



5800
JERUSALEM
2050

A Futuristic Vision for Metropolitan Jerusalem



Planning Committee

Head of Committee Shlomo Gertner,
Architect and Urban Planner

Hotels and Tourism Arie Leles | Hotelink
Tourism Ltd.

Open Spaces and Sustainability Dr.
Natan Sas, Sas Urban and Regional Planning

Economics Dr. Yair Duchin

Cultural Legacy and Preservation Giora
Solar, Architect

Demographics Yaakov Fajteleson

Transportation Dr. Shimon Farhang,
Landuse

Airport Planning Uri Dekel, Architect

Sustainability Valentina Nelin, Adv.,
Architect

Project Manager Ziva Glanz

Monitoring Committee

Israel Kimchi Director of the Jerusalem Studies
Desk: Planning The Jerusalem Institute for Israel
Studies

Professor Noam Shoval Head of the Department
of Geography, The Hebrew University, Jerusalem

IBI Group Global planning, transportation and urban
architecture firm

Yoram Ginzburg Architect and urban planner

Ze'ev Hacoen Jerusalem Region planner for the
Israel Nature and Parks Authority

Ro'i Orbach Environmental consultant

Michah Ben-Nun Architect

Moni Ben-Ari Past consultant for development to
the Jerusalem Municipality

Booklet Production T'chelet Communications, Ltd.

Illustrations Boris Yaakov

Aerial Photography Tatspit Aerial Photography

Editing Carmit Kattav

The Jerusalem Metropolis Master Plan involved extensive research, mapping, statistical reviews, and various data processing. The book presented to you is an abstract of the original plan.
For further information please email info@jerusalem5800.com, or visit www.jerusalem5800.com

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In memory of Dr. Yitzhak (Irving) Moskowitz, who transformed dreams into reality in
Jerusalem, 1928 – 2016



Ministry of Jerusalem and Heritage

June 5, 2016

28th Iyar 5776



"Jerusalem is built as a closely compacted together city (heve lah yachdav)" (Ps. 122) – [the Sages said it is] a city that unites all of Israel in friendship." (J.T. Hagiga)

The Jerusalem 5800 Plan is a long-term master plan for the year 2050, which outlines a vision for the realization of Jerusalem's timeless potential as a cosmopolitan center for culture and tourism. The plan not only connects the capital city's past to its present and future, but also organically integrates Jerusalem with the greenery and lush forests that surround it.

The planning for the future development of Israel is of paramount importance and this is specifically true concerning Jerusalem. This plan advances possibilities for a comprehensive future program for Israel's capital.

The approach of the plan is both unique and revolutionary because it does not focus solely on the localized needs of the city in a vacuum. Rather, it takes a broader perspective, places emphasis on the wider Jerusalem region and promotes Jerusalem as a metropolitan center for its suburban neighbors including Beit Shemesh, Mevaseret Zion, Maaleh Adumim, Gush Etzion, and others.

This initiative is most welcome and imperative for the future of "Metropolitan Jerusalem." I am deeply hopeful that conversations will continue to move forward amongst members of the Israeli Government regarding these plans and future of Jerusalem as the capital of Israel. May you have the greatest of success!

Ze'ev Elkin
Minister for Jerusalem and Legacy Affairs



Ministry of Tourism

June 5, 2016

28th Iyar 5776



Dear Readers,

I hope you enjoy reading this review of the anticipated and exciting plans for future of Israel's capital city, Jerusalem.

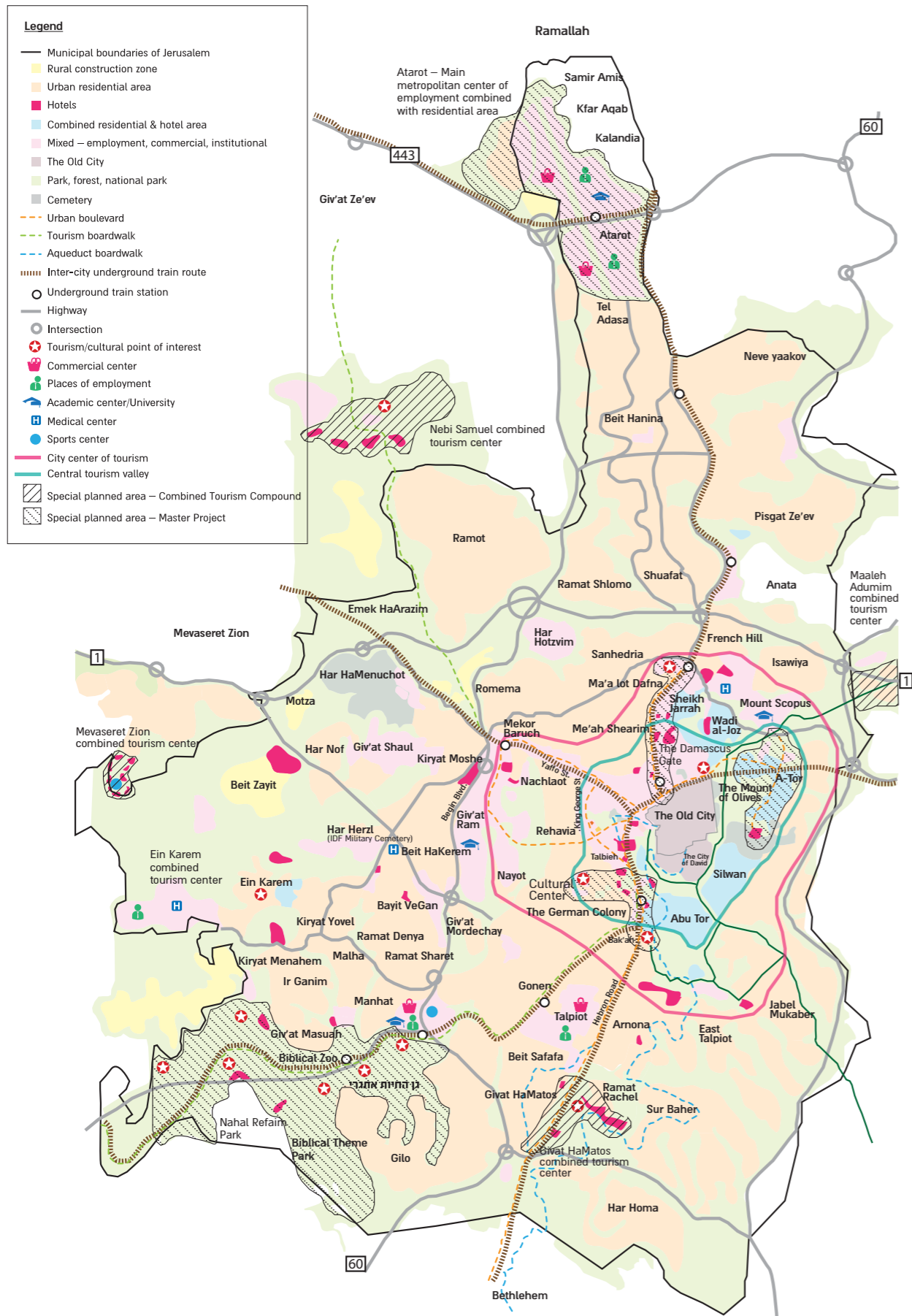
Jerusalem is a sui generis. Its picturesque natural scenery houses ancient sites, holy to three religions. It is a city that connects past and future, a city where historic and modern sit side-by-side. It is a city that carries with it an important age-old legacy – but also has a vibrant and vital present. To a great extent, the reflection of all of Israel can be seen in Jerusalem: green views from the west and desert landscapes from the east, a rich history merging with technological progress, and a diversity of population which opens a window into so many fascinating cultures. Our capital is a magnet for tourism to Israel, and the government of Israel sees tourism to Jerusalem as a source of economic development for the city. We see great importance in the city as a central, important, and meaningful tourist destination.

I invite you to discover what the future holds for Jerusalem, to marvel at the ingenuity, and to allow the myriad ideas in this book to leave their impression on you – innovations in transportation, sustainability, infrastructure, construction, and of course – tourism.

I would like to take this opportunity to invite you to come to Jerusalem, visit and tour the city, and enjoy the great unique experience it has to offer, each and every one of you.

Yariv Levin
Minister of Tourism

The City of Jerusalem in the Metropolitan Jerusalem Mater Plan



The Vision

What will Jerusalem look like in 35 years? What will the city's social character be? What will the citywide and inter-city transportation systems be like? What will be unique about the city? What kind of people will visit? What will be the city's central sites? The Jerusalem 5800 Plan presents an innovative, groundbreaking vision for the city of Jerusalem in the second half of the 21st century.



Jerusalem, a city holy to the three monotheistic religions, is one of the premier tourist destinations in the world today. The historic and spiritual legacy of the city makes it unique, almost unrivaled throughout the world. Considering the expected growth in world tourism over the coming decades, the potential for tourists in Jerusalem is huge. Already today, tourism makes up a large percentage of the city's economy, and in the future, it may become the driving force of the city's development, both in logistical construction terms and in societal impact.

However, Jerusalem as it exists today, cannot realize this potential. In order to take in the millions of tourists expected to arrive, tens of thousands of new hotel rooms must be built, the city's transportation system must be upgraded substantially, and urban spaces must be designed to meet the needs of both tourists and local residents. Such dramatic change requires comprehensive, integrated planning: the intra-city and inter-city transportation systems need to be routed to the locations of hotel, tourist attractions, and pilgrimage sites, as well as to residential neighborhoods. Not only does this planned infrastructure not yet exist, unfortunately, it stands at odds with the current situation. Over the past few decades, there have been large uncontrolled strides taken towards creation of a bi-national greater metropolitan Jerusalem. This uncontrolled process negates all of the principles of sustainable development.

If a planned vision is not realized – one that integrates the various aspects of development in the city of Jerusalem – the potential for tourism, and the economic boon that comes with it, will be lost.

This plan was born of a present necessity and the sense that the main potential in Jerusalem - that of the place itself and the diverse society therein,

The historic and spiritual legacy of the city make it unique, unrivaled throughout the world.

has been unrealized. The name of this project – Jerusalem 5800 – is taken for the plan's target year, the Hebrew year 5800, but before the year 2050 on Gregorian calendar.

Three decades from today is a realistic timeframe for implementation and realization of such a vision for the future of the city of Jerusalem.

Public representatives, government ministers, decision makers and those in municipal positions relevant to urban planning of the greater metropolitan Jerusalem region can adopt the plan in its entirety, or parts thereof. Because it is based on the foundations of existing plans in government offices and ministries as well as those of Jerusalem municipality, it brings together past plans while integrating additional ones created by the Jerusalem 5800 Planning Committee. Thus, the plan proposed here offers a vision that includes thinking for the economic optimization of metropolitan Jerusalem.

The goal of the plan is to improve the economic and social impact of the region's diverse population by increasing tourism to a far greater extent than which exists today, numbers in line with the growth forecasts for regional and international tourism. As demonstrated herein, the realistic tourism forecast for metropolitan Jerusalem for the year 2050 is 10 million annual tourists from abroad and 2 million local tourists. Such numbers could allow for Jerusalem's economy to thrive based mainly on tourism and related industries, presuming that the infrastructure is created to house



so many tourists.

As of today, there are many plans in various areas for changing the face of Jerusalem and bringing it up to date with the 21st century. These were created in various government ministries: those of Tourism, Transportation, Interior, and Treasury, by the Jerusalem Municipality, by private sector firms, and others. Yet, each of these plans deals almost exclusively with one aspect of the city's future and are largely geared for the short-term – or, at best, slightly longer than short-term development. They do not present a comprehensive view of the problems nor a comprehensive view of possible solutions for gradual development and growth of metropolitan Jerusalem with the aim of moving the city forward from its current

state to the desired state within the next half a century. This is a deeply most problematic reality given that only a broad-minded, all-inclusive policy, which takes into account the entirety of the developing city's needs, will be able to respond to the challenge and ensure Jerusalem's place on the international tourism map in a manner competitive with other leading global tourist centers.

Due to this situation, the Jerusalem 5800 Plan proposes principles for planning and development of the metropolitan Jerusalem area in a long-term, sustainable process through the year 2050. The full plan deals with all aspects of metropolitan planning and development – including the municipal region of Jerusalem and the greater area of influence – but also

Jerusalem's uniqueness as a city holy to the three monotheistic religions is expected to bring millions of tourists. Crowds at the Western Wall Plaza on the festival of Succoth (Tabernacles). Behind, Muslim Mosques visible on the Temple Mount. 2011



emphasizes the three issues which are, in the opinion of the initiators of this plan and the Planning Committee, strategic issues that bear impact on the realization of the general vision: tourism, hotels, the transportation system, and open spaces.

The Jerusalem 5800 Project offers a brave economic and multi-pronged vision for metropolitan Jerusalem. It presents an opportunity to turn Jerusalem into a cosmopolitan city, but this vision requires broadmindedness and the ability to see beyond the current reality.

A regional hub for future tourists – 35 million people will travel through a new airport each year – in addition to the 16 million that are to travel through Ben-Gurion Airport, combining to make Israel one of the largest centers for air travel in

the world. This factor will increase the GNP and significantly improve employment rates in Israel, as just one million additional tourists would increase Israel's GNP by 2.5%.

Currently, Jerusalem faces serious political issues, which are part of the political dynamic facing the entire State of Israel. From an urban point of view, the Arab-Israeli conflict has led to the physical division of the area by the separation barrier, a division that poses problems for the quality of life within the Jerusalem metropolis as well as posing ecological problems. Therefore, in our estimation, this current political status-quo cannot remain in the long-term in metropolitan Jerusalem or in the overall Judea and Samaria region. We presume that by the

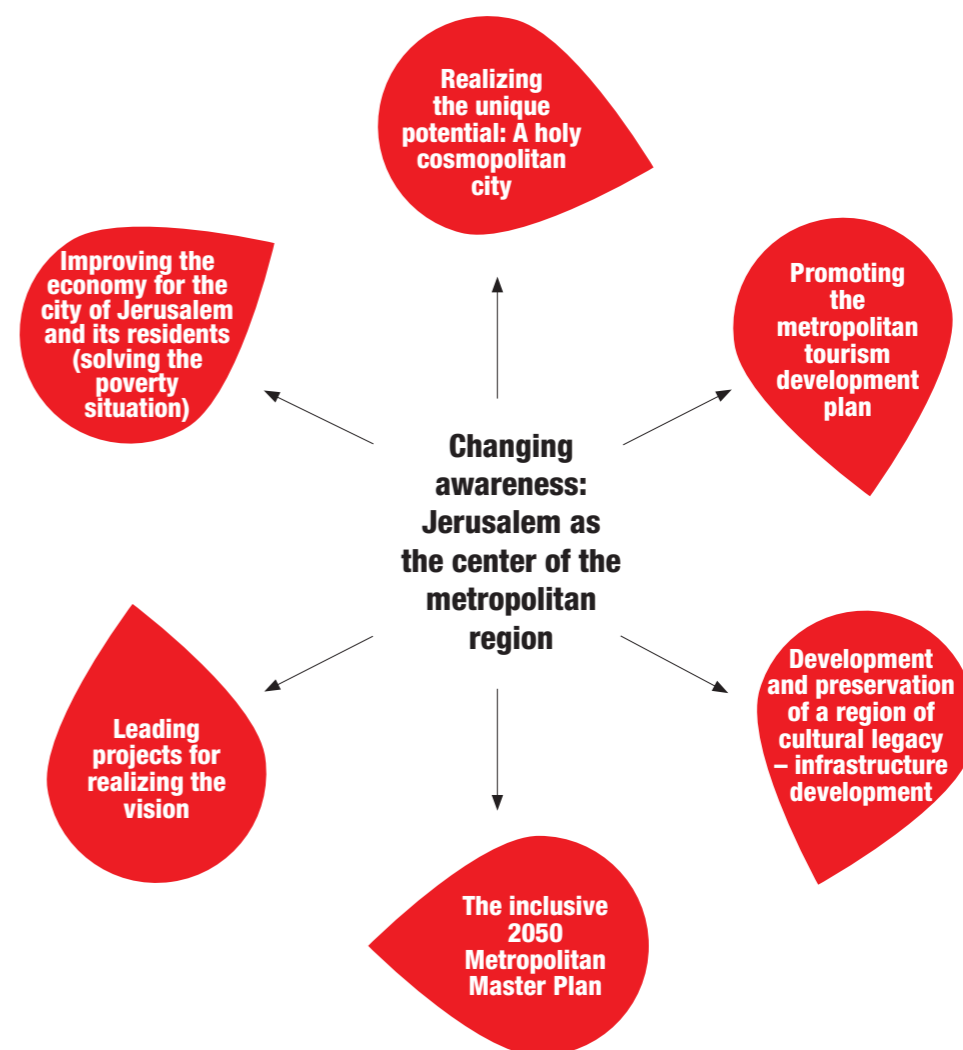
Even today, the Old City of Jerusalem is a mosaic of religious and spiritual tourism that meshes with classic tourism. A beautiful expression of this is seen in the Christian Quarter market, which is both a central passageway to Jewish, Christian, and Muslim holy sites, and a focal point for Holy Land souvenir shopping. Sights in the marketplace, Summer 2015

year 2050 the current political problems will be resolved in a manner that will preserve a unified metropolitan Jerusalem. We did not address how this conflict will be resolved, a question that is beyond the boundaries of this plan, but we presumed (for apolitical reasons) that the metropolitan Jerusalem region will not be divided. Thus, we relate to the metropolis as a territorial stretch wherein people and goods move freely. We further presumed that in 2050 there will be some 5 million residents living in the metropolitan Jerusalem region, and some 12 million tourists visiting the city annually.

Jerusalem is the historic, modern, and future capital of the Hebrew nation

- the Jewish people. In Jerusalem and the surrounding area, the culture, faith, and ethics of the nation were formed over the millennia. Many of those ideals transformed to inform universal values which are common to other nations and have informed other religions and peoples. Jerusalem is considered holy to adherents of the Abrahamic religions and many strive to visit the city. The Master Plan's vision understands the importance of realizing Jerusalem's destiny as a global spiritual center, capable of serving millions of tourists from Israel and abroad and offering them a unique, spiritual, and religious experience.

Metropolitan Planning for Jerusalem as a Socio-Economic Model

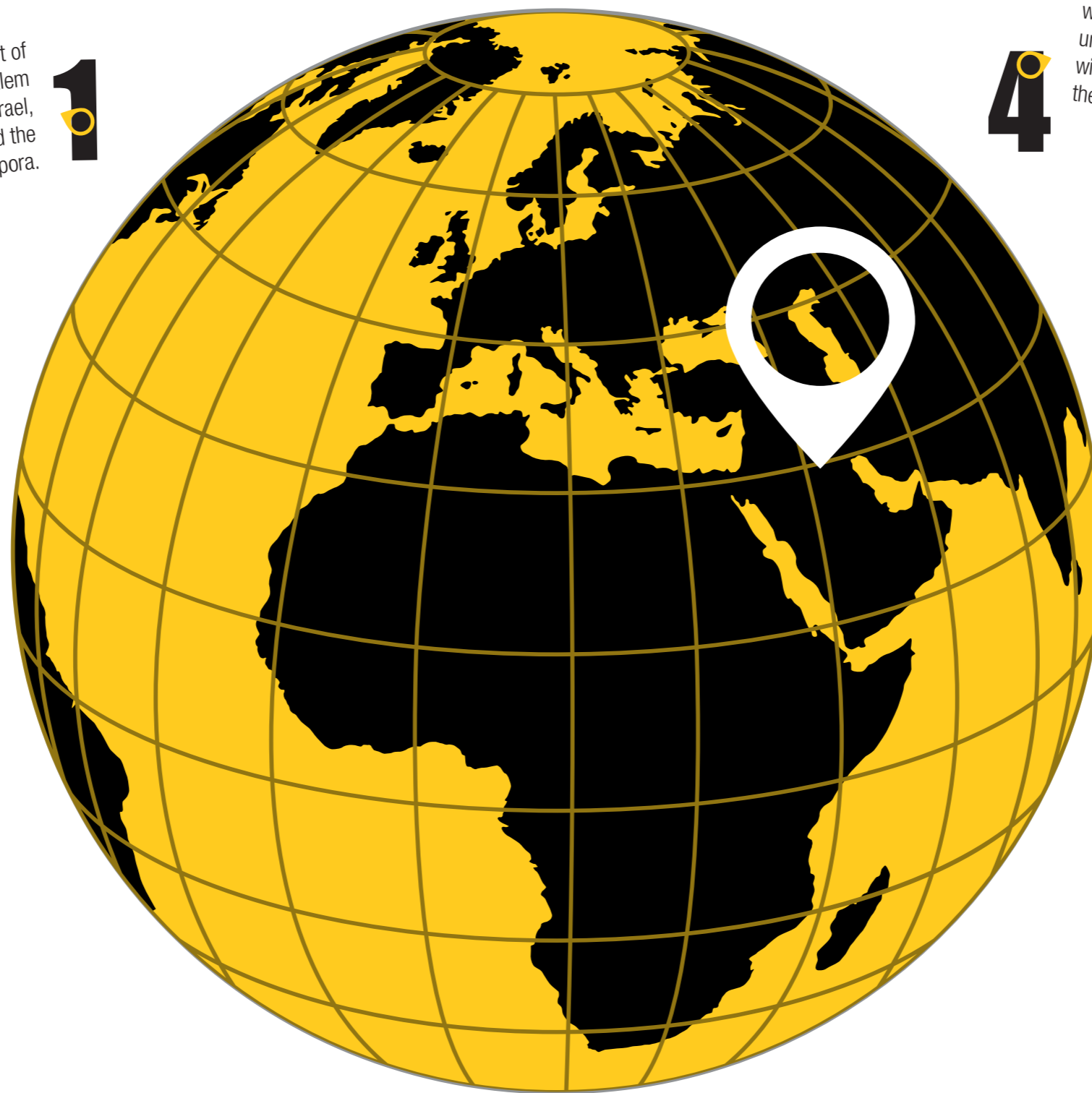


The Jerusalem 5800 Plan deals with long-term planning for Metropolitan Jerusalem according to these fundamental principles:

1 The State of Israel is the heart of the Jewish people, and Jerusalem is the heart of the State of Israel, the Jewish people in Israel, and the Jewish people in the diaspora.

2 Growth of the Jewish population in Israel over the coming decades will be supported by the country attracting Jews in the diaspora to immigrate to Israel as a choice and not out of a desperate need.

3 The proposed plan was formed based on an analysis and understanding of fundamental progression, with the goal of constructing a process that will shape the future and increase the chances for prosperity of the State of Israel and the Jewish people.



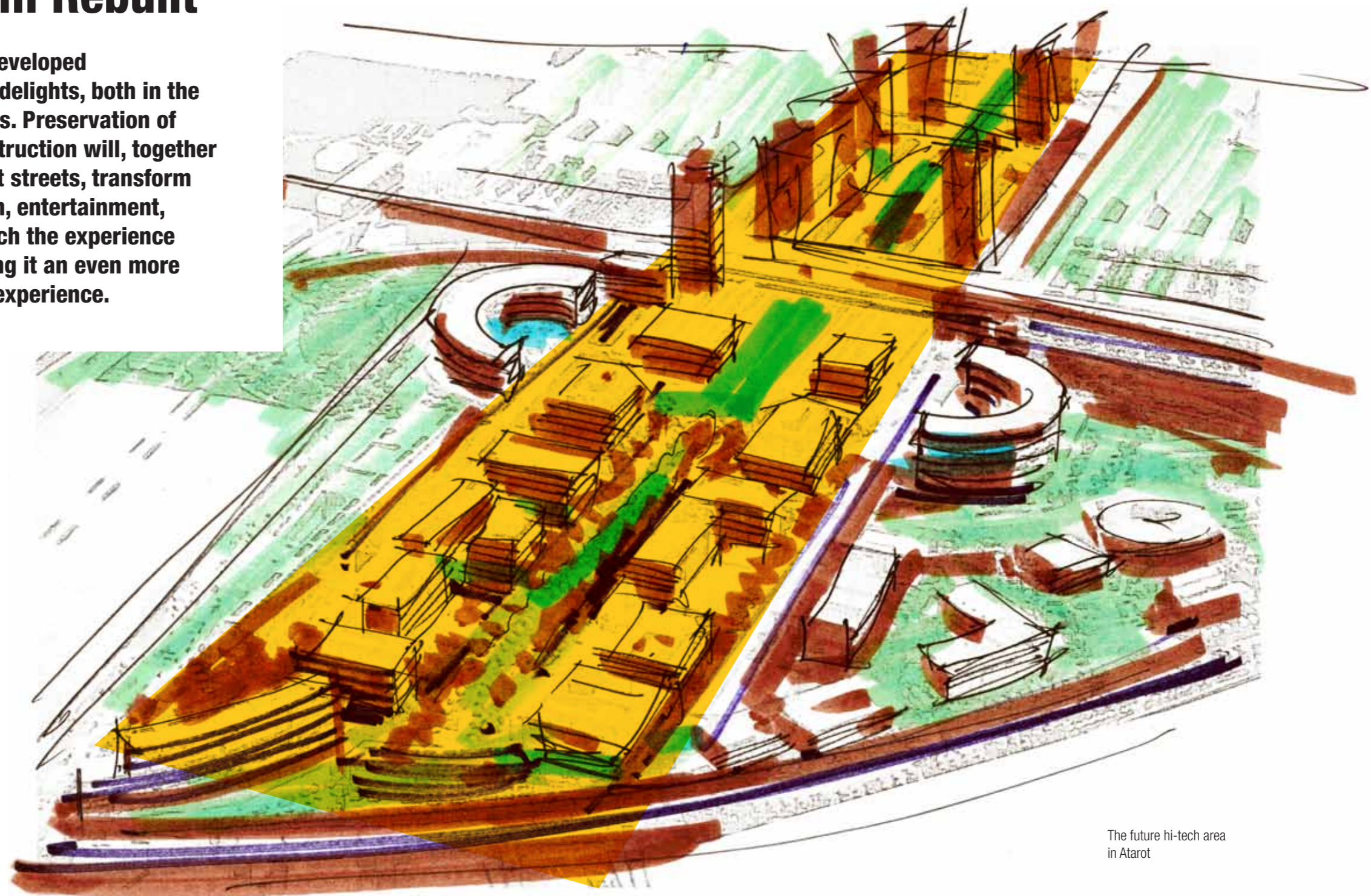
4 Israel is a Jewish State, which protects the democratic rights of the minorities living within its boundaries. Decision making with an understanding of demographics and sovereignty will be required to ensure a Jewish majority in the State of Israel and in Jerusalem, its capital.

