policies.(see the pic 3.27.)

Figure 3.28 parking meter

(Source:http://en.wikipedia.org/wiki/Parking_meter)

3.6.3: Open Space, Public and Private:

In short meaning open spaces means, land within a developed area, that is left undeveloped and serves as an amenity to surrounding occupants. (22)

A public space or a public place is a place where anyone has a right to come without being excluded because of economic or social conditions, although this may not always be the case in practice. One of the earliest examples of public spaces are commons. For example, no fees or paid tickets are required for entry, nor are the entrants discriminated based on background. Non-government-owned malls are examples of 'private space' with the appearance of being 'public space'.

Public Space has also become something of a touchstone for critical theory in relation to philosophy, (urban) geography, visual art, cultural studies and social studies.

Most streets, including the pavement are considered public space, as are town squares or parks. Government buildings, such as public libraries and many other similar buildings are also public space. However, not all state-owned buildings fall under such a definition(6)

Also public space, like urban open spaces and greenways, landscape ,piazza, plaza ,courtyard ,native lands including wilderness, undeveloped parkland and relatively undisturbed natural environments.(6)

In other hand private open space means that spaces which is privately owned and not generally open to the public, although some are subject to agreements that afford limited public access(14).

Commercial zoning regions allow a maximum building footprint of 40% lot coverage, and require a minimum of 60% ‘open space’(13).

3.6.4: Green structure:

Green areas is a main elements in the space, green areas provide opportunities for recreation, social contacts, playgrounds, concerts and other cultural events etc. all contributing to a rich and attractive city life.

Urban green structure today can be defined as all land of the urban landscape that is neither covered nor sealed, including parks, playgrounds, sport fields, allotments, private gardens, green space of housing districts, industrial properties as well as along streets and rail roads etc (23).

Creation of an urban green structure can help to add some new qualities to or to improve the old ones of an urban environment. Why? The term "structure" means location and order of related parts within one organism or system. Complex mind says that system is more than just a mechanical sum of its parts. Any system has a new quality that was not presented in its single part . (6)

Green structures conclude:

• Paved city spaces with plants: courtyards & patios, roof gardens & balconies, tree-lined alleys, promenades, city squares and schoolyards.

• Parks, gardens and sports grounds: public parks, pocket parks, gardens, public sports grounds, public recreation areas and public playgrounds.

• Burial places: crematorium, burial ground and church yard.

• Private open spaces: institution grounds, residential home grounds, health services grounds, private sports grounds, private estate grounds, local authority services grounds and commerce grounds.

• Domestic gardens: house gardens, allotments, communal semi-public gardens and communal private garden.

• Farmland and horticulture: arable, pasture and orchard.

• Transport corridor verges: canal sides, rail sides and roadsides.

• Water margins: wetland, riversides and lakesides.

• Water: still water, running water.

• Woods: woodland, timber/bio-fuel woodland, wild wood and semi-natural woodland.

Figure 3.29 Green structure exampels
(Source:2007, Dorota Wlodarczyk, Green Structure in Development of the Sustainable City, p6)

3.6.5: Plaza:

A large, open space often enclosed on two or more sides by buildings or walls. Plazas are common in village sites (sites with room blocks of 50 or more rooms) as early as Pueblo I. They are common in the larger Pueblo III villages and were likely used for many types of community gatherings as well as daily domestic activities.

Figure 3.30 The plaza mayor of Valladolid, Spain, a prototypical Spanish plaza

(Source:http://yellowjacket.colorado.edu/concepts.html)

Figure 3.31 Zoetrope_plaza,Massachusetts.Bosten

(Source:http://www.virtualalbuquerque.com/VirtualABQ/CivicPlaza/CivicPlaza2.)

CHAPTER FOUR

CASE STUDY
Amman city center

4.1: Location:

Amman is the capital city of the Hashemite Kingdom of Jordan, a city of 2,125,400 inhabitants (2005 estimate), and the administrative capital and commercial center of Jordan. It is the capital city of Amman Governorate. Amman is located in a hilly area of north-western Jordan. The city was originally built on seven hills, but it now spans over an area of nineteen hills (each known as a jabal or "mountain"). The main areas of Amman gain their names from the hills and mountains on whose slopes they lie. (see the fig 4.1).

Figure 4.1 Amman location

(Source:http://en.wikipedia.org/wiki/Amman), Modified by researchers

As showed in map below Amman appears more clearly:

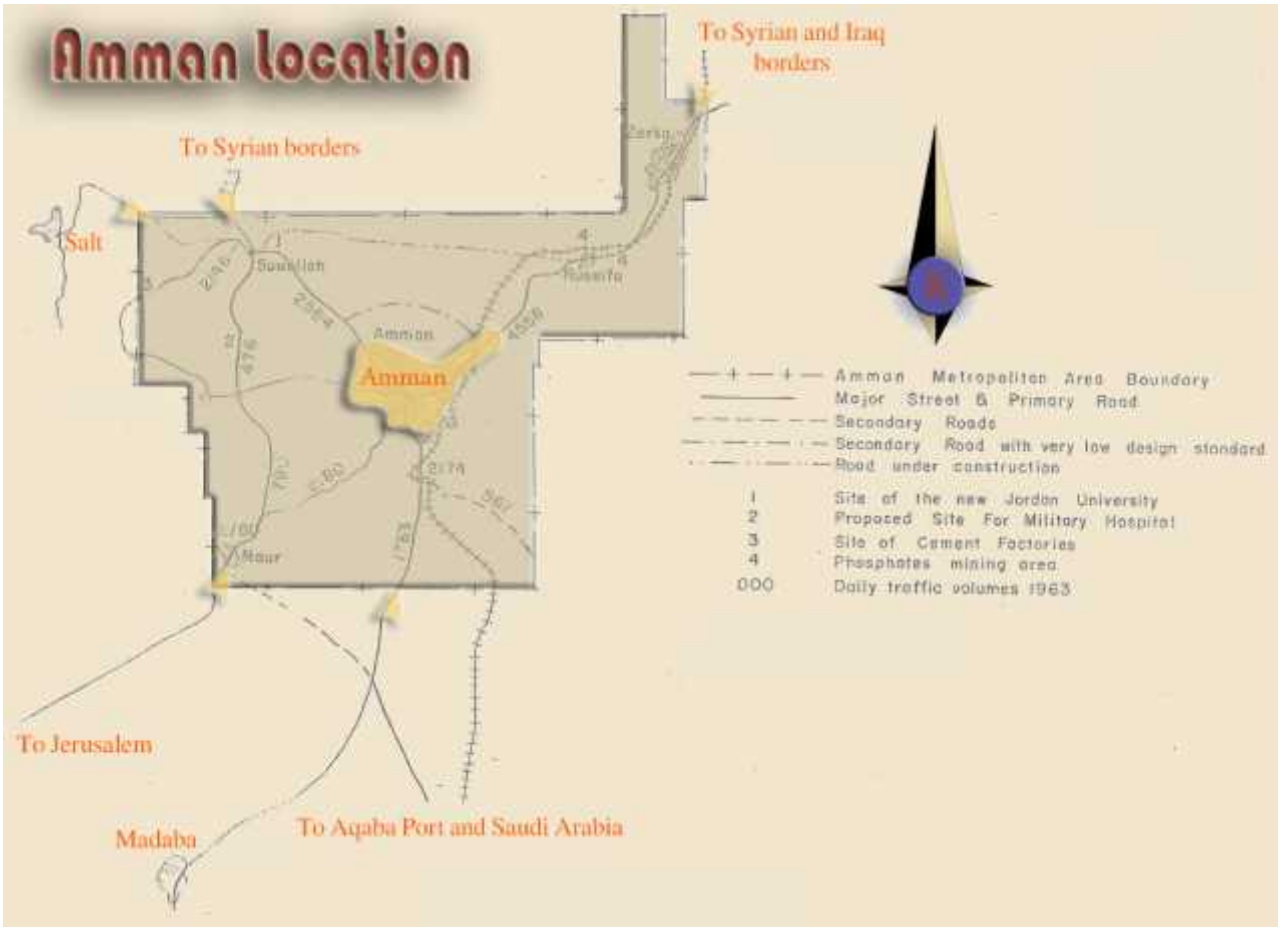


Figure 4.2 Regional map of Amman
(Source¸Fuad Akil Rihani A transportation study for the city of Amman ,Jordan) Modified by researchers.

As mentioned before, Amman consists from a group of mountains, Jabal al hussine, Jabal Amman, Jabal al_webdieh…etc, the central area between the mountains which called Jabal al Qalla, considered the center of Amman).

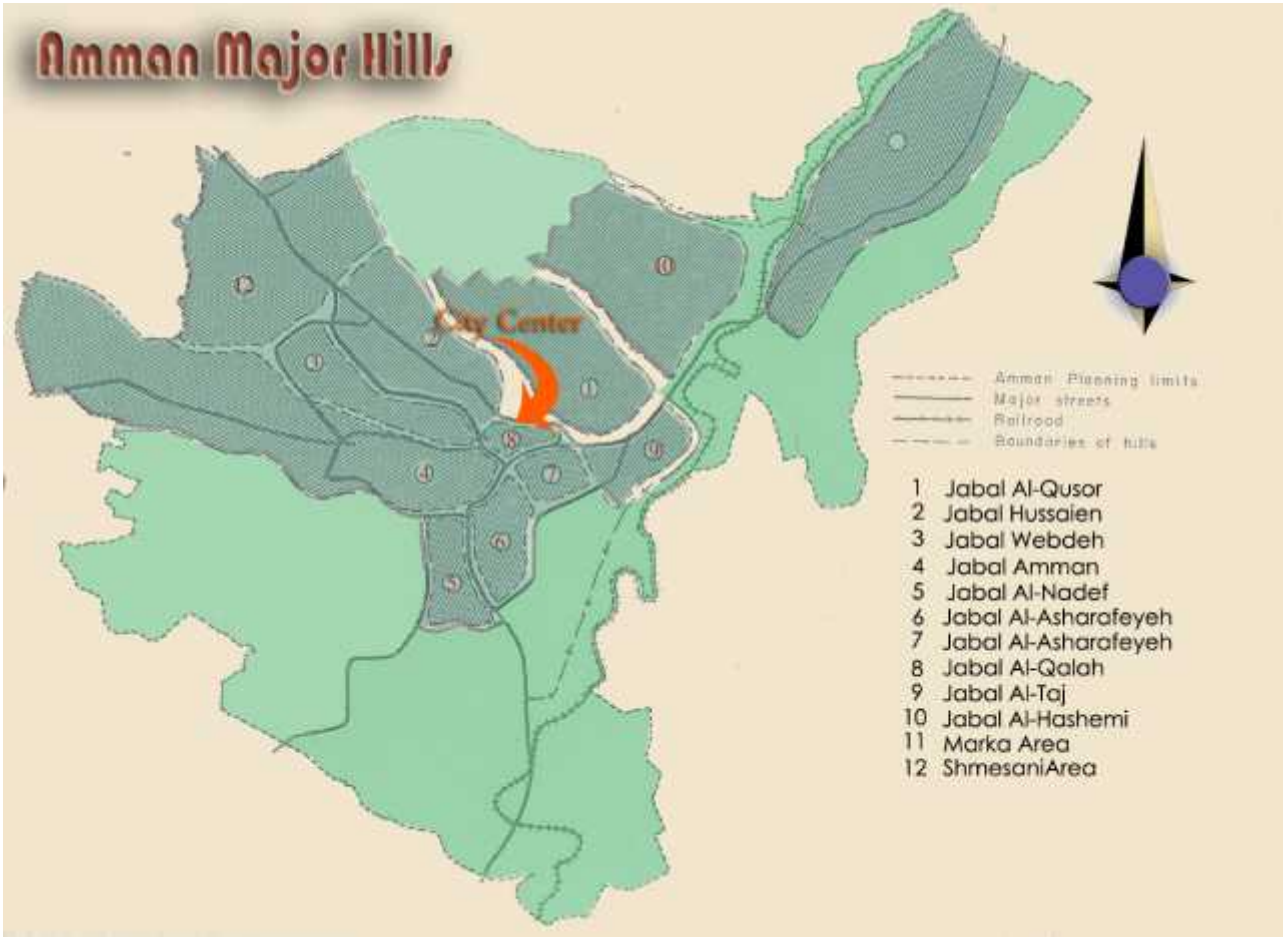


Figure 4.3 Major hills in Amman

(Source¸Fuad Akil Rihani A transportation study for the city of Amman ,Jordan)

Modified by researchers.

Also Amman contributes to different uses of zones, the central area which called Jabal Al_Qalla formed the business district area of the city (see the fig 4.4).

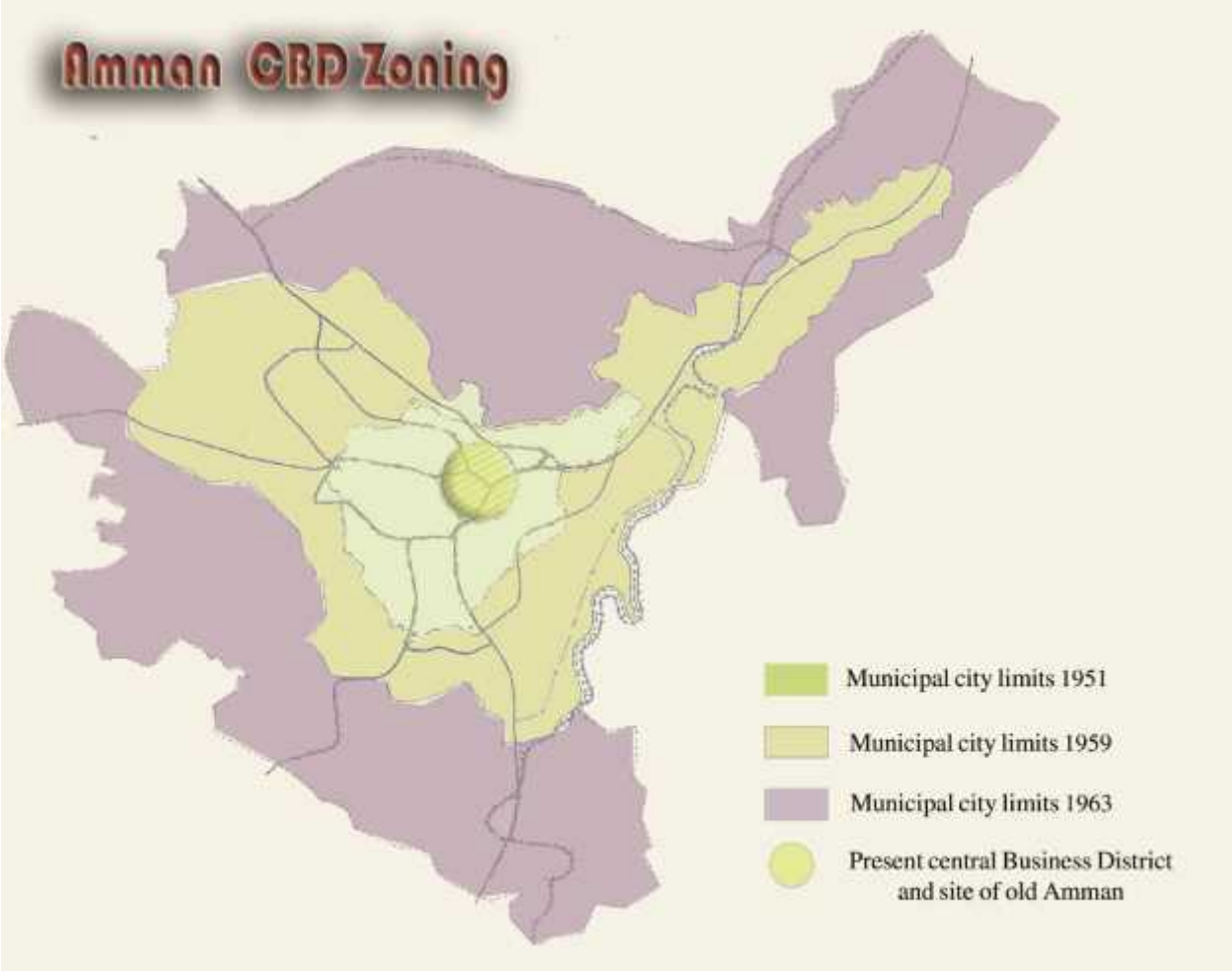


Figure 4.4 Urban zones in Amman and CBD location
(Source¸Fuad Akil Rihani A transportation study for the city of Amman ,Jordan) Modified by researchers

Commercial Strip shops appeared around the CBD, they where shaped like the valleys containing them, the CBD lies in an intermediate place in valleys between hills.

