Shared Perspectives of Divided Space: Perceptions of the Urban Environment among Jerusalemites

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Shared Perspectives of Divided Space:
Perceptions of the Urban Environment among Jerusalemites

A thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts in Geography

by

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University of Arkansas
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Abstract

Multidisciplinary research and philosophical discourse have long explored the complex relationship between the objective environment and subjective human perception. No two humans perceive, experience, and form attitudes about the same phenomenon in exactly the same way. Individual demographics (sex, age) and group identity (culture, religion, ethnicity, political ideology) have been shown to have a profound effect on perception of phenomena; research has also focused on the effect of the physical environment itself. Differences in perception, experience, and resulting behavior have great implications for governance, particularly in regards to planning and development. Recognizing these differences, modern urban planning increasingly seeks to include varying degrees of public participation in the planning process, in order to promote inclusiveness and citizen empowerment. The inclusion of measurement and analysis tools, such as survey questionnaires and Geographic Information Systems (GIS), enable policymakers, planners, and researchers to support their findings and formulate planning strategy by utilizing objective, quantitative data. While previous research has explored perception differences between the sexes, between residents of different cities, and within specific religious groups, there has been little exploration or quantitative measurement of differences in environmental perceptions and attitudes among the diverse, multicultural residents of Jerusalem, a divided city with myriad planning, development, and equality issues.

In the summer of 2012, 225 Jerusalemites of varying religious, demographic, and social backgrounds completed a questionnaire survey that was designed to quantify their individual environmental perceptions, opinions of the city’s growth, and priorities for urban development. While the results indicated great differences between the urban experiences and perceptions of Israeli and Palestinian Jerusalemites, it was also found that these populations—commonly characterized as enemies by popular media and their respective political establishments—shared
many issues in their day-to-day lives, particularly transportation accessibility, utility provision, unemployment, and housing availability. The majority of respondents indicated that cooperation between Israelis and Palestinians is necessary to solve such issues. These shared issues, experienced in spaces that are segregated as a result of past and ongoing governmental action and cultural divisions, may act as the foundation for cooperative solutions that seek to improve the lives and urban experiences of all Jerusalem residents.

Keywords: environmental perception, survey questionnaire, participatory planning, Geographic Information System (GIS), Jerusalem, Israel, Palestine
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To my parents, my friends, and мой медвед: thank you, from the bottom of my heart, for your endless support, encouragement, and love.
Dedication

This research is dedicated to the people of Jerusalem.
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I. INTRODUCTION

“It seems to me that all the races and colors and tongues of the earth must be represented among the fourteen thousand souls that dwell in Jerusalem.”

M. Twain, 1869

“The problem is, this is not a real dialogue...[but] two monologues. The Israelis want peace and security, and the Palestinians want peace and justice. It sounds similar, but these are two very different sets of emotions and feelings. Nobody talks about this because nobody knows how to quantify feelings and emotions.”

Yair Lapid, Israeli Minister of Finance, 2013

City planning is an official endeavor that has a tangible impact on the average citizen, regardless of whether or not they were involved in the planning process. Even in the most democratic societies, planning schemes and development initiatives are commonly perceived as the purview of trained experts, elected officials, and the wealthy. City and regional plans can be designed and implemented without the awareness, understanding, or consent of the citizens whom they affect on a daily basis; however, the citizens of such societies have legitimate avenues for protest, legal recourse, and resistance. When it comes to planning and development under more autocratic governments, the citizen’s lack of power and expression has manifested, in part, in forced migration, unannounced housing demolitions, and slum clearance without satisfactory reaccommodation or compensation (Dupont, 2008; Hwang et al., 2007; Kulkarni, 2012). However, in recent decades various governmental and non-governmental organizations have taken steps to incorporate varying degrees of public participation into the official planning process, employing diverse methods with mixed results (Cohen-Blankshtain et al., 2013; Shmeuli 1998; Shmueli & Kipnis, 2008).