5 The plan is based on analysis of the current state of affairs in Jerusalem – the formation of a bi-national metropolis, spread out over the city and its surrounding environs and defining the economic region. Today, within the municipal region of Jerusalem there is a mixed population of Jews and non-Jewish minorities at the ratio of 65:35. This is a very low ratio for the capital city of the Jewish people and the State of Israel as a Jewish state. In past Israeli government policy documents, theoretical ratios of 75:25 or 80:20 were stipulated.

6 The proposed plan wishes to bring about a situation wherein at least the current minimal ratio of Jewish to minority population – 65:35 – is preserved, with the majority of the population added to metropolitan Jerusalem over the coming decades coming from the metropolitan ring, neighborhoods, and areas outside the municipal city limits of Jerusalem.

Jerusalem Rebuilt

Jerusalem is full of under-developed architectural treasures and delights, both in the Old City and outside its walls. Preservation of these sites and their reconstruction will, together with development of ancient streets, transform them into centers of tourism, entertainment, and shopping. This will enrich the experience of visiting Jerusalem, making it an even more engaging and multifaceted experience.



The future hi-tech area in Atarot

The city of Jerusalem and its surroundings are full of archaeological remains. The archeological finds uncovered throughout the city date from the pre-Biblical area through Biblical times, the Second Temple Period, the Hellenistic Period, the centuries of Roman rule, governance by the Byzantine Empire, the warring Caliphates and Crusaders, the Mameluke period, and the Ottoman Empire. There are also many buildings of deep modern historical significance including many constructed during the first years of Zionism, during the British Mandate, and after the establishment of the State of Israel.

Some of the archeological sites in Jerusalem are well-known, the most famous in the environs of the Old City and just outside its walls. They include ancient settlements, facilities, roads, cemeteries and more. Some of them have been excavated or are being excavated and placed on display for visitors to enjoy as archeological sites while others remain active holy sites for the different religions. The Temple Mount, the Western Wall, Mount Zion, and the Church of the Holy Sepulchre are all examples of numerous age-old sites that remain places of prayer and pilgrimage today.

The upkeep and preservation of holy sites is ensured by both law and by power of tradition and as a result of their daily use. These are attractive sites both because of their historical significance and their use in the present day. Most of them are not at risk. They likewise do not require concerted efforts in order to attract visitors other than improving access, developing educational materials etc. to make them a bit more accessible, familiar and interesting.

On the other hand, there are small sites, some of which are not on their

Proper development of sites can make them attractive, thus contributing to the quality of life and education in the neighborhood. A good example of a minor site, the development of which would become attractive to and popular with visitors, is Ein Yael.

own impressive currently and which are of less interest to the general population and laypeople. They could however be transformed through proper development, either by the municipality, private enterprise or by neighborhood organizations, thus contributing to the quality of life and education in the neighborhood. A good example of such a site, the development of which began to attract crowds, is Ein Yael. Sites such as this are to be found all over the metropolitan Jerusalem area. Since these sites are protected by law, they can be neither destroyed nor developed without authorization of the Antiquities Authority, and only then, after conducting a dig, documentation, and publication. This means that archeological sites – especially those in Jerusalem – present, on the one hand, potential for development of the city, yet, on the other hand, may actually hinder development.

An example of a neglected ancient site turned unique tourist attraction and historical site. A grape stomp at the reconstructed Ein Yael wine press.

The ancient streets outside the Old City walls could become, with proper development, tourism and sightseeing attractions which would mesh well with the master development plan for city.

Cafés on Nahalat HaShiv'ah, 2007.



// Borders of Metropolitan Jerusalem

The great innovation of the Jerusalem 5800 Plan is in its approach to Jerusalem, not as a city unto itself, but as a metropolis that includes a large peripheral region, planned as one body.

The Jerusalem 5800 Plan offers a vision for the development of metropolitan Jerusalem – a term that stretches beyond the municipal boundaries of Jerusalem. As the city itself isn't expected to grow significantly over the coming decades, the development in question is that of a greater geographical area, which even today comprises the city's larger metropolitan region.

This metropolitan region, built around the urban makeup of Jerusalem, can be defined both in economic and in transportation terms. Economically, the metropolitan region includes the areas for which Jerusalem is the natural focal point for commerce and industry – the areas for which the city of Jerusalem is a commercial focal point. In terms of transportation, the metropolis is defined as the geographical region from which daily commuter traffic both for work and other reasons is centered on Jerusalem – the areas from which most of the residents commute to Jerusalem on a daily basis.

According to the Ministry of Interior's most recent definition, the Jerusalem district runs to the Jordan river and the Dead Sea in the east, Beit Shemesh in the west, Ofra and Beit El in the north, and Gush Etzion in the south. This region, at the center of which Jerusalem resides, with its surrounding suburbs and villages, relates to Jerusalem as the central city of the district.

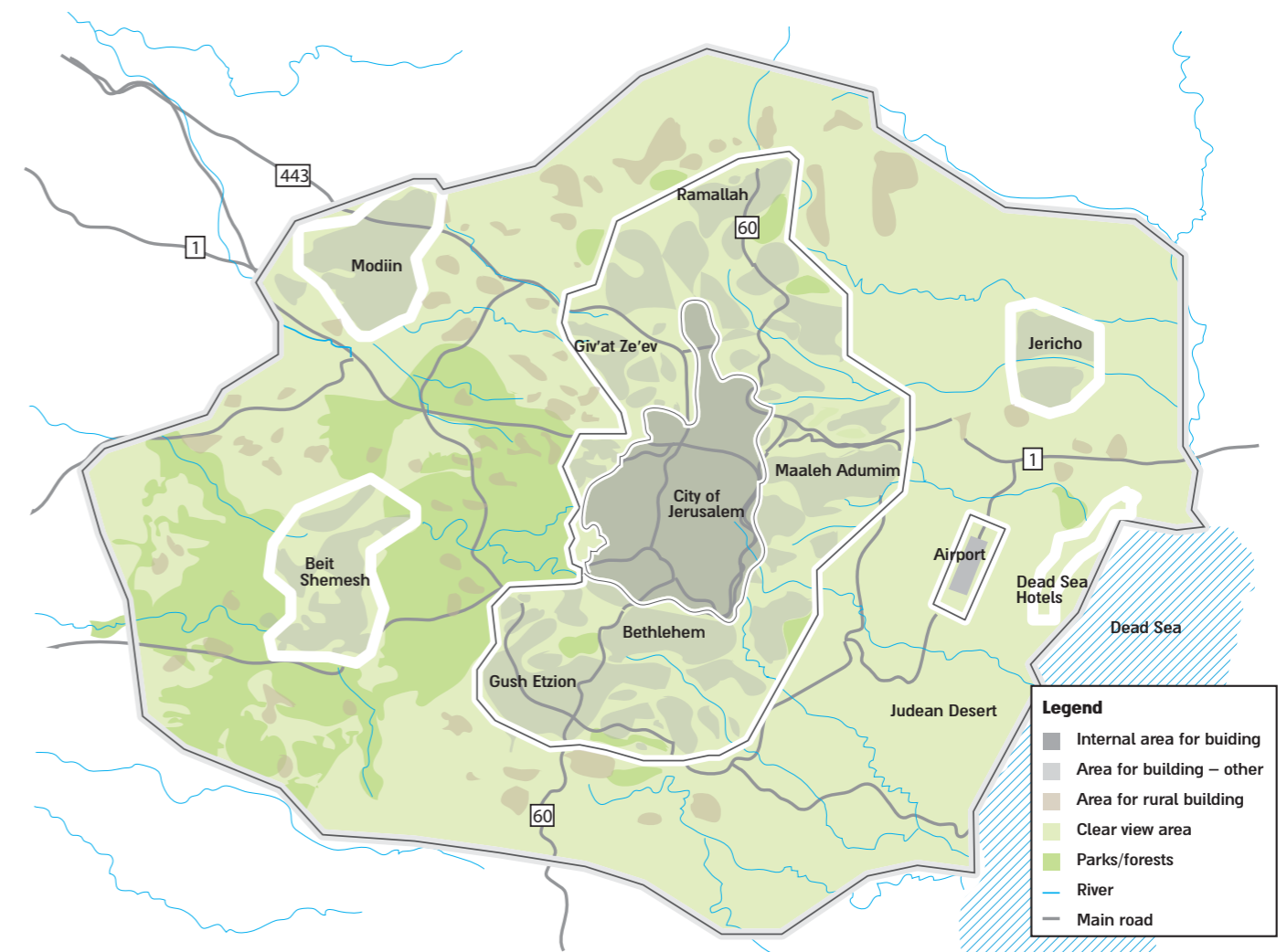
The boundaries of metropolitan Jerusalem, and the possibility for construction and development therein,

In terms of economy, metropolitan Jerusalem is defined as the city's natural focal point for business.

In terms of transportation – as the geographical region in which traffic is intense daily.

are defined by geographical and ecological characteristics. The Jerusalem mountains are an important link in the open-space continuum between the Binyamin mountains of the north and the Hebron mountains in the south – a continuum of great ecological significance and a vital corridor for wildlife and plant preservation. In accordance with the geographical makeup, metropolitan Jerusalem is limited in terms of possibilities for expansion westward, and is close to reaching full capacity for such expansion in this direction. Another ecological corridor exists east of Jerusalem, running from north to south by the fault cliff over the Dead Sea and the back slopes of the mountains approaching the Jordan Valley and the Dead Sea. Between this ecological corridor and Jerusalem there is an area in which

Planned Circles of Metropolitan Jerusalem



construction is possible, and indeed, it is in this area that the city of Maaleh Adumim is built – one of Jerusalem's most important suburbs today.

Thus, the metropolitan Jerusalem region is defined in three concentric circles: the city of Jerusalem lies in the innermost circle – the area which more or less comprises the municipal boundaries of Jerusalem today; the second circle is comprised of the city's immediate suburbs, including municipalities

and regional councils of Maaleh Adumim, Gush Etzion, Abu Dis, Giv'at Ze'ev, Bethlehem, Mivasserret Zion, and Ramallah, as well as rural areas such as Gush Etzion and Gush Elon; and the third circle is the green, open-area forested corridor, the preservation of which is imperative to the maintaining of a healthy ecological environment for Jerusalem. Understanding the urban functions of each circle is necessary as a basis for any future planning of the metropolis.

// The Demographic Challenge

Despite a general trend towards increased natural growth for the Jewish population and a general trend towards decreased natural growth for the Muslim population in metropolitan Jerusalem, the percentage of Muslims in the population is rising steadily, due to Jews leaving the metropolis. Stopping this trend requires a national and multipronged approach.

Long-term urban planning must deal with demographic change as an integral part thereof. Forecasts regarding population growth rates for the metropolis are an essential factor for the entire planning process. When planning for the future of Jerusalem, national considerations come into play, which stem from the city's role as the capital of Israel, as well as the desire to have a solid and distinct Jewish majority in Jerusalem.

Demographic factors are dynamic and influenced by social change, the populations' level of education – in particular that of the women, the level of urbanization, and changes in the economy, politics, and in the security situation. Thus, the degree of precision of a population growth forecast declines when the length of the forecast increases.

However, the need for long-term planning for the city still requires a cautious, educated forecast, based on current data and past demographic trends.

This chapter is intended to provide a demographic basis for the Jerusalem 5800 Project's Planning Committee.

For these purposes, we adopt the definitions of Israeli Central Bureau of Statistics. For the convenience of comparison, we included in the use of the term "Jew" or "Jewish" people belonging to Jewish faith, non-Arab Christians, and those with no religious affiliation. The use of the term "Arab" relates to Arab Muslims and Arab Christians, whether living in Israel as citizens or residents, or as residents of the areas under control of the Palestinian Authority.

Analysis of demographic trends among Jews and Muslims in the region designated as metropolitan Jerusalem shows that if a policy is not implemented, designed to stop emigration of Jews to outside the metropolitan region - a trend which has been going on for many years – the population growth among Arabs, relative to that of Jews, will increase. It is important to emphasize that the population growth amongst Muslims in metropolitan Jerusalem is not due to the product of natural growth. Rather it is happening despite a long-term trend in natural population growth, wherein each year the birth rate among Muslims has decreased, while among Jews it has risen.

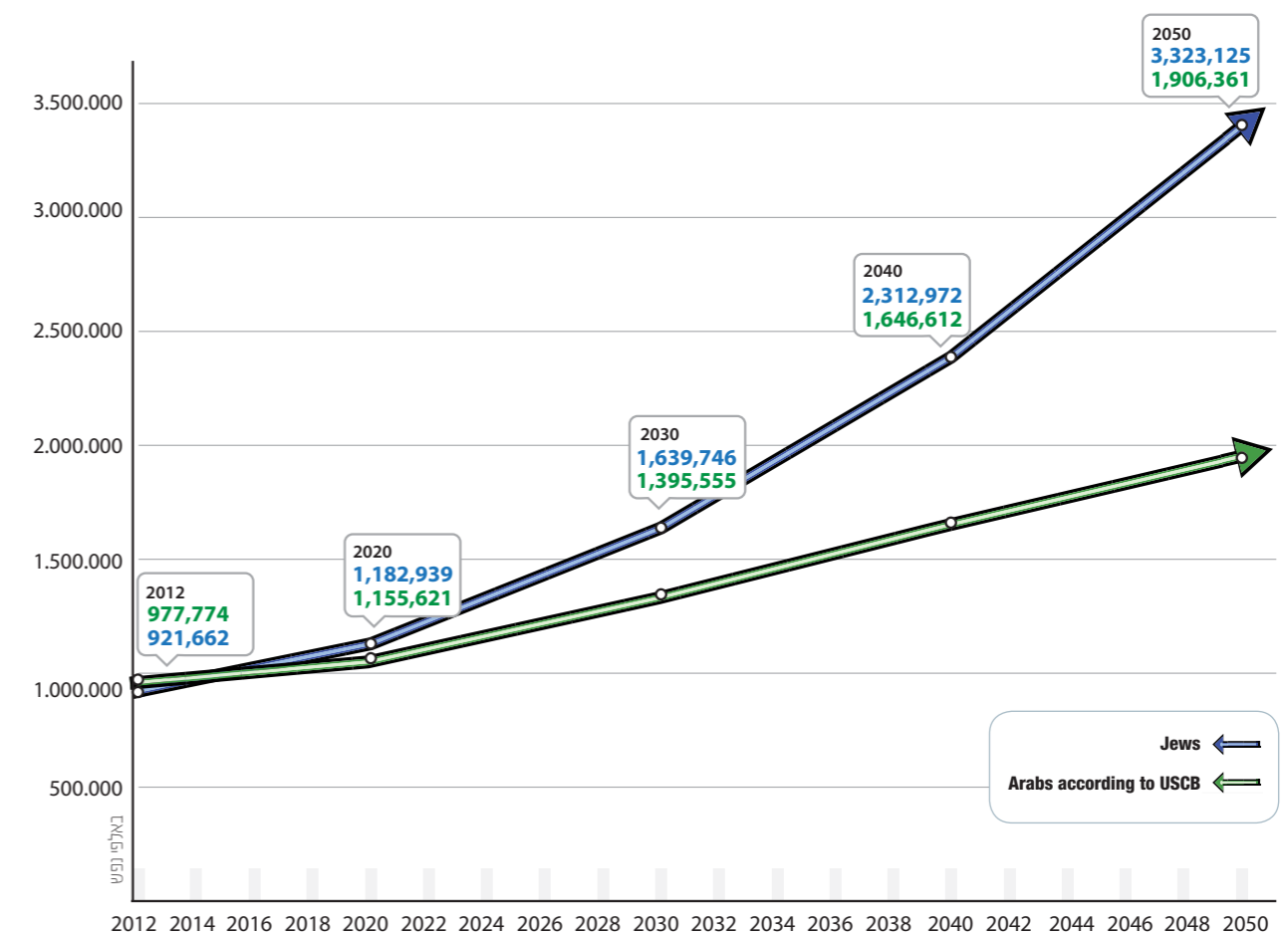
Despite this trend of declining birth rates among Muslims in metropolitan Jerusalem – a trend existing among the general Muslim population in Israel and worldwide – the percentages of Muslims in the city's population is growing constantly. The reason for this is the emigration of Jews from metropolitan Jerusalem for various reasons.

As the basis for the forecasted size of the population of Jerusalem for the year 2050, we will use the situation as of 2012. We will examine three possible scenarios regarding the metropolitan Jerusalem boundaries. In each scenario the metropolitan boundaries have been changed, and accordingly, the size and makeup of the population:

1. Including Jewish towns in close proximity to metropolitan Jerusalem.
2. Additional extending of the metropolis by adding the Bethlehem district, as defined by the Palestinian Authority.
3. Additional extending of the metropolis by adding the Ramallah district, as defined by the Palestinian Authority.

Scenario	Jews	Arabs	Total population of metropolitan Jerusalem
1	921,662 people 66.6%	461,700 people 33.4%	1,383,362
2	921,662 people 58.3%	660,046 people 41.7%	1,581,708
3	921,662 people 48.6%	974,720 people 51.4%	1,896,382

Population Growth Projections Greater Jerusalem through 2050 by Group



Sources: Jewish population numbers are based on the "2013 Annual Report" from The Central Bureau of Statistics (Israel) chart 2.4. Arab population data for the Ramallah and Bethlehem districts are based on those of The Palestinian Central Bureau of Statistics and the rojections of the United States Census Bureau for natural population growth through 2050.



We posit that the policies aimed at revitalizing the metropolis will bring about a stable equilibrium between the number of residents leaving and the number of native Israelis and new immigrants. That stabilization compounded with the current 2.4% annual natural growth rate (as of 2012) of metropolitan Jerusalem's Jewish population could see the metropolis's Jewish population reach an est. 1,029,700 people in 2030 and an est. 1,641,900 people in 2050.

Let us add to this the population data of surrounding Jewish towns, locales that according to the scenarios described above are to be included in metropolitan Jerusalem. If these areas continued their 5.2% annual growth rate, as they did between 2009-2012, their population would double in the next 14 years. If this growth rate is sustained, the population of these towns could reach 610,000 people by the year 2030, and 1,681,200 people by

2050.

Therefore, in this scenario, the Jewish population in metropolitan Jerusalem could reach 1,639,700 by 2030 and 3,323,100 by 2050.

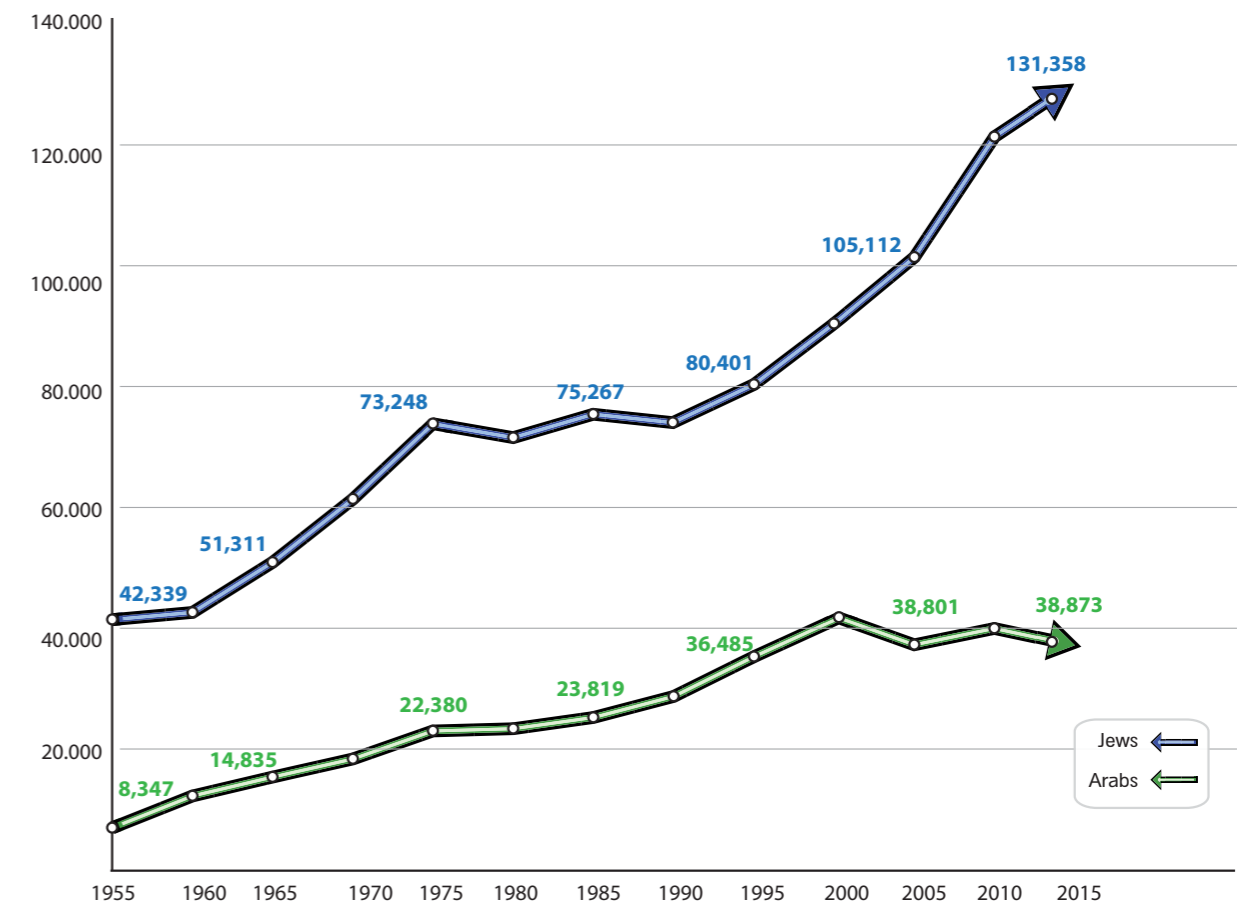
In calculating the demographic shifts amongst Jerusalem's Arab population, we will put aside the rapid decline in birth rates amongst that population; rather, we will assume that the natural population growth rate amongst Muslims will remain at the 2012 rate of 2.51% annually. This would place Jerusalem's Arab population at an upwards of 465,300 people by 2030 and 797,000 by 2050.

We will likewise calculate based on the assumption that the annual population growth rate for the Arab population in the Bethlehem district will remain as it was in 2012, namely 2.1% annually. In such a scenario, the population of these two districts could reach some 965,300 people in 2030 and some 1,462,700 in 2050.

Jerusalem is one of the most diverse cities in Israel in terms of population makeup. Managing its demographic makeup is a national and societal challenge of great importance. The human diversity of Jerusalem as reflected in the Machane Yehuda market, winter 2011.

(Photo by Uri Brownstein)

Birth rates in the State of Israel (1955 – 2013)



According to this calculation, the general Arab population of greater Jerusalem could reach est. 1,450,700 people in 2030 and est. 2,259,000 people in 2050.

According to the US government forecasts for natural population growth amongst Arabs living in Judea and Samaria, the number of Arab residents in the Ramallah district will reach est. 910,100 people in 2030 and est. 1,109,400 people in 2050.

If all of the assumptions in the above scenarios were realized, the greater Jerusalem population could reach est. 5,229,500 people by 2050, of which roughly 3,323,100 are Jews and 1,906,400 are Arabs.

In the absence of the formulation and implementation of policy designed to stop Jewish migration out of the metropolitan Jerusalem region, the current trend of an increasing proportion of Muslims in the city will continue in the future.

// Development of Sites in the New City

Many old streets and impressive structures scattered throughout the older neighborhoods of the New City of Jerusalem are awaiting revitalization to rescue them from neglect and add them to the city's tourist sites.

There is no need to describe at length the archeological sites in Jerusalem, their potential for restoration, nor their ability to attract visitors. These sites are widely-known and are being attended to, even if further work is needed. Therefore, we will focus here on the more modern historical sites, those built in the last 150 years in the New City of Jerusalem.

While the historical structures found within the Old City walls were included by law in the list of protected archeological sites, the structures outside the Old City generally suffer from lack of appreciation. There is also constant pressure to demolish or alter them for the purpose of urban development as part of the constant evolution of developing neighborhoods. A living city is a city in which continual change is a part its cultural framework. The task of preservation is to take advantage of development, see it as an opportunity for the endowment of a legacy, and manage urban development while preserving the existing wisely.

There are only a few structures in the New City built before the first half of the 19th century. These sites weren't considered to be part of the city of Jerusalem, at the time they were built; rather, they were part of farms and estates in proximity to the city. Only a few compounds, such as Mishkenot Sha'ananim and the Yemin Moshe windmill, merited the appreciation and legal recognition as heritage sites from the time of establishment of the State and more of them after the Six Day War. Preservation of these structures is considered an important component in shaping the Zionist story of "leaving the walls." Other sites, no less historically significant, including the Schneller

The Mishkenot Sha'ananim neighborhood and the Yemin Moshe windmill merited appreciation and protection at the time the State of Israel was established. Preservation of these structures is considered an important component in shaping the Zionist story of "leaving the walls."