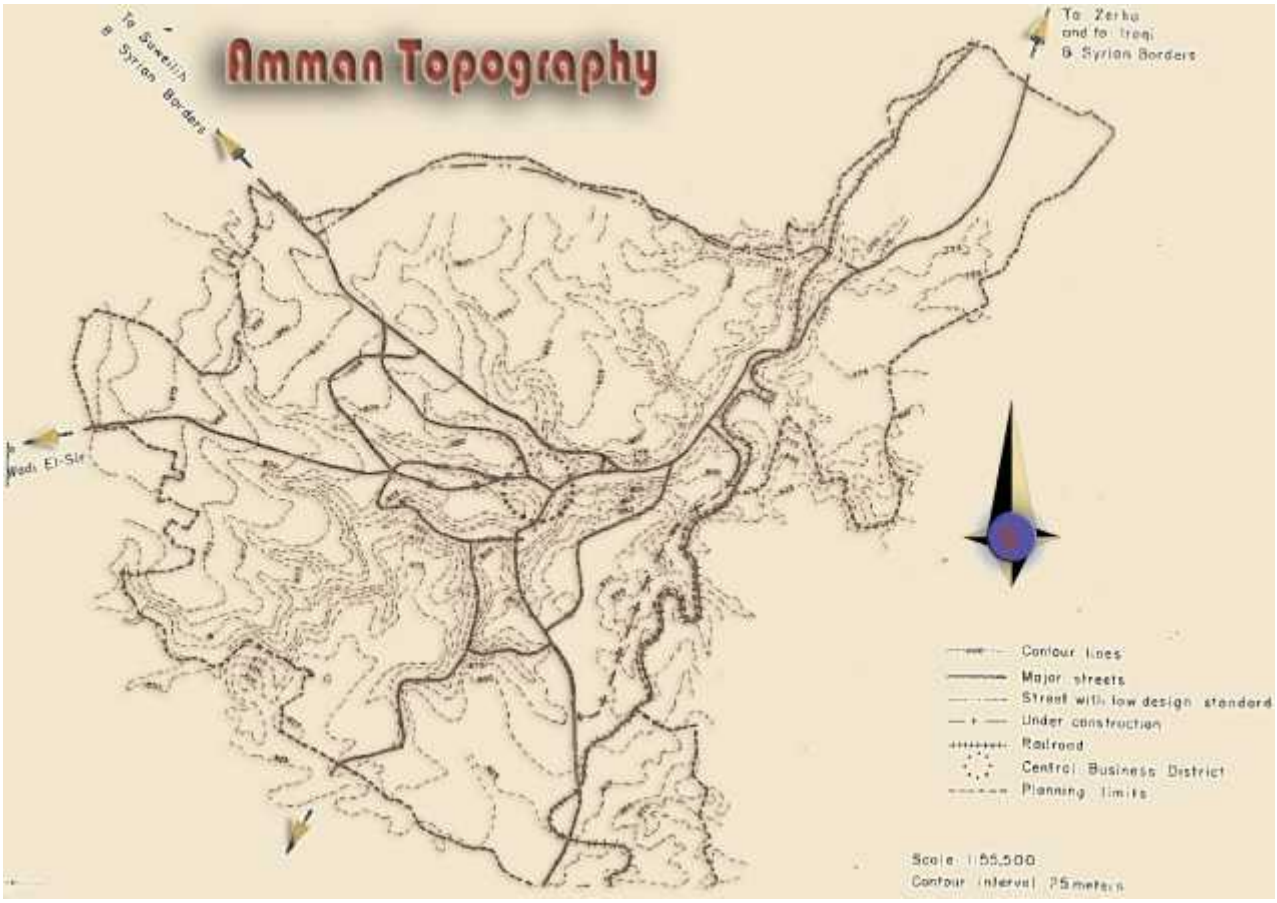


Figure 4.5 Topography of all the city of Amman
(Source¸Fuad Akil Rihani A transportation study for the city of Amman ,Jordan)
Modified by researchers

4.2: Existing conditions:

The CBD of Amman is facing challenging problems for both planners and urban engineers, the most enormous problems are castrated in Basman Street and King Faisal Street.

Figure 4.6 Existing conditions
(Source Fuad Akil Rihani A transportation study for the city of Amman ,Jordan)
Modified by researchers

The CBD of Amman is facing several problems that are resulting for:

1. The location and topography of the site which resulted in:

a-An unbalanced street system composed only of radials.

b- Common and business strip development only one building deep on both sides of the streets (See fig 4.7).

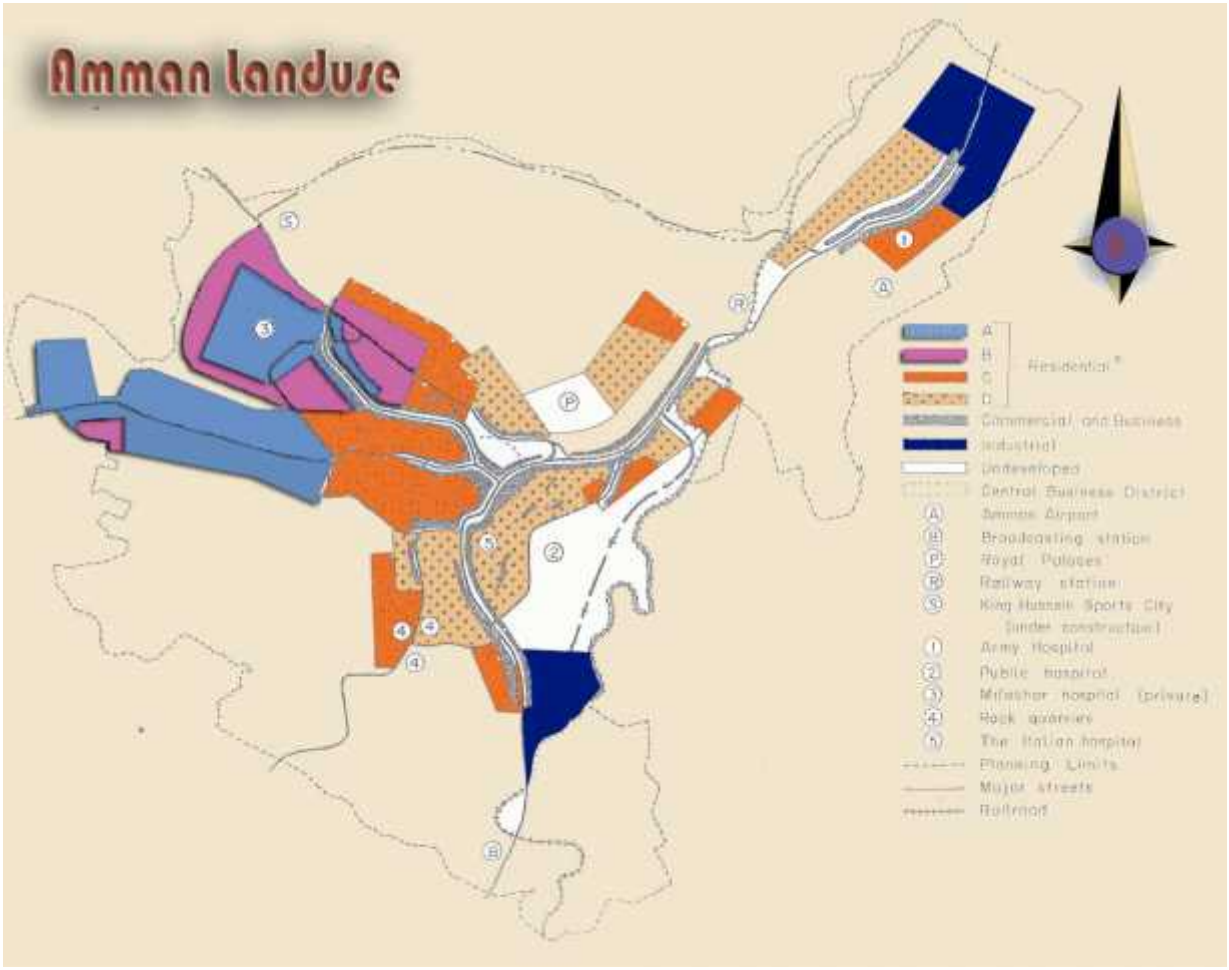


Figure 4.7 Land use map of Amman
(Source¸Fuad Akil Rihani A transportation study for the city of Amman ,Jordan)
Modified by researchers

c- Confined width of main streets.

d- Narrow sidewalks See fig 4.8.

Figure 4.8 Narrow sidewalks and congestion
(Source:http://en.wikipedia.org/wiki/Amman)

e- Absence of open space in the area.

The increase of expensive structure at both street sides in the CBD results in lack of open spaces, limited parking facilities and street system capacity, unbalanced circulation of traffic and excessive walking distance, this in turn resulted in traffic congestion and commercial. Stagnation in the CBD, a fact which is felt by every one in Amman.

2. The concentration of conflicting and harmful activities in the CBD (see fig 4.9): this is now here better presented than in King Faisal street which is the busiest and most critical section in the whole city, in this main street which less than 1000 feet in length, it is not uncommon to find in one area a bank, hotel, store, pharmacy, clinic, restaurant, office, cafe, bakery, car deal on, fresh meat market. In this respect, downtown area of Amman is not any more a CBD but rather a modern version of the old oriented market place where all people meet, and where all needs of the community are provided.

Figure 4.9 harmful activities in the CBD
(Source:http://en.wikipedia.org/wiki/Amman)

As such, the CBD because the biggest center for traffic attraction and generation, the most critical transportation bottleneck in the city, and hence was plagued with all the following defects:

Transportation Problems:

1- Only one street parking was provided, giving the area a very limited supply of one of the most important requirements for CBD, and thus facing a good part of traffic to stay in motion on the congested streets.

2- Short circuiting of traffic movement on main streets required to make up the absence of a balanced street network, and thus increased the traffic volumes considerably (30000 vehicles/day on King Fasial street) on the limited facilities of the area (see fig 4.10).

Figure 4.10 Traffic jam
(Source:http://en.wikipedia.org/wiki/Amman)

The resulting high concentration of pedestrian overflowed the narrow side walks into the pavement provided for all vehicular traffic, not only at the intersections and cross walk but every where in the area as reflected the types of prevailing accidents.

As such, the CBD of Amman didn't only lose its character, but also found itself deprived from all the essential requirements it needed _adequate provisions for smooth and efficient movement of pedestrians and vehicular traffic, and parking and lose in already mentioned paralyzing vicious of limited area versus limited and unbalanced facilities.

Every thing indicates the inability of the CBD in Amman to accommodate any future traffic through operational improvements and street widening, and thus implies the need for a deep_ rooted comprehensive plan capable of meeting this unique challenge.

4.3: Solutions Outline:

1. Solve the traffic problems and provisions for efficient pedestrian movement were completely neglected and scarified for artificial pictures in the heart of the city.

2. Decentralization as the only solution for the congested CBD, as a result unusually strange movement was started; Banks and meat markets, bakeries and wholesale store were left in the middle of CBD.

3. Citizens should be made aware of this so what they identify themselves with the city, share the responsibility of the decision making, and commit themselves to the welfare of their community.

4.4: Implementations:

1. Side walks area is increased where ever possible; this is not at the expense of the decorative median in king Fasial street.

2. No parking is allowed on all critical sections of major streets in the core of the CBD .parking is provided only as indicated in figures (see the fig 4.11).