Considering the great variety of backgrounds, needs, worldviews, and levels of environmental awareness expressed among diverse populations, particularly in densely-populated urban settings, is creating a planning scheme that fully satisfies each and every citizen
even feasible? Depending on demographics, cultural background, past experiences, education, mood, and a variety of other idiosyncrasies, each person perceives and forms ideas about the same phenomenon or space in a way that is unique to them alone (Lowenthal, 1961; Lynch, 1960; Tuan, 1974). Association—by birth or by choice—with a certain group or ideology can affect perception, and it is not uncommon for individuals within the same cultural, religious, or ethnic group to similarly perceive and ascribe meaning to phenomena, and to form similar attitudes about the same (Paradise, 2005; Vaughan and Nordenstam, 1991). Similar environmental attitudes and worldviews have also been observed among members of the same gender, age group, socioeconomic status, and level of education (Raudsepp, 2001). Conversely, some research indicates that environmental worldviews correlate more with the conditions of the percipient’s objective environment than with any socioeconomic or demographic characteristics (Brody et al., 2005; Crow et al., 2006; Drori & Yuchtman-Yaar, 2002). The formation of similar perceptions, attitudes, and worldviews among certain groups can ultimately result in similar behavior (Schiff, 1970; Wood, 1970), which has significant implications for planning, development, and governance. This is especially true if public participation methods are to be employed in government processes. Because environmental perceptions, attitudes, and worldviews are not directly observable—except in the behavior that they foster—researchers have commonly employed survey questionnaire and interview techniques in order to quantify, analyze, and compare these psychological components among diverse individuals and groups throughout the world (Mesch & Manor, 1998; Paradise, 2005; Strier, 2005).

There are few cities where the world's spectrum of culture, ethnicity, ideology, and spirituality shines as brilliantly as in Jerusalem. The city’s rich, multi-millennial history and diverse population reflect its longstanding role as the cultural and commercial crossroads of Africa, Asia, and Europe. It has been the stage for the narratives of some of the world's most
powerful and pervasive spiritual traditions, and is thus perceived as the center of the world by
many devout Christians, Jews, Muslims, and followers of other religious traditions. This history
of multicultural and multi-faith mixing in close quarters has not been without discord,
segregation, or violence. Today, as in many periods throughout its history, Jerusalem is known
more as a ground for geopolitical conflict than harmonious congruence. Proclaimed as the capital
of both the State of Israel and the inchoate State of Palestine, and home to hundreds of thousands
of members of both communities, modern Jerusalem is a city split along ethnic, religious, and
sociopolitical lines; going deeper, within these broad brushstrokes are shades of class, clan,
piety, and partisanship that create their own, often violent, internal strife. Yet, for the most part,
the city’s diverse residents coexist and interact on a daily basis, individually and collectively
experiencing the same urban landscape in a way that is unique for each person within each
diverse group.

Depending on whether they identify or are identified as Israeli or Palestinian—a
sociopolitical distinction that blurs the lines of ethnicity and religion—a Jerusalemite can
experience the same city quite differently. Although many of the physical barriers separating
Palestinian East Jerusalem (under Jordanian control for three decades following the
establishment of Israel in 1948) from Israeli West Jerusalem have been removed, a great chasm
separates the two halves not only in terms of the political rights and quality of life of residents
but also in terms of infrastructural, economic, and community development. The reunification of
the city following Israel’s victory over Jordan in 1967 revealed that, in the decades the city was
physically divided, Israeli Jerusalem had thrived while Jordanian Jerusalem stagnated. Today,
after more than four decades after reunification, the relative lack of modern development in East
Jerusalem still affects the daily lives of Palestinian residents in ways that are obvious to the
naked eye. A significant power imbalance and communication disconnect exists between the
Israeli authorities and the Palestinian community; discriminatory planning policies and development initiatives are not only common, but are the norm. Because most Palestinian Jerusalemites lack Israeli citizenship by choice, they often find themselves disenfranchised, disillusioned, and at odds with official Israeli planning, which consciously and unabashedly seeks to limit the geographic and demographic growth of Arab Palestinian communities in Jerusalem while fostering that of Jewish Israelis. This disproportionate situation has created a pressing, undeniable need for reform of planning practices in Jerusalem, with an emphasis on more democratic, inclusive planning and cooperation between citizens and officials on both sides. Undeniably, a prerequisite for such reform is the mutual recognition and understanding of the goals, needs, mindset, and basic existence of the “Other”.