Building and the Russian Compound, are about to be demolished, although a few remnants of them may be preserved.

Jewish Jerusalem outside the Old City walls was not built as a planned city. It evolved along the historical lines from the gates of the Old City, and the locations of the new neighborhoods were chosen according to whichever land was available for purchase and building. Later on, neighborhoods evolved surrounding newer centers. Subsequently, neighborhoods with parks were built, even further from the Old City. Some of these neighborhoods weren't even in the city limits when they were built. Simultaneously, the city's Arab neighborhoods were developing in slightly different ways.

Important institutions fueled the expansion of the city in all directions. These sites include the Bikkur Holim Hospital on HaNevi'im Street, the old age homes at the end of Yafo Street, the Hebrew University on Mount Scopus, Bezalel, Terra Sancta, Augusta Victoria, and Armon HaNatziv.



The Atarot industrial Area will be designed to take in tens of thousands of employees from all areas of the metropolitan Jerusalem region and from other parts of the country.



Site preservation as a tourism resource

Those who deal today with planning and development of the city do not adequately consider the cultural significance of some of the historical neighborhoods, whose importance is no less than that of the first towns such as Petach Tikva, Zichron Yaakov, and Gedera. The pioneers who established these towns were mostly city people of the old Yishuv (Jews living in Israel before the Zionist movement), and their work contributed greatly to the development of Jerusalem. When visiting the city, only seldom do people come just to see one building; Jerusalem's importance and attractiveness are derived from its nature as a system of homes, buildings, and neighborhoods. The development of Jerusalem's historical neighborhoods – which would be integrated with the development of historical sites in the Old City and its surroundings – could boost the tourism potential of the entire city, and enrich the broader experience of visiting the city. In order to achieve this, the development of the historical

The development of Jerusalem's historical neighborhoods – which would be integrated with the development of historical sites in the Old City and its surroundings – could boost Jerusalem's tourism potential and enrich the experience of visiting.

neighborhoods and early sites in the city must be perceived as a means of improving the quality of life for the city's residents, and by extension for making the entire city attractive to tourists.

Historically, the different urban plans for Jerusalem, since the time of the British Mandate, have ignored the preservation of urban historical sites.

Most of them even condemned historical neighborhoods, like Nachalat HaShiv'ah, for destruction. Only beginning in the sixties and the increasingly in the



From a marginal, neglected street to an attractive center for shopping and entertainment – Shatz Street.



seventies did people begin to discuss preserving those areas. Even then, it was seen as a hindrance to development and not as a means For potential revitalization and as an opportunity.

Ignoring the cultural significance of neighborhoods, focusing only on the Old City's attractiveness for tourism disregards the enormous potential benefit to tourism from the first neighborhoods, the attractive streets, the concentration of exceptional architecture, and such. Since the sixties, many extraordinary architectural treasures have been destroyed, usually to build in their stead new buildings with little architectural uniqueness. This happened with Talitha Kumi, Beit HaDegel, and the "Kiach" (Klal) building – from most of which no remnant

Only in recent years were a few plans

promoted and implemented. These plans were aimed at making certain streets more attractive for residents and commerce. They focused on the environmental development and removal of traffic from these streets. This is what was done on parts of Bezalel, Agripas, Shatz, and Shimon ben Shatach streets. Another particularly successful example of the process of preservation and development is Mamilla Street, where old houses were preserved while making the street a prospering focal point for tourism. The purpose of the change in these cases was not – and rightly so – preservation in and of itself, rather, development for the residents' benefit. Preserving legacy buildings was the anchor, the pull – and ultimately, the thing which made these places attractive.

Reconstruction of the Stern House in the commercial center of the Mamilla neighborhood. The stones were numbered for dismantling and reconstruction in the new compound. 2010

There can be no preservation without initiatives – public or private – and there can be no urban preservation without the people living in the area making use of the space
 >>>>

Jerusalem is rich with its diverse neighborhoods, traffic routes, little streets and special buildings that have yet to be identified and taken advantage of. Preservation isn't necessarily development's enemy, and there needs to be mutual recognition of the contribution each makes to the other. It is important to emphasize that the city outside the walls has great potential to attract, but beyond providing services, this potential will not be realized without developing focal points of interest with integral, historically significant culture and architecture. The development potential of such areas in Jerusalem is great. Today, it is easy to identify sites whose potential has not been realized, and all too frequently, sites that have been damaged due to short-term interests.

It is important to remember that there can be no preservation without initiative – public or private – and there can be no urban preservation without people living in, and making use of, the space. In Jerusalem, more than in any other place – because of its history, its rich legacy of buildings, its current role, and the desire to make it an international center of culture and tourism – it is appropriate to empower and give momentum to the physical and cultural legacy of the city in its entirety, along with its historical and spiritual legacy, for the good of the city, its population, and the economy. □

The preservation and development of old sites in the city's first neighborhoods would create an expanse for urban spaces and regional centers for tourism and commerce
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1. The Bikkur Holim Hospital
2. The Rockefeller Museum
3. Terra Sancta College
4. The old Knesset building
5. The Etz Haim neighborhood

The Layout of Open Areas

Jerusalem is surrounded by open areas. Preserving their continued use is vital for the ecological balance throughout the entire country. Wise, responsible development of urban forests and agriculture will keep Jerusalem healthy and well-nurtured, with high quality of life for both people and animals.

The future promenade on the Mount of Olives will attract tourists who come to see the wonderful sight of the Old City



With the rise of modern urbanization, industrialization, and the establishment of advanced transportation networks, the need has arisen for the active preservation of open areas surrounding cities. In the past, there were vast open areas surrounding cities, both agricultural and expanses untouched by man – yet over recent centuries man has taken over these open areas bit by bit.

The open areas can be divided into two groups: open areas outside cities, including nature reserves, national parks, forests, and agricultural areas, and open areas within cities, including urban parks and gardens – and each has great importance. Open areas outside the city are imperative for the existence of the values of appreciating nature and biodiversity, and vital to carbon assimilation processes and moderating climate change and pollution. They also regulate the amount and quality of water found naturally. Open areas help preserve values of legacy and culture, boost agriculture as a means of nutrition for humans, grant us a place for leisure and relaxation, and ensure the future of the land for generations. At the same time, open areas in the city have great importance as places of recreation, for the creation of ecological balance, and more.

Biodiversity

Open areas play a critical role in preserving biodiversity. Biodiversity includes all the variety to be found in nature: genetic, species, ecosystems, and biological processes.

In Israel, there are large areas which enjoy a Mediterranean climate. In total, these areas comprise some 2.5% of the land on earth but contain 16% of the world's species of plants.

The Land of Israel bridges the gap between continents and climate regions, and thus, is especially rich with the multitude of animal and plant species to be

Open areas outside the city are imperative for the existence of the values of nature and biodiversity, and vital for preserving the quality of air and moderating the effects of global climate change on Jerusalem.

found here. Despite its small size, in Israel, some 2300 species of wild plants, 530 species of birds, 100 species of mammals, and 100 species of reptiles can all be found – and more. In total, in Israel, some 47,000 biological species are known – viruses, bacteria, algae, fungi, plants to mammals.

In light of this, the Jerusalem 5800 Plan sees the preservation of open areas and natural habitats as a central means for the preservation of the biodiversity of animals and plants with which Israel has been blessed. Preserving the scope, continuity, and quality of these areas is imperative for the preservation of biodiversity. The loss or cutting off of these habitats and open areas would be a central cause of damage to this biodiversity.

The Lack of Land Resources

Israel is characterized by a relatively large population growth rate, and most of the population is concentrated on about half the country's land- starting from Be'er Sheva and moving northward. This is due to the difficult climate conditions of the south. Similarly, Israel is characterized by the appropriation of many of the open



areas for national security needs and a culture of wasteful land development. Thus, the average population density from Be'er Sheva northwards is some 880 people per kilometer. Such density is likely to become greater – rising to over 1000 people per square kilometer – towards the middle of the 21st century, with an expected population of some 15 million people in the developed areas between the Jordan River and the Mediterranean Sea. The amount of built-up areas is expected to grow and double from today's 400

million meters to 800 million meters. It is important to bear in mind that only 2.5% of the Mediterranean region in Israel is protected by nature reserves and thus, ecological corridors, creating a continuum of open areas which is vital to preserving biodiversity, have great importance.

It seems that over the past few years, the distress in regards to open areas has been internalized, and thus the values dictating planning on a national level in Israel today have focused on this concern. Major development projects target existing urban

Deer Valley, in the heart of Jerusalem, is an example of an open area which was preserved in the center of the city and serves as a unique habitat for animals which disappeared from other parts of the city. Two of the deer living in the valley.



open areas while leaving open areas in between cities, green partitions and using systems of mass transportation for people to meet these concerns. In order to achieve this, the Jerusalem 5800 Plan strives, as much as possible, to avoid building in areas not adjacent to existing cities, and to use existing built-up areas, and to use quality

urban development in order to create a high quality of life in urban areas. The Jerusalem 5800 Plan has given the protection of open areas great importance, and thus, planners are expected to keep construction away from areas of high environmental sensitivity. All of these are an expression of an orientation towards sustainable development of land resources.

The Gai Ben Hinnom Park, one of the well-developed green open areas in the city today

// Urban Open Areas

Open areas within the city and surrounding the city have a vital role in making metropolitan Jerusalem attractive for residents and visitors.

Open areas and parks are the backdrops for the metropolis. They serve as a green lung and contribute to the enrichment of the city's biodiversity. This infrastructure will provide residents with a high quality of life and preserve the green character of the metropolis. Each landscape will receive its own character while protecting the values of the culture, landscapes, and environment. Further, the parks are part of the urban infrastructure for tourism purposes.

In order to preserve urban open areas, roads, railways, bicycle paths, and sidewalks must be built according to the formation of each landscape crossed, while still allowing animals to pass and protecting the biodiversity.

Streams flowing through the metropolis will be incorporated as part of each park and will function as a central system of focal points for tourism and recreation, as a means for cultural preservation, channeling runoff water into groundwater, and preservation of biodiversity.

The proposed Jerusalem 5800 Plan for the municipal area of Jerusalem and its surrounding built-up areas will establish two "green rings" – internal and circumferential – which are to serve as a central urban "axis." These rings will include promenades, bicycle paths, and tourist development based on the historical layers along the green rings and on extending green axes branching out from them and connected to them.

Forestation, pastures, and agriculture

Over recent centuries, agriculture has, by definition, left the city and disappeared from it. This is in contrast to the traditions of millennia, which always included agricultural

plots where people settled, including in cities. The Jerusalem 5800 Plan proposes bringing agriculture back into the city – urban periphery agriculture will be incorporated into parks, which will include professionally-grown healthy produce agriculture and plots for residents. The organic waste from the metropolis will serve as compost for cultivating the parks and lowering removal ranges. The agriculture will be suited to the soil and to the specific landscape in which it is incorporated.

Water streams flowing through the metropolis will be incorporated as part of each park and will function as a central system of focal points for tourism and recreation.

Pastures and forests are symbiotic, ecologically speaking. The pastures and forests east of the watershed are different than those to its west. In grazing cultures, herds would wander west-to-east and back. Wherever they grazed, there were cisterns and wells neglected and abandoned. Developing forests and pastures will be carried out by cultivating local species, planting food forests, harvesting rain, irrigation using reclaimed and gray water, fertilizing with urban sludge, and channels for organic residues. Implementation of these means will achieve the following goals: improving ecological continuity, creating a green economic environment, providing employment and providing food within the metropolis, and returning the cultural landscape to the region of the book of the desert. Pasture in the area separating the

center of the city and the neighborhoods will assist firefighters and aid workers with forest fires close to residential neighborhoods.

The agricultural and residential regions of metropolitan Jerusalem are saturated with the remains of ancient agriculture: terraces, wine presses and cisterns, springs, irrigation systems, pools and various structures used for agriculture. Only a small number of these ruins have been reconstructed and nurtured. In addition to this, metropolitan Jerusalem contains unexploited agricultural regions. In the past, there were vintners, produce farmers, dairy farmers, poultry farmers, shepherds and animal herders in the towns and kibbutzim in the region. Today, for the most part, they do not deal in agriculture. In the areas of the metropolis beyond the green line lies the agricultural city of Jericho, and there is intense agricultural activity in the Jordan Valley, the shores of the Dead Sea, and farming on the mountain ridge including crops, olive groves,

For thousands of years, there were agricultural plots wherever people resided, including in cities. The Jerusalem 5800 plan proposes bringing agriculture back to the city.

and deciduous fruits. There is also grazing land used for sheep and goats inside the metropolitan area, but these areas suffer from overgrazing and failing herd management.

Classic urban agriculture aims to reunite the urban dweller and agricultural work. The crux of the plan is to lease relatively small plots on the outskirts and in the center of the city to residents and to encourage them to use recycled materials to manage agriculture.

Goals of the urban agriculture development plan



// Urban Forest

A properly planned urban forest can transform a gloomy, gray city GREEN into a pleasant, and lively one. Thorough planning of urban forest areas and bringing the community together for forest preservation will make Jerusalem a true city of gardens.

An “urban forest” is a relatively small area of natural or urbanized woodland close to developed areas, whose residents are actively involved in its cultivation. They may even participate in its planning. The creation and existence of an urban forest are most appropriate for metropolitan Jerusalem, but they rarely happen there.

Because of a lack of planning, urban spaces run into woodland, forests, and adjacent agricultural areas. In most cases, the rear sides of the city are cleared for this purpose – and this is how the open areas become garbage dumps subject to fires. The Jerusalem Forest is an example

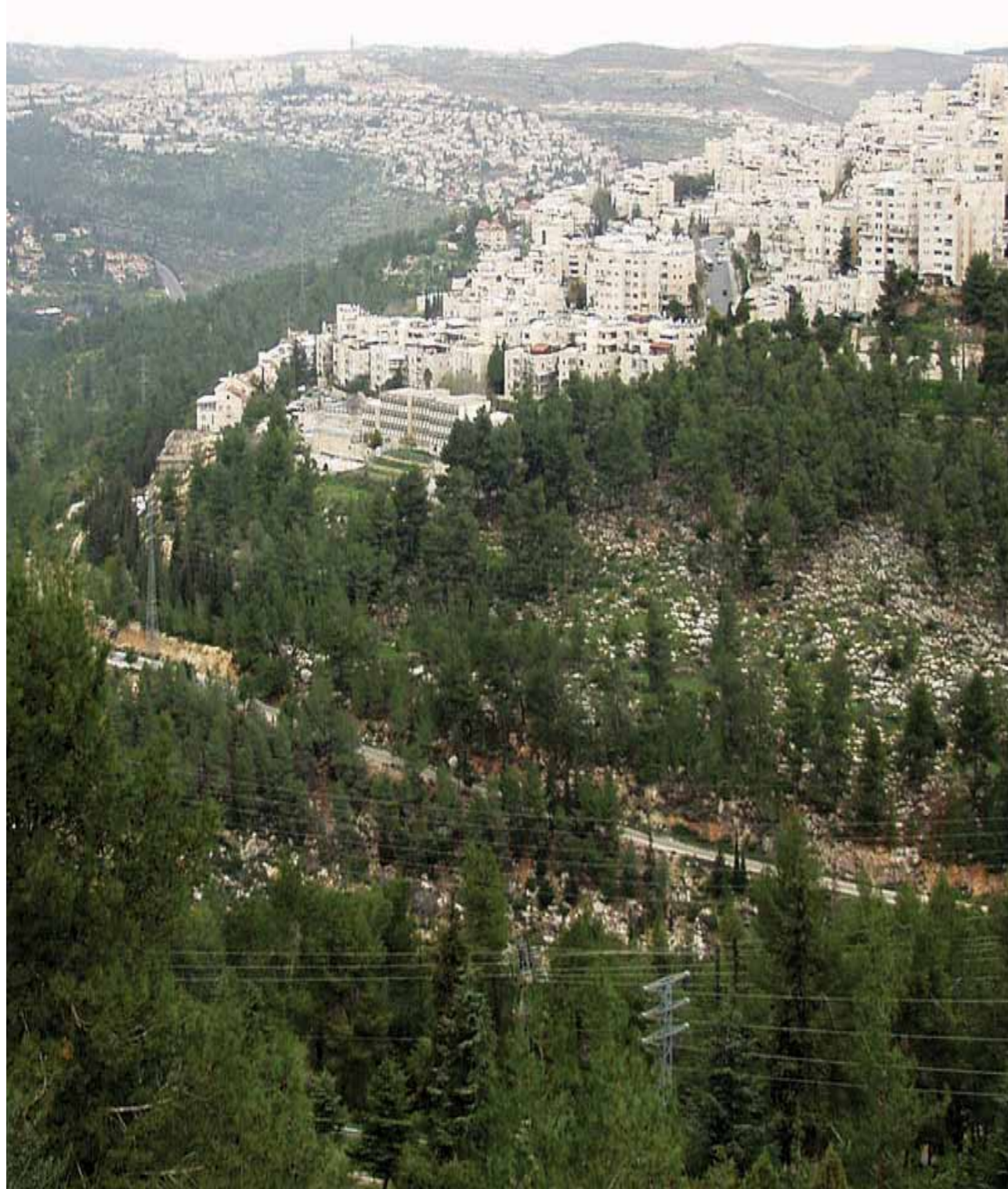
of a forest that was created without a real plan. The trees planted there were planted according to forestation policy and became an urban forest – which is different than forest trees planted in the city for gardening purposes.

Well-planned development and cultivation of urban forests can achieve better results. If planned properly, the urban forest will integrate with the urban expanse. It will be diverse and comprised of various plants which are native flora to the region. The border between the forest and residential, industrial, and transportation zones will be properly

Urban forests on the outskirts of the city of Jerusalem. The picturesque neighborhood of Ein Karem.



The border between the city and the forest is a meeting point that can serve several ecological and cultural purposes.



planned in order to avoid damage to the forest itself and allow a cohesive ecological makeup that incorporates developed areas with forested areas.

In parts of the forest, there will be designated areas for gardening and clearings where annual and perennial trees can grow as part of the vision for biodiversity. The forest area will be planned in a manner that will allow it to be used for harvesting runoff and the reclamation of water as needed – each forest will have a designated area for channeling runoff water underground and improving the city’s water balance. Finally, the plans for urban forests aspire to create a continuum of open spaces both inside the city and out.

Urban forests will include trees, shrubs, herbaceous plants and perennials belonging to the groups of plants found locally and suitable to the metropolitan Jerusalem climate. The forests will include fruit trees typical to the Land of Israel including fig, pomegranate, carob, olive and almond trees. It will also include grapes vines, mulberry bushes, and other edible, medicinal, and herbal plants. Among them annuals and perennials, such as sage, fenugreek, mallow, Judean wormwood and tens of others. As much as is possible, effort will be made to ensure and increase the diversity and amount of wild mushrooms.

The ability to visit the urban forest will be planned for ahead of time. Plans will incorporate green roads for vehicle, bicycle, and pedestrian traffic. For those visiting the forest – residents and tourists alike – visiting sites, places to stay, and lookout points will be built, as well as the restoration of springs and cisterns. Knowledge of the region’s wildlife will allow for establishing birdwatching and animal watching points, which will include places for feeding and giving water to them.

In order to develop awareness to the importance of urban forests, a system for preservation and cultivation of these forests should be established on a neighborhood, community, and school level.

As stated, the Jerusalem 5800 Plan strives to bring urban agriculture back into the metropolis. Urban forests may serve as an important focal point for urban agricultural projects, and planning ahead will enable designating defined areas of the forests for agriculture.

Caring for the urban forest should involve all of the city’s residents. The forests and community gardens are a vital environmental resource for the community’s quality of life. They contribute to improved quality of the air and to the biodiversity and present an ideal location for social and educational activities in the heart of nature. The green expanses complement the residential areas and safeguard the relationship between people and the land on which they settle – and thus urban nature is founded. Developing an awareness to the importance of urban forests can create a system of forest preservation and cultivation on a neighborhood and community level. Schools can also be encouraged to adopt adjacent forests and to preserve and cultivate them as part of the school’s education for culture and environment. Thus, the community can preserve and cultivate its own gathering place. The best situation would be one wherein this place is adjacent to the neighborhood, but models could be created where communities and neighborhood adopt open areas in or out of the city.

// Parks Outside the City

There are many diverse archeological, historical, and cultural sites in the metropolitan Jerusalem region. A comprehensive, systematic plan will incorporate them into an inclusive infrastructure of culture and tourism for the experience of visiting the metropolis.

Metropolitan Jerusalem will be the center of parks and places of recreation in Israel. Its location in close proximity to Tel Aviv makes it, even today, a destination in high demand for Israelis countrywide. The Jerusalem 5800 Plan defines each town in the metropolitan Jerusalem region as a “gateway” to the areas of activity within its borders. At parks, historical content will be available, and springs, terraces, ancient agriculture, and archeological points of interest will be restored. Of course, the residents of metropolitan Jerusalem will also be able to enjoy the improved parks in the metropolis.

In order to improve the quality of the forests in the metropolitan region, we must strive to increase the number of species of flora and ensure that they include edible plants. We must also act to improve the order of the ecosystem and to increase the number of animals in the forests and their quality of life by establishing feeding points and places for birdwatching and spotting mammals, rodents and reptiles. Roads leading to Jerusalem will run through the parks based on ancient routes. Points of interest and places to stay will be located along these roads, with visitors’ centers for information, places to eat, and archeological, ecological, and biological points of interest. Parks will include circular routes which will run through points of interest and places to stay suited to those touring on foot, cyclers, and those on horseback.

Cultural Landscapes

Cultural landscapes are those which

The Jerusalem region is rich with a historical legacy from many periods, and some of these historical events bear importance for the entire world.

incorporate both the natural and the man-made, or those which are a source of inspiration or memory for man. The UN has given clear guidelines for the meeting point between natural legacy and human activity, and for the preservation of a sustainable balance between nature and man, and the Jerusalem 5800 Plan strives to uphold these criteria. The Jerusalem region is rich with a historical legacy from many periods. Some of these historical events are important to the Jewish people, and some of these historical events bear importance for the entire world, as part of the history of the Western world, for which the Land of Israel was an important focal point during many times throughout history. Thus there is a high potential for the creation of cultural landscapes in metropolitan Jerusalem.

An Israeli cultural landscape will be considered as such if it reflects the meeting between man and nature over time in a defined geographical region,



over a continuum of historical periods, or in the context of historical events – universal, national, or local. Today most national and regional outline plans do not include designated attention to places that present a meeting point between man and landscape, nor implementable tools for their preservation.

In a report on cultural landscapes ordered by the Nature and Parks Authority, six cultural landscape complexes within the Jerusalem region were defined as having universal importance, and have

been included in the tourism layout of this plan: the Adullam Caves, the site of David & Goliath’s battle in the Ella Valley, the agricultural terraces of the Judean Mountains, the monasteries and historical hills of the Judean plains, and Sha’ar HaGai.

We must strive to realize the vision, for these six regions at the minimum, which will make the Jerusalem region an attraction that incorporates the magnificence of Israel’s natural wonders and the historical legacy anchored therein.□

The armored trucks of Sha’ar HaGai are an example of a cultural and legacy site, the development of which could serve as part of an Israeli landscape continuum.



The planned Emek Refaim hotel area

Hotels and Tourism

Over the past 50 years, world tourism has become one of the most important stimuli for the global economy, and it is expected to grow further. Only an extensive, wise, and multifaceted development plan, with a long-term vision, can bring the city of Jerusalem into today's tourism revolution and place Israel's capital at the center of world travel.

// Where will the billionth tourist stay?

With growth in the hundreds of percentages over fifty years, tourism has become a huge stimulus of economic growth. How can and will Jerusalem become part of this amazing historical process?

Over the past half-century, tourism has become one of the most important industries in the global economy. In order to meet the demands of hundreds of millions of tourists expected to visit Jerusalem over the coming decades, tens of thousands of hotels rooms must be built, and the infrastructure appropriate for them must be created. The realization of this plan will help Jerusalem become a global tourism superpower.

In 2013, the World Tourism Organization (WTO), announced there was a “Tourism Billion,” meaning, in that year, for the first time, a record one billion tourists traveled worldwide. This incredible number points towards an ongoing trend of growth in world tourism. In 1950 there was a total of 25 million tourists worldwide – one for every 1,000 people – but the reality in the years since has changed remarkably. People from all over the world are traveling abroad in droves. The organization forecasts that 100 years from 1950 – in 2050 – 4.7 billion tourists, one out of every two people, will travel to some tourism destination or another on earth. This growth trend in global tourism has been going on constantly for over half a century, despite all economic, social, and political crises in the world.

Thus, the global tourism boom is one of the most outstanding economic and social phenomena of the past century. In order to meet the demands of the tourism industry, the segment of the world’s population working with the tourism industry has been growing annually for the past thirty years. Tourism has become one of the most dynamic industries in local economies.

Presuming that the forecast for continued growth of the industry remains stable, ways to integrate metropolitan Jerusalem into the

global growth in tourism should be examined. Jerusalem can provide unique tourism sites that cannot be found elsewhere in the world. First and foremost, Jerusalem and its surrounding areas include religious sites holy to Jews, Christians, and Muslims. Even today, pilgrims of all three religions represent a significant percentage of Jerusalem’s visitors and proper efforts can strengthen this trend. Further, Jerusalem has a long, continuous history, and archeological digs have exposed the city’s chronicles in its various historical layers.

Many other tourism sites in the metropolitan region may be added to these, including the Dead Sea, Herodian, Bethlehem, Jericho, the Judean Desert, and much more. If properly developed, these historical and archeological sites could turn metropolitan Jerusalem into one of the greatest focal points for tourists who are interested in global historical heritage.