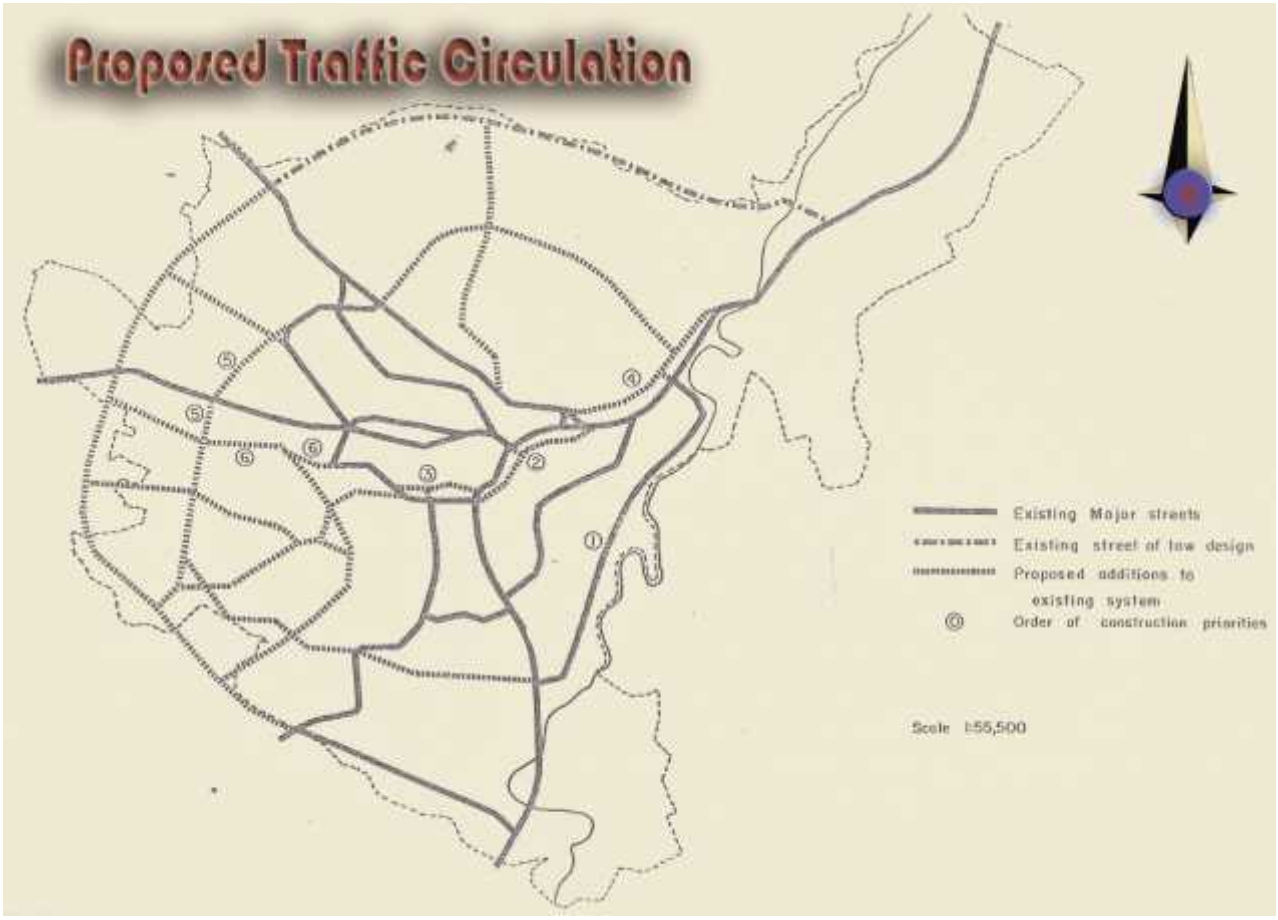


Figure 4.11 Proposed traffic circulation and parking in the CBD
(Source¸Fuad Akil Rihani A transportation study for the city of Amman ,Jordan)
Modified by researchers

This arrangement provides the buses ,taxis and "service" car serving Jabal Amman , Jabal Al _webideh, Jabal al _Hussein with two on_street parking areas located at the ends of the core of the CBD as follows:

A. Parking provided on prince mohammad street and king Abdalla street for vehicles serving Jabal amman.

B. Parking provided on king Hussein street and king Abdalla street for vehicles serving Jabal al _Hussein, and Jabal Al _webideh.

C. Parking provided on on king Talal street and king Abdalla street for vehicles serving other areas.

D. Parking for busses, taxies and other service cars is provided on king Talal street and king Abdlla street, as shown in the previous fig.

E. Meter Parking is provided in king Abdlla street, king Hussein street, king Faisal street, as shown in the previous fig.

A metered parking area of limited capacity is provided in the area with high fees and for short period to prohibit any wasteful use of the facility.

This also reflects the intended emphasis on public transportation.

3-The traffic circulation indicated in fig below fig 4.12 combined with the proposed parking arrangement is adopted.

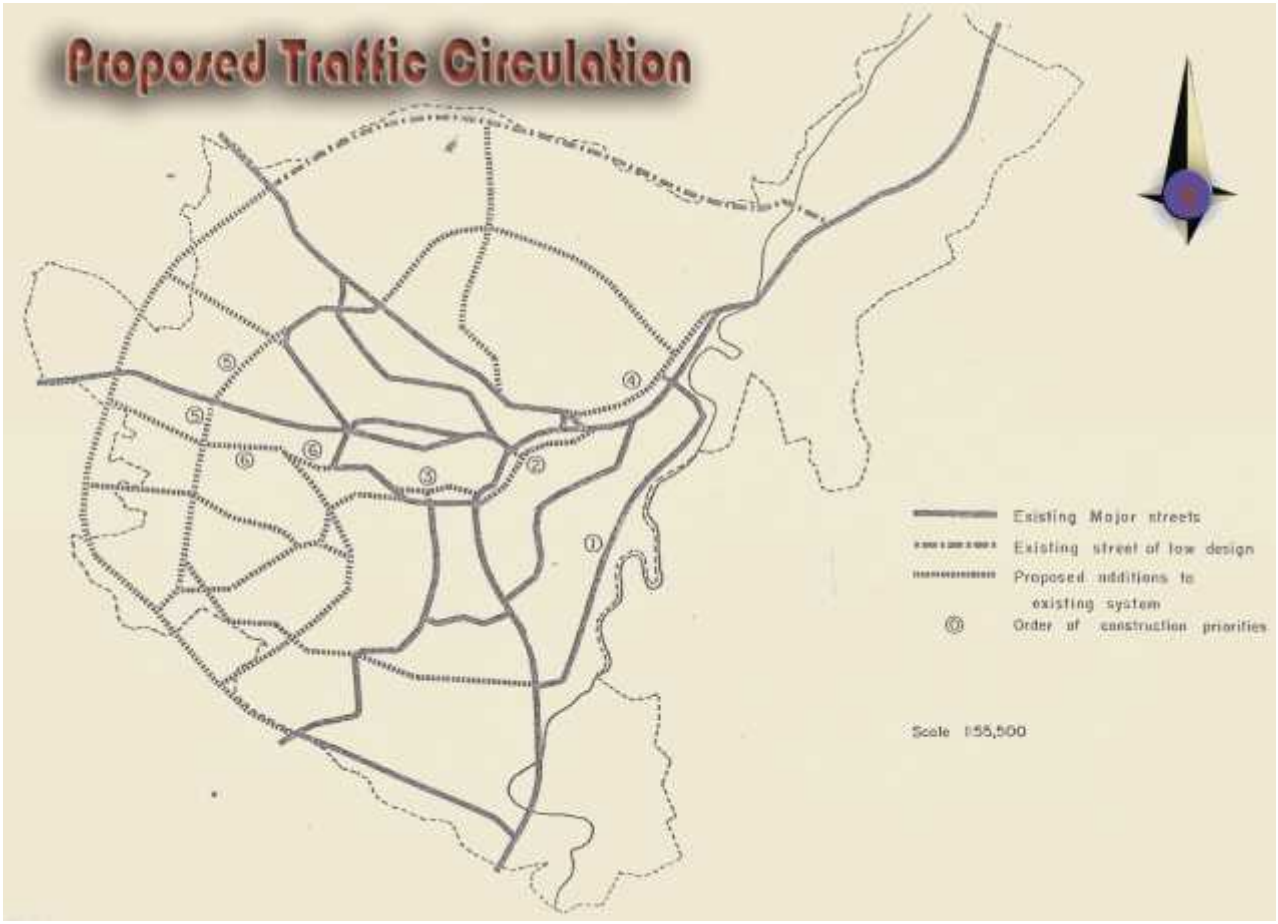


Figure 4.12 Proposed traffic circulation
(Source_Fuad Akil Rihani A transportation study for the city of Amman ,Jordan)
Modified by researchers

It has the following merits:

a. It incorporates the use of one-way street system whenever possible & thereby increases the street capacity & provides valuable parking facilities as highted by the arrangement on King Abdalla street. Its appropriate to pairs. Because of this, King Hussion street used as a one-way out band street is not adopted here because it doesn't have any parallel street to complement its function.(see the fig 4.13)

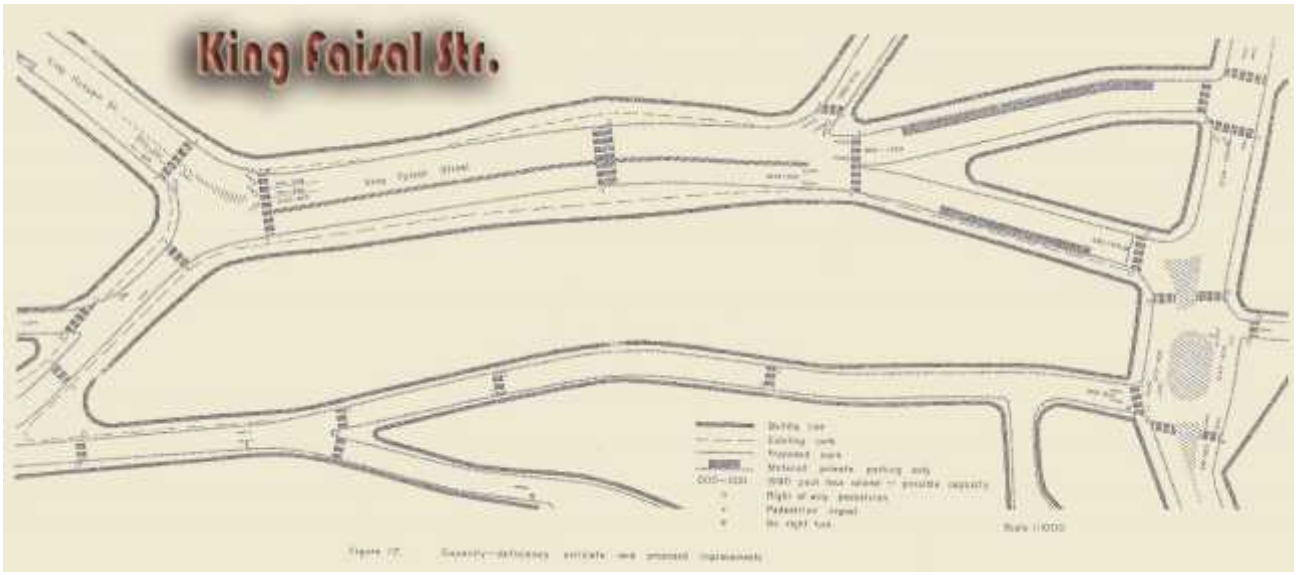


Figure 4.13 King Hussion street
(Source ˌFuad Akil Rihani A transportation study for the city of Amman ,Jordan)
Modified by researchers

b. The problem of the long distances that pedestrians have to walk to & from parking sites reduced by the parking arrangement which haves the maximum walking distance.
c. Left & U-turns are eliminated in the core of the center, thus increasing capacity & eliminating short-circuit movements.

This is further promoted by lengthening & channeling the trip patterns of circulation vehicles in such away that only efficient use of the limited facilities in the area are promoted. To prevent the harmful short-circuit circulation & uncontrolled pedestrian crossing on King Fasial Street, a barrier median proposed.

4. Automatic signalization station is to be used on major critical intersections.
5. A "scramble" system is utilized at signalized intersections to reduce the conflict between pedestrian and vehicular traffic, and thus increase the capacity of intersections.

6. All needed types of traffic control devices are used to facilitate smoother flow traffic.

It is possible that all these points will not serve their purpose without the following important elements of the solution:

1. Definition of the area of the CBD, re-definition of the uses to be allowed in the area, and elimination of all nonconforming uses.
2. Redevelopment of Al-Sail area between Mohajreen Bridge and the Municipality Building & removal of vegetable market and other undesirable activates in that area.
3. Complete regulation of public transportation by not only defining routes and fixing schedules, but also by limiting the number of buses and cars licensed to serve individual parts of the city.

7. The center of the city is a strong attraction for car parking and future development of this area will result in increasing vehicular and pedestrian traffic volumes. If this trend continues the traffic situation will become worse to the point where no one can find addition.

* So it is essential to put a limit for the growth of this part of he city by limiting the floor area ratio and by insisting on adequate off-street parking.

8. Recommendation to apply decentralization: It's essential to work towards the establishment of a major shopping center and boundaries of it so that it will attract traffic to it and thus reduce the present center of the city .(5)

4.5: Towards a better city center in Amman:

Downtown is one of the oldest districts in Amman and one that attracts the most tourists. It features some of the most important historical and ancient sites (such as the Roman Amphitheater, Amman Citadel, museums, old mosques – Al Husseini - , and commercial establishments specializing in the sale of traditional local products, in addition to public squares and other sites), because that and to be parallel with development movement in the city there's many projects applied on the down town, such as:

1. Al Husseini Mosque Court:

Figure 4.14 Grand Husseini Mosque, Amman
(Source: http://www.atlastours.net/jordan/husseini_mosque.html)

The area of the site is 2,800 square meters.

The beautification process of the site includes

1. Covering the court with tile: use of local stone.

2. Lighting units.

3. Planting trees suitable for the site.

Part of the street will be covered with stone for esthetic effects and also to promote on-foot sightseeing.

2. Tourists Center and the Old Amman Municipality Building Square:

Figure 4.15 The Tourists Center & Roman Amphitheater
(Source: http://www.ammancity.gov.jo/english/project/p8.asp)

The Tourists Center is located next to the old Amman Municipality building, opposite to the Roman Amphitheater.

There is also a vast square for visitors to relax. The Center is 2,500 square meters in area.

Work on the site includes:

1. Rehabilitation of the existing Tourists Center.

2. Covering the Square with tile (2,500 square meters).

3. Stone benches.

4. Improve the look of billboards and reference boards.

5. Adding special lighting units that fit the site.

6. Planting suitable trees and plants.(15)

3. Roman Amphitheater:

1. Rehabilitations of the Roman Amphitheater.

2. The theater is used periodically for sporting and cultural events.

3. Two small museums are built into the foundations of the Roman Theater. The Jordan Folklore Museum, and the Museum of Popular Traditions displays traditional Jordanian costumes, this process encourage the tourists to visit, and benefit the economical aspects.(16)

Figure 4.16 Roman Amphitheater
(Source: http://www.atlastours.net/jordan/roman_ruins.html)

***Projects objectives:**

1. Encourage more tourists to visit the area by improving services offered to them there.
2. Provide as many tourist-attracting places as possible, provided that these places should be reached on foot.
3. Increase pedestrian movement.
4. Promote trading and investing downtown.
5. Make the area presentable and more attractive by landscaping and the use of other beautification techniques.(17)

CHAPTER FIVE

DATA COLLECTION AND ANALYSES

5.1: The Central Business District (The creation and evolution)

As most of cities, Hebron city have an old district which is called (the old city), this district is located in a central specific area, and contained all the activities (social, economical and physical), but the first clear business district appeared in the area which is called (Bab Alzaweh).

Then, and side by side with the urban sprawl, the commercial area has extended, towards (Almanara square) and (Alseha square), between (The old Wadi Altofah street) and (The new Wadi Altofah street). And this is the present CBD, which called (Albalad).

The extension has not stop, clear features have appeared around (Ibn Roshd square), new commercial centers have appeared in addition to the present commercial shops. (See the map A-A_4 which shows the development of commercial area).

5.2: Existing Conditions:

1. The place which is considered the entrance of the CBD, and the second extension of it; contains two big commercial centers and common commercial shops (see fig. no 5.1), all these around (Ibn Roshd square), one of the most common node in the area (see fig. no 5.2).

Figure 5.1 (New commercial centers in Ibn Roshd square, Source researchers, 2007)

Figure 5.2 Ibn Roshd square, (Source Researchers, 2007)

2. Two nodes face you during moving towards the center, (Almanara square, and Alseha square), these nodes are the common nodes in the area.