The goal of this research was to assess how key demographic, cultural, and socioeconomic factors impact perceptions of, and attitudes toward, Jerusalem’s complex urban landscape morphology and the processes at work within it. This assessment relied on survey questionnaires administered to people who live, work, and attend school in Jerusalem. It was anticipated that the survey responses would enable comparisons between and tentative conclusions about environmental perceptions and attitudes among Jerusalem’s diverse demographic groups. A review of previous research involving environmental perception and urban planning, as well as Jerusalem’s historic and current planning policies, provided precedent and context. Participatory planning methods—those incorporating some degree of public participation in the planning process—were considered, particularly in regards to their effectiveness in a multicultural and conflicted urban environment in the modern world. The usefulness of geographic information systems (GIS), including participatory GIS, for facilitating comprehensive, effective planning decisions and helping to solve Jerusalem’s many planning issues, was also advanced.
Although Jerusalem is the crux of the Israeli-Palestinian conflict, given the proximity and undeniable interdependence of the city’s two polarized communities—not to mention the myriad other cultural, religious, and ethnic populations present between and within these catch-all demonyms—it is also an ideal environment for dialogue, cooperation, and the promotion of shared interests. This research seeks to discover those interests through the systematic assessment of environmental perceptions, attitudes, and worldviews among the city’s diverse individuals and groups. Further evaluation and promotion of common activities, values, concerns, and goals, by researchers, elected officials, and citizens, Israeli and Palestinian alike, has the potential to foster inclusive, empowered planning decisions and the development of a city that is livable for all residents, shared instead of divided.
II. STUDY SITE

1. Location and Natural Environment

Jerusalem is wedged into a prominent crook in the border between Israel and the Palestinian territory of the West Bank. The city covers 125 km$^2$ (48 mi$^2$ or 125,000 dunams) of valleys and ridges within the Judaean Mountains, ranging between 600-850 meters in elevation (Israel Regional Database, 2005). To the west, rocky pine-covered mountains slope down into rolling foothills and the fertile coastal plain, meeting the Mediterranean Sea within 60 km (37 mi). To the east, the harsh Judaean Desert sprawls for approximately 23 km (14 mi) before dropping sharply into the Jordan Rift Valley and meeting the Dead Sea, a hyper-saline lake that is the lowest point on the Earth’s surface (Gertman and Hecht, 2002) (Figure 2.1.).

Surrounding Jerusalem, and throughout the West Bank, is a patchwork of Israeli and Palestinian communities of varying sizes. Only 10 km (6 mi) to the north of Jerusalem is the bustling and crowded town of Ramallah, the de facto administrative, political, and economic center of the Palestinian government and community in the West Bank. Hebron, the most populous Palestinian city in the territory, is 30 km (19 mi) to the south. Approximately 45 km (30 mi) to the northwest is the densely-populated Tel Aviv-Jaffa Metropolitan Area, a series of rings radiating from Tel Aviv and connecting large cities, smaller villages, farmland, and kibbutzim (collective farms); 3.2 million people, about 42% of Israel’s population, live within an area of less than 600 square miles (Central Bureau of Statistics, 2012a). South of Tel-Aviv is the Gaza Strip, one of the most densely-populated territories in the world with a population density of more than 5,000 people per square mile. The territory capital, Gaza City, is home to over 500,000 Palestinians, making it the largest city in Palestine.
Figure 2.1. Map of Israel, the Palestinian Territories of the West Bank and Gaza Strip, and Surrounding Nations (Created by the author).
The Jerusalem municipality is divided into sixteen quarters, which are further divided into 52 sub-quarters or neighborhoods, whose populations are largely Israeli or Palestinian (Figure 2.2.). Jerusalem’s physical, spiritual, and cultural core is the walled Old City, which is divided into four distinct ethno-religious quarters: Armenian, Christian, Jewish, and Muslim. Within these quarters are some of the most revered sites of Christianity, Islam, and Judaism. The Old City sits between the Kidron and Hinnom Valleys, and covers the Tyropoeon Valley; the highest points in the Old City are Mt. Moriah in east and the southwestern hill of Mt. Zion. Over the centuries the walls have expanded and contracted, with the current walls dating to 1541 CE. In the mid-19th century, large-scale permanent settlement expanded out of the Old City walls in all directions, creating the modern, dynamic New City. Some of the first modern settlements outside of the walls were those of the Haredim or Haredi Jews, also known as Ultra-Orthodox, although some in the community consider this term pejorative (Shafran, 2014). Today these communities remain highly insular islands of strict tradition and religious observance, often conflicting with aspects of mainstream Israel’s modern secularism.