The average growth in global tourism is some 4.5% annually. If this trend is to continue, in 2030, some 1.8 billion tourists will tour globally. As noted, the World Tourism Organization is estimating an even more significant increase over the subsequent 20 years. If we take this data as our baseline assumption, we can calculate the number of guests who will be visiting Jerusalem’s hotels over the coming decades. Today there are some 1.5 million tourists annually to Jerusalem’s 10,000 existing hotel rooms. The most reasonable increase in the city’s tourism numbers would be 5%-6% annually. Taking these numbers into consideration, in 2050, there will be 10 million tourists from abroad and another 2 million Israeli domestic tourists in Jerusalem.

The realization of this tourism vision will have huge social and economic repercussions on metropolitan Jerusalem. The comprehensive scope of economic activity inherent in such tourism development is estimated at over 7 billion



Strengthening the growth trend in Chinese tourism to Israel. Chinese tourists taking in the Temple Mount view from Mount of Olives. April 2015

Photography: Kyrlo Glivin, Shutterstock

shekels a year.

Growth estimations for the global tourism industry predict that the majority of this growth is expected to come in the form of tourism from the Far East, specifically, China. The demands and needs of the Chinese tourist are different than those of the Western tourist. In addition to improving transportation from China to Israel, hotels and entertainment centers need to be suited to the habits of the Chinese tourist. Even today Israel is investing more in tourism from the Far East.

In 2016, a Chinese airline began direct flights to Israel for the first time. This trend must be strengthened, out of the understanding that realizing the tourism potential Jerusalem is dependent on winning the battle for the heart of the Chinese tourist.

The economic turnout from tourism for the Israeli economy was estimated in 2013 at 40 billion shekels, according to the following breakdown:

Inbound tourism (including income for Israeli airlines) – approx. 18.2 billion shekels

Internal tourism – approx. 12 billion shekels

Outbound tourism – approx. 9 billion shekels.

A survey of inbound tourism for 2011 showed the character of tourists visiting Israel: they are largely Christians aged 25-44, of average income, who spend about \$1,500 while here. The most visited city in Israel, by tourists from abroad, is Jerusalem; 75% of those asked said they had visited the city. Coming in second is Tel Aviv (64%), and third (51%) – the Dead Sea – which

In order to realize the huge potential of the Asian tourism market, hotels and entertainments centers in Jerusalem must be suited to the habits of the Asian tourist

is in the metropolitan Jerusalem region. In fourth place – Tiberius and the Sea of Galilee, and fifth – Nazareth.

The majority of the most-visited sites in Israel are in Jerusalem. 68% of tourists visited the Western Wall, 64% visited the Jewish Quarter, 57% visited the Church of the Holy Sepulture, 55% visited Via Dolorosa, and 53% visited the Mount of Olives.

A look into the reasons why tourists visit Israel shows that most of them are Christians or Jews who come here for purposes of tourism, including religious tourism (pilgrimage).

53% of tourists from overseas are Christians, half of which are Catholic. 28% are Jews, and 19% are of other religions or have no religious affiliation.

54% of tourists coming to Israel in 2013 were coming here for the first time.

22% were visiting Israel for the purpose of pilgrimage, 27% to tour and sightsee, 9% for recreation and vacation, 26% came to visit friends and relatives, and 8% were here on business or for conferences.

64% of tourists stayed in hotels, 25% with friends and relatives, 4% at youth hostels and Christian hostels, and 3% stayed in homes they own or rented.

// Realizing the Tourism Potential

In order to take in the millions of tourists expected to arrive, Jerusalem needs tens of thousands of new hotel rooms. Proper planning will turn hotels into a means of boosting the city and its economy, for the good of both the city's residents and the residents of Israel at large.

The vision for tourism presented above will not be actualized without significant focus. Other than possible international, geopolitical, sporadic difficulties, which the plan generally does not take into account, and presuming that political issues are resolved in a manner that will leave the metropolitan Jerusalem region united, there are other issues. If there aren't enough hotels in Jerusalem, tourist operators in foreign countries won't have room inventory to trade and tourists who wish to visit the city will have nowhere to stay. If transportation isn't properly planned, the system will not be able to keep up with the masses of people to be transported to and from the metropolis. If a comprehensive infrastructure for the tourism industry isn't planned ahead, including the human resources required for operations of it, the industry will be at a standstill.

In light of this, the vision of the Jerusalem 5800 Plan is based on an integrated course of action that will take into account the following factors:

- ▶ Identifying religious and historical sites with great potential for attracting tourists, preparing plans for their development and suitability for tourism while adding attractive content for activities, which will increase the number of people visiting these sites.
- ▶ Establishing a hotel hospitality infrastructure suited to accommodate the approximately 12 million tourists each year, at a gradual increase leading up to the year 2050. According to calculations, the number of hotel rooms must increase from 10,000 to 60,000 by

the year 2050.

- ▶ Development of a shell infrastructure for hotels, which will include transportation, communications, water, sewage, and more. This will enable proper activity for the masses of local population and tourists expected to visit the metropolis.
- ▶ Development of entertainment and leisure to include restaurants, clubs, shows, museums, and more – suited to the expected scope of tourism traffic – which will provide additional economic growth stimulus for the residents. As part of the trend of opening up to the Eastern Asian tourist, the hotel industry should be trained in assisting new and existing hotels prepare for intake of tourists from the Far East. Workshops are to be provided for hotel managers, wherein the unique needs of tourists from this market will be taught, as well as encouraging the use of signs in Chinese, the serving of food appropriate for the Asian palate, and more.
- ▶ Encouraging employee training for the entirety of the various required aspects of tourism, and creating a multi-level, growing employment base for all stratum of the Jerusalem population.

The hotel zone

Establishing new hotels in the metropolis will involve keeping hotel areas as close as possible to central points for tourism, with the understanding that tourists will want to be as close as possible to points of interest in order to save time and maximize their experience. Thus, at the center of

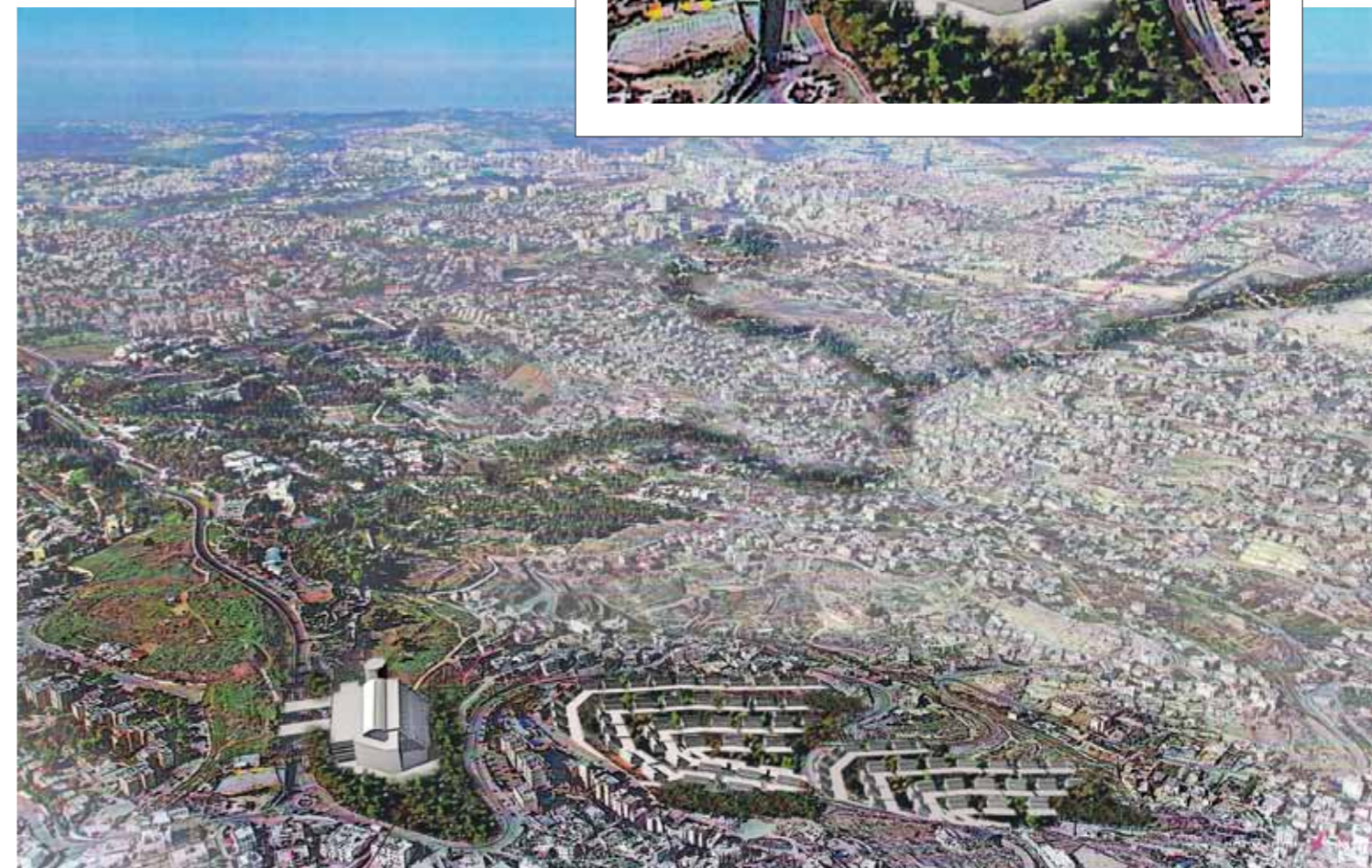
the metropolis itself, the number of hotel rooms should reach between 30,000 and 40,000. Additional hospitality centers will be established in other residential centers of the metropolis, based on their particular needs. For example, thousands of hotel rooms will be built around the Emek Refaim Park, which will become a focal point for tourism focused on recreating the biblical areas of Jerusalem. Other centers of hotel hospitality will be built in the metropolis, for example in Gush Etzion and in the northern hotel area, not far from Atarot, and at the Dead Sea.

Development of a hospitality infrastructure will be carried out parallel with the development of the entirety of the religious, historical, and cultural attractions in Jerusalem. This development is vital both in terms of significant increase in the capacity of focal points for tourism, as well as for creating a connection

between peripheral hospitality centers and the center of the city.

The philosophy that has set the tone for urban planning worldwide over recent decades has been a return to the natural, historical approach of mixed usage for the same compound- at times even the same structure, as opposed to the philosophy that was common at the beginning of the

The Nof Zion Hotel, planned for the Armon Hanatziv Promenade, will be one of the first hotel initiatives in the framework of the Jerusalem 5800 Plan





Modern tourism in an ancient region. The Mamilla pedestrian mall in all its glory.

20th century, which strove to separate residential, commercial, and hospitality areas from each other. Research from recent decades has taught us that mixed urban use has very positive economic, social, and transportation significance. In light of this, new hotels will be planned, as much as possible, in integrated groups – meaning, hotels, entertainment centers, restaurants, commerce centers, and residential areas in the same place.

These compounds are called, in the professional lingo, Integrated Tourism Resorts.

According to the calculations of the Jerusalem 5800 Planning Committee, it is proposed that a total of 63,000 rooms be prepared, to be divided between the regions of metropolitan Jerusalem as follows: the holy basin and the city center – 22,000 rooms; the city of Jerusalem and the inner circle – 22,000 rooms; the outer circle – 19,000 rooms.

The general approach to planning taken by the Jerusalem 5800 plan, which emphasizes the need to plan the city of Jerusalem while keeping in mind the long-term and the geographic region of greater metropolitan Jerusalem (and not only the city of Jerusalem), is expressed in the proposal to establish significant tourism compounds on the outskirts or outside of the current municipal region. This

choice has important implications in terms of cooperation between the Jerusalem municipality and its satellite cities, as well as in terms of transportation and infrastructure.

Though the plan deals with tourism and economy as the leading factors in the realizing the potential economic revolution in Jerusalem for the good of all its residents, it is clear that this is only one of many aspects that make up the greater fabric of urban-metropolis. Therefore, from the fourteen compounds for development, there are four proposed compounds which are to be centers of employment, residence, transportation, and academia.

The Jerusalem 5800 Plan seeks to set out the general outline for the development of Jerusalem, but the development itself will be carried out by private hands. Each project has the potential to succeed economically, and thus, will attract private entrepreneurs as investors. Cooperation between private entrepreneurs and public authorities or their subsidiaries may also be an option. Government and municipal parties must outline the general plan, create the appropriate conditions for entrepreneurs and investors (including removal of bureaucratic barriers), and even attract them using marketing, advertising, and educational strategies in Israel and around the world.

// Management of Tourism in the Metropolis

How can we avoid the bottlenecks caused by the expected 12 million annual tourists? Managing large-scale tourism in a major metropolis requires a fundamental change in approach.

Managing 12 million tourists a year in the metropolitan Jerusalem region will require an organizational layout that is very different from the one existing today. The purpose of this organizational layout would be to enable the intake of the largest number of tourists with the fewest amount of disruptions across the metropolis. This is understandably a deeply complex system and we cannot go into all the minor details. Instead, we will focus on the major concerns.

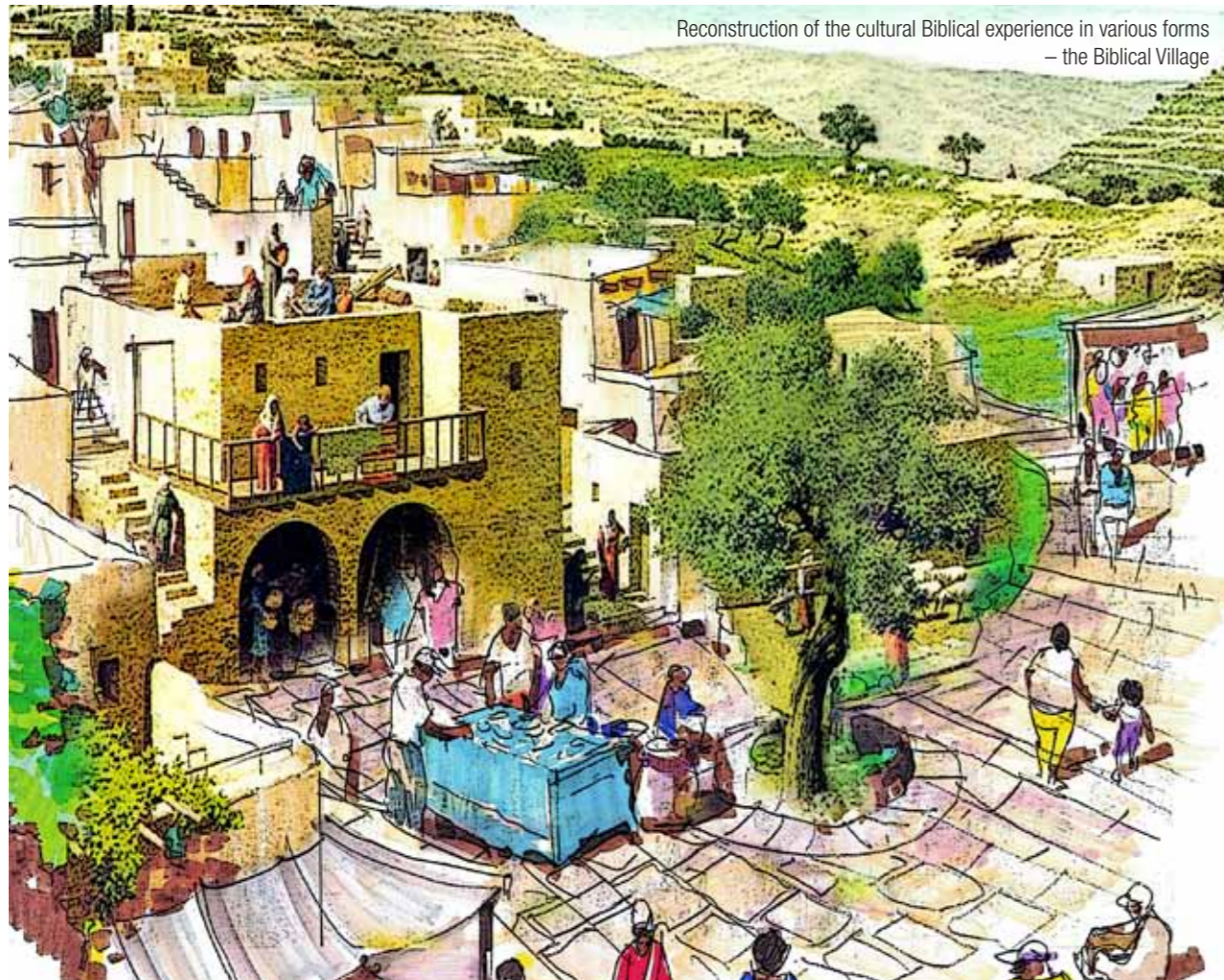
Recent experience has taught us that there is a risk of bottlenecks at each of the points through which the tourists visit, including the airport, major traffic arteries, tourist sites and hotels.

In order to minimize this phenomenon, an administration must be established, exclusively for the metropolitan region of Jerusalem. This administration would bring together representatives of the Ministry of Tourism, the Jerusalem Municipality, and neighboring city authorities from throughout the metropolitan region. The role of this administration will be to realize importance tourism agenda and coordinate with all the relevant authorities in order to locate points of congestion and their causes, and to offer solutions. The administration would be an independent professional organization with the authority to supervise those involved in tourism in the metropolitan Jerusalem region and to coordinate between them on a daily basis. Further, the role of this administration would be planning for the future by putting together a long-term strategy. Another role of the administration would be marketing and public relations for the city's tourist industry with a deep understanding of the larger context of tourism in the metropolis. The administration will work towards

strengthening the image of metropolitan Jerusalem as a tourist destination and raising its international profile. At the same time, efforts will be made to emphasize its uniqueness as a city and tourist destination. In order to increase high-quality tourism to Jerusalem, tourism management procedures, among others, must be improved, through long-term strategic planning that incorporates the local community. The tourism model must be developed while balancing between the needs of local residents and tourists. A strategic plan must be set out, involving cooperation with residents, and emphasizing the incorporation of the Jerusalem business sector in discussions regarding tourism development, out of a belief that the tourism industry is a part of the urban reality – economically, socially, and culturally, and in terms of spatial distribution. The city's ability to contain the expected numbers of tourists depends on the tourists not disrupting the residents' physical, economic, social, cultural, and ecological conditions. Any harm done to the quality of life for the residents of Jerusalem is not an option, and will harm tourism in the long run.

In summary, the tourism potential of metropolitan Jerusalem is huge, but as of now, it remains just that – potential – and its realization depends on determination, creativity, earnestness, and thoroughness. Turning Jerusalem into an international tourism super-city is a strategic goal for Israel, although managing processes that will allow Jerusalem to make this aspiration a reality will be complicated and long-term, as we have explained. Despite these difficulties, harnessing the entirety of relevant players, and comprehensive management of the process, will undoubtedly bear the desired fruit.

Transforming Jerusalem into an international tourism super-city is a strategic goal for Israel



// The Tourism Network

In 2050, metropolitan Jerusalem will offer the visitor a rich variety of activities. Along with the city center and the holy basin as focal points, a diversity of attractions for all demographics will be established around Jerusalem. These attractions will uniquely create points of contact between technology-rich activities and the reconstruction and reenactment of the city's unique past. One of the central points of the tourist's experience of Jerusalem will be the Emek Refaim Park, which will incorporate zoos, representations of ancient agriculture, an outdoor extreme sports park, and futuristic hotels.

Jerusalem's historical sites were built at different times and have layers that can be reused both in terms of their materials and in terms of the actual facilities. It is as though time created a continuous needlework, using them as material, which connects reality and imagination, true history and legend – a colorful embroidery which creates an ongoing saga – the greatest story ever told.

The tourism network proposed for Jerusalem means to make this ongoing story a reality in our time.

The central project in the realization of this vision is the creation of a physical and virtual space for an experience that incorporates both the ancient and the contemporary. The plan strives to develop an environment that bridges the gap between spirit, vision, the visitor's experience, and historical tale and tourist activity.

The proposed tourism development for the metropolitan Jerusalem region is the central basis for achieving the social and economic goals of the Metropolitan Jerusalem Master Plan, to be realized gradually leading up to 2050. Tourism development is comprised of many components that require a comprehensive strategic tourism plan. In addition to the development of tourism sites, hotels, transportation, and infrastructure, a comprehensive vision for tourism must be articulated that is geared towards imparting the cultural value of tourism in the Jerusalem region while analyzing and comparing to other international focal points for tourism.

Most of the parks and tourist attractions in the world today are not bound to history or an ancient cultural legacy, and certainly not to spirituality, faith, religion, and holiness. Hence, the combination of attractions and themed parks in the Jerusalem tourism network, based on the Bible and its values as a cultural

The plan strives to develop an environment that bridges the gap between spirit, vision, the visitor's experience, and historical tale and tourist activity

framework – and not just focused on biblical stories and their heroes – is an entirely unique challenge that demands integrating capabilities of different fields:

1. Storytelling abilities to bring content and biblical ethical values
2. The ability to instruct and educate within an edutainment mindset
3. Technological abilities to “engineer” the tourist's user experience
4. The creative and imaginary ability to bring the above-mentioned skills together in one authentic, efficient operational infrastructure

The experience gained throughout the world over recent years has largely been in the establishment and operation of large facilities, theme parks such as Disney and others, in isolated locations far from urban contexts, and usually include attractions, hotels, commerce, and entertainment. In contrast, Jerusalem does not have the intent nor the option to create closed parks – rather, to create a distributed system in the open urban expanse where attractions, hotels, and entertainment and recreation centers are connected by advanced transportation.

// The Mikvaot (Ritual Baths) Project

The Jerusalem 5800 vision is underway, and its first initiative can already be seen on the ground – a park that integrates the archeological endeavor into an attractive and cutting edge tourist experience.

The Mikvaot Project is the Jerusalem 5800's first project, and will serve as the prototype for the tourism initiative, blending exploration of the past and contemporary tourism. This project spans around one acre of land and its initiators and planners were among the planners for the Jerusalem 5800 project.

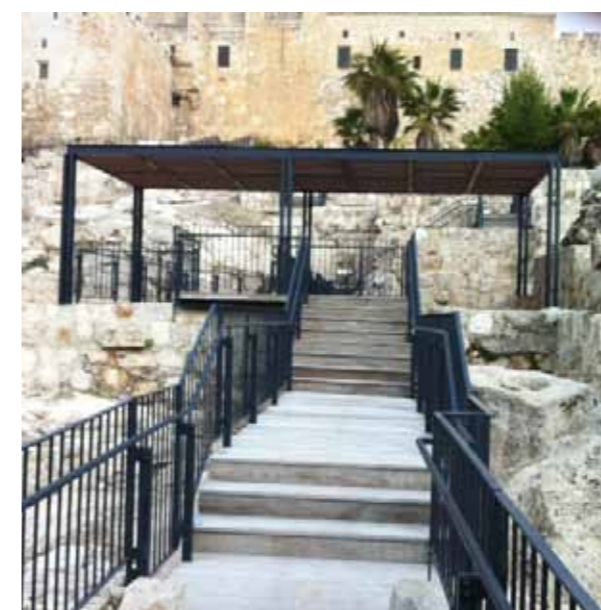
This project exposes the archeological layers yet unknown to the public that are found tens of meters under the Temple Mount, in the Gan HaOphel area (the Temple Mount excavations). It focuses on the link connecting the City of David and the Temple Mount, on which the temple built by King Solomon was constructed. The project costs approximately NIS 8 million, and other than a pedestrian route, is completely accessible for those with disabilities. Conventions and concerts for hundreds of people will be able to take place there, with the City of David and the Temple Mount in the background.

The Mikvaot Project exhibits the importance of water in the Temple services and in the lives of Jerusalem's inhabitants during Temple times. It also showcases the centrality of the Mikvah (ritual bath) as a place of purification in Jewish life everywhere and its particular importance in the environs of the Temple. Jewish Law dictates that without immersing in the Mikvah, one could not enter any part of either the First or Second Temples. Excavation and revitalization of this area, seldom visited by tourists despite its close proximity to popular sites like the Western Wall and the City of David, actualizes two of the Jerusalem 5800 Plan's goals. It both restores abandoned

zones that were once central to the city's inhabitants and creates an additional tourist attraction, which will enable the tourist to fully experience life in Temple times.

This project will connect two existing points of attraction: The Western Wall and the City of David. In this way, a sightseeing expanse will be created that covers one unified tourist site.

The Mikvaot Project exhibits the importance of water in the Temple services and in the lives of Jerusalem's inhabitants in Temple times.



// The Nahal Refaim National Park

A sophisticated modern visitor's center, reenactment of ancient agriculture, one of the world's largest zoos, an extreme park, a biblical experience center, and unique luxurious hotels, and more will make the enormous region of the Emek Refaim Park one of the biggest and most attractive tourist sites in the world

We present the planned Nahal Refaim National Park as an example of an attraction to be created in Jerusalem focused on realizing the city's unique tourism potential. The park, as proposed in the Jerusalem 5800 Plan, is to be a project of enormous magnitude. The project's planning and establishment stem from the desire to create, within the city of Jerusalem, a large agricultural expanse where the cultural heritage of biblical times is to be reenacted and preserved. The agricultural reconstruction will serve as the basis for a living, breathing, and economically self-supporting expanse for cultural tourism.

The Emek Refaim Park is part of the continuum of Jerusalem's metropolitan urban parks. The park will stretch out over the Refaim valley between the where the river flows out of the city's built-up area into the open expanse, though the park will be surrounded by the residential neighborhoods on the surrounding hilltops. Nahal Refaim is a big compound that connects the city of Jerusalem, Gush Etzion, and the Judean plain, and this new national park will expand the tourist region beyond the city lines, connecting it to other parts of the metropolis.