Figure 5.3 Alseha square, (Source Researchers, 2007)

3. There's a vacant land on the right side of (Almanara Street), with a superior location.

Figure 5.4 The vacant land in Almanara Street,(Source Researchers, 2007)

4. (Wedad Naser Aldeen School), Secondary Girls School, located between (The new Wadi Altofah street and the Old Wadi Altofah street), with a good square in front of it.

Figure 5.5 Wedad Naser Aldeen School, (Source: Researchers, 2007)

5. There’s another vacant land in (The new Wadi Altofah street), beside Hebron city center (a commercial building)

6. There's many historical building on the site some of them are used as (Kadeegeh Abden school), and others are not used as the old hotel of Hebron.

Figure 5.6 Kadeegeh Abden School (Source Researchers, 2007)

Figure 5.7 Neglected historical bulding in the site, (Source: Researchers, 2007)

7. A critical point located front of (Hasoneh Gas station), which contained another node.

Figure 5.8 The node front of Hasoneh Gas station,
(Source Researchers, 2007)

8. Beside (Hasoneh Gas station), (Al_Shorte square) is located, which used as a parking. .

Figure 5.9 Al_Shorte square,
(Source Researchers, 2007)

9. There's a vacant land behind (Hasoneh Gas station), with a vast area.

Figure 5.10 The vacant land behind Hasoneh Gas station, (Source Researchers, 2007)

10. A new phenomenon has appeared on the CBD, which is big commercial centers created in the site, such as (Hebron commercial center) and (Alrashad commercial center).

Figure 5.11 Hebron commercial center (Source researchers, 2007)

Figure 5.12 Alrashad commercial center, (Source researchers, 2007)

11. The commercial movement has stopped in (Osama Ibn Monketh school), due to Israeli occupation, it is still continued inside the old city boarder but in a very low conditions.

Figure 5.13 Osama Ibn Monketh Boarder,
(Source :Researchers, 2007)

12. There's another square in (Alshalaleh Street), with a good area, but it's not used,In addition to that a vacant land is located beside it with a small area.

Figure 5.14 Alshalaleh square
(square, Source researchers, 2007)

Figure 5.15 (The vacant land beside Alshalaleh
(Source researchers, 2007)

5.3: Site Problems

Because the unorganized development of the city, and because the lack of planning, the city center is suffering from several planning problems, the most important problems are:

1. Traffic problem:

A. Traffic Jam on the most areas of the CBD, specially in ((Almanara square) (Alseha squre), (Ibn Roshd square) and (Alshohada square), Due to that there's a traffic congestion created in (The old Wadi Altofah street) and (The new Wadi Altofah street), we can also note there's no exist to the CBD , the entrance of it is the same exit, the traffic congestion reaching the maximum point in (12:30-2:30)

Figure 5.16 Traffic Jam,
(Source Researchers, 2007)

Figure 5.17 Traffic Jam,
(Source researchers, 2007)

B. The insufficient of public parking, and private parking.

Figure 5.18 Public parking
(Source Researchers, 2007)

Figure 5.19 Private parking
(Source Researchers, 2007)

C. The linear and perpendicular parking on both sides of all streets (which is already narrow), increase the traffic jam.

Figure 5.20 Perpendicular parking
(Source Researchers, 2007)

D. Narrow and uncomfortable side walk.

Figure 5.21 Narrow side walk,
(Source researchers, 2007)

Figure 5.22 Unhealthy side walk,
(Source researchers, 2007)

E. There's no effective use of sidewalks, (if they exist with a good width), because the shops use it as an extension of it.

Figure 5.23 Not effective side walks,
(Source researchers, 2007)

F. The congestion of pedestrian, they have not specific paths in the CBD.

Figure 5.24 Pedestrian congestion,
(Source Researchers, 2007)

G. No respecting to the regulations, and pedestrian singles.

Figure 5.25 No respecting for pedestrian singles,
(Source researchers, 2007)

(See the map AA-2 which show street analysis and Map no AA-9 which specify the problem on the site)

2. C.B.D problems:

A. The absence of zones organization, Eng Tawfiq Arafeh said: "*There is no exact boarder for the CBD, and there is no clear master plan for the place*".
B. No planning for the future extension.
C. There's a lack of connection between the commercial area and residential areas.
D. There's some mixed use buildings in the commercial area.

Figure 5.26 Mixed use buildings in the CBD,
(Source Researchers, 2007)

E. Linear commercial shops located along the sides of the street, so the areas right behind them become neglected.

Figure 5.27 (Neglected. buildings behind the linear commercial shops,
(Source researchers, 2007)

See the map no AA-3 which show zones analysis and its problems on the map

3. Open spaces and social problems:

A. There's no green area on the site, except a small garden (Ibn Roshd garden), with a very small area.

Figure 5.28 (Ibn Roshd garden,
(Source researchers, 2007)

B. No open spaces, like plaza or squares.(see map no AA_3 which show the ratio between the void and solid), which is the reason of the weak relation between people using the center and the center.

C. Humanity needs are ignored in the CBD while the concentration is on machines and vehicles.

4. Zone Problems:

A. No clear CBD gate.

Figure 5.29 (Almanarah Street, (Source researchers, 2007)

B. No clear features to the CBD, such as land marks, edges.

C. Physically pollutions existed side by side with pedestrians.

Figure 5.30 a, b Physically pollutions,(Source researchers, 2007)

D. Visual distortion can be noted in many ways, such as commercial advertisements which hide the identity and distributed the image of the façade, also the narrow side walk and the path sheltered make a Visual pollution.

Figure 5.31 a,b Visual pollution, (Source researchers, 2007)

E. There's a big gap (visual, cultural and economic) between the beginning and the end of the commercial area.

Figure 5.32 The of end CBD, (Source Researchers, 2007)

Figure 5.33 The beginning of CBD, (Source Researchers, 2007)

F. Some places are not safety such as (Hasoneh Gas station), and some places which have building work.

Figure 5.34 Unsafe place in the CBD, (Source Researchers, 2007)

Figure 5.35 Hasoneh Gas station (Source Researchers, 2007)

G. There's no clear pedestrian image, there is congestion between vehicles and pedestrian.

Figure 5.36 Congestion between vehicles and pedestrian, (Source Researchers, 2007)

H. No continuity in sky line, there's some places created a drop point.

Figure 5.37 Drop point in sky line
(Source Researchers, 2007)

(See the maps no AA-10,AA-11,AA-12,AA-13 which show the sky line in all the site)
(See the map no AA-8 which show Architecture problem analysis on the map)

5.4 Solutions guide lines and concepts:

1. Decentralization on local level, to reduce the pressure in the median area in central business district, which is suffering from a high pressure in it. (See the fig below)

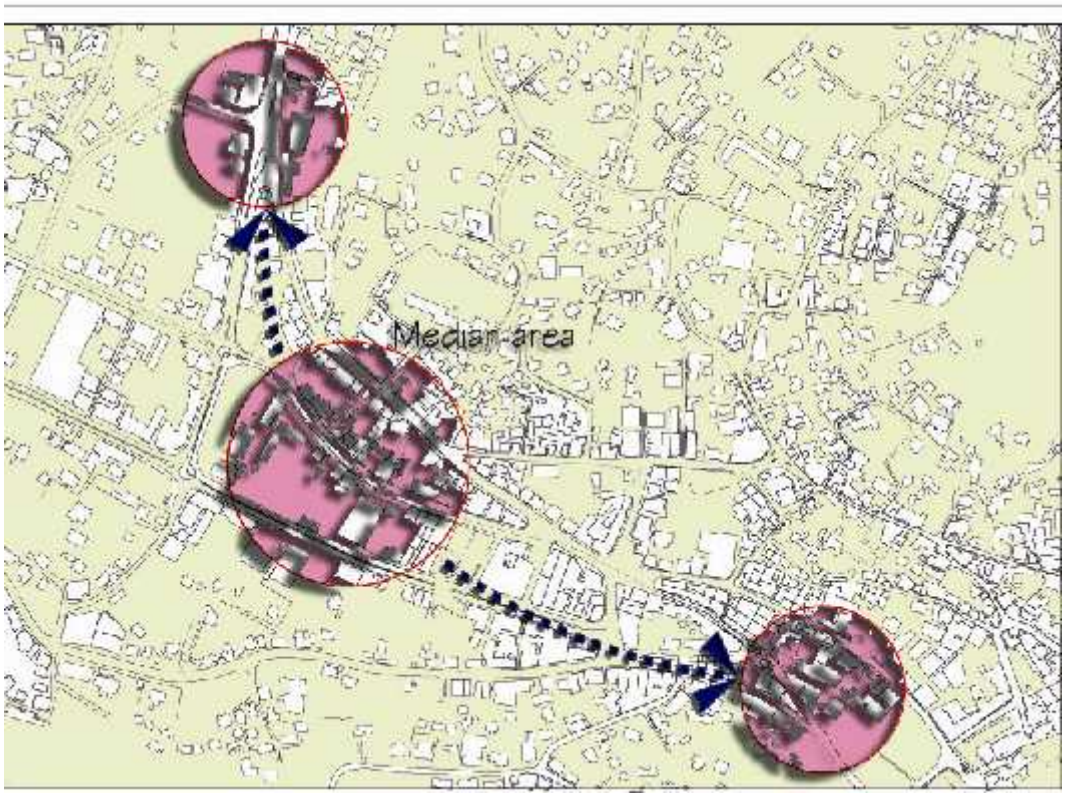


Figure 5.38 Decentralization concept,(Source Researchers, 2007)

Eng. Tawfek Arafeh , (the municipality engineers) said "*the municipality put its suggestion to make shifting to (Bab Alzaweh)*",(24) ,which is agreed with pervious concept.

2. Reduce the traffic jams and congestion in the CBD:

_ By developing more effective transportation spaces.

_ Create an internal transportation station in the CBD.

_ Using more effective methods in the site, like busses, instead of the taxis, and vans.

3. Create open spaces and green area in the CBD:

_ Create a green structure in CBD. (As Eng. Tawfek Arafeh said, the municipality attended to create an open space instead (Hasoneh gas station), (24), also 63 % of the people whom participation in questioner, choose (Hasoneh gas station) as a proposed open space. (See appendix B ,Q.18)

_ Using the areas left between buildings as open spaces or courts.

_ Treatment with streets and paths as a public space for leisure, so it must be attractive, comfortable, and using a street furniture in it.

4. Create a pedestrian CBD, where pedestrian are priority:

_ Change some streets in CBD to pedestrian's paths, the municipality proposed (the new Wadi Altofah street), as a pedestrian way, (24), the questioner gave a high value for needs the pedestrian paths. (See appendix B, Q.10).

_ Create spaces for public activity.

_ Provide streets with furniture, attentions to the pavements, side walks, lighting needs.. etc

5. Create sufficient parking system.

_ Reduce the linear street parking, and manage it.

_ Provide the CBD with private and public parking in a specified area, Eng. Tawfek Arafeh , said "*the municipality attends to make a private or public parking in any place possible within the center*". (24)

6. Rehabilitation of the historical buildings in the CBD:

_ To conserve it, and using it as cultural centers.

7. Developing the space sprit and the image of the space:

_ Attention to the facades, as Eng. Tawfek Arafeh, said there are regulations set for the commercial buildings, its height, elevations, and offset, but it doesn't apply. (24)

_ Attention to the general image of the CBD, it has to reflect the spirit of the place.

8. Create a comfortable, healthy, and safe life in the CBD:

_By removing all the dangers aspects.

_ Managing buildings wok.

_Attention to the dumped waste (there's a proposed solution to it from the municipality which is recycling the waste), streets and paths conditions.

9. Increase the awareness and responsibility of citizens, and create a good relationship between them and the place, so the citizens share in the decision making, the municipality is also working on this way, as Eng. Tawfek Arafeh said.

There are some proposed points from Hebron municipality, such as:

1. Creating a public parking instead (Yata) parking.

2. Converting (Abd Algabar) parking, to a suitable private parking.

3. Convert (Wedad Nasser Aldein) school to a commercial center, from its income rent, other schools will be built.

4. Convert (Almohamadeh school) to a hand wok center.

5. Buying (Khadejeh Abdeen school), and propose a suitable function to it.

7. There are ideas proposed to increase the green area.

8. Creating a clear land mark in (Alshorti) square.

(24)

References

[1] Abu ghazaleh S,21st Century reform the cities, 1990

[2] Edmund. N. B, Design of the cities, 1967

[3] Gallion and Eisner, The urban pattern, 1980

[4] Gibbered, Town design, 1982

[5] Rehani F, A transportation study for the city of Amman.1984.

[6] http://en.wikipedia.org/wiki/Amman

[7] Hebron Municipality

[8] Palestinian Central Bureau of Statistics

[9] http--www_pal-chambers_org-chambers-p

[10] http://www.nationalgeographic.com/pyramids/pyramids.htm

[11] http://www.kellogg.northwestern.edu/student/gim/eu2007/photos

[12] http://www.irvl.net/IRAN38.HTM

[13] http://www.csiss.org/classics/content/62

[14] www.cityofdavis.org/cmo/citycode/detail.cfm

[15] http://www.ammancity.gov.jo/english/project/p8.asp

[16] http://www.kinghussein.gov.jo/tourism1.html

[17] http://www.ammancity.gov.jo/english/project/p8.asp)

[18] http--www_ourfatherlutheran_net-biblehomelands-palestine-palestinepix-hebron

[19] August 2002, prepared by: Winter and company Hoshide Williama Architects Nakano Assoclates, LLC, Paper: city center design standard

[20] http://www.greatbuildings.com/buildings/Roman_Colosseum.html

[21] http://www.international.icomos.org/risk/arab_2000.htm

[22] http://www.allbusiness.com/glossaries/open-space/4951380-1.html

[23] Paper prepared by Dorota Wlodarczyk, Green Structure in Development of the Sustainable City, 2007

[24] Personal interview, 30_12_2007, Eng. Tawfek Arafeh, (the municipality engineering).

Appendix B

Questioner

Palestine Polytechnic University

Department of Architecture

Students: Ishaq Zatari, Medhat Sultan, Sara Atawnah

A graduation project about redeveloping a net work of roads and open spaces inside The city center of Hebron.

A questioner for the users of Hebron city center.

Part1:

1. Permanent residency:

_ Hebron city

_ Villages and camps out side Hebron district

_ Cities other than Hebron

2. Gender:

_ Female

_ Male

3. Age category:

_ Under 20

_ 20-40 years

_ 41-60 years

_ Over than 60

4. Educitional level:

_ High school or lower

_ Diploma

_ B.A

_ Masters or higher

5. Matirials statue:

_ Single

_ Married

6. How often do you visit Hebron city center?

_ Daily

_ Weekly

_ Monthly

_ Rarely

Part2:

7. Do you think the Hebron city center suffers from a major problem?

_ Yes

_ Kind of

_ No

8. In your opinion, what is the main problems that can the city center suffer from?

_ The lack of public open spaces and green area

_ The traffic jam

_ The appearance of building

_ The social behavior within the center

9. In your opinion what is the main reason for the problems that the center suffer from?

_ Public transportation

_ Private vehicles

_ The disobedience of the regulations and legislations

_ The increase of the number of the people using the center

10. What is the main reason for the pedestrians to use the street instead of side walk inside the city center?

_ Narrow side walk

_ Obstacles along the side walk (vendors, cars, dumpsters ….)