To the east of the Old City are three peaks: Mount Scopus to the northeast; the Mount of Olives directly east, across the Kidron Valley; and the Mount of Corruption or Mount of Defense to the southeast. Atop Mount Scopus is one of the four campuses of Hebrew University, Israel’s top university. To the West of the Old City, across the Hinnom Valley, the New City rises up to Mount Herzl, the site of Israel’s national cemetery. Jerusalem experiences an exceptionally pleasant Mediterranean climate. The area receives an abundant 3,400 hours of sunlight a year (Alpert, 1991) and experiences high amounts of rainfall, around 550 millimeters (21 inches) annually, mostly between November and April (Israel Meteorological Service, 2007). Rainfall feeds the city’s subterranean network of springs and aquifers, which were crucial water sources for ancient Jerusalem and remain important spiritual and cultural resources for modern
Jerusalemites. These springs and aquifers are features of the area’s karst topography, resulting from dissolution of the regional bedrock of Late Cretaceous limestone, dolomite, and chalk (Amiel et al., 2010). This bedrock’s multi-colored varieties of limestone, known collectively as “Jerusalem stone”, have been quarried for millennia to build structures throughout the city, including the Western Wall, the Church of the Holy Sepulchre, al-Masjid al-Aqsa (“the Farthest Mosque”), and the various reincarnations of the Old City walls.

Figure 2.2. Quarters and subquarters of Jerusalem, by majority population group (Created by the author; adapted from Jerusalem Institute for Israel Studies, 2015).
Due to Jerusalem’s cultural, historical, and spiritual significance, the preservation of its unique landscape and cultural heritage is a top priority for Israeli and Palestinian authorities, as it was for the British before them. Building and planning regulations that sought to maintain the city’s character—such as limiting building height, banning industrial construction, and mandating the use of stone on certain buildings—were established under British rule in the 19th century (Efrat & Noble, 1988). The city functions primarily as an administrative, political, and cultural center; industrial and manufacturing activities are limited. When compared to Israeli and Palestinian cities of comparable size, but with higher levels of commercial and industrial activity (such as Tel Aviv, Haifa, or Gaza City), Jerusalem enjoys a higher level of environmental quality and lower levels of environmental hazards, such as air pollution and traffic congestion (Drori & Yuchtman-Yaar, 2002). In particular, level of the air pollutants Carbon Monoxide (CO) and Nitrogen Oxides (NOx) are consistently lower in Jerusalem than in Tel Aviv-Jaffa (Jerusalem Institute for Israel Studies, 2015g). The municipality maintains a large number of public parks, gardens, “green corners”, and other green spaces, totaling an area of approximately 1,500 acres (Jerusalem Institute for Israel Studies, 2013a). Western Jerusalem is also bordered by 300 acres of new-growth pine forest. Public parks are common in West Jerusalem, numbering over 1,000; 45 public parks can be found in East Jerusalem, although it covers a larger area (B’Tselem, 2011).

Jerusalem is traversed by a public transportation system of light rail and city buses, and is connected to the rest of Israel and the West Bank by train, intercity buses, and highways. The Jerusalem Light Rail, completed in 2011, travels 13.5 km between Mount Herzl in the southwest and the Jewish suburb of Pisgat Ze’ev in the northeast. The public bus system, made up of 68 bus lines with 1,545 stations, covers West and East Jerusalem. Despite efforts by some Haredi (strictly Orthodox Jewish) fringe groups, public transportation is not officially segregated by
gender. Jerusalem’s public transportation system is highly utilized by both residents and tourists of all stripes. The light rail line is accessible to all residents and visitors, and announcements are made in Arabic, English, and Hebrew. In 2012, there were 105,000 boardings of the light rail line and 441,019 boardings of the buses per weekday (Jerusalem Institute for Israel Studies, 2013d). East Jerusalem is served by a separate fleet of 285 public buses, which do not venture into West Jerusalem. Between 1998 and 2014, the number of passengers utilizing the East Jerusalem public transportation system, increased from 18,000 to 91,280, and the number of daily trips from 725 to 3,528 (Jerusalem Institute for Israel Studies, 2015f).