The proposed tourism region is planned in a manner that will complement Jerusalem's main tourist center surrounding the Old City

and create a balance of the tourism traffic around the city. The park adds a variety of cultural tourism experiences, born of the natural and cultural landscapes, the varied choice of activities therein, and the hotels to be built surrounding it.

The tourist park will include the following compounds:

Main Transportation Center

A full range of transportation means will be available here, making arrival to and departure from the park, as well as travel within in the park, easier: an underground train station connected to the main railway from Tel Aviv to Jerusalem, light rail stations, and cable car stops in a circle line within the park, serving the stations at each of the park's 14 projects.

Main Visitor's Center

The main visitor's center will be built adjacent to the transportation center and will include stations where park visitors can get information about activities, purchase materials such as maps, books, and pamphlets, and tickets to all activities in the park. There will also be designated areas of commerce and food stands.

Biblical Family Theme Park

This compound will stretch mostly throughout what is today the JNF forest (an area of about 112 acres).

The compound will include open and enclosed facilities at a built capacity of some 20,000 meters, to be integrated with the forest as "green" structures: some of the built areas will be underground, and they will have green roofs with layers of flora. The biblical content offered to visitors will include various challenge attractions for the whole family with biblical context and will be developed in cooperation with experts on the topic.

The Edutainment Compound

An 115-acre compound will include the Ein Yael Museum. This will include some 25,000 meters of open and enclosed structures to welcome visitors. The built areas will be mostly underground with green roofs. This compound will serve as the central expanse for experiential learning on biblical topics.

The Hotel Compound

Some 2,500 hotel rooms are to be built in the open expanse adjacent to the park. All of the proposed hotel compounds will be developed and are planned to be connected to the green agricultural areas of the park and will have their own agricultural motif gardens. The designated areas are intended mainly for privately-owned hotels, with only a few owned by the Jewish National Fund.

The old railroad from Tel Aviv to Jerusalem, which runs through the center of the national park, is expected to be useless by 2020 with the availability of the

new railroad which runs through Modiin. In light of this, use of the rails and the stations throughout the park for the purposes of tourism and hotels should be considered – for example, using old train cars as bed & breakfasts.

Activity Areas for the General Public

This compound will include Ein Hanya and all its surrounding structures and archeological remains. It will stretch all the way out to an artificial lake proposed for the Nahal Refaim channel. This compound, based on existing rural buildings, will be developed as a recreation center for the day, evening, or nighttime activities and as the focal point of the entire park. The main public promenade along the Refaim riverbed would run through the compound. In addition to the central recreation center, there will be two smaller entertainment centers – one surrounding Ein Walaja and another surrounding Ein Lavan.

The Biblical Zoo Compound – The Animal Kingdom

The world class Biblical Zoo has been the tourist site with the highest number of visitors in Israel for several years now. The compound sits on 60 acres and will be incorporated into the plans for the Emek Refaim Park as a central means of attracting visitors. The zoo will serve as a quality tourist attraction with large-scale numbers of visitors, and will be active in the fields of ecology and education.

Map for the Nahal Refaim National Park Plan



- A. Main Transportation Center (Train Station)
- B. Main Entrance Compound
- C. Biblical Themed Extreme Family Park
- D. Biblical Themed Entertainment Center
- E. The Hotel Compound
- F. Entertainment Center – Visitor's Welcoming Center
- G. The Biblical Zoo Compound – the Animal Kingdom
- H. The Biblical Zoo – the Water Kingdom
- I. Agricultural Compound – Cultivate & Host



The New Zoo Compound – the Water Kingdom

This compound, under construction, will be a 40-acre extension of the existing infrastructure of the Biblical Zoo and will allow more visitors while expanding to address a greater variety of interests.

Agricultural Compounds – Preserving Ancient Agricultural Jerusalem

This compound will be Emek Refaim Park's flagship project. The project's purpose is to create a rural expanse wherein ancient Jerusalem will be reenacted. This expanse will be some 1500 acres in size, and will act in the spirit of biblical times by preserving the values of nature, landscape, heritage, and culture – and by rebuilding and reconstructing the flora, buildings, terraces, ancient roads, springs, archeological sites, cultural landscapes, irrigation systems, and agricultural structures – all while creating conditions that will enable the area to serve tourism, education, and urban life.

Designated for this purpose is an area in Nahal Refaim comprised of forest and non-forest areas, which in the past served as a central part of the agricultural expanse surrounding Jerusalem. Remains of ancient agriculture have been found in the area, with ancient terraces, springs, and more. According to the proposed plan, different elements will be developed in the area that will together create an experience that reenacts the world of biblical agriculture:

- ▶ **Living quarters:** ancient living quarters reconstructed for actual use.
- ▶ **Agriculture:** reconstruction of the ancient terraces in a manner that enables growing produce.
- ▶ **Animal farming:** raising livestock as part of the ancient farming network.
- ▶ **Workshops and industry:** workshops for experiencing traditional crafts.
- ▶ **Water:** reconstruction of the ancient

The urban expanse of the holy basin will be planned and operated as a large open museum. This central urban expanse is meant to serve as a continuous spiritual biblical experience with a network of activities, sites, hotels, and logistical means.

waterworks such as cisterns, wells, aqueducts, and means of collecting water.

The reconstructed agricultural expanse will be managed as a self-supporting unit. Each of the activities will have its own manager. The manager will oversee it in accordance with the annual plan for cultivation and maintenance. Income from paid activities will be divided between the maintenance budget for free activities and the operators. Free areas will include services, transportation and pedestrian plazas, and lookout points. Paid services, such as guides or private spaces, will be available for rental.

All forms of educational and recreational activities will give visitors hands-on experiences. These include: plowing, sowing, reaping, planting field and garden crops, pruning, harvest, weeding orchards and vineyards, building terraces, clearing rocks and thorns, making bread – from treating the wheat grains to baking – all stages of making olive oil, wine, milk, and cheese – including milking by hand, caring for work animals (ox, donkey, mule, horse), building using ancient techniques, pottery and ancient ceramics, making tools of wood, stone, and metal.



Along with year-round routine activities, ceremonies and central events may be offered, such as the Three Jewish pilgrimage holidays, events for Tu B'Av, Tu B'Shvat, Chanukah (an olive harvest), the firsts of the Hebrew month, the Ethiopian Jewish holiday of Gez, wine festivals, and more.

These events will serve to attract visitors throughout the year and will be marketed to local tourists as well as those from abroad.

The visitor's center at the agricultural compound will bring in more income selling local produce to visitors. Wheat and bread, grapes and wine, almonds, and nuts, dates, figs, pomegranates and carob,

recreated dishes, tools, and even furniture, ancient-style handmade clothes and fabrics, jewelry and various memorabilia of the experience will all be available for purchase.

The agricultural expanse will serve as a tourist attraction and as a place of research, learning, and education. Research on handicrafts and culture of ancient materials will be conducted through the activities taking place, and at the same time, learning and teaching of these fields – on all levels, from kindergarten through academia – will go on. The option to collaborate with institutions of education and learning interested in the agricultural expanse's activities may be examined.

A model of a biblical village at Ein Yael, 2013
Photography: Konelius



An innovative technological experience in ancient Jerusalem. The Old City walls at the Jerusalem Light Festival, 2012

// The Biblical Experience Network

The Old City and the holy basin are expected, naturally, to attract the main volume of tourists arriving in metropolitan Jerusalem. Wise planning will also make religious tourism a multi-layered and multi-sensory experience.

The Old City compound, including the Temple Mount, Mount Zion, the City of David, the Mount of Olives, and their surrounding areas, is known as the “holy basin.” It is the unique center of spirituality, religion, and tourism in metropolitan Jerusalem. Planning will make access to the holy sites easier by upgrading means of access and striving to improve the services provided at holy sites while coordinating fully with religious institutions.

At the same time, a significant part of the activities and instruction, exhibits, and tourist entertainment will naturally take place in the holy basin. Thus, the urban expanse of the holy basin will be planned and operated as a kind of giant open museum. The Old City, the holy basin, and the hotel areas surrounding them are planned to allow lodging and pedestrian traffic for the critical mass of tourists. This central urban expanse is meant to serve as a continuous experiential-spiritual-

biblical expanse, wherein a network of activities, sites, hotels, and logistical means exist. This would include building, in the holy basin and its close surroundings, sophisticated transportation systems, attractions for all ages, shopping, and entertainment complexes, and additional services.

The tourism network would stretch through the holy basin, tightly knit, with extensions running into other points for tourism, hotel, commerce, and services to other areas in Jerusalem’s neighborhoods and within the metropolitan Jerusalem region, via structured routes. The tourism expanse and routes will create a continuum of both structured and spontaneous experiences within the dialogue between the visiting tourist and the natural urban surroundings. On their way to holy sites, the visitor may come across technological attractions, artists who paint or sculpt, dancers, musicians, thespians, circus or pantomime artists, and more – spontaneously on the street or in workshops.

The tourism network will include offshoots planned to create a meeting point between the holy basin and the central places of tourism in the metropolis. These places include the Nof Zion region and the promenade hotels, the Nahal Refaim National Park area, the Bethlehem and Gush Etzion region, the Nebi Samuel region, the Mevaseret Zion region, the Maaleh Adumim region, and the Dead Sea and the Judean Desert region.

Nature, agriculture, natural stone,

On their way to holy sites, the visitor may come across technological attractions, artists who paint or sculpt, dancers, musicians, thespians, circus or pantomime artists, and more.

stone structures, archeological remains, the sounds and smells of the markets and commercial squares, cafes, different tourist attractions and various hotels will all come together for the purpose of completing a unique experience for the visitor, the tourist consumer – for guided groups, individuals, couples, or small unguided groups.

The Jerusalem 5800 Plan is a consolidated, comprehensive tourism plan, but planning the attractions themselves will be carried out by private entrepreneurs. For this purpose, cooperative initiatives must be advanced between existing or future committees with proven experience and abilities in content, technology, creativity and imagination – especially international companies that have dealt with large-scale development projects.

// Jerusalem Gates

The metropolitan Jerusalem borders need markers and signs in order to give these borders presence for the visitor and local residents. The “Jerusalem Gates” project is meant to serve these purposes.

In order to increase awareness of the metropolitan region of Jerusalem and to shape its borders in the public and national consciousness, the Jerusalem 5800 team has initiated the Jerusalem Gates project. The concept behind the project is to create compounds within the metropolitan borders, which will signify these borders and serve as entrances for tourist intake and direction.

Features of the Project

At the end of 2014, the Central Bureau of Statistics defined the metropolitan Jerusalem region. The borders defined were identical to those defined by the Jerusalem 5800 team. The Jerusalem Gates project will be planned and carried out with environmental, tourism, and nature authorities, such as the Society for the Protection of Nature, the National Parks Authority, the Jewish National Fund, the Ministry of Tourism, regional councils, and the Jerusalem Municipality. During project implementation, along the main roads leading to metropolitan Jerusalem, adjacent to points of entry into the metropolis, compounds with several components will be created. A sign on the main road will direct travelers to the areas. The compounds should be based on rest and service stops along the road, such as gas stations, in order to keep costs down and planning processes short. Each of these areas will contain a gas station, a convenience store with food and beverages, and a rest area. Tourist information and equipment will be available or for purchase. Additionally, each of these “gates” should include a visitor’s

center unique to the project, which will provide the visitor with information about metropolitan Jerusalem in its entirety and the location of the gate specifically.

Further, at each of the areas, there will be additional components. Though it will not be possible to develop all of them at every station, the best will be done to develop as many as possible:

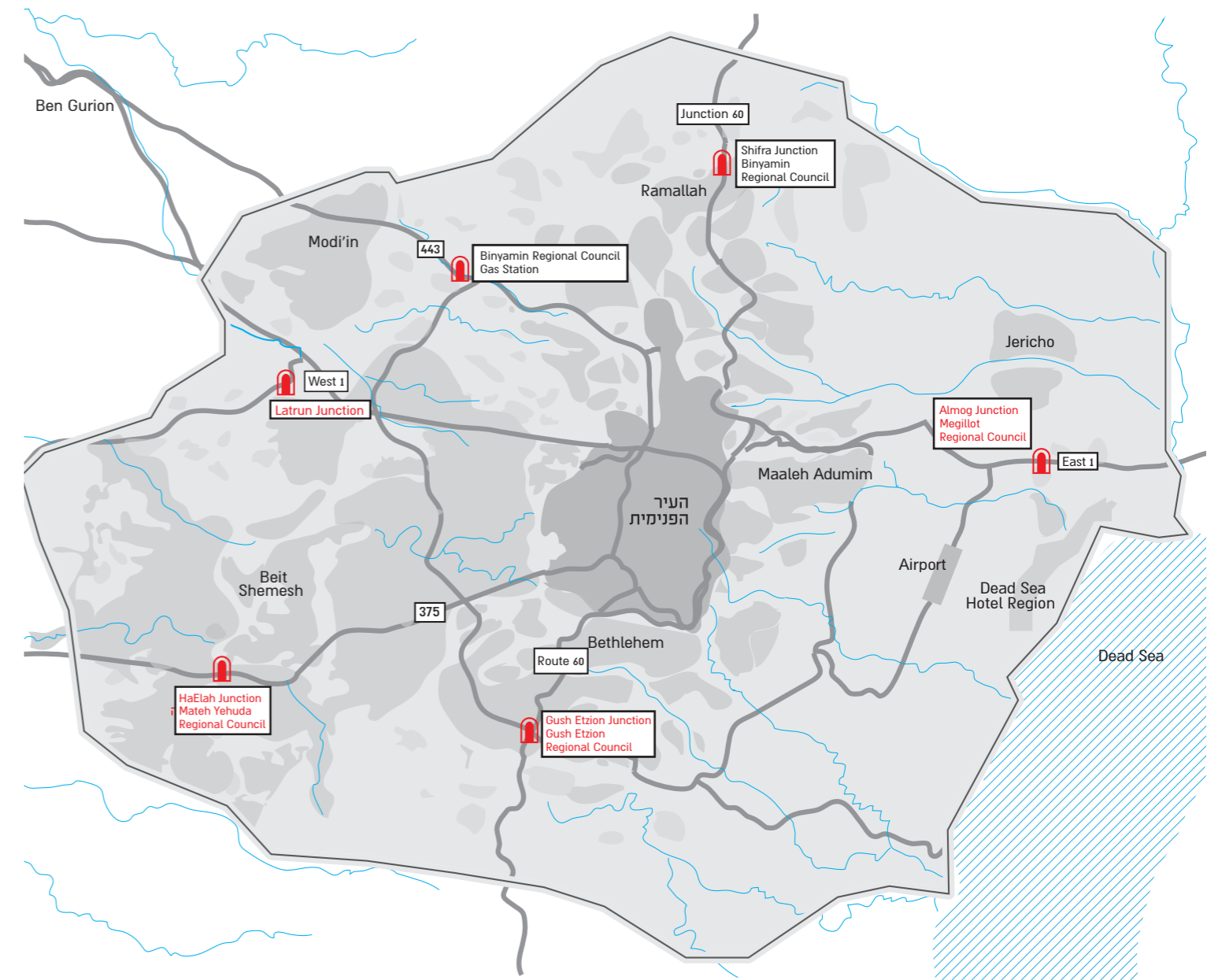
- ▶ Ample parking
- ▶ Green open areas – a rest and lodging area which takes on the character of the gate’s location, offering unstructured experience of the surroundings
- ▶ Stores or a market selling locally made products
- ▶ A visitor’s center
- ▶ Varied restaurants
- ▶ Starting points for hikes and biking and jeep tours
- ▶ Road services (a garage)
- ▶ A motel
- ▶ A Pilgrimage registration point

The Project’s Purpose

The Jerusalem Gates project has several purposes, each supporting the other:

- ▶ Establishing a physical, visual, and symbolic network of gates to serve as specific markers along the main roads leading to Jerusalem, to be spread out along the circumference of the metropolitan region, marking its borders.
- ▶ The gate compound will create public awareness among all sectors – local residents and guests – of the fact that the metropolitan region exists as such. This awareness will contribute

Planned Sites for Jerusalem Gates Locations





to educating the public about the basic concept behind the metropolitan Jerusalem plan.

- ▶ Reinforcing identity as residents of greater metropolitan Jerusalem among the residents of each gate's region, and influencing – directly and indirectly – their sense of awareness of belonging to Jerusalem as a unique place.
- ▶ Building obvious means of recognition for visitors to the metropolitan region, thereby expanding significantly the economic and tourism expanse for which Jerusalem serves as a center.
- ▶ Creating information and tourism centers by means of pairing gates with tourism routes, information booths, places for rest, shopping, tourism and more.

The Gates' Location

The concept governing the location of each gate is its prominent location, which clearly marks an entrance to the metropolitan region. The construction of it will not be complicated or expensive and won't require complex planning processes. In light of this, the location must be a place where people can easily get off and on the road towards Jerusalem. Preference will be given for existing stops (such as gas stations or near junctions or interchanges), such that it will be easy to access the gate compound from either side of the road, locations where there is easy access to central walking routes (such as the Israel Route, or hiking/biking trails - coordinated with the SPNI, JNF, or other relevant organizations), or locations from

The Khan at Sha'ar HaGai was built in 1873 by orders of the Ottoman governor of Jerusalem, on the side of the Jaffa to Jerusalem road. This road was inaugurated in 1869 in honor of Austro-Hungarian Caesar Franz Joseph's visit to the city. The Khan was refurbished several years ago but remains abandoned. Its incorporation in the Jerusalem Gates project on Route 1 will give it a new use. The Khan today,

which there is a good lookout point for viewing the scenic city of Jerusalem.

In light of this, several alternatives are proposed for locations of the Jerusalem Gates, along central roads to the city, with each one having its pros and cons. At a later stage of the project development, each option will be analyzed, and the best ones shall be chosen.

Route 1 West – at the Latrun interchange, the Sha'ar HaGai interchange, or the Shoeva interchange.

Route 1 East – at the Kfar Adumim junction, the Good Samaritan junction, the Mitzpeh Yericho junction, around the Sea Level Lookout, or at the Almog junction.

Route 443 – by the Modiin Paz gas

The concept governing the location of each gate is its prominent location, which clearly marks an entrance to the metropolitan

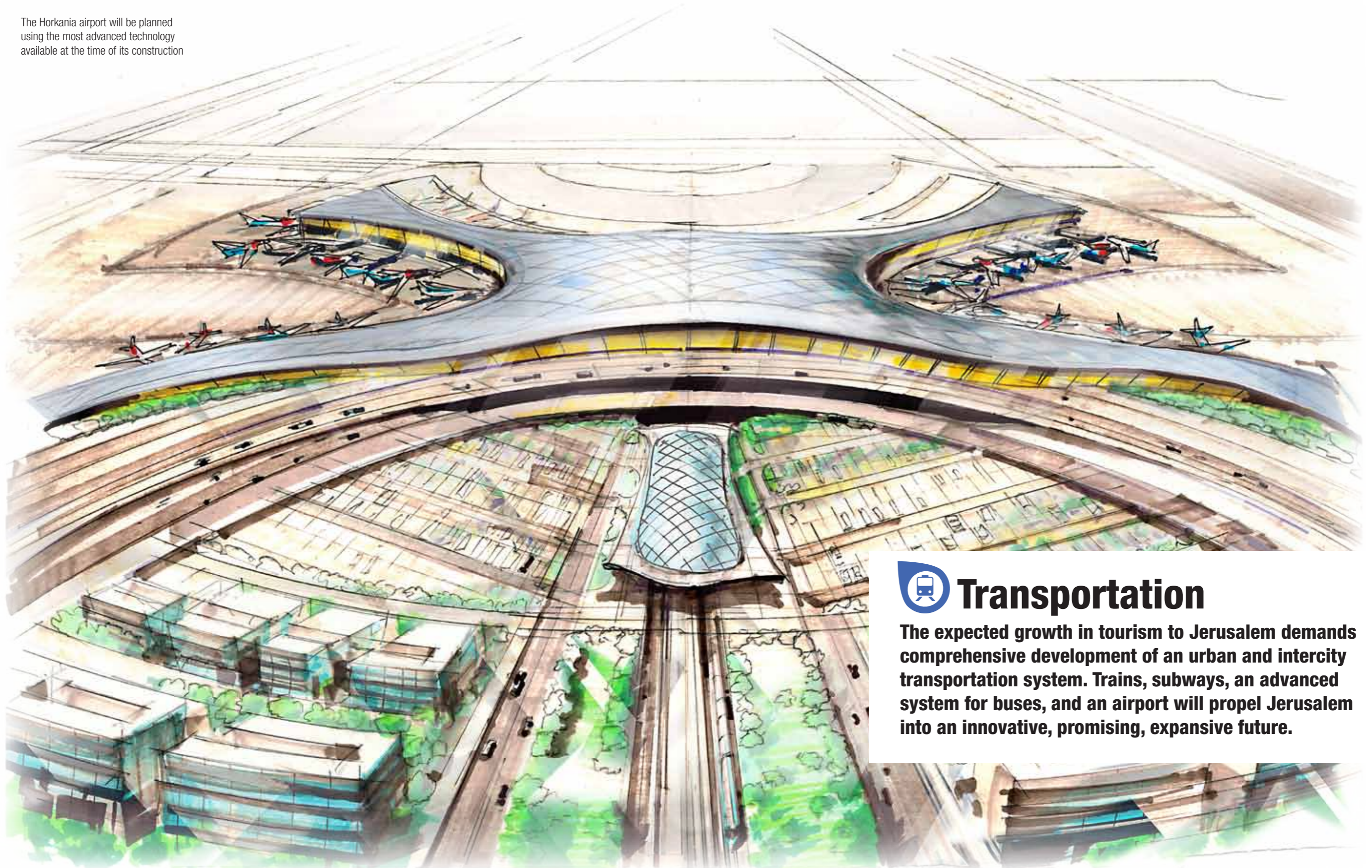
station or the Beit Horon area.

Route 60 North – at the junction by the entrance to Ofra, the junction at the entrance to Migron, or the Sha'ar Binyamin area.

Route 60 South – at the Gush Etzion junction compound.□

The Gush Etzion Junction is an important focal point for traffic in the Judea today. A bustling commercial center is being developed nearby. These make the junction an ideal candidate for the location of one of the Jerusalem Gates. The junction's central roundabout, today,

The Horkania airport will be planned using the most advanced technology available at the time of its construction



Transportation

The expected growth in tourism to Jerusalem demands comprehensive development of an urban and intercity transportation system. Trains, subways, an advanced system for buses, and an airport will propel Jerusalem into an innovative, promising, expansive future.

The transportation system is the main component in the functioning of any city, as a city cannot function without one. Hence, the Jerusalem 5800 plan includes a comprehensive plan for transportation. The transportation plan was created by an interdisciplinary team of transportation planners and the resulting plan takes on the transportation for the entirety of metropolitan Jerusalem in 2050.

As a preamble to the preparation of this plan, the team analyzed existing plans. It turned out that Netivei Yisrael (Israel's national transport infrastructure company), the Jerusalem Municipality, and the Ministry of Interior's Jerusalem Planning Chamber all had existing plans for transportation. But a thorough analysis of these led to the inevitable conclusion that even if all of the projects in these existing plans were carried out over the coming decades, the transportation system would still be overburdened, and the metropolis would not be able to maintain daily routine transportation functionality for the purposes of economy and tourism.

An analysis of the current transportation situation on the roads, taking into consideration the topography of Jerusalem, shows that metropolitan Jerusalem is very close to maximum capacity on available roads. A closer look at the possibility of improving the existing road infrastructure by means of reasonable investment led us to the conclusion that if use of public transportation is similar in 2050 to that of today, and population growth goes on as expected, metropolitan Jerusalem's roads will be congested in a manner that will not allow reasonable movement.

Simply stated, in order to allow for existing traffic patterns, according to which most travelers use private transportation and only a minority use public, to continue, unreasonable investments will be needed for building roads, bridges, tunnels. Otherwise, the transportation system will collapse.