_ The use of the street for social gathering

11. Do you think the center of Hebron suffers from the lack of public open space and green area?

_ Yes

_ Sort of

_ No

12: What types of retail shops do you like to shop from?

_ Shops open directly to the street

_ Shops inside commercial building

_ It doesn’t make difference

13. If a new a commercial area is created out side the city center which satisfies your daily needs, how often will you visit the city center at that time?

_ Daily

_ Weekly

_ Monthly

_ Rarely

14. If you want to meet someone in the city center, please name three specific places you would prefer to wait at:

1……

2……

3……

Part 3:

Please, read the following suggestions, and answer whether you agree, partially agree, or disagree.

15. Moving the public transportation garages to the edges of the city center area and _ providing minibus services inside the city center:

_ I agree

_ I partly agree

_ I disagree

16. Prohibiting private from entering the center and providing free parking lots in the area:

_ I agree

_ I partly agree

_ I disagree

17. Creating a number of public open spaces and green areas inside the city center:

_ I agree

_ I partly agree

_ I disagree

18. According to the most important to you please arrange the following suggestion from 1-4 considering number 1 as the most important and number 4 the least important:

a. Creating a number of open spaces and green areas inside the center

b. Providing parking lots of private vehicles

c. Moving public transportation garages to the edges of the center

d. Specification a defined area to the pedestrians

19. If there is a proposal for developing the following building by creating a public plaza in front of each building, please define whether this development important, relatively important , or unimportant:

a. Instead of Hasoneh Gas Station

_ important _ relatively important _ un important

b. Police court (Bab Il-Zawyeh Court)

_ important _ relatively important _ un important

c. Wedad Naser Elden School

_ important _ relatively important _ unimportant

Is there any building inside the city center that you fined important? .....