Given the city’s history of physical separation, many residents appreciate the connectivity the system provides between the city’s diverse neighborhoods and between residents who might not interact otherwise. As one older Jewish resident commented in 2011, “I never spoke to an Arab before I rode this tram” (Teller, 2011). In a city separated by strong sociopolitical divisions, the light rail tram is a shared space where diverse Jerusalemites interact peacefully on a daily basis. An Orthodox Jewish man or gun-toting female Israeli soldier riding next to a Muslim woman in hijab or an Arab youth in a keffiyeh (a scarf commonly used to symbolize Palestinian nationalism) is a common sight. However, although the light rail was constructed with the goal of connecting and promoting community between Jerusalem’s disparate halves, a recent slew of attacks on Jerusalem’s public transportation—climaxing in the summer of 2014, during increased hostilities between Israel, Hamas in the Gaza Strip, and Palestinians in the West Bank—have created palpable tension and conflict within what was once a shared communal space. As in other contexts, it is common for violent outbursts by both Israelis and Palestinians to concentrate on centralized, active transportation modes and nodes.

Although the Jerusalem municipality, as a whole, encounters lower levels of environmental hazards compared to other large Israeli or Palestinian cities, the environmental
quality of East Jerusalem is inferior to that of West Jerusalem. In East Jerusalem basic services and infrastructure, such as connection to water or sewage networks, water treatment, solid and medical waste disposal, and street and sidewalk maintenance, range from nonexistent to insufficient, creating hazardous, substandard living conditions for residents of East Jerusalem residents, who are mostly Palestinian Arabs (Dumper, 1992; Isaac & Hosh, 1997; Kaminker, 1997). Because it is extremely difficult for a Palestinian resident to obtain a permit for housing construction or renovation, which is required for official connection to the main water and sewage networks, many Palestinians must resort to illegal, unlicensed connections; over half of Palestinian Jerusalemites are connected to the water network illegally, and over a third are not properly connected to the sewage systems (EWASH, 2010). Even when homes are connected legally, the existing water and sewage infrastructure in East Jerusalem is so dilapidated that some residents must rely on septic tanks; at times, sewage overflows into streets and streams, posing a massive health risk for Palestinian and Israeli residents.

This situation is due not only to strict housing regulations and a discriminatory planning regime, but also to a lack of adequate municipal investment in infrastructural improvement. West Jerusalem and Jewish neighborhoods in East Jerusalem have, since the city's reunification in 1967, received the lion’s share of investment by the municipality, in spite of the fact that non-Jewish Jerusalemites pay the same municipal taxes (known as Arnona) as their Jewish counterparts (Bollens, 1998b; Dajani et al., 2013). As a result, the environment of East Jerusalem in particular, like its residents, has suffered the consequences. The inequality of planning policies, infrastructural development, and service provision between West and East Jerusalem is systematic, and a lack of sensitivity to the most basic needs of Palestinian Jerusalemites is deeply ingrained in the municipality's modern planning policies and initiatives. The causes and effects of such discriminatory planning and development policies are discussed in detail in Chapter III,
Section *Planning in Jerusalem.*

2. Population and Sociopolitical Distinctions

Jerusalem has been claimed as the capital of the State of Israel and as the capital of the State of Palestine, formerly the Palestinian National Authority (The Associated Press, 2013; Whitbeck, 2013). Both claims are disputed. In 1949, Israeli Prime Minister David Ben Gurion declared West Jerusalem the capital of Israel and ordered the immediate transfer of government offices from Tel Aviv to Jerusalem (The Knesset, 2003); however, due to Jerusalem’s status as an international city under United Nations resolutions, most foreign governments kept their embassies in Tel Aviv. In 1980, the Basic Law of Jerusalem proclaimed that the entire city, both East and West, was the unified, “eternal” capital of Israel (The Knesset, 1980). East Jerusalem—the area of the city under the control of the Hashemite Kingdom of Jordan from 1948 to 1967—was declared the capital of the State of Palestine in 1988 by the Palestinian National Council, the legislative arm of the Palestinian Liberation Organization (PLO) (United Nations General Assembly, 1988). Jerusalem is the capital and largest city within the Jerusalem District, one of the State of Israel’s six administrative districts, and the capital and largest city of the Jerusalem Governorate, one of the sixteen administrative areas of the State of Palestine.