The assumption which led to this was that by 2050, Jerusalem would become an "international city" with a population of

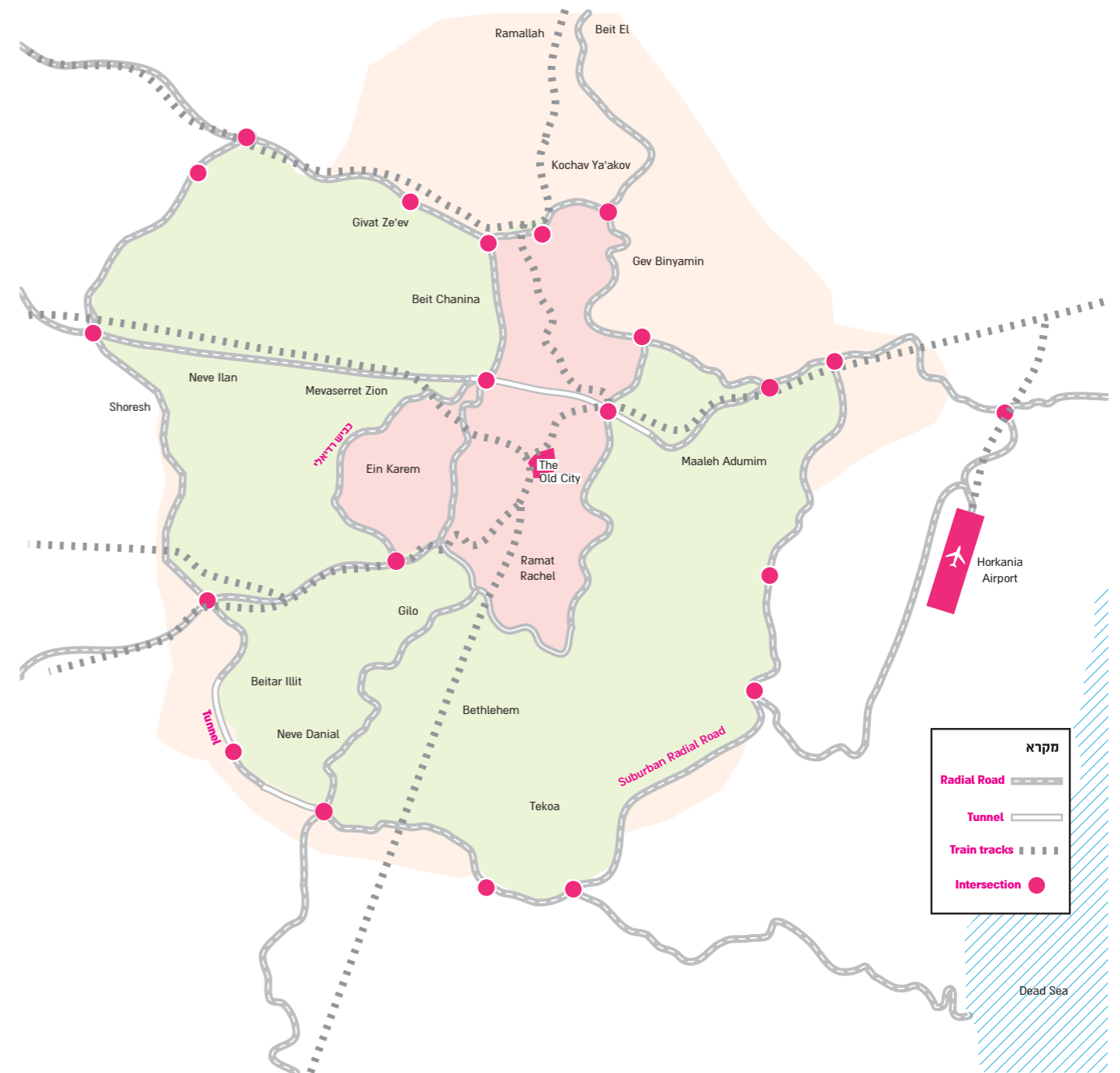
In order to allow the metropolis to function, a revolutionary approach was researched – one in which Jerusalem would function in 2050 as “the city of public transportation,” a city wherein the overwhelming majority of travel would not employ private transportation

4 to 5 million people, to which 12 million visitors, tourists, and pilgrims would flock every year. In addition to this, a gigantic center of employment is being planned for Atarot, where over 400,000 people would be employed, adding to the smaller and medium sized planned or existing ones throughout the metropolis.

In light of this, in order to allow the metropolis to function on the anticipated level, a revolutionary approach was researched – one, wherein Jerusalem would function in 2050 as “the city of public transportation”, a city wherein the overwhelming majority of daily travel would not employ private transportation, rather, others (public transportation, walking, biking, etc.).

The process of preparing the plan was compatible with the planning process for transportation, "to serve public authorities in Israel: it is based on a quantitative analysis, uses demand models, and analysis of the transportation network in order to examine the compatibility between the intensity of activity, the demand for transportation it creates, and the transportation system's capacity and level of service.

Main Modes of Transportation in Jerusalem



Several limits have dictated the thinking behind the planning of roads and streets in Jerusalem in the past, present, and future. The topography of the Jerusalem region makes it extremely difficult to develop a transportation network. The city is located on a relatively narrow mountain (7 kilometers across south of the Old City). Both sides of the mountain are rich in natural resources and very steep. The wadis have offshoots going to the east and west. The city itself is densely built, and the streets are largely narrow, and it would be difficult to widen them. There is almost no room to add to the city's transportation capacity by widening or improving existing axis or opening new ones. The proposed road plans have utilized the existing space for new roads almost to its fullest. The next stage would be a revolutionary change in approach, and only this would enable metropolitan Jerusalem to become a city based on public transportation – a move which would save the city from a transportation disaster.

In order to turn Jerusalem into a metropolis based on public transportation, the following steps must be taken:

- A.** Drastic improvements need to be made in the level of service provided by public transportation.
- B.** The transportation system – new roads and railroads – must be planned while giving complete preference to public transportation, at the expense of the convenience of those using private transportation.
- C.** Facilities that encourage people to move over to public transportation instead of private

must be added, such as Park & Go centers.

- D.** The cost and ease of using private transportation in Jerusalem must be increased and decreased, respectively, by means of tolls, designating central roads for public transportation only, and such.
- E.** An intercity axis must be paved, circumventing the city and allowing traffic to run through the metropolis from the north (Binyamin and Samaria), the south (Judea), east (the valley and the Dead Sea), and west (the coastal plain) without having to go through the city.

A combination of these means, parallel to encouraging the use of public transportation by advertising and educating the public, could lead to Jerusalem being a public transportation city. In our estimation, this change is imperative, and only this change will enable the city to keep up with the developing traffic needs of the coming half-century.

The current plan doesn't address the full details of its implementation. Our presumption was that use of public transportation in the city, with the implementation of the plan, will reach similar rates of those found in cities where there is increased use of public transportation, assuming that Jerusalem's public transportation system would be able to achieve a similar level of quality. The plan includes several important tools for encouraging the use of public transportation, the most important one being numerous Park & Go lots at transport centers near or at train stations, the establishment of a high-capacity



BRT system which would provide high-quality service and a metro system.

In this context, it is important to emphasize that with the current situation (in 2016), a well-distributed bus system in metropolitan Jerusalem, together with the light rail inaugurated in 2011, provides reasonable public transportation to the metropolis. The advantages of a bus system – especially when

upgrading them to BRT – is its flexibility and the option to change the routes to suit the changing needs of a developing city.

Thus, as of today, there is no reason to attempt detailed planning of the bus routes or to change the principle manner of their activity. Their existence and important role should be recalled and integrated as a vital part of the planned transportation network.

// The Circumferential Road

Circumferential roads are to be found in any large metropolis in the world today, and they are the most efficient tool for managing and directing urban and intercity traffic.

Circumferential roads have served for several decades as the most important transportation tool for channeling vehicles in large metropolises around the world. The purpose of the existence of such roads is to prevent vehicles that need to get from one side of a city to the other from having to go through the city. The circumferential roads connect all of the roads leading to the metropolis with each other and with the roads leading from it to the center of the city. In this way, circumferential roads make it possible to reach defined areas of the city with much greater ease. Circumferential roads contribute to the reduction of traffic congestion, and as a direct result of this, to a reduction in air and noise pollution and an increased quality of life.

The vision of a circumferential road for Jerusalem existed already 1975, and a general plan for the Jerusalem circumferential road is in initial planning stages under the title “The City Gates Project.” According to this plan, the circumferential road will be comprised of two half-rings – the east and west circumferential roads. A comprehensive examination of the current status of the highways around the expected metropolitan region shows that in actuality, many of the roads which already exist could serve – with minor changes – as sections of the circumferential road. Thus, building the circumferential road will require completing relatively few sections, at a reasonable expense, and in a relatively short period of time. Together with

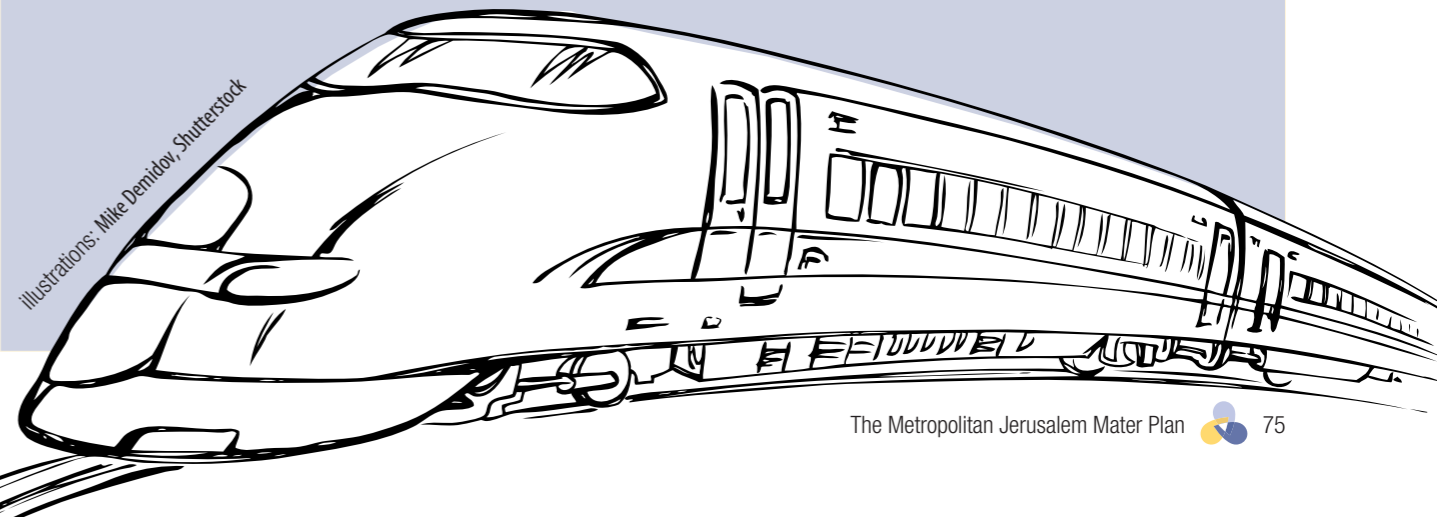
Building the circumferential road will require completing relatively few sections, at a reasonable expense, and in a relatively short period of time

this, establishing the circumferential road will require building road sections connecting it with the primary and secondary traffic arteries of Jerusalem, the primary arteries to the city’s neighborhoods, and to the city center from all parts of the city.

It should be emphasized that this circumferential road will be able to use existing routes only if the borders of metropolitan Jerusalem, as determined in this plan, are to be accepted. Further, the circumferential road will be planned and built in a manner that will allow reference to the demographic changes in the city and to the changing transportation needs thereof. In some big cities – such as Madrid and Paris – there is more than one circumferential road, as the expansion of the metropolis has required the establishment of more circumferential roads.

Transportation principles for metropolitan Jerusalem

- Establishment of a system of mass transportation, for travel to and from, and within, metropolitan Jerusalem.
- A new airport, to be built in the Horkania-Jericho region, will serve for people to arrive in Jerusalem from outside the country in addition to flights coming into Israel’s main airport – Ben Gurion.
- The main transportation system (roads and public transportation) will be radial, meaning, based on circumferential roads.
- The urban public transportation system will include light rails and advanced buses which will provide services for short rides. As needed, at a later stage, a subway system will be built as well.
- Jerusalem’s intercity train system will be significantly upgraded to include three lines to the Jerusalem region, one of which will go to the Atarot employment area, a train line to the planned Horkania-Jericho airport in the east, and a north-south route on the Nablus-Ramallah-Jerusalem-Hebron Beer Sheva axis.



Illustrations: Mike Demidov, Shutterstock

// The Subway

Will a subway be built in Jerusalem? The need for such a train depends on many different factors, some of which are still unknown today. In any event, it is a good idea to prepare for such a possibility and plan an innovative network of underground trains for the Holy City.

Many of the world's biggest cities have high-speed subways (metros) as essential parts of their public transportation systems. Subways allow masses of people to travel quickly from one point in the city to another. The Jerusalem 5800 planning committee deliberated whether such a system is essential in Jerusalem. The deliberation touched upon two points: first, would the structure, population size, and scope of tourism render the use of subways necessary? Second, what would be the role and character of the subway? Would it be possible to suffice with a few lines serving central destinations, or, alternately,

would a full network serving most of the metropolis be needed?

First, it should be noted that it has been argued in the past that in Jerusalem, with its multitudes of antiquities, it would be impossible to dig the routes of such an extensive underground transportation system. But other ancient cities in the world have dealt with such issues, and nowadays, digging for the purposes of such systems is done in bedrock, some 40-50 meters underground, underneath those archeological layers. There is no doubt that if it were decided to build such a network of underground trains in Jerusalem, it would be built at such depths. At such

depths, it would be possible to dig the subway tunnels without issues of harming antiquities using “moles” – high-speed digging equipment which makes digging more efficient. The only issue that would remain would be where to have the above-ground entrances and exits. These points would have to be chosen carefully and with flexibility, while taking into consideration any archeological findings, and giving them proper archeological and scientific care throughout the digging process, as is accepted in any building project in Israel.

Though the antiquities problem can be resolved, there is still opposition to a subway among the planning committee. The essential strategic stance taken in the Jerusalem 5800 Plan is that all public transportation lines would be above-ground. The reasons for this stance is the ease of access to such services and enjoying the view while riding.

Further, it is not clear if there is justification for building a subway system in terms of the expected numbers of travelers.

Subway services are justified mainly due to the capacity and speed of travel. A subway line can serve up to 100,000 travelers an hour in each direction, as opposed to 10,000 an hour on the light rail or a BRT. For distances of over 10 kilometers, travel times on the subway are significantly shorter than by other means, even if you take into account the time it takes to get down to the station and back above ground. But for short rides, the total use of the subway – taking these times into account – can be significantly greater than the time it takes to use parallel means of transportation. Thus, the subway would only be worthwhile if there were lines with over 15,000 travelers per hour running distances of over 5 kilometers. In the forecast for Jerusalem over the coming decades, it seems this is not to be the case.

In light of this, at the initial stage of planning, it has been decided to turn down this option and deal with the matter only if there is a future need for it due to significant demographic growth. The assumption is that there may be a need to initially establish



a subway at the large employment center in Atarot. This employment center, meant to concentrate large numbers of employees from all over the city, may have difficulties taking in the numbers of employees expected to arrive by light rails and buses only, and there may be a need to establish one concentrated subway line for transportation to and from Atarot. If and when the center at Atarot has more than 160,000 people working therein, it will not be possible to serve the area without a subway system. At a later stage – if the numbers of tourists correlate with expectation – there will probably be a need to expand this system. The main area tourists and pilgrims of all religions will wish to access – according to the existing reality in the city today – will be the Old City and its surroundings. It is not possible to expand the existing roads to the Old City and its surroundings without further, complicated, expensive, and drawn-out digging. Any expanding of existing roads and streets may cause great harm to the city, ecologically and environmentally speaking as well.

Further, expanding access roads and surrounding roads by the Old City may ease traffic at a few locations, but not on the scale needed to take in the millions of tourists expected to come in the future. Only a sophisticated system of mass transport can solve the access problem surrounding the Western Wall, the Temple Mount, and other places in the Old City and its immediate area. Thus it seems that in the long run, only a subway will provide a solution for the transport of millions of travelers. The subway route will be dug in the natural rock, tens of meters underground, under the layers of antiquities, in a manner that will ensure no harm



befall any historical sites when built. Horizontal entrances and exits will limit harm to the visual and environmental character of the Old City and its surroundings. Access from subway stations to the hundreds of antiquities and tourist sites surrounding the city will also be suited thereto.

The establishment of these few subway lines must be included in comprehensive plans for a future subway system in metropolitan Jerusalem. There is a big advantage to such a system, which covers large parts of the metropolis, and thus it is important to anticipate potential needs and plan comprehensively for the city, implementing gradually according to need. Routine development of the above-ground public transportation system must also be conducted in a manner that will allow possible synchronizing with subway lines in the future.

Prague's subway system is an example of an ancient city where a subway system was dug at great depths, in order to avoid harming archeological findings. Trains passing through the subway tunnels in Prague.

photography: Shutterstock

// The Railway Station

Over a hundred years have passed since the first train traveled from Tel Aviv to Jerusalem, a future train line will become the main means of transporting people and goods to and from the metropolis.

Today (2016), there is one train line to Jerusalem. This line travels along the historical rails by Nahal Soreq, through Beit Shemesh, where it connects to the national railways to the center, south, and north. The rail's winding route to Beit Shemesh means that riding this line from Jerusalem to metropolitan Tel Aviv takes a very long time and is not usually worth the while. In parallel, over the next few years (2018 – 2020), the construction of another line, on the Tel Aviv-Modiin-Jerusalem axis, planned to arrive at a station in the western region of Jerusalem (near today's central bus station), will take place. Use of tunnels and bridges will enable this line to significantly reduce travel times, making travel by train more efficient than by bus for the first time.

But the Jerusalem 5800 Plan, which examines Jerusalem's future needs, assumes that these two lines won't be sufficient to cover Jerusalem's transportation needs, especially once it becomes a city of public transportation – making it harder to reach the metropolis by private vehicle. In light of this, a number of train lines need to be added.

This would involve extending the new train lines, which are planned to arrive at the entrance to the city, and moving them to run through a tunnel and arrive at an underground station which will be located at the center of the city.

The logic of this is that such a train line would make direct access to Jerusalem possible for tourists coming from metropolitan Tel Aviv and Ben Gurion, arriving at a location in close proximity to central tourist attractions in the Old City and the hotels located in the area. As with

the subway, the tunnel and the station will need to be dug in bedrock in order to prevent harming antiquities.

The third train line coming from the Tel Aviv region will have to be established, serving the employment center that is to be built in Atarot. This line – which will be built along route 443 – will allow people who live outside metropolitan Jerusalem to work in Atarot, and will ease their travel between jobs in Atarot and business centers in Tel Aviv. Further, this train line will enable transportation of raw materials from the Ashdod port to the Atarot employment center and export goods from Atarot to Ashdod.

The Jerusalem 5800 Plan assumes that these two lines won't be enough to cover Jerusalem's transportation needs

Today there are no trains along the mountainside – and truthfully, there never was one to begin with. Assuming political problems are to be resolved peacefully, there will be a need for a train line on the north-to-south axis along the mountain side. This train line will connect the cities Nablus, Ramallah, Jerusalem, Hebron, and Beer Sheba. The advantages of a train along this axis will be saving time and the ability to transport large numbers of people over long distances. Trains running on this line will arrive at the employment center at Atarot, enabling people from

north and south of Jerusalem to find jobs there, without the difficulties of time and distance preventing them from accepting these jobs. Additionally, this train line will strengthen the process of Jerusalem becoming the central axis of the State of Israel.

There is also no train going eastward from Jerusalem today. This line would be able to connect Jerusalem with Jericho and the future airport at Horkania, going on to cross the Jordan River and reach Amman, the capital of Jordan. The existence of such a line would be critical to making the airport worth its investment, and would significantly improve tourism in the region, as many tourists would like to incorporate a visit to Jerusalem with a visit to Jordan – a trend we see currently as well.

Construction of such a line stands in the face of a serious engineering issue: the differences in height between the Horkania valley and Jerusalem can reach up to 800 meters. Considering the distance of 20 kilometers and the (unlikely) presumption of a uniform slope, there would be a 4%

incline. Israel Railways has been planned to work on a 1.5 – 2% incline at most. Laying tracks suited to Israel Railways will require making the route significantly longer by making it a winding route, incurring great cost, causing serious environmental damage, and harming the landscape. There are more modern trains, manufactured by a Canadian company, that can run on an incline of up to 6%. Using such a train would allow for laying down a route, from Jerusalem westward, of reasonable length, and even located parallel to the road that is there now, keeping the environmental damage down. This train line would connect the new international airport in the Horkania valley to the new train station in Jerusalem (under the central bus station in the center of town). Going crosstown would be done using an underground tunnel. Travelers wishing to go on westward would have to switch trains at the Jerusalem station, so, for the long-term, having the train run even further westward to Tel Aviv should be considered.

The new train line from Tel Aviv to Jerusalem would connect Jerusalem with the central region of the country, but future nationwide train infrastructure would have to be much more comprehensive, and iron tracks would have to reach metropolitan Jerusalem from all over the country. Building the bridge over Zurim valley, 2013.



// The Airport

Building an additional airport in Israel is a genuine need, and doing so adjacent to Jerusalem seems a most natural and sensible solution, which would exploit the Jerusalem advantage, encourage economic growth and contribute to the entire country's development.

Air transportation is expected to grow and advance over coming decades. New aircraft will be introduced along with advanced engines that consume less fuel. Air travel will become an even more central means of long and medium distance travel than they are today. A gradual rise in air travel for business and pleasure by Israelis and the anticipated rise in tourism to Israel will both require the expedited development of modern and accessible airports, as well as transportation linking them to residential locations and tourist sites around the country.

Today, there is one large international airport in Israel – the Ben Gurion Airport. Ben Gurion's current top aviation capacity is limited to est. 16-18 million travelers annually when accounting for the completion of all scheduled upgrades. There are already some 12-18 million people traveling through Ben Gurion each year, including 6-8 million tourists from overseas and 7-10 million Israelis. The steady rise in the number of yearly travelers passing through Ben Gurion will put stress on Israeli air transportation in the near future. The time needed to plan and build an airport is estimated at 10-11 years – meaning such an airport, in the best case, could not be up and running before 2026.

The steady rise in the number of yearly travelers passing through Ben Gurion will put stress on Israeli air transportation in the near future.

The Alternatives

The Israeli government recognized these constraints and assigned the Ministers of Transportation and Security with the task of presenting a proposal for the location of a new airport to complement Ben Gurion. Due to a lack of viable sites for the airport in Israel's central region, current proposals are to establish a civilian airport in the north or south based on existing military airbases. Utilizing the infrastructure from an existing military airport would lessen the time needed for planning and building, as well as decrease direct costs. However, it would require

The steady rise in the number of yearly travelers passing through Ben Gurion will put stress on Israeli air transportation in the near future.

the construction of fast, efficient, and expensive transportation systems from it to the center of the country. The proposed alternatives are expropriation from the IDF of the Nevatim base near Be'er Sheva or building a new airport in the Megiddo Valley.

Establishing an international airport on the current location of the Nevatim base by Be'er Sheva could be a boon

for development in the Negev. Linking the airport to the central region via a transportation system that would include roads and railways – which would be imperative to the airport’s existence – would improve the general connectivity between the Be’er Sheva region and the country’s center – Jerusalem and Tel Aviv.

This alternative has several drawbacks. The first is the expected objection on the part of the military to the expropriation of Nevatim – one of its largest and most important air force bases for civilian use. Second, this airport would not be accessible to the north or center of the country. In most of the world, it is standard for complementary or alternative airports to be up to 60 kilometers from the main airports, but the one in Be’er

Sheva would be much further away from the populous Tel Aviv and Jerusalem. Even travel via Route 6 would be over 100 kilometers to Gush Dan and 140 kilometers to Jerusalem. Moreover, there will be difficulties making services available to the Arab population of Judea and Samaria and in countries east of Israel.

The Megiddo region could also house an airport. The Megiddo Valley is large enough to contain an international airport which would be relatively close to metropolitan Haifa – the third largest metropolis in Israel. But even that airport would be too far from where most of the population is concentrated – Tel Aviv and Jerusalem – and even further for people from the south. Travel to the central region would be via Routes 65 and 6. It would

be 80 kilometers from Gush Dan and 120 km to Jerusalem. When the valley railway is done, it will be possible to link it to the airport and improve its transportation accessibility. Another advantage would be the ability to serve the populations of Judea and Samaria (relatively easily), who could reach it via Jenin (assuming political issues are resolved), either by car or by the train which is meant to run along the mountainside.

Why Jerusalem?

The forecast for significant growth and maximizing existing potential of some 10 million foreign tourists annually to metropolitan Jerusalem depends on, among other things, the availability of convenient, competitive air transportation in close

The forecast for significant growth and maximizing existing potential of some 10 million foreign tourists annually to metropolitan Jerusalem depends on, among other things, the availability of convenient air transportation in close proximity.

An airport in the heart of the desert. A bird's-eye view of the Horkania Valley Airport





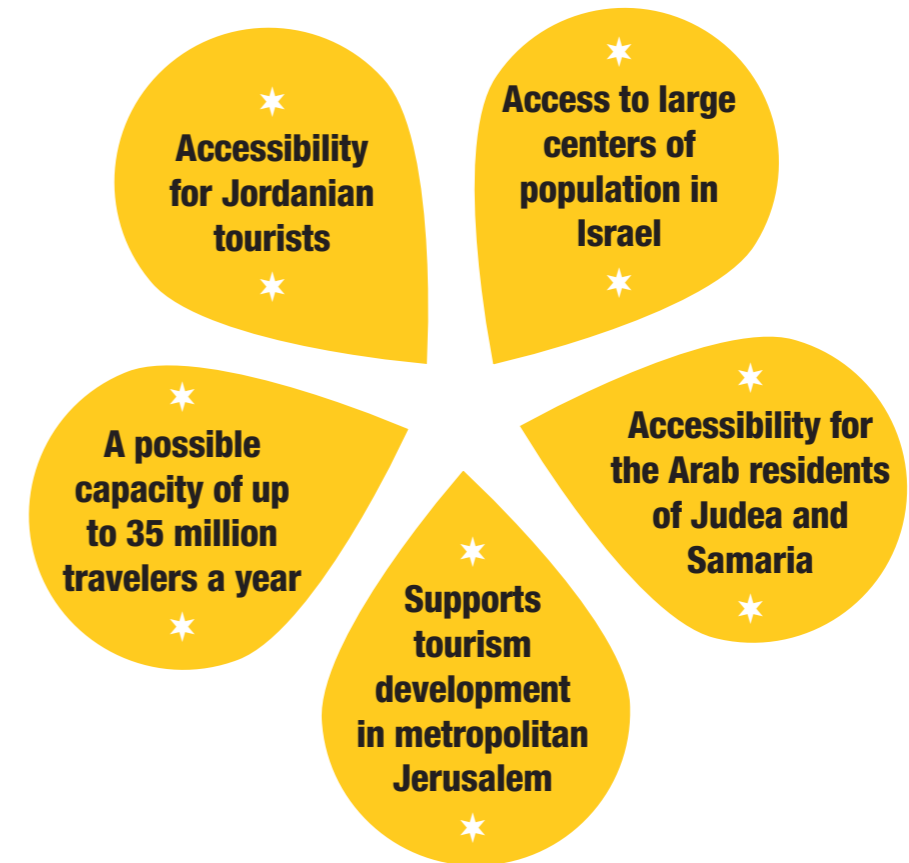
The air traffic control tower at Ben Gurion, 2015

proximity to the city center. This is the most important consideration in favor of establishing an airport next to Israel's most important destination, Jerusalem, over other places. The first question that must be asked is whether, in the mountainous region adjacent to Jerusalem, there is an area that fulfills the internationally accepted topographic criteria for establishing an airport that can provide the land needed to serve passengers needing to get to and from the airport. It is important to emphasize that the establishment of an airport requires consolidating national and international consensus.