20. In your opinion, who should fancies the rehabilitation of Hebron city center?

The public Palestine sector

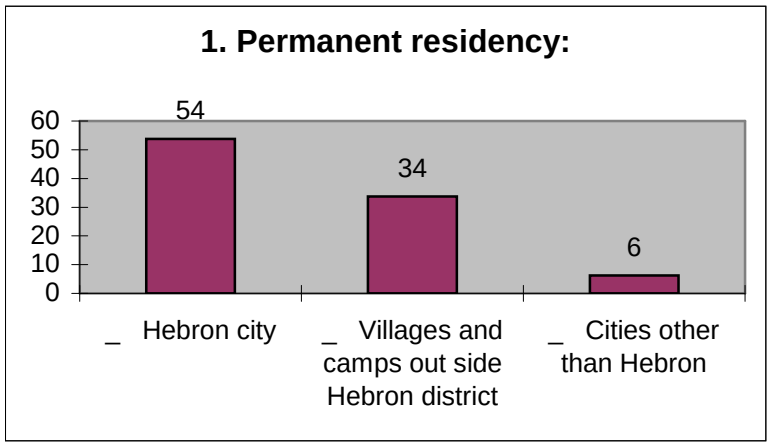
The private Palestine sector

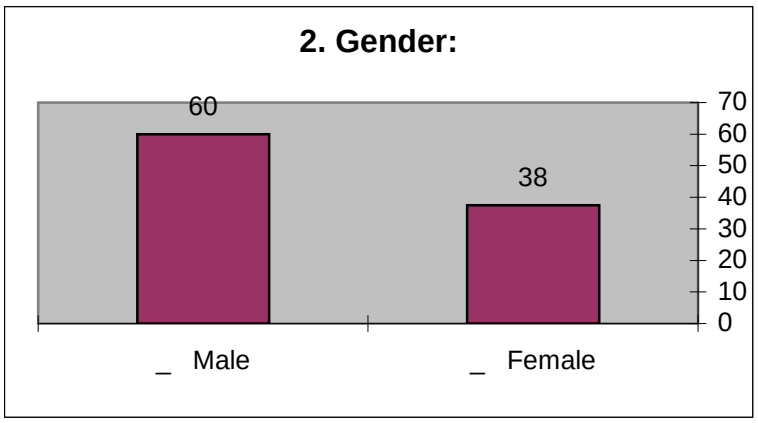
The international community

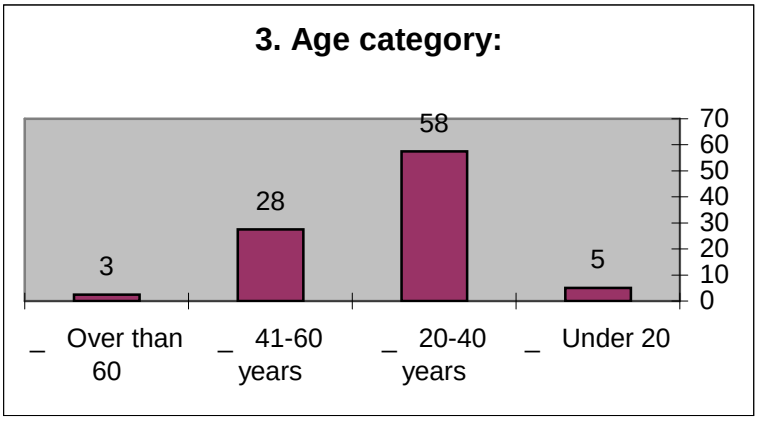
The citizen of Hebron district

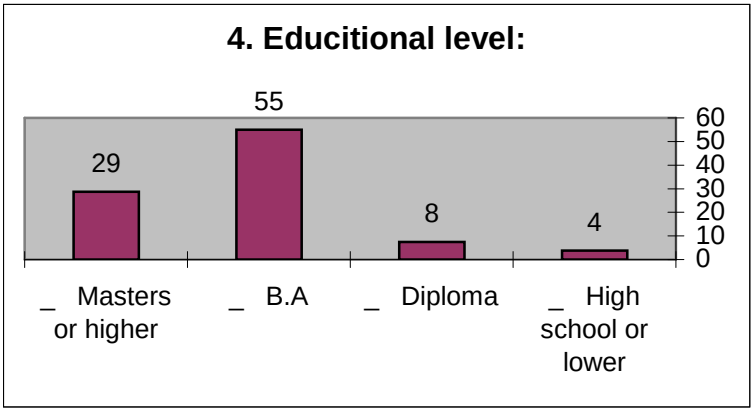
Questioner Results

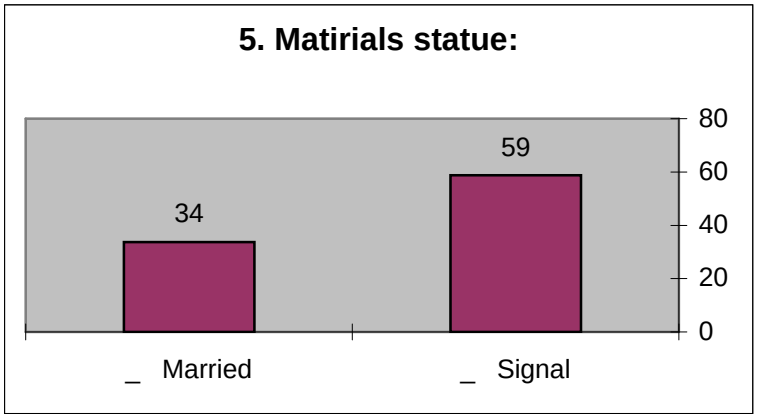
Part 1

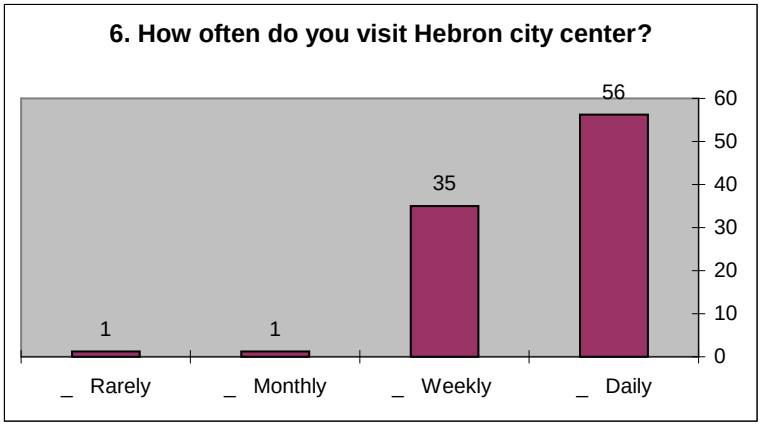




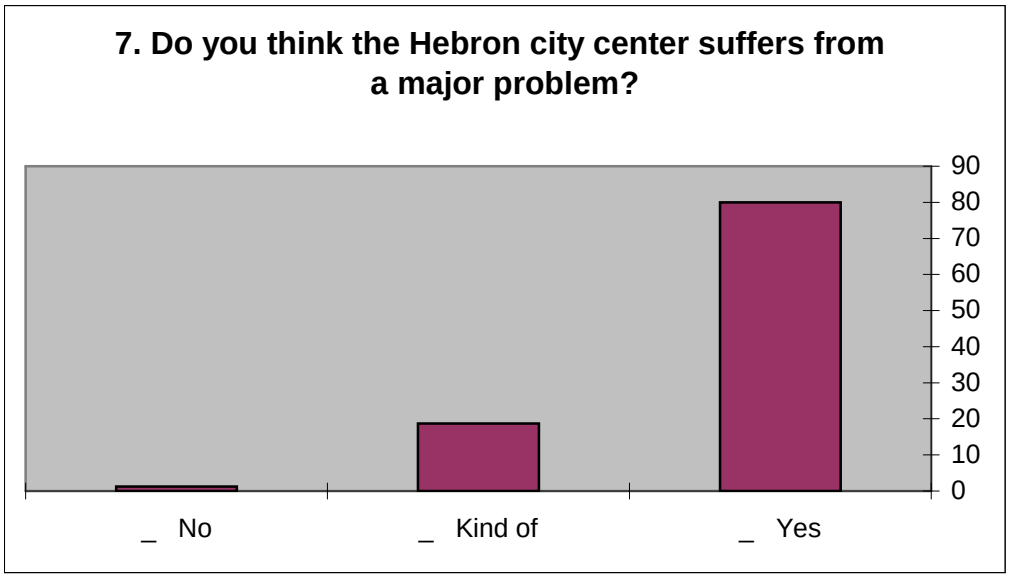

3. Age category:
70
60
50
40
30
20
10
0
58
28
3
5
_ Over than 60
_ 41-60 years
_ 20-40 years
_ Under 20


4. Educitional level:
60
50
40
30
20
10
0
55
29
8
4
_ Masters or higher
_ B.A
_ Diploma
_ High school or lower

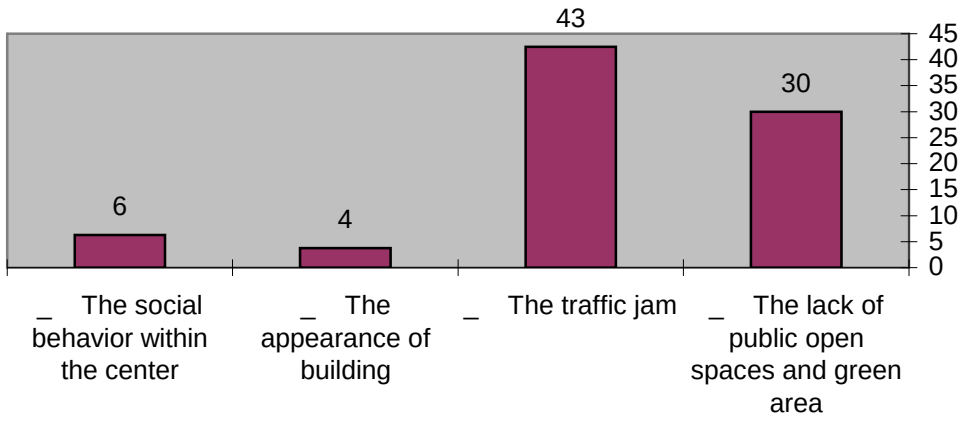

5. Matirials statue:
80
60
40
20
0
59
34
_ Married
_ Signal


6. How often do you visit Hebron city center?
56
35
1
1
60
50
40
30
20
10
0
_ Rarely
_ Monthly
_ Weekly
_ Daily

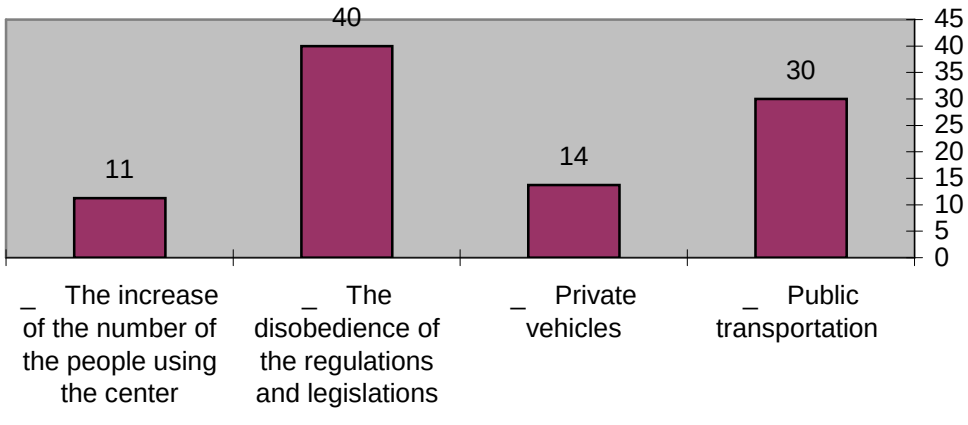
Part 2

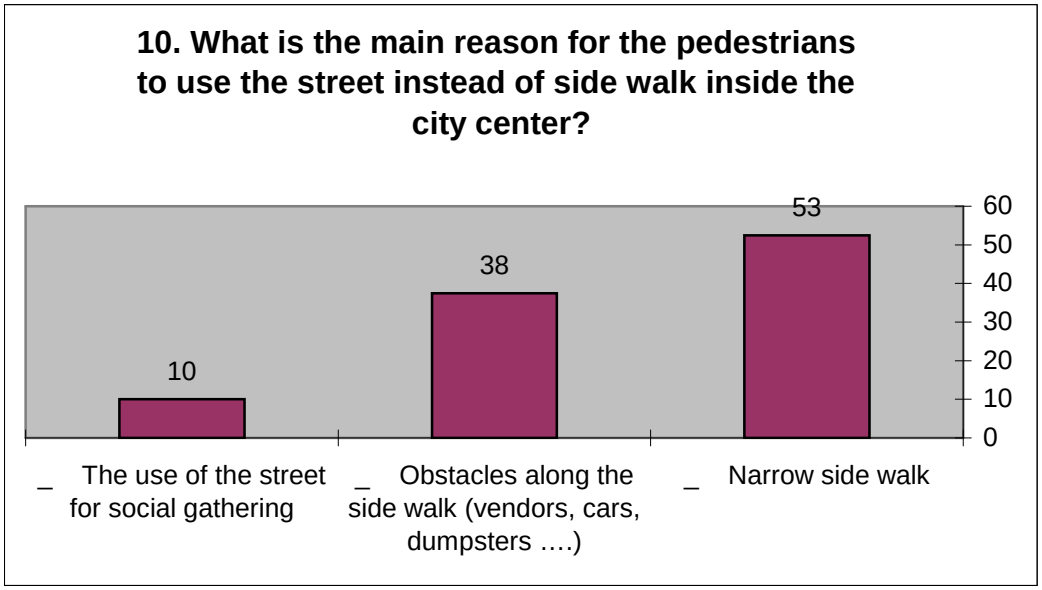

7. Do you think the Hebron city center suffers from a major problem?
90
80
70
60
50
40
30
20
10
0
_ No
_ Kind of
_ Yes

8. In your opinion, what is the main problems that can the city center suffers from?

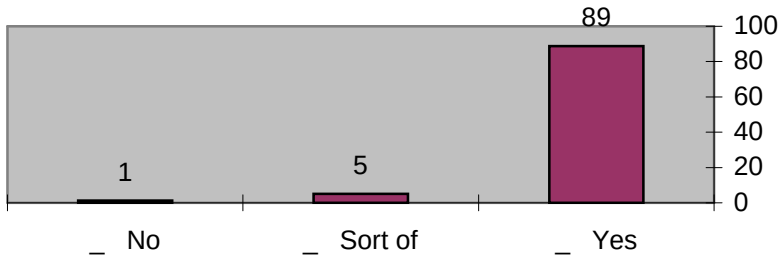


9. In your opinion what is the main reason for the problems that the center suffer from?



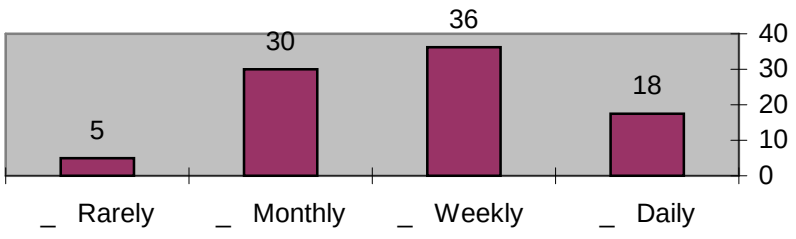

10. What is the main reason for the pedestrians to use the street instead of side walk inside the city center?
10
38
53
60
50
40
30
20
10
0
_ The use of the street for social gathering
_ Obstacles along the side walk (vendors, cars, dumpsters ….)
_ Narrow side walk

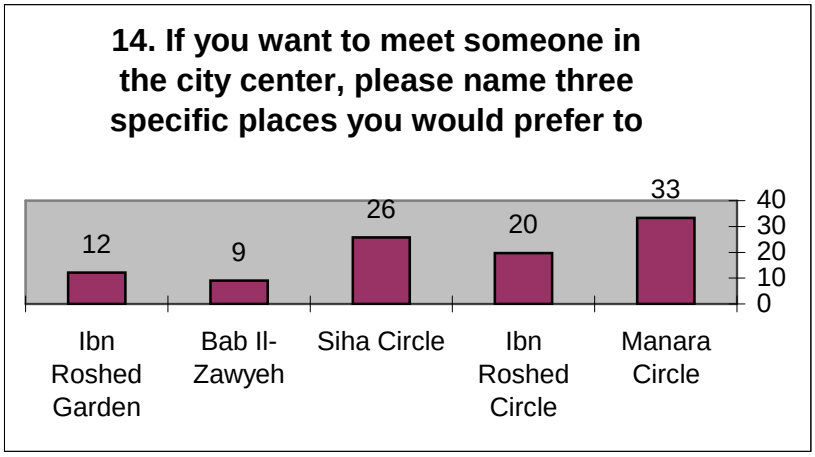
11. Do you think the center of Hebron suffers from the lack of public open space and green area?



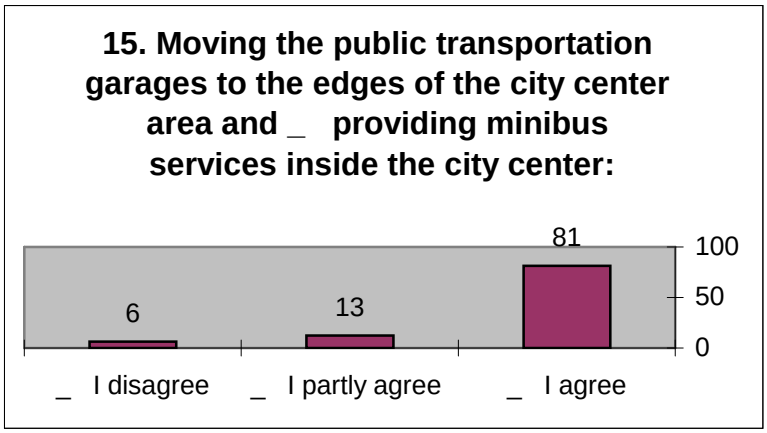
12. What types of retail shops do you like to shop from?

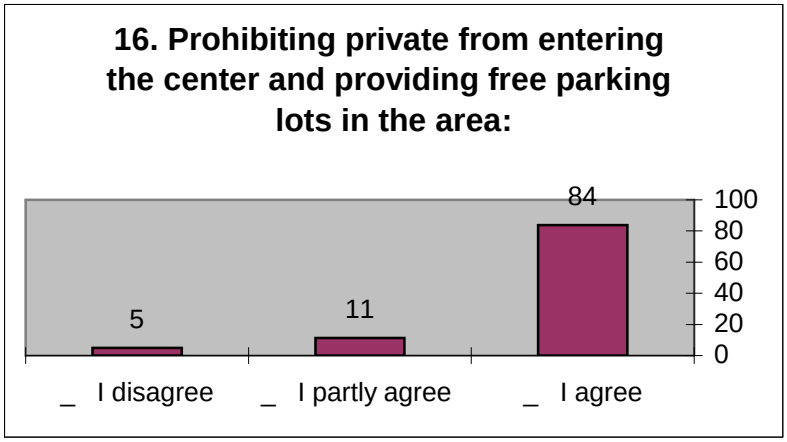
13. If a new a commercial area is created out side the city center which satisfies your daily needs, how often will you visit the city center at that time?

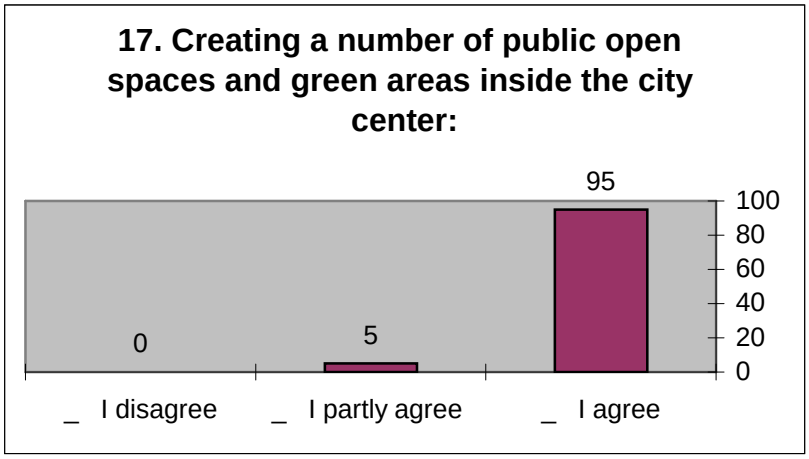


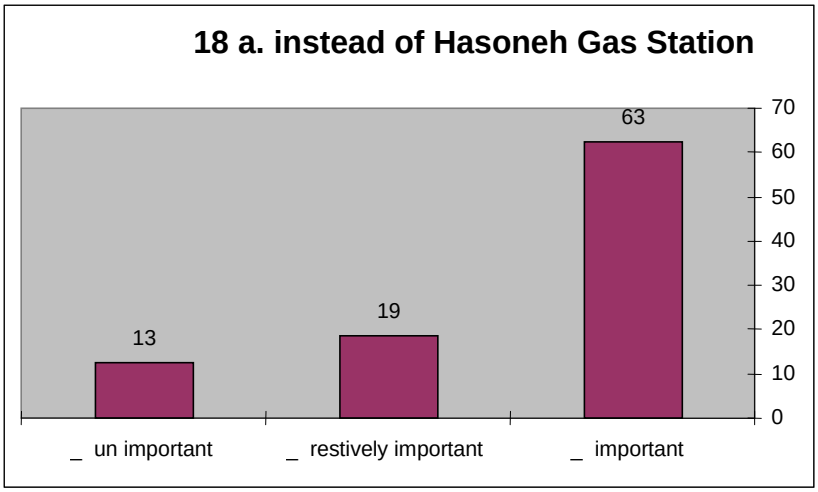

14. If you want to meet someone in the city center, please name three specific places you would prefer to
12
9
26
20
33
40
30
20
10
0
Ibn Roshed Garden
Bab Il-Zawyeh
Siha Circle
Ibn Roshed Circle
Manara Circle

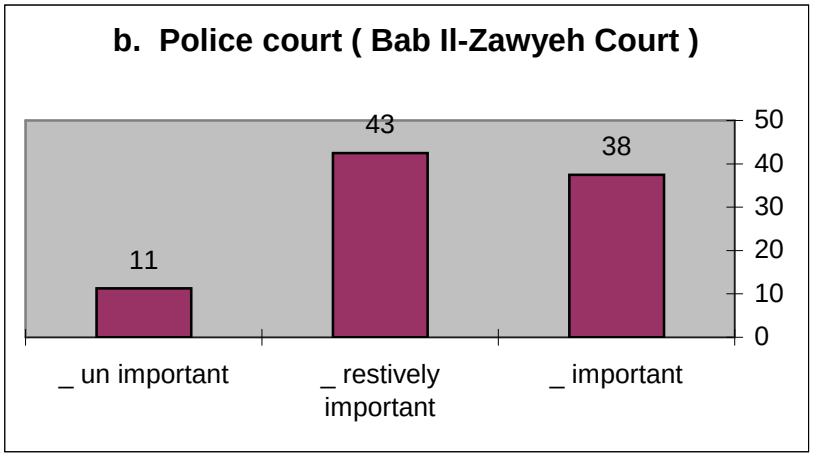
Part 3

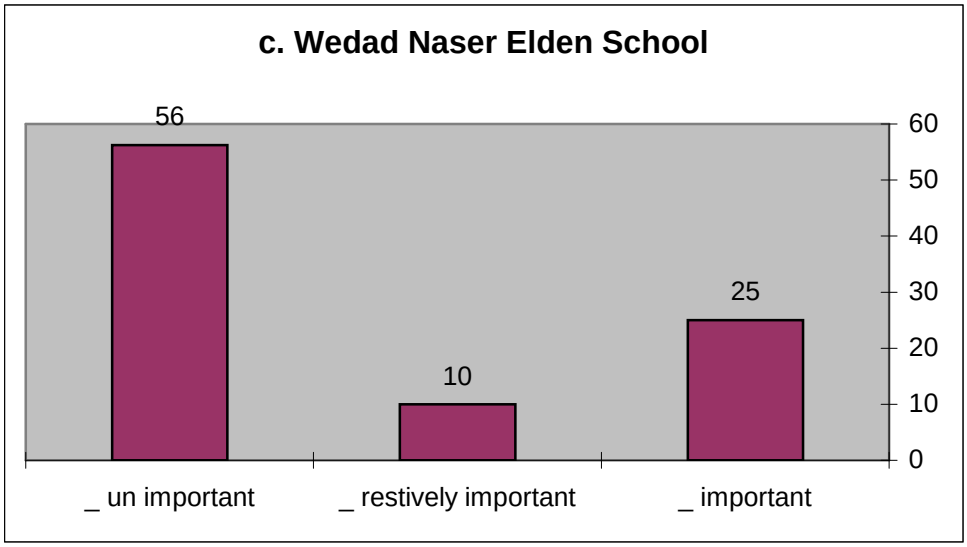

15. Moving the public transportation garages to the edges of the city center area and _ providing minibus services inside the city center:
6
13
81
100
50
0
_ I disagree
_ I partly agree
_ I agree

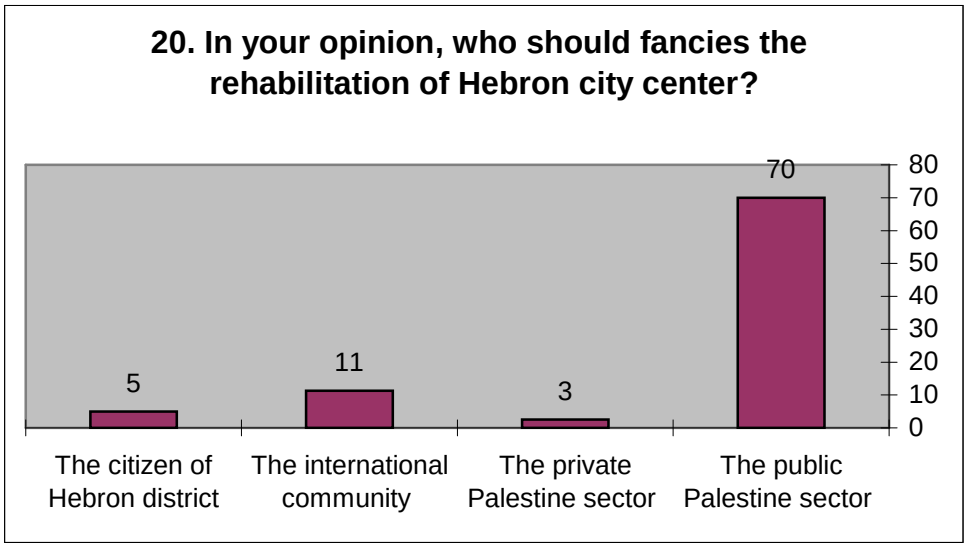

16. Prohibiting private from entering the center and providing free parking lots in the area:
5
11
84
100
80
60
40
20
0
_ I disagree
_ I partly agree
_ I agree


17. Creating a number of public open spaces and green areas inside the city center:
95
0
5
100
80
60
40
20
0
_ I disagree
_ I partly agree
_ I agree