The advantage of an airport in the Jerusalem region would be its accessibility to those in the most densely populated areas. It would be accessible to metropolitan Jerusalem and would serve as

a critical factor in developing international tourism and pilgrimage to the country's capital. Moreover, connecting it with the national transportation infrastructure by means of highways and railways would enable relatively fast access to metropolitan Tel Aviv, only tens of kilometers from the airport. Additionally, after establishing consensus among the local population (see below), the airport would be more accessible to the large Arab population of Judea and Samaria. Lastly, the relatively close location to the border with Jordan – our friendly neighbor to the east – would allow Jordanian citizens to use the airport, as an attraction for tourists wishing to visit that country. A speedy connection with the Valley Road going north and the Arava Road going south would also serve some of the population in the north and south

The Advantages of the Horkania Valley Airport



as well as grant pilgrims access to the Galilee, the Sea of Galilee and the Golan. The airport would be located within close proximity to the Dead Sea – a unique site which attracts tourists from all over the world. After examining various alternatives, we found a site in Jerusalem that meets the necessary engineering criteria for a modern airport. This site rests east of Jerusalem, in the Gush Etzion and Megillot Regional Council's Horkania valley. The Horkania valley, which is in the Judean desert, stands up to the criteria for a large airport in terms of area.

Its width is about 1.5 kilometers, the length some four kilometers, and is at sea level. The valley is enclosed from all sides: at the northern and eastern ends the surface drops at the cliffs to Dead Sea level

(approximately 400 meters below sea level), on the western side the cliffs of the Judean Hills jut out at the height of 800 meters and more, and to the south there are high hills. It should be pointed out that in terms of security, it will be necessary to lower the hills on the south side of the runways in some places.

The proposed plan utilizes the entire area of the valley for the building of the airport. The airport will include: two runways, roads connecting them, space reserved for the parking of the aircraft, an aviation oil tank farm, an observation and control tower, a control area including fire and first aid stations, a passenger terminal with gates and docking for the planes, a charging terminal, train station and a large parking lot.

Two parallel 3800-meter runways are planned for the Horkania Airport, which will serve all civilian passenger planes used for international aviation service today, plus those planned for service in the foreseen future. The runways will be equipped for landing under any weather conditions.

The airport's capacity will be between 20-35 million passengers a year. The central passenger terminal will be used for ticketing, baggage check, passport control, customs, and baggage claim for returning passengers. From this building, all passengers will be taken to their extensions to wait for their flights, by internal trains which will travel back and forth along the entire airport, with stops at every extension.

Development of the Airport

Our proposal is to develop the Horkania Airport in two main stages, with each of the runways being developed, and all ground and air facilities needed for its operation being developed along with them. The progression from the first stage (where one runway will be developed) to the second (two runways) will be carried out according to the scope of activity on the ground and allow for increasing annual passenger capacity from some 20 million per year at the initial stage to 35 million at the second stage.

Analysis of international data shows that with one runway serving both landing and takeoff, with various types of aircraft and their varying speeds, about 240,000 takeoffs and landings could be carried out annually. With two independent runways, 370,000 would be possible. Assuming that the average occupancy of an airplane is 125 passengers – the standard baseline for such aviation calculations – then each individual runway could fly 30 million passengers a year – and on two, some 46 million. Even a more modest, realistic

The airport's capacity will be between 20-35 million passengers a year, and should be developed in two main stages.

estimation would yield 20 million using one and 35 with both running parallel to each other.

Building the Horkania airport will require upgrading the transportation system in the region. To give an idea of the initial stage requirements – wherein the airport is meant to have a capacity of 20 million passengers annually – analysis of anticipated travelers to the airport in private vehicles shows that there would be some 75,000 people coming and going each day in an estimated 60,000 private vehicles. These vehicles will be traveling along different routes – Route 1 to the west (50,000 vehicles), Route 90 to the north (7,000 vehicles), and Route 90 to the south (3,000 vehicles). There are also about 25,000 passengers expected to arrive by public transportation (trains and buses) on peak activity days. As stated, these numbers will require new transportation infrastructure, mainly going west to Jerusalem and Tel Aviv. In the short term, there will be a need for one lane in each direction, with additional slow lanes on steep hillsides. In the long-term, there must be the option of adding a lane in each direction.

For this purpose, there must be a connecting route to the Tel Aviv-Ben Gurion-Jerusalem-Horkania interchange via Route 90. This road will serve traffic and cargo going to the airport and will assist in the airport's functioning as a backup to Ben Gurion Airport. The



proposed transportation system for serving the Horkania Airport is based largely on existing and planned roads. Connection with the coastal lowland will occur in two ways, which will be built in two stages for budgetary reasons. In the initial stage, the road circumventing Jerusalem from the north, based on Routes 45 and 443, will be developed and widened. In the second stage, the central Route 2 will be built and widened. The problem with the immediate use of this route is that Jerusalem is right in the middle – between the Adumim plain and Sha'ar HaGai. The proposed solution is to dig a tunnel under the city which would connect the Adumim plain region with the Sha'ar HaGai region. After completing the construction of these roads, there will be good transportation accessibility to these areas.

Additionally, high-speed train tracks will need to be laid, connecting the airport with the national railway via Jerusalem. As stated, though the steep incline from

the airport to Jerusalem will present an engineering challenge; however, innovative Canadian technology is available for this. If the political situation and economic demands bring about good use of the airport for tourists to and from Jordan, it will also be possible to continue the railway east to Amman, improving the quality of the roads and the number of lanes going east.

The Port of Peace

Along with tourism considerations in favor of Horkania as the location for the airport, the airport could present an opportunity for cooperation with the Arab residents of Judea and Samaria. Arab leadership could be asked to establish and operate the airport commonly, which could contribute to Israel in terms of transportation, economy, security, and politics. Of course, all of this relies on the resolution of current political problems.

The Arabs of Judea and Samaria have

The new airport will be designed for intake of millions of passengers each year, many of whom are expected to arrive from the Far East to visit Jerusalem. The Chinese delegation to the Jerusalem March 2013



The welcoming hall at Ben Gurion. Summer 2014

a clear economic interest in the existence of an international airport in Judea and Samaria, which would allow transport of goods and services and significant development and increase in tourism, which would be a serious source of foreign currency. Building and operating a common airport would have crucial economic repercussions on the population of Judea and Samaria. Roads and railways would connect the airport to locations with concentrated populations in Judea and Samaria and with existing and future focal points for tourism.

It should be noted that the Palestinian Authority has already initiated the construction of an airport in the Horkania valley. In October 2010 the Palestinian Authority announced that it is ready and willing to build the “Palestine International Airport” in the West Bank. According to Arab plans, this airport would stretch out over the Horkania valley east of Jerusalem. This is in Area C, currently under Israeli civilian and

military control, and thus, construction of the airport would require Israeli authorization.

The proposed collaboration would have many advantages for Israel as well. Firstly, it is critical that Israel ensures that an independent, exclusively Arab airport not be established there and that any airport built is at least under control common with Israel. This is because the Israeli Air Force must have complete operational freedom of aviation activity between the Jordan and the sea, and to preserve security arrangements needed to protect civilian aviation to and from Israel.

Along with this, cooperation would ensure that observation and control over air traffic would be in Israeli hands and that operation of the airport be according to leading Israeli and international criteria for security and safety.

An aviation agreement between the two sides would make it possible to open international flight routes, crossing common skies and flying east. Israel



The welcoming hall at Ben Gurion. Summer 2014

would be able to weigh opening such air corridors if Israeli airlines were allowed to use international airways over Arab countries, shortening flights to the Far East significantly.

As stated, the Horkania Airport would be the best-known option as a location for an alternative to Ben Gurion Airport in the region between the Mediterranean Sea and Jordan, should the functionality of Ben Gurion be temporarily disrupted, or due to the rise in transportation needs, expected as soon as within the next few years. Thus, Israel needs to be able to control all air traffic, including foreign flights – and at any rate, there must be Israeli control over the airport in Horkania.

Lastly, politically speaking, an airport in the Horkania valley could present a bridge between Israel and all countries in the Middle East. It could serve as an impetus for improving relations between Israel and its neighbors, and for bringing tourism from the Arab world to Israel, where there are Muslim holy sites.

Politically speaking, an airport in the Horkania valley could present a bridge between Israel and all countries in the Middle East.

Thus, both sides – Israel and the Palestinian Authority – have interests in terms of transportation and economy which support the construction of an airport in the Horkania valley. The Jerusalem 5800 planning committee believes that such an international airport could be built even without the Palestinian Authority’s agreement, but it would be better to do it in agreement with them and with Jordan.

Sustainability in Jerusalem

Preserving the values of nature and landscape, taking Jerusalem's unique climate into consideration and using it to our advantage, innovative ecological construction, and smart, advanced recycling – all of these could make Jerusalem a world capital of sustainability, for the good of its residents and for the good of the millions of tourists coming to the city.

The pedestrian conveyor belt in the city



Today, the city of Jerusalem is a cultural, spiritual, ethical center for religions and nations. This is a focal point attracting hundreds of thousands of tourists. It is a city that is known by virtually every human on earth. Its status as the capital of Israel has been in the making for at least 5,000 years. Some of the main reasons for this are the unique natural conditions of this place.

Nature has certainly favored man in Jerusalem. The Jerusalem climate is moderate Mediterranean, with comfortable temperatures year-round, ample water, diverse flora blossoming year-round, and clean mountain air. These excellent conditions created a platform for the development of human life, as well as material and spiritual culture in ancient times, in this place above all others.

Metropolitan Jerusalem has an extraordinarily diverse climate. To the east, there is the hot, arid desert region surrounding the Dead Sea and the Judean desert. The mountainous Binyamin and Gush Etzion regions are rich in natural springs receiving large amounts of water from melting snow each year. The west Judean Hills and Shfela lowlands have forested slopes and deep rivers which flow to the Nahal Soreq and Nahal Ayalon basins.

The human body is strong, but still, it cannot survive in climate conditions outside a very specific temperature range. Only a few hours spent in a very hot environment can cause dehydration or heatstroke, while remaining out in the cold can cause hypothermia, freezing, or even endanger human life. The temperature range in which the human body is comfortable – referred to as “thermal comfort” in research literature – is quite narrow, from 18 to 29 degrees in the shade, and 6 to 18 in the sun.

The average annual temperature in Jerusalem is 16 degrees. From season to season, average temperatures can go from a low of 6.4 degrees to a high of 29.4

The amount of precipitation in Jerusalem is high in comparison to that of other central cities in Europe, but the rainy days aren't scattered evenly throughout the year.

degrees. This means that nature itself provides thermal comfort for people on most days of the year in Jerusalem.

Another factor influencing comfort in any given place is the relative humidity. Unrelated to temperature, thermal comfort can only exist between 22-80% relative humidity. Optimal humidity is between 40 and 70 percent. On most days of the year, humidity in Jerusalem is between 46 and 58% - which is optimal. In winter the average relative humidity is 75%, which is within the range of optimal humidity, but when over 73%, humidity encourages the growth of mold and fungi – which harms the quality of life and health.

A small degree of deviation from the maximum recommended relative humidity (73%) doesn't take place during the day, rather, mainly at night, and only on a handful of days during winter. During the warm season, from April through September, relative humidity goes below 40%.

The amount of precipitation in Jerusalem is high relative to that of other central cities in Europe. In Jerusalem, there is an average rainfall of about 600 mm of rain per year, like in Berlin – and a bit more than in Stockholm or Prague – and much more than in Madrid, where



there is an average annual rainfall of only 450mm. The impression that there is a lack of water in Jerusalem stems from the fact that the rainy days are not scattered evenly throughout the year. The same amount of water that European cities get in small doses throughout the year can come down in Jerusalem in only a few days – and only in autumn or winter.

The geological structure of the land in Jerusalem and its surroundings, which includes many underground caves, has caused the creation of many large, natural underground reservoirs. As of today, there is no comprehensive information regarding all of the underground reservoirs or the amount of water therein. Occasionally new ones are discovered, such as HaUma Cave, discovered 75 meters under Jerusalem in 2011 – the largest flowing underground channel discovered in Israel to date.

Jerusalem has especially good conditions for the development of flora. As a rule, plants cannot blossom during months with average temperatures of less than 7.5 degrees – the average temperature of Jerusalem's coldest month, January. Therefore, throughout the entire year, there is blossoming in the city – mostly that of wild flowers. Moderate temperatures, together with an abundance of sunlight and reasonable precipitation, created good conditions for agriculture in the region even back in ancient times, and there are archeological findings which prove that there was agriculture in Jerusalem thousands of years ago.

Jerusalem's location on a mountaintop between the Mediterranean Sea and the Dead Sea enable effective ventilation. Also, the relatively little heavy industry has made Jerusalem a leader among Israel's cities in terms of its excellent air quality.

The natural region surrounding Jerusalem allows comfortable conditions for existence. The rural forested area around the Beit Zayit Dam, which is a part of metropolitan Jerusalem. In the background: Jerusalem's western corridors

Ecological Construction

According to Israel Electric Company reports from 2010, Israel has some of the highest rates in the world for electricity consumption per person. Almost 50% of electricity created in Israel is used for heating, cooling, and ventilation of homes. In contrast with extravagant average consumption of electricity, around 38% of Israel's population limit their consumption of electricity for heating and cooling their homes due to financial constraints.

The existing systems for heating and cooling homes can cause disease. For example, the legionella bacteria breeds in air conditioning systems. Oil or diesel based home heaters are a leading cause of burns among children. And above all, manufacture of electricity causes enormous amounts of carbon dioxide and poisonous gas emissions, causing the air in Israel to be dirtier and creating greenhouse effect which harms the earth.

These undesirable phenomena can be minimized or even avoided altogether by planning which takes climate into account – and Jerusalem's comfortable climate certainly provides a good basis for such planning. In Jerusalem, nature turns a friendly face to man and can allow him to enjoy comfortable conditions in homes with minimum consumption of electricity. Efficient insulation, passive heating of homes and proper shading can lower electricity usage by tens of percentages.

As stated, throughout most of the year, Jerusalem is naturally within the range of thermal comfort. It is enough to ensure exposure to sunlight during the cold months and proper shade in warm ones to supply thermal comfort some 90% of the time and even more. When planning homes in Jerusalem, it is important to take into account that in the winter, buildings are exposed to sunlight only from the south – while during the hot season, the sun rises and sets much closer to the north, and during the day manages to orbit buildings from almost all facades.

Nature has certainly favored man in Jerusalem and may enable him to enjoy comfortable conditions in homes with minimal energy consumption.

Since, during the winter, the sun appears only in the south, during this season the south façade of buildings is the only façade which can supply heat from the sun. It is also enough to have only a little shade on this façade in order to provide protection during the summer since the sun is especially high when it is in the south during summer.

In light of this, the following principles may be applied when planning homes in Jerusalem:

- The south façade should be given preference for placement of windows.
- The east façade should be second preference. Though passive heat cannot be supplied from here in the winter, exposure to the sun in the summer is only in the mornings, when it isn't very hot yet.
- The north façade is exposed to sunlight only in the summer, during early morning hours, and right before sunset in the evening.
- The eastern façade is the most problematic: the sun visits this location only during the hottest hours, all year – and in the summer, in the afternoon.

These principles have implications for planning construction in metropolitan Jerusalem. The metropolis is characterized by hills and mountains, and each slope or hillside has its own qualities. A northern slope stays more humid throughout the

year, gets less dry during the hot season, and is naturally covered with about 15% more flora than average.

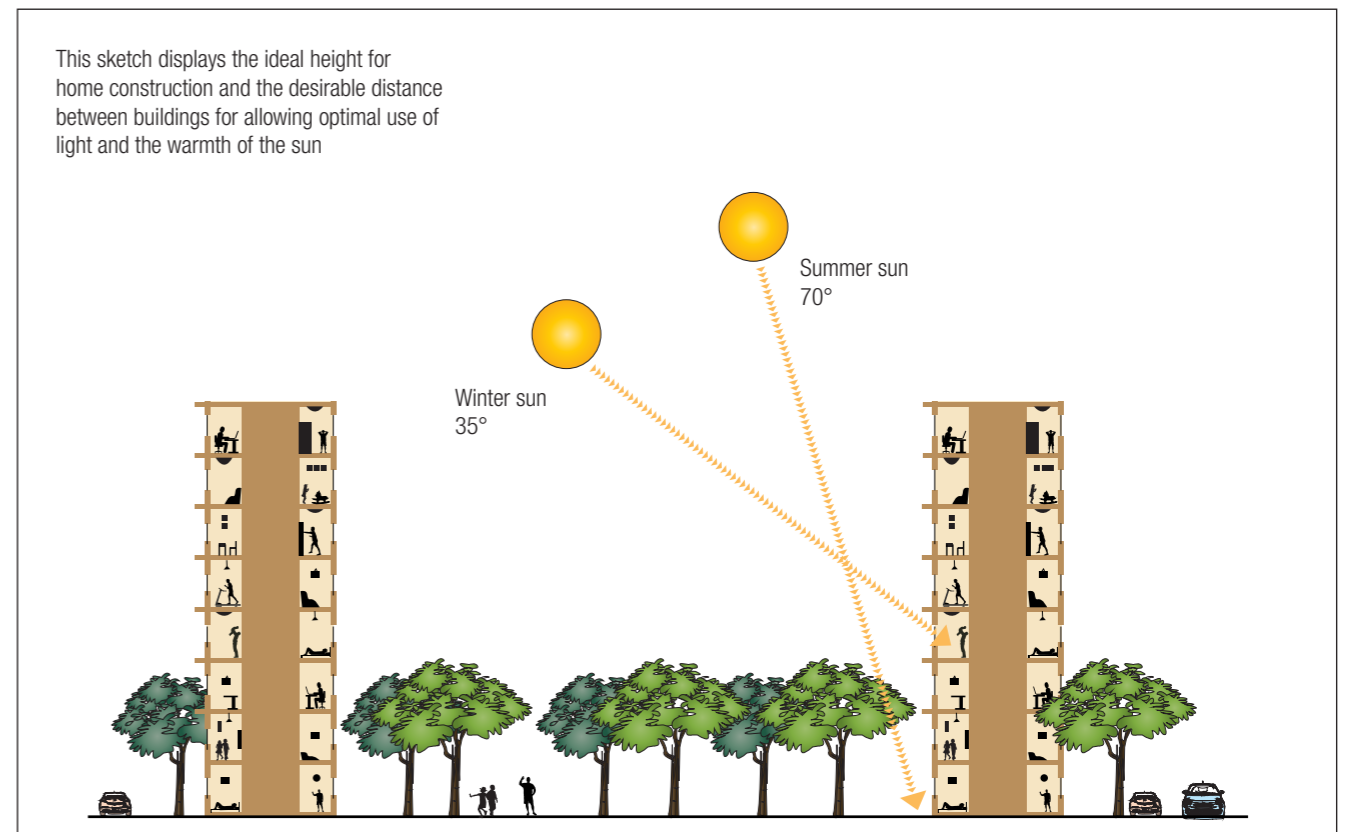
A southern slope is more exposed to the sun than others, and effective passive heating is possible from the sun. From this we know that south slopes are suitable for residential buildings and northern ones are good for urban parks and office buildings. Additionally, construction adjacent to existing buildings should not be permitted if it is to block the sunlight on existing buildings for more than two hours a day between October and March, in order to allow heat from the sun during the winter. Construction would also be both on the hilltops and in the valleys in order to preserve a built-up urban continuum incorporating green areas.

In Jerusalem's Nachalat HaShiv'ah neighborhood – one of the oldest historical neighborhoods outside the Old City walls – all of the main streets (Yoel Moshe Solomon, Rivlin, Ma'a lot Nachalat Shiv'ah) were paved going north-to-south. They are relatively narrow, and their width

is the same as the height of the buildings on either side. Thus, the main streets are shady all day: before noon the buildings on the east give shade, and in the afternoon – those on the west. This ongoing shade is the source of the commercial success for businesses along these streets – it's pleasant to be there even at the height of a summer day's heat.

Smaller streets, perpendicular to these main streets, were paved going east-to-west. This gives a southern façade, passive solar heat in the winter, and protection from the sun in the summer to almost all of the apartments in the area. The entrances to the buildings are from the north, and so, their stairwells stay cool in the summer and walking out onto the street is pleasant.

These advantages of this neighborhood – in terms of tourism and commerce, and in terms of quality of life and energy efficiency for cooling and heating – come about naturally, as the result of necessary smart street planning. Such a network of streets – lengthwise and crosswise, with



main streets north-to-south and smaller ones east-to-west – creates a framework for construction which provides thermal comfort for both commerce and residence.

In the future planning of Jerusalem neighborhoods, this positive lesson should be learned from these neighborhoods: it is possible to plan in a manner that contributes to the quality of life of the residents and visitors.

Climate comfort

One of the ways in which it is possible to preserve a pleasant climate in the metropolitan Jerusalem region is by use of diverse flora. Acclimatization using flora is most economical in terms of use of energy and natural resources.

Trees are an ideal means of creating the shade needed in open spaces and indoors. Today, trees are planted on the streets of Jerusalem, but it is possible and necessary to increase their use in future planning and urban development. Thus, for example, in many places there are trees planted only on one side of the street, which of course provides shade only on one side, as opposed to two rows of trees with a pedestrian walk between them – which would offer a shaded place for walking at all hours of the day, and such an option should be preferred.

The most economical way to create comfortable temperature conditions in an open area, in terms of space, is by creating an urban boulevard, which has four main elements along the entirety of its length:

- Traffic lanes going in both directions.
- Accessible, comfortable, shaded parking along the streets.
- A green lung and linear park – at least four rows of trees along the entire length: one row for each sidewalk and two rows on the traffic island between the traffic lanes.
- A central traffic island with sidewalks, shaded with flora, for pedestrians and cyclers.

A classic example of a street with all

The wind blowing from the Mediterranean brings warm air during the day, and this air is filtered and purified on its way through the forest, which protects Jerusalem from the west

four of these elements is Rothschild Street in Tel Aviv. There is great potential for the use of streets with several of these elements in Jerusalem and for incorporating missing elements in order to make the city's streets ideal in terms of climate. Making these streets more comfortable for residents and tourists would turn them into lively urban boulevards.

The types of trees chosen are also of importance. Some trees are especially effective for protecting from the sun, such as walnut, plane, oak and Teresa trees. All of these are tall deciduous trees, which reach up to 15-30 meters in height. There is also importance in planting trees that have high evaporation levels, such as privet, quince, yew, boxwood, cypress and sniper trees. Use of these trees could assist in cooling the metropolitan region by natural evaporation. Cooling by evaporation is suitable for especially high temperatures, and its efficiency rises as humidity levels drop. These are summer conditions in metropolitan Jerusalem. Thus, planting these types of trees on the streets of Jerusalem could significantly lower the levels of energy used for cooling homes.

Proper and smart use of trees can

increase air humidity in the area by 20-30 percent and lower temperatures significantly, a most important factor in Jerusalem's hot, dry summer climate.

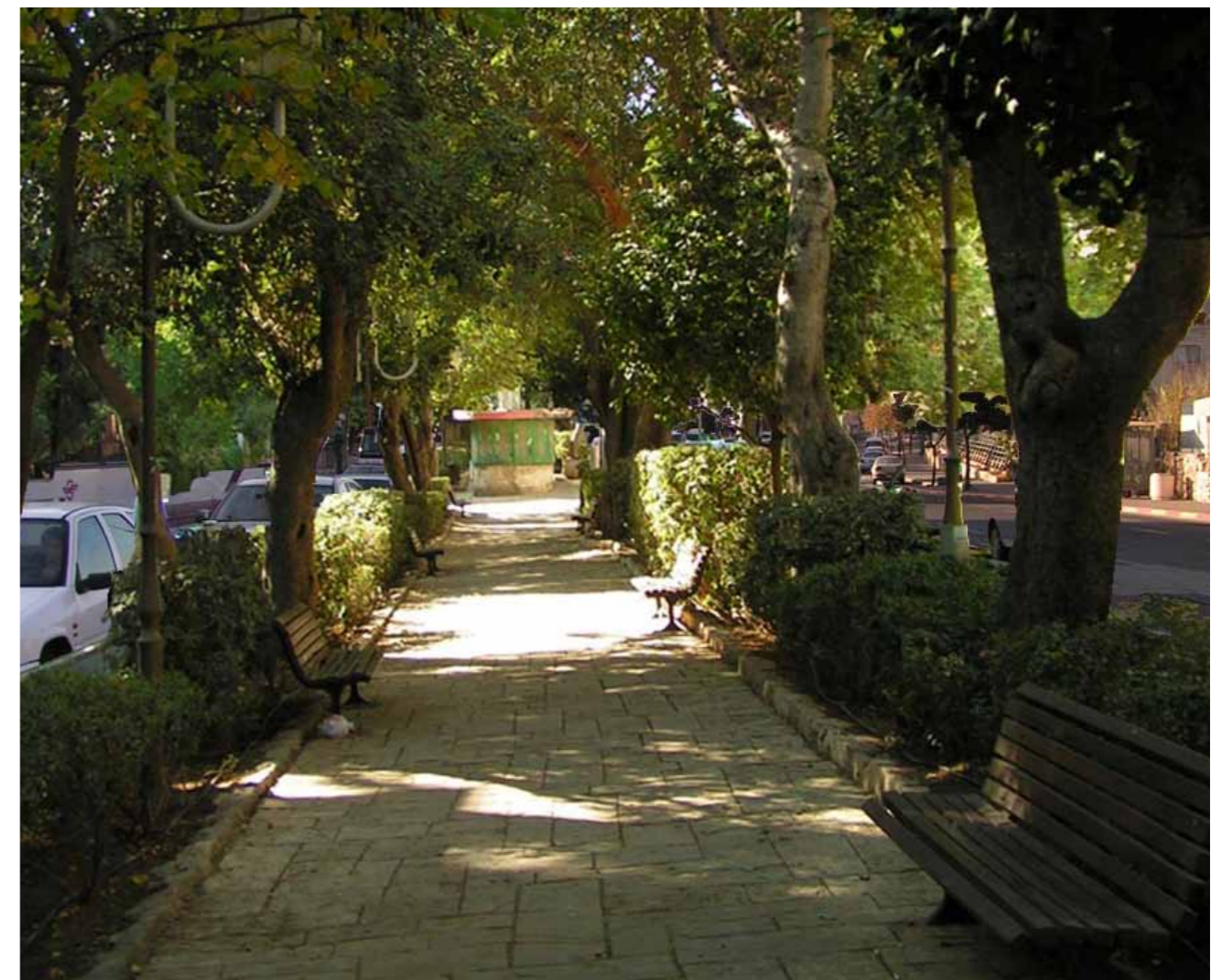
The Jerusalem forest runs along the road coming from the coastal plain. Today this area is rich in flora and tall, full-grown trees. The breeze flowing from the Mediterranean brings warm air during the day, and which is filtered and purified by passing through the forest, which protects Jerusalem from the west, as well as giving the air greater humidity.