18 a. instead of Hasoneh Gas Station
63
13
19
70
60
50
40
30
20
10
0
_ un important
_ restively important
_ important


b. Police court (Bab Il-Zawyeh Court)
43
38
11
50
40
30
20
10
0
_ un important
_ restively important
_ important


c. Wedad Naser Elden School
56
10
25
60
50
40
30
20
10
0
_ un important
_ restively important
_ important


20. In your opinion, who should fancies the rehabilitation of Hebron city center?
5
11
3
70
80
70
60
50
40
30
20
10
0
The citizen of Hebron district
The international community
The private Palestine sector
The public Palestine sector

Appendix C

Case Study

SNELLVILLE TOWN CENTER

C:1: Background:

Snellville is a city in Gwinnett County, Georgia, east of Atlanta. The population was 15,351 at the 2000 census. Census estimates for 2006 show a population of 19,983.the location coordinates: 33°51′30″N 84°0′23″W / 33.85833, -84.00639,and the city has a total area of 25.1 km² (9.7 mi²). 25.0 km² (9.7 mi²) of it is land and 0.1 km² (0.04 mi²) of it (0.41%) is water. Snellville is an increasingly important suburb of Atlanta. The city's commercial and residential development has grown enormously in recent years. In the Atlanta metro area, Snellville is known (mostly humorously) for the slogan on its city limit signs. (Snellville, Georgia - Wikipedia, the free encyclopedia.htm)

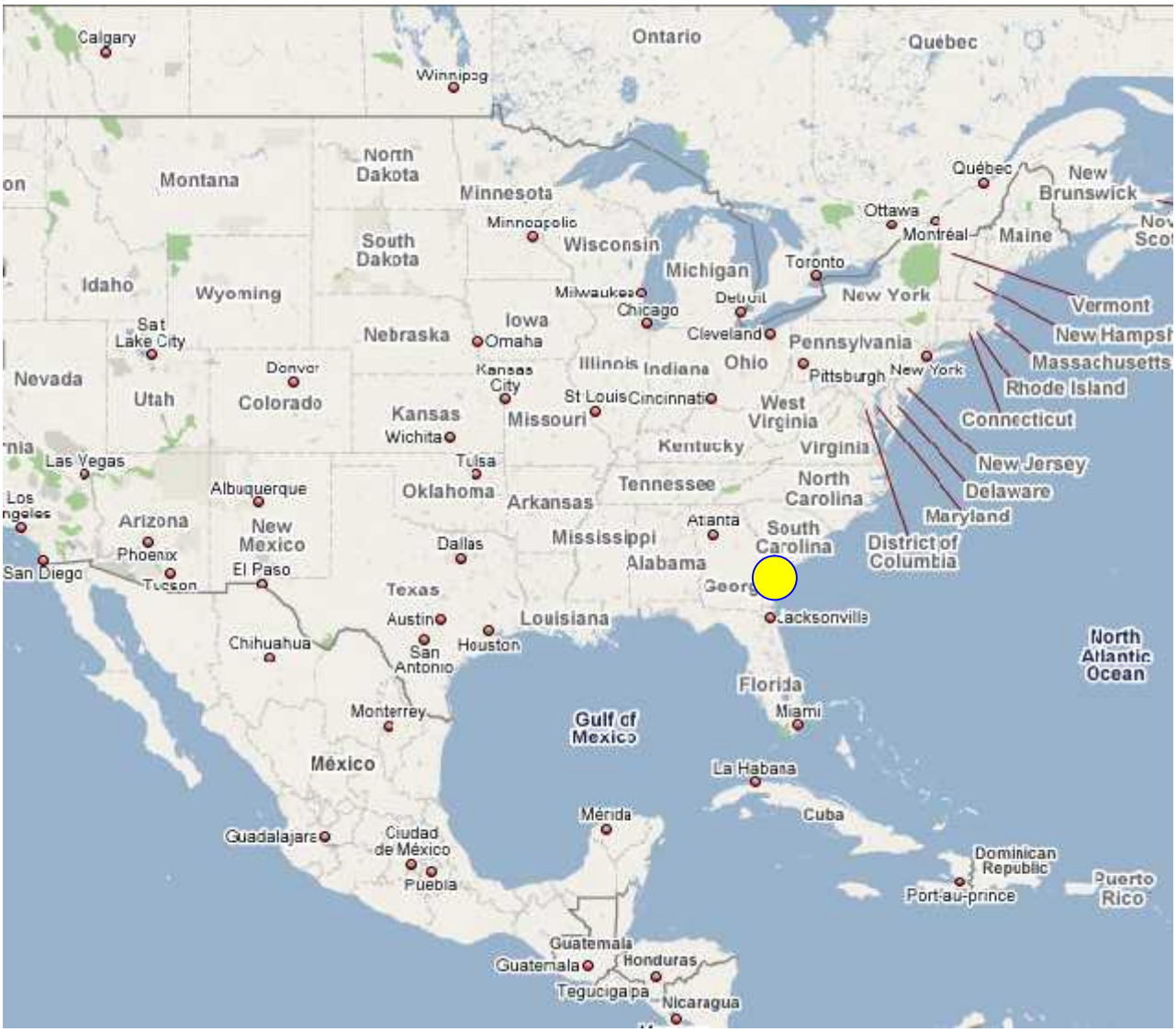


Figure C.1 Location of Snellville in USA (http://maps.google.com/maps?tab=wl)

Figure C.2 Maps of Snellville city
(http://maps.google.com/maps?tab=wl)

C.2.2: Issues:

A series of Urban Design Issues were identified based upon site visits, comments from the public at workshops and interviews with stakeholders and City of Snellville staff. This listing of 14 issues provides the framework for the Town Center Plan addressing land use, aesthetics, pedestrian amenities and transportation circulation. The issues are shown on the figure below.

1. Problem intersections have long back-ups during rush hour; moving traffic through these is a priority.
2. Severe??grade differential near Nob Hill hinders pedestrian connection between neighborhood and adjacent commercial uses

3. Lack of inter-parcel connectivity hinders pedestrian circulation and increases traffic on highways

4. Existing under-utilized retail centers are prime for redevelopment but do not have clear pedestrian connections

5. Heavy traffic along U.S. 78 and S.R. 124 severely inhibits pedestrian movement and decreases aesthetic character

6. Henry Clower Boulevard provides a partial circulator around the central Snellville intersection of U.S. 78 and S.R. 124

7. The sidewalk system is incomplete and lacking connectivity

8. Large amounts of undeveloped land are located behind two large churches

9. The City of Snellville is proceeding with plans to relocate a new Civic Complex to a site occupied by a strip commercial center across U.S. 78

10. Centrally-located retail area is underdeveloped, but well-served by transportation and within walking distance of new Civic Complex and adjacent residential areas

11. Lack of existing pedestrian connections between neighborhoods and retail centers exists

12. Traffic volume along U.S. 78 makes crossing between retail centers to the north and the churches and schools to the south difficult

13. Signalized intersections are preferred locations for pedestrian crossings

14. An existing cemetery could serve as passive green space; the study area is severely lacking in park and green space amenities

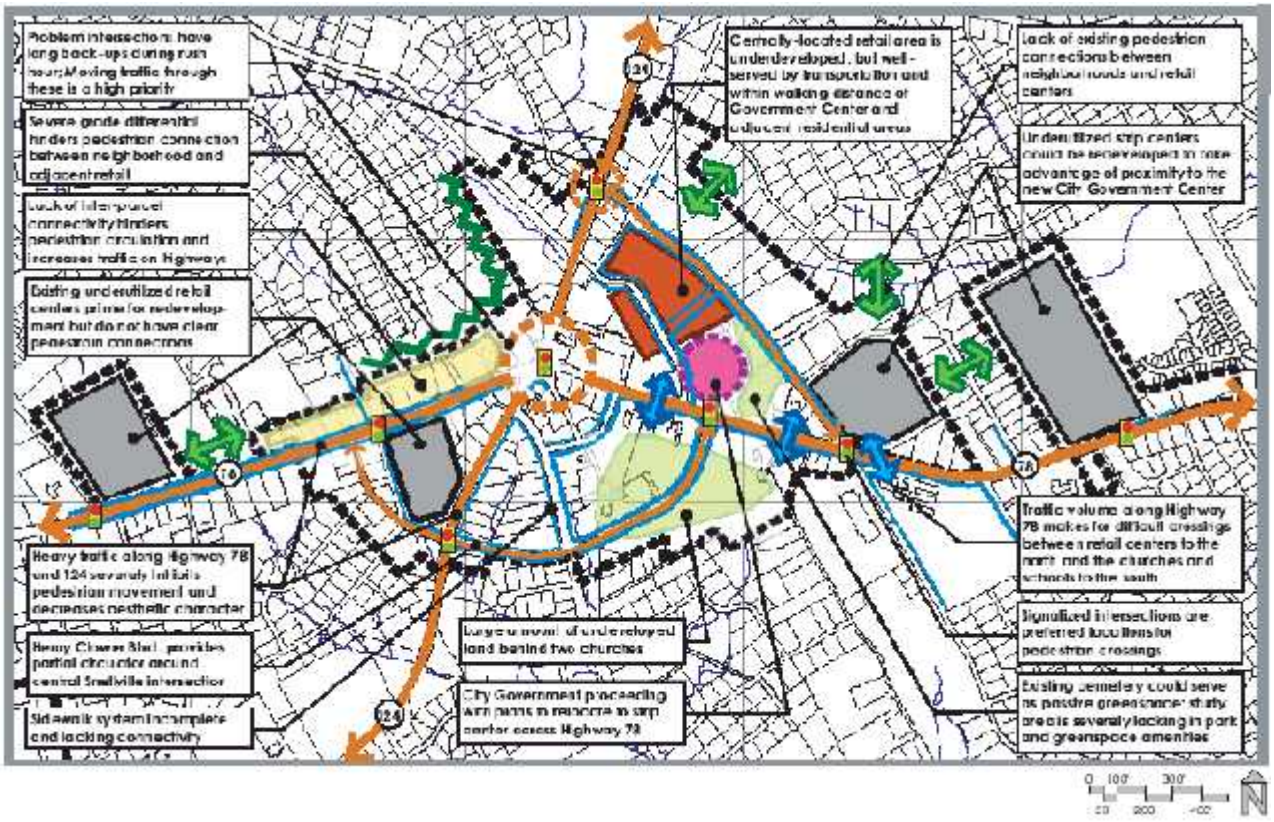


Figure C.3 Land use
(HDR/ Urban College Inc, Charless Lessar)

C.2.3: Existing conditions:

- The planning for the Snellville Town Center began by identifying the redevelopment opportunities in the LCI study area. With the goal of creating a "place," these locations, shown on the figure entitled "Major Redevelopment Opportunities," could be reborn as mixed-use, pedestrian-friendly districts featuring connections to the Town Center.
- Undeveloped/Vacant Land
- The LCI study area contains several parcels that have not yet been developed. Even though the land costs may be higher in the central area of Snellville, new development could be designed and built without concern over rehabilitation or demolition of existing structures. Alternatively, as densities increase in the Town Center, these undeveloped parcels could serve as open space or parks.
- Underutilized Land
- Along US 78, the common signs of an aging suburban commercial strip are evident. Older commercial centers are abandoned and "big box" retailers have moved to newer and larger stores in other areas of the city. Even though some of the smaller retail shops have remained open, these older centers with acres of surface parking lots sit largely vacant. Without a healthy anchor, disinvestment in the older centers occurs, increasing the potential for the surrounding area to become underutilized. Encouraging mixed-use redevelopment, connecting to the Town Center and identifying the possibility of housing in these areas creates the opportunity to bring life back to these centers.
- Public Land
- The proposed City Hall complex, the city cemetery and the U.S. Post Office represent the majority of the publicly owned land in the LCI study area. Through effective landscaping, urban design features and increased pedestrian connectivity,

these public uses could become destinations and focal points for the Snellville Town Center.

- Religious
- Anchoring the Town Center's southeastern quadrant, the Snellville United Methodist Church and the First Baptist Church Snellville have each prepared a detailed long-range master plan for their properties. These master plans represent new buildings for classrooms and worship, new indoor and outdoor recreation areas and reconfigured surface parking lots. As these church master plans are implemented over the next five to ten years, the Town Center could be strengthened by pedestrian friendly connections and taking advantage of opportunities for shared parking.

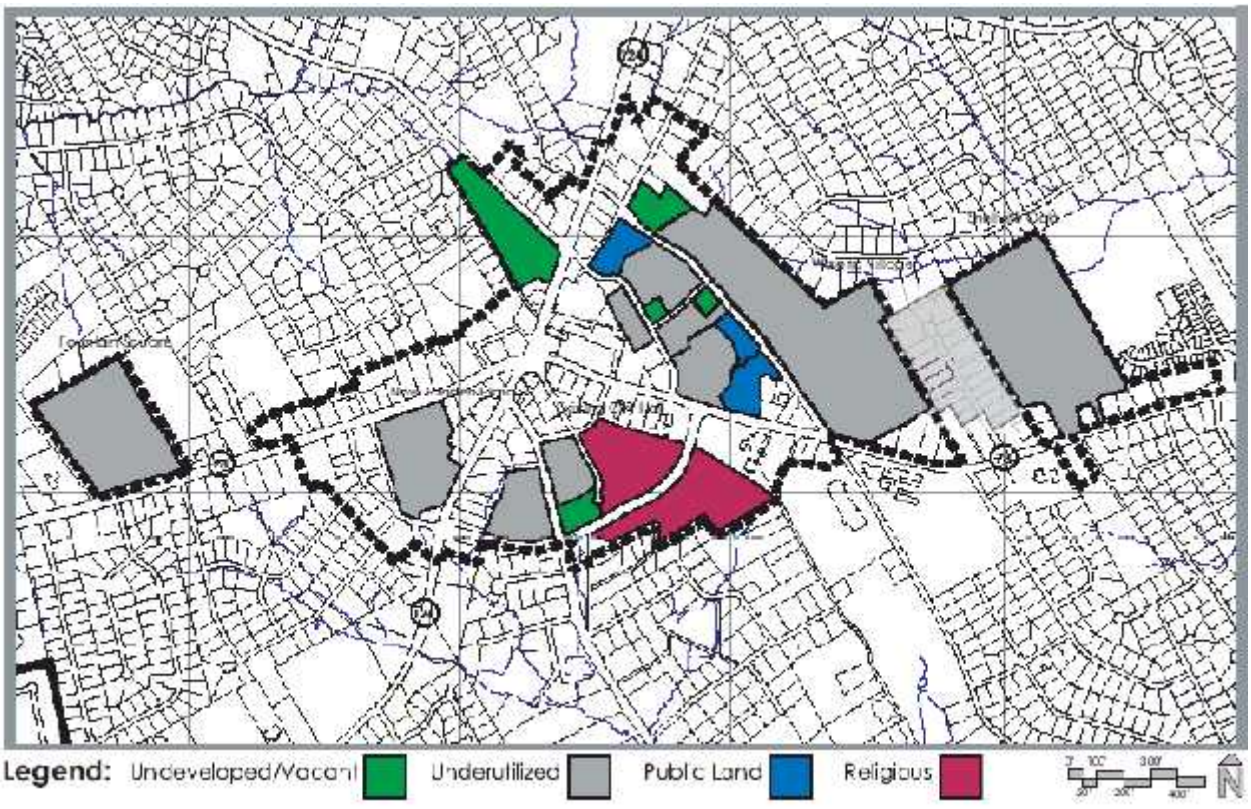


Figure C.4 Existing conditions
(HDR/ Urban College Inc, Charless Lessar)

C.2.4: Key plan:

Once the Urban Design Issues and Redevelopment Opportunities were identified, a group of representative key elements to the study area were documented. These key elements, identified by photographs on the figure below entitled “Key Plan,” highlight important features for consideration in the urban design analysis. These photographs are considered “before” images for the areas of the Town Center that are most suitable for targeted mixed-use, pedestrian-friendly redevelopment. These areas are:

1. The primary intersection of US 78 and GA 124
2. Fountain Square Shopping Center
3. Snellville Plaza Shopping Center
4. New London Plaza Shopping Center
5. Oakland Village Shopping Center
6. Snellville Methodist Church
7. Oak Road
8. Wisteria Village Shopping Center
9. Wisteria Drive
10. Snellville Oaks Shopping Center

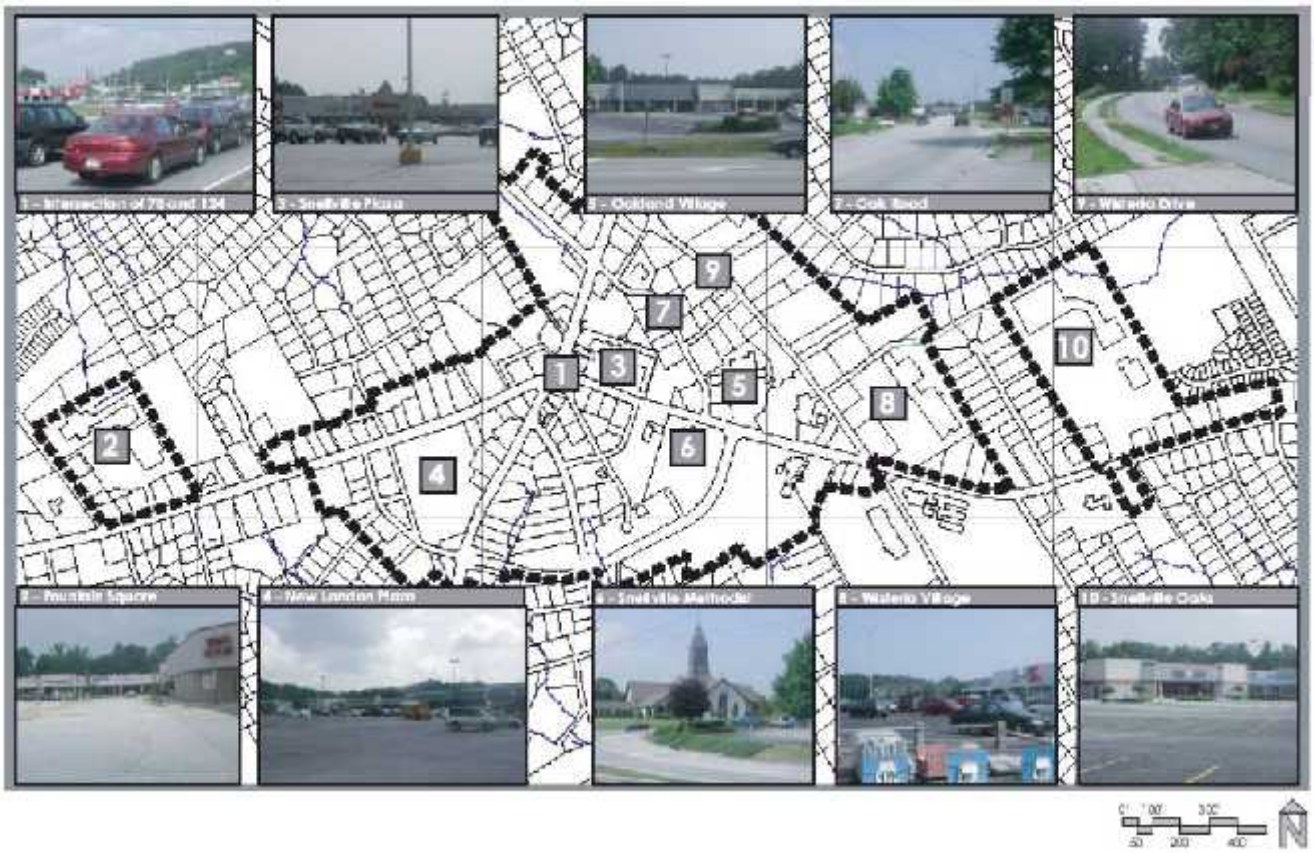


Figure C.5 Urban design development concept

(HDR/ Urban College Inc, Charless Lessar)

C.2.5.1: Solutions:

1- The recommendations for the redevelopment of the Snellville Town Center are depicted on the figure below entitled “Town Center Development Concept.”

2- New City Center Construction

3- New City Hall and Senior Citizens building underway. Certificate of Participation funded. Includes realignment of Oak Road

4- Develop Henry Clower Boulevard St. to work better as a ring road along the center.

5- Widening the U.S. 78 and S.R. 124 in addition to supporting them with traffic lights and signs on there intersections.

6- Rehabilitation of the underutilized commercial lands by adding mixed use buildings to bring life to these vacant areas.

7- Vacant Lands should temporary serve as open space.

8- Enhancing the pedestrian pathway system connectivity inside the center and between the center and the adjacent residential areas.

9- Increase parking lots around the new proposed city complex and the existing shopping centers.

10- Three Phases for Private Mixed Use Development

C.2.5.2: Phases:

- Phase I

Located on the east side of Wisteria Drive at the intersection with Clower Street, this are of mixed use development is recommended with a central green space. It is envisioned that three to four story buildings would feature ground floor retail and upper floor residential units. The primary parking for this development would be provided to the rear of the buildings. However, to add to the vitality of the area, a limited number of on-street parking spaces would be encouraged.

- Phase IA

As an immediate complimentary site to Phase I, this important southwest corner of Wisteria Drive and Clower Street provides a unique opportunity to provide aconnection to Phase I and the proposed community plaza. Also mixed land uses, this site would face a new roundabout and feature views of the green space on several frontages.

- Phase II

Once market conditions are ripe, an outstanding redevelopment opportunity is located at the northeast corner of Oak Road and Clower Street. Facing a new roundabout, this site is currently anchored by a vacant, level site ideally suited for mixed use, Town Center development.

- Phase III

Contemplating the grade separated interchange at US 78 and SR 124, the Town Center concept recommend re-orienting the existing Snellville Plaza shopping center into the Oak Road frontage. Extending Clower Street into this site would provide a western development anchor to compliment the Phase I mixed use development along Wisteria.

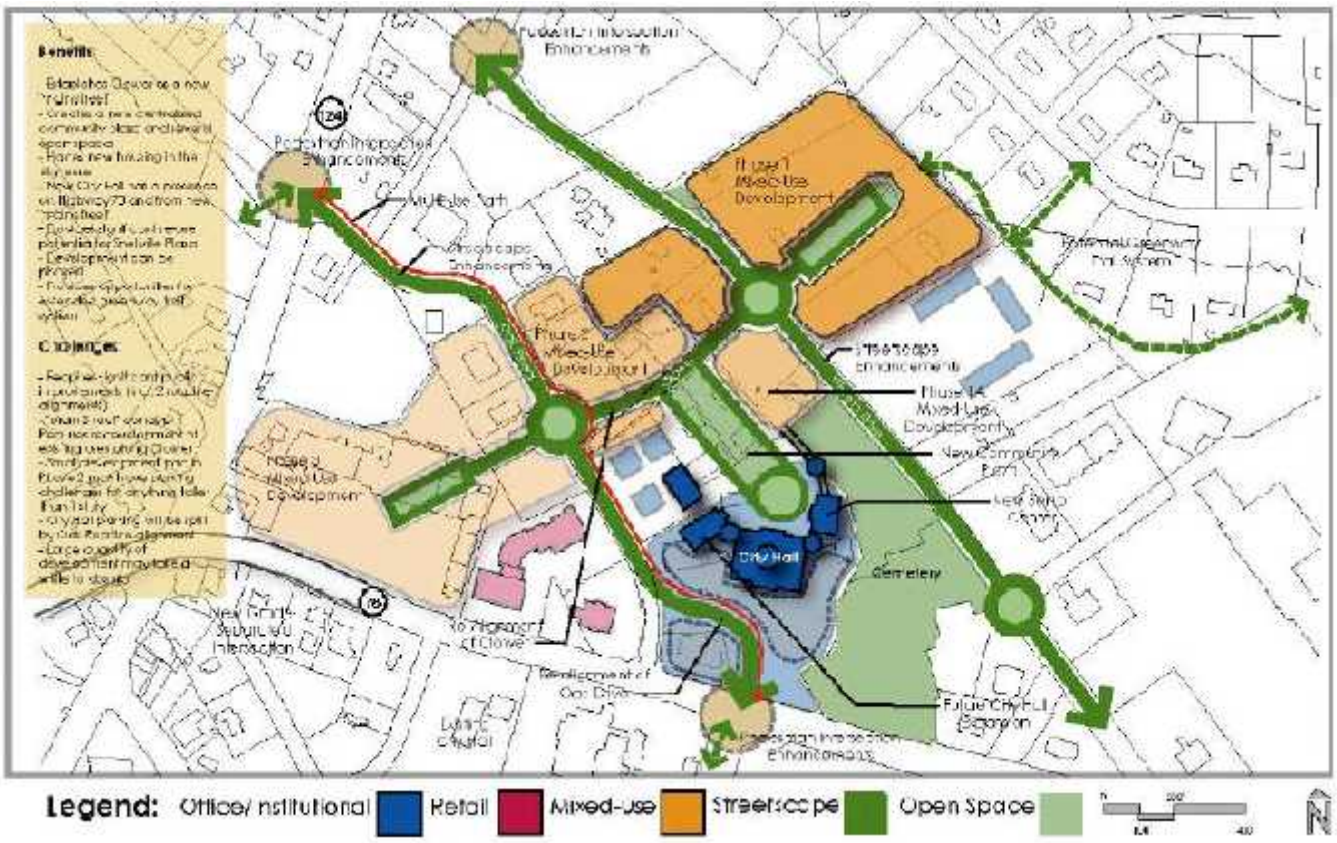


Figure C.6 Phases Overview

(HDR/ Urban College Inc, Charless Lessar)

C.2.8: Summary of urban design recommendations:

1. Design and construct a new Community Plaza between City Hall and Clower Street.

2. Design and install streetscape enhancements along major corridors in LCI study area. (As shown in fig 7, abc).

Figure C.7. a Streetscape Development
(HDR/ Urban College Inc, Charless Lessar)

Figure C.7. b-c Streetscape Development
(HDR/ Urban College Inc, Charless Lessar)

3. Program the recommended transportation improvements (see Transportation Analysis Recommendations).

4. Encourage Phases I, IA, II and III of private sector mixed use development consistent with Town Center concept and overlay zoning regulations.

5. Encourage sidewalk and multi-use trail connectivity by developing bicycle and pedestrian projects that link existing transit stations, schools and other major destinations. Also, the Town Center plan supports the CMAQ grant application prepared for the multi-use trail project by the City of Snellville.

6. Consider design and construction of a regional storm water retention facility to remove the burden from the developers of individual projects. A new regional retention pond constructed in south portion of study area as incentive for redevelopment, is estimated to cost approximately $1,000,000 including land acquisition.

7. Remove Fountain Square and Snellville Oaks Shopping Centers from Town Center Overlay District. Instead, recommend utilizing the Gwinnett County Redevelopment Program as preferred strategy for encouraging private sector investment.

8. Consider a fresh identity for the Town Center area. Suggestions include the original name of the community – New London. Other themes may be inspired by the old Hamilton Mill and the extensive use of granite in building materials in and around Snellville. This recommendation extends to renaming streets within the LCI area to give identity to City Center.

9. The LCI analysis revealed no impacts on the historic properties in the Town Center area.

10. For the purposes of attracting high-end restaurants to the revitalized Town Center, it is recommended that the City call for a local referendum to consider the sale of liquor by the drink.

11. Cooperation with the two major churches, Snellville United Methodist Church and the First Baptist Church Snellville, including incorporating their master plans into the Town Center plan. Possible connections are encouraged including landscaping, urban design features and increased pedestrian connectivity.

12. Recommend the City of Snellville recruit and hire a downtown development manager to coordinate development, apply for grant funding and schedule downtown events.

C.2.9: Summary of transportation analysis recommendations:

1. Intersection Pedestrian Improvements
a. SR 124 and Oak Road
b. Wisteria Drive and North Road
c. US 78 and Henry Clower Blvd / Oak Road
d. US 78 and Wisteria Drive / Skyland Drive
2. Redesigned Roadway Cross Sections
a. Oak Road (SR 124 to US 78)
b. Clower Street (Oak Rd to Wisteria Dr)
c. Wisteria Drive (SR 124 to US 78)
3. Roundabouts
a. Oak Road / Clower Street
b. Wisteria Drive / Clower Street
c. Wisteria Drive / Hugh Drive
4. Greenway Trail System

5. Traffic Signal Installation
6. Grade Separated Interchange at US 78 and SR 124

C.2.10: Summary of market analysis and land use recommendations:

- The creation of dynamic town centers that include a mix of housing, offices, stores, civic buildings, all in a pedestrian friendly environment, is one of the most important trends in real estate and planning today. After analyzing demographic data, evaluating commercial retail, office and for-sale and rental residential land uses and conducting interviews with residents, business owners, and real estate professionals, there is a significant opportunity for a town center development in Snellville. Ideally the town center will provide a balanced mix of commercial (retail and office) space as well as small-scale residential developments, both rental and for-sale. The following summarizes the first phase and long-term development programs for the proposed town center (from a private sector market demand perspective, i.e. net of civic/government space).

- Phase I
- Retail Office - 50,000 square feet within an area of 3.8 acres
- Rental and Senior Housing – None on Phase I
- For Sale Attached Housing – 50 units within an area of 6.3. acres
- Green Space – 87,120 square feet, about 2 acres
- Buildout of Town Center
- Retail Office - 115,000 square feet within an area of 8.8 acres
- Rental and Senior Housing – 250 units within an area of 17.9 acres
- For Sale Attached Housing – 150 units within an area of 18.8 acres

- Green Space – Total of 2 acres
- Total acreage encompassed in Phase I – 12.1 acres
- Total acreage encompassed at buildout of Town Center – 47.4 acres