Since sand can be swept up into the hot air and create heat wave conditions only in very dry weather, cooling using plants and evaporation are not only an effective and esthetic means of acclimatization, they are

the only solutions for heat waves. In Israel, heat waves are defined as days where average relative humidity is less than 50% on the coast or 45% in the mountains. A heat wave is considered heavy if relative humidity is lower than 20% in the mountains or 35% on the coast.

Solutions to heat wave conditions can be found in tree-planting. Large groupings of big leafy trees create a protective belt in high humidity. When hot, dusty air comes through these trees, the moisture weighs the sand down, sinking it to the ground. This is a very delicate balance, and bringing humidity levels up by even one percent can break the dry heat. When the hot air hits the trees, humidity can rise by 20-30% almost immediately, breaking the dry heat.

Simulated imagery of Golomb Street as it may appear after it becomes pedestrian-friendly





Kanfei Nesharim Street today, and simulated imagery of its appearance after making it usable for pedestrians



Of course, in order for this effect to take place, the groups of trees need to be more or less of similar volume as the burst of hot air arriving.

Even now, the Jerusalem forest helps break heat waves coming towards the city from the west, and metropolitan Jerusalem has a high potential for creating a forest belt to protect the city from heat wave conditions coming in from the southeast. But a desert lies to the east of Jerusalem – so how can we increase the numbers of trees in such areas where precipitation is never enough? In such areas, the determining factor in

whether flora is to develop is topography. A concentration of runoff water increases the amount of water seeping into the soil much more than the amount of precipitation coming in. Ancient Nabatean agricultural methods in the Negev were based on this concept. Runoff water must be channeled so that it reaches the location for forestation.

Further, there are types of trees which are suited for planting in the desert and can still give enough humidity to break dry heat waves: tamarix aphylla, acacia raddiana, Christ's Thorn Jujube, eucalyptus and pine Calabrian.

Urban Heat Islands

Urban heat islands are a climate phenomenon that occurs when a city affects the climate, causing substantial differences between the city's climate and the climate of the surrounding area.

Building a city causes changes, including tearing up plants, creating stone and asphalt pockets, limiting exposed topsoil, and putting up topographic obstacles. Human activity in the city adds to this, causing greater output of greenhouse gasses. These changes create climate conditions different to those in open areas around the city. The phenomenon is usually expressed by a rise in city temperatures and the creation of a hot layer above it. The layer where this phenomenon can be sensed most is the urban space – the layer of air trapped between the ground level and building roof levels.

The urban heat island phenomenon can cause temperature differences of up to 10-12 degrees between a big city and nearby rural areas. Therefore, data on global warming reflect microclimate changes in big cities more than climate change worldwide.

The trend towards the creation of urban heat islands exists in Jerusalem as well. Temperature differences in the city center and further neighborhoods can reach up to three degrees, whereas twenty years ago it was two. Since the

change in policies regarding building height in Jerusalem took place, the urban heat island trend has taken on greater velocity. In light of the fact that already today some half of all electricity manufactured in Israel is used for air conditioning, heating, and ventilating homes, this phenomenon will definitely bring about an increase in energy consumption, harm the environment, and lower quality of life. This difference of just a few degrees on a hot day can mean uncomfortable temperatures for city residents, disruption of tourists' plans, dehydration and heat stroke.

Among the factors causing the formation of urban heat islands are a lack of urban parks, the construction of tall buildings, sealing off topsoil with asphalt or concrete, and construction which doesn't incorporate full-grown trees close to buildings. In order to minimize this phenomenon, buildings higher than eight floors should not be built, stretches of parks and forests should be established equally and uniformly throughout the metropolis, and full-grown trees should be planted on every street.

// The Ecological Smart Street

Innovative conveyor belts, smart use of trees, smart construction of street networks – wise use of these concepts will make getting around the city convenient, pleasant, and more ecological.

The biggest potential for energy savings in transportation is in lowering the amount of travel within the metropolis. This can be done without harming the quality of life for residents or visitors while at the same time improving the daily experience and easing mobility for people in the metropolis. Recently the Ministry of Environment decided to transfer 3 million shekels to the Jerusalem budget in order to promote plans to encourage a decrease in city travel.

The Jerusalem 5800 Plan sets three tools for achieving this purpose:

- ▶ Making all streets in the region comfortable, shaded areas.
- ▶ Creating a “network” of routes and multiple options for getting to any destination.
- ▶ Establishing a network of free public pedestrian conveyor belts.

Israelis waste a lot of time driving. About 50% of all inner-city travel are short trips (up to 2,000 meters): driving the kids to school in the morning, or running errands such as the post office, pharmacy, or the bank. Each person’s decision to do these by car or by foot is very much influenced by how convenient it is to get around.

A person walking an average of 5 km/hr will cover 2 km in 25 minutes. Research shows that when there is a convenient alternative to driving, like a pleasant, shady walk, many people will give up the short drives, which are half of all city driving, and walk. If indeed half the driving were to take place in the city, use of petrol and air pollution would decrease in accordance.

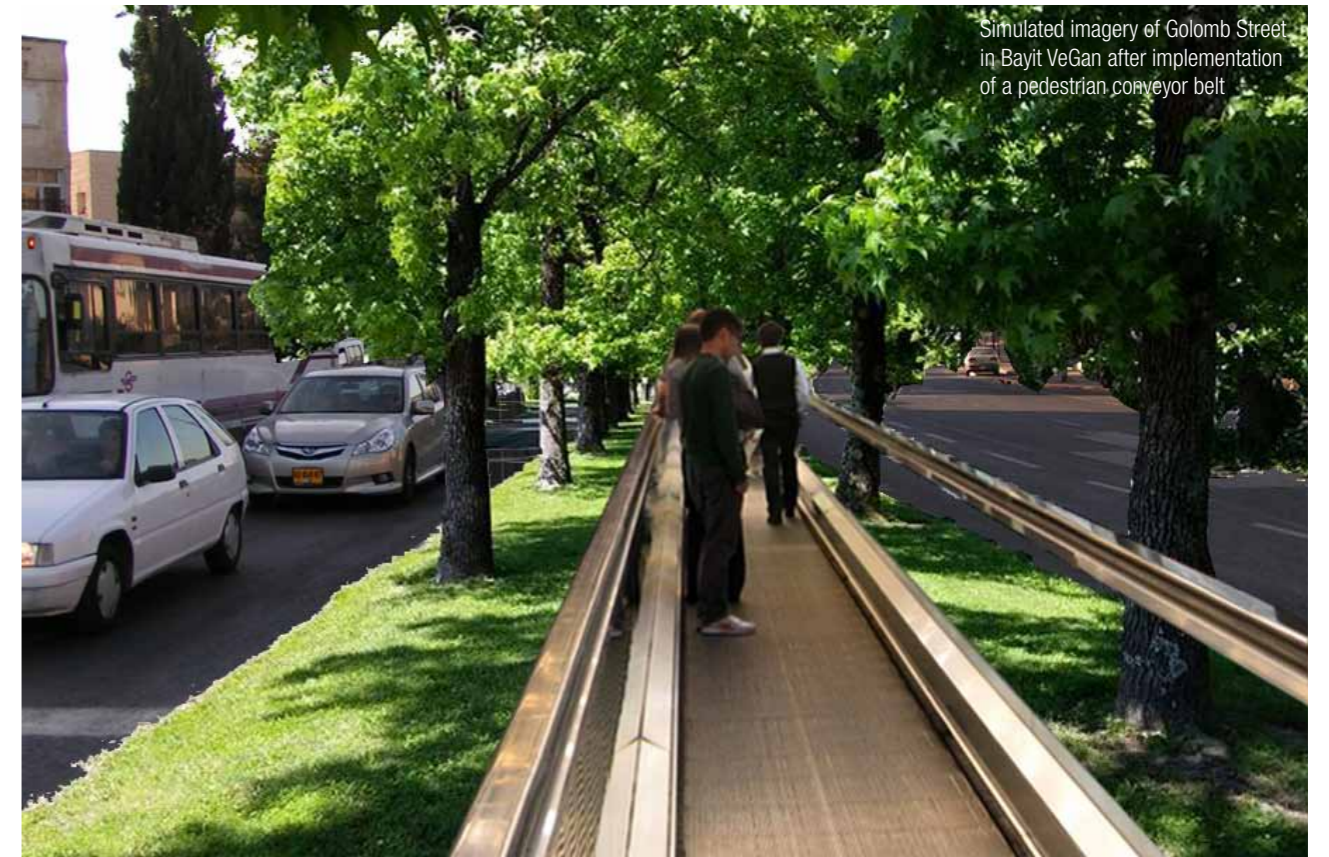
Pollution from cars could be lessened to a third of current levels by switching

Pollution from cars could be cut to a third of current levels by switching from tree-shaped street planning to grid-shaped planning

from tree-shaped street planning to grid-shaped planning. Grid planning allows one to always choose the shortest route, saving time and lowering distances, which cause pollution.

The air pollution from cars can be cut in half again by incorporating moving sidewalks throughout the city. Space for such a sidewalk could be set apart on any sidewalk wider than 2.2 meters. The source of energy for the sidewalk would be solar, and its use would be free. The average speed would be 10km/hr (twice the speed of walking). This would mean that people could “walk” greater distances by sidewalk and the number of trips taken in the city could be lowered even more.

The total cost for building such conveyor belts would be NIS 16,000 per meter (as opposed to NIS 307,000 per meter for subway infrastructure). Besides electricity expenses, there are almost no routine expenses to running the belt, as opposed to a subway, which requires expensive routine maintenance. Many rabbis hold that a pedestrian conveyor belt



Simulated imagery of Golomb Street in Bayit VeGan after implementation of a pedestrian conveyor belt





is similar to a Shabbat elevator, and even religious people would be able to use it on Shabbat, decreasing air pollution all week.

The existence of a pedestrian conveyor belt on any given street is expected to significantly lessen the number of cars traveling through the neighborhood streets. Use of conveyor belts will solve transportation accessibility for people with disabilities and babies in strollers. Free moving sidewalks will especially help weaker populations – particularly those with many children.

For a small, largely one-time investment, any street with enough space for a 4-meter or more traffic island can become a beautiful boulevard where two rows of trees envelop a moving sidewalk. Such transformation, inexpensive and simple to implement, is possible on almost all Jerusalem roads, such as Derech Hebron, Zvia and Yitzhak, Moshe Baram, Kanfei Nesharim, Yirmiyahu, Ben Gurion, and many others.

There is good potential for creating a 10 km ring of boulevards, incorporating conveyor belt sidewalks for public transportation, a green expanse, and tourist and commerce points along. In the initial stage, it is proposed that a network

The difference in the direction of air flow in Jerusalem in the winter and summer makes it possible to use the same planning elements in all seasons.

of such boulevards connect King David, Agron, Azza, Herzog, and Yaakov Pat Streets and The Railway Park. The ring of boulevards will serve as a place for cultural events and tens of businesses: kiosks, cafés, boutiques, and more. It will serve as an enormous linear park and a real tourist attraction. In the second stage, the network of pedestrian conveyor sidewalks will be set throughout the entire city, and later on, even certain areas in the greater metropolitan region.

The boulevard network will serve as a lively urban expanse, a place for people to

Herzog Street with simulated image of the pedestrian conveyor belt

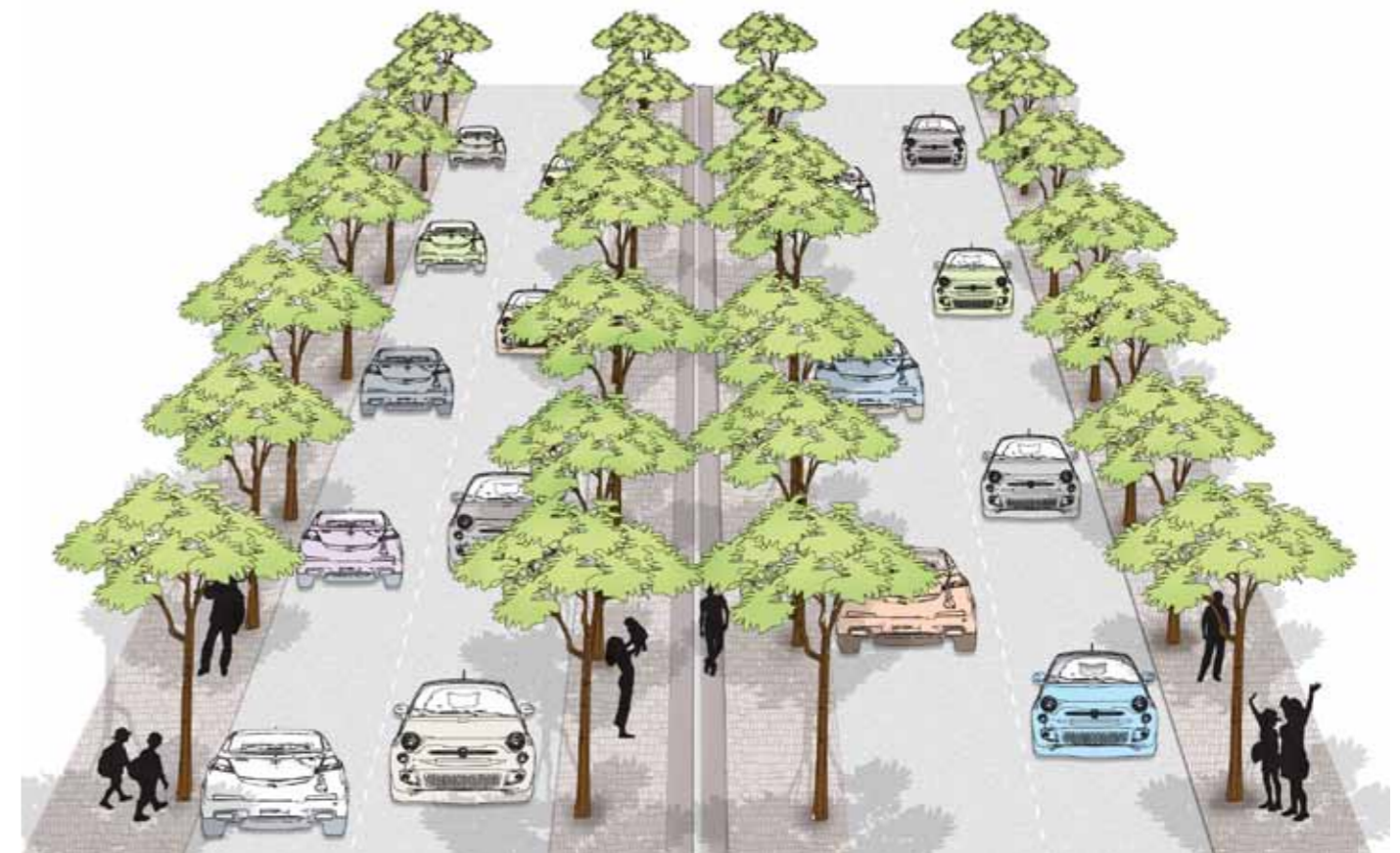
meet and hold social events, an impromptu lounge for alternating art exhibits and a convenient route for all to use in getting around the city. Creating an inclusive infrastructure which is accessible to all of the capital's residents and visitors, and connects its neighborhoods with each other, will increase everyone's ability to enjoy what metropolitan Jerusalem has to offer and bring the periphery and the historical center closer to each other, while effectively making the city center bigger and expediting the development of neighborhoods as a source of attainable housing with new qualities. The ability to get around for free will remove the economic barriers between people, and the ability to get around on Shabbat will remove religious barriers – all of this while significantly lowering air pollution.

There is a significant difference between the winds during the cold season and the hot season in Jerusalem. Cold winter winds bringing rain come in from the west. In

contrast, summer breezes come in from the northwest. The difference between wind flow directions in summer and winter in Jerusalem allow us to use these elements in planning for both protections from winter winds and for taking in the summer breeze.

Plants provide an excellent means of balancing the winds. On one hand, soft, pleasant movement surrounds every leaf and every tree. On the other hand, rows of trees and bushes are much more effective for protecting from strong winds than structures such as walls or buildings. Tall buildings can create a quiet area protected from winds, but ultimately they amplify the winds. When the wind hits a building, there is dynamic pressure on the façade, creating high wind speeds over the ground surrounding the building. Thus, construction of buildings higher than five storeys (about 15 meters) without planting at least one row of trees around it should be avoided. These trees will moderate wind speeds around buildings in the winter.

Four rows of trees, separated lanes, a pedestrian and cycling expanse, and a two-direction pedestrian conveyor sidewalk. Simulated image of a boulevard with a maximum of smart street characteristics



// Renewable Energies

Today, almost all of the electricity in Israel – including that of metropolitan Jerusalem – is created at power stations located on the coastal plain. These stations manufacture electricity by burning coal and gas in a process that pollutes the air. Over recent years, ways to create electricity known as "renewable energy" have been developing. These methods are ecologically cleaner, more economical, and cheap. The Jerusalem 5800 Plan strives to make Jerusalem a progressive city in all ways and to integrate as many renewable energy technologies as possible, as part of the obvious way of planning a metropolis.

1 ▶ Panels for electricity manufacture

Photovoltaic panels are units that receive heat from the sun and sunlight and convert them into electricity. Today installing such systems requires convoluted bureaucracy in terms of planning vis-à-vis the Israel Electric Company. We propose that in the future, the installation of photovoltaic panels with sealing sheets over roofs do not require any authorization. Installation of any other type of photovoltaic panel for the manufacture of electricity over rooftops or windows as shade will be allowed within the framework of limited work permits, in expedited bureaucratic processes.

2 ▶ Home turbines

Extended areas in metropolitan Jerusalem, such as Gush Etzion, Binyamin, and towns on the crest, get strong winds throughout the year. In recent years, manufacture of electricity using wind turbines has been developing. In the hopes of encouraging the use of this technology, installation of home

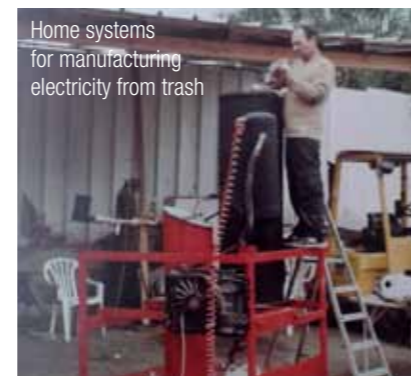
wind turbines, no larger than 1.1 meters, will be allowed within the framework of limited work permits.

3 ▶ Geothermal air conditioning

Geothermal air conditioning is passive, natural air conditioning based on air temperatures in the ground, which at depths of 2 meters or more, remain permanent year-round and are 4 degrees higher than the average temperature in the region. In metropolitan Jerusalem, this is between 20-22 degrees, which is within the range for thermal comfort in both winter and summer. So when an amount of air equal to the volume of that in a given structure is pumped through an underground tunnel, circulating the air four times an hour, thermal comfort temperature can be supplied throughout the house during all seasons. This method enables the use of the earth's thermal mass in a direct manner and with almost no energy loss, and thus, is very effective and economical. Use of this method should be encouraged everywhere possible.

4 ▶ Electricity manufacture from waste

In recent years, technologies for the manufacture of electricity from waste have been in development. The goal is to incorporate metropolitan Jerusalem with national implementation of this technology. Waste remaining after sorting, and waste created on the streets, will be sent to compact facilities where electricity is manufactured therefrom, to be installed on the streets instead of trash cans. The goal is to give up trash cans completely in the metropolitan Jerusalem region by the year 2050 and replace them with facilities for the manufacture of electricity from waste, which are to be hooked up to the city's electricity system.



Home systems for manufacturing electricity from trash

Progressive Trash Removal

Waste management in the metropolis will be based on the following principles (in order of importance): keeping it clean, decreasing generation of waste, reuse, and recycling. In practice, this will be expressed by giving up trash burial almost entirely. Instead, waste will be sorted into three groups in all homes: compostable organic waste, paper, and other.

For this purpose, a pneumatic waste removal system will be built. The pneumatic waste removal system will work in a manner similar to the manner in which fluid waste is removed via the sewage system. In a given building or group of buildings where a pneumatic waste disposal system exists, each floor will have two receptacles – one for wet waste and one for dry waste. The waste goes through the openings into a central system common to the buildings and away from the neighborhood. Once a week, waste is vacuumed through an underground pipe leading to the central system that recognizes the types of waste – wet or dry – and transports them to the appropriate treatment pipe, empties them into a container that compacts it, and separates it from polluted air. The pneumatic removal method is especially suitable for historical areas and those areas where there is tourism within the city, which are frequently characterized by crowds and narrow roads – especially historical areas in Jerusalem. We propose that such a system be installed throughout Jerusalem - first and foremost, in historical areas and areas where there is tourism, and later, throughout the entire city. New neighborhoods with over 2,500 residential units will not be allowed to be built without installing a pneumatic waste removal system.

The pneumatic removal method is especially suitable for historical areas and those areas where there is tourism within the city.



From the house to the waste removal system. Pneumatic waste systems like the one in this picture are especially suitable for use in ancient, crowded urban areas.

// Methodology

General purposes of the plan

- ▶ Creating a base for long-term, cross-border strategic thought, while defining the metropolitan Jerusalem region and starting the ongoing process of discourse with government authorities, the business sector, and social communities in the region.
- ▶ Consolidating a vision for the future and identifying strategies of action that will be important for achieving this desired – and possible – vision.
- ▶ Proposing a comprehensive planning framework that would incorporate physical planning and development of social and economic systems managed from an environmental sustainability approach.
- ▶ Realizing the entirety of metropolitan Jerusalem’s purpose and potential as a culturally, socially, and environmentally sustainable expanse, as a condition for the economic growth of its entire population. This development will create an open space for the transport of people and commercial goods.

The work process and stages of planning

- ▶ In the initial stage, the vision and planning approach were processed conceptually over a period of a year and a half (2010-2011), based on earlier research.
- ▶ This conceptual planning document was sent out to external professionals for review in order to receive additional assessments.
- ▶ In the second stage, a survey analysis of the current situation was prepared.
- ▶ The third stage included a planning

program and general planning, which resulted in the consolidation of this document and its appendices.

- ▶ At the same time, the committee dealt with and continues to deal with the preparation of a detailed plan for the leading projects, for the compounds and specific projects, which may strategically influence the general realization of the plan.

The planning committee and interfacing with authorities

The interdisciplinary planning committee held an ongoing internal thought forum throughout the entire planning process while incorporating the external monitoring committee and the initiating teams during certain periods. Throughout, the team maintained long-term contact with over 30 bodies, including municipal, regional, and local authorities. The team received documents from these bodies exchanged ideas with them and presented the planning committee’s ideas and approaches.

The consultation process included both aspects of the entirety of the metropolitan and urban planning, as well as aspects of the metropolitan tourism center and individual issues regarding regional or local projects. This consultation process was a way of involving the professional public in the consolidation stages of the plan and projects, before distribution of the plan to the general and non-professional public.

Metropolitan planning and the advantages of the master plan

- ▶ Following previous work stages, in which the general vision for the plan was consolidated and a survey conducted on the current situation, a planning policy document was

formed, which included mapping, a draft for the monitoring committee.

- ▶ The general planning stage offers a general planning philosophy for the metropolitan Jerusalem region. This plan incorporates the most progressive models and approaches of the beginning of the 21st century and the most progressive forecasted model and approach for 2050. The plans are based on sustainability that incorporates culture, environment, society, and economy.

- ▶ The proposed planning for metropolitan Jerusalem as a sustainable expanse will enable the realization of the vision for an international city, that serves as a center for spirituality, culture, and tourism.

- ▶ Planning that integrates economic, cultural, and tourism aspects of metropolitan Jerusalem is based on analysis and historical, economic, and geographical understanding of the ancient region of Jerusalem from the times of the temple periods.

- ▶ The spiritual and cultural tourism in Jerusalem will be an important economic basis for Jerusalem’s status as an international city.

- ▶ This spiritual and cultural tourism strives to realize the experiences rooted in the region’s historical, cultural, and spiritual past, while making accessible the cultural and ritual sites, landscapes, and ancient agriculture.

- ▶ The plan is not statutory and can be flexible. The plan serves as an overall framework for partially-detailed plans that may stem therefrom and a basis for an outline, development plan, or other plans.