Jerusalem is divided socially, geopolitically, and, in certain areas, physically along the Green Line—the border between Israel and Jordan from 1948 to 1967. This former border separates the city into East Jerusalem, which has a majority of Arab Muslims who identify as Palestinian, and West Jerusalem, which is mostly Jewish Israelis. Since the city’s reunification in 1967, ease and frequency of movement between the two areas of the city has improved, although Palestinian neighborhoods are notoriously isolated from each other and from the rest of the city by the high concrete separation barrier (called the “security fence” by Israeli authorities) and the various roadblocks that Palestinian residents must pass through every day. Arab neighborhoods
exist in West Jerusalem and Jewish neighborhoods exist in East Jerusalem; however, the latter is much more controversial than the former. Settlement of Jewish Israelis in East Jerusalem is a contentious practice denounced by the Palestinian, Arab, and international communities. Jewish neighborhoods established in East Jerusalem after 1967 are often built on traditionally Arab land that was expropriated, seized, or bought from Palestinian owners following the annexation of East Jerusalem. Such activity—land seizure, politically-motivated building restrictions, and state-led settlement that promotes a Jewish demographic majority—occurs throughout the West Bank. In 2012 the Palestinian Central Bureau of Statistics reported that there were 7 Israeli citizens (termed “settlers”) for every 10 Palestinians living in the Jerusalem Governorate, for a total number of 262,000 settlers throughout 26 settlements (Palestinian Central Bureau of Statistics, 2012a).

As a center of culture, spirituality, and politics, Jerusalem mirrors the diversity of Israeli and Palestinian society. As of December 2015 the population of Israel was estimated at 8.48 million, a 2% increase from 2014 (Central Bureau of Statistics, 2015b). The population consisted of 6.4 million Jews, 1.8 million Arabs (including Muslims, Christians, and Druze), and 370,000 other residents (including non-Arab Christians, Armenians, Bahá’ís, Buddhists, Circassians, Hindus, and Samaritans). At the end of 2015, the projected population of Palestine was 4.75 million, with 2.9 million residing in the West Bank and 1.85 million in the Gaza Strip. The majority of residents of the Palestinian territories are Arab Muslims, with a significant Christian minority. Approximately 43% of the Palestinian population in Palestine are defined as “refugees” by the State of Palestine (Palestine Central Bureau of Statistics, 2015). Over 1.2 million refugees live in the densely populated 141 square miles (365 square kilometers) of the Gaza Strip, and camps throughout the West Bank hold around another 750,000 people. Camps near Jerusalem include Dheisheh (13,000 people), Shu’afat (11,000), and Qalandia (11,000),
which are considered part of Greater Jerusalem and thus under Israeli authority (UNRWA, 2015). Myriad problems, including overcrowding, high unemployment, and insufficient infrastructure (especially sewage) plague many of the camps and their residents. In addition, the number of Jewish Israelis living in the West Bank continues to grow, often to the detriment of existing Palestinian communities, as Israeli communities often enjoy preferential access to land, water, and other resources.

During 2015, 28,000 people immigrated to Israel, including 7,000 from France, 6,720 from Ukraine, and 6,440 from Russia. Immigration from Ukraine and Russia can largely be attributed to ongoing political instability and a continuing trend, since the dissolution of the Soviet Union, of Eastern European Jews migrating from former Soviet states. The surge of immigration from France to Israel over the past two years was cited as an effect of both France’s stagnant economy and of “a seemingly greater acceptance of anti-Semitism” in France (Bilefsky, 2014); in addition to lethal attacks on a Jewish school in 2014 and kosher supermarket in 2015, a French watchdog group recorded 508 anti-Semitic incidents between January and May 2015, a quarter of which were categorized as violent (Kaplan, 2015).

The population of Jerusalem totals 830,000, of which 61% (506,000) are Jewish, 36% (299,000) are Muslim, and 2% (17,000) are Christian (Jerusalem Institute for Israel Studies, 2015b). The maintenance of either a Jewish or Muslim demographic majority in Jerusalem is a common and controversial topic among residents, as both populations vie for physical, cultural, and political control of the city. Between 1988 and 2013, both populations increased steadily; however, while the Muslim population grew from 25 to 36% of the city’s population, the Jewish population declined from 72 to 61%. The fertility rate in Jerusalem (3.87) is higher than the Israeli average (3.03), with Jewish Jerusalemites having a higher fertility rate than Muslim Jerusalemites (4.28 versus 3.46, respectively) (Jerusalem Institute for Israel Studies, 2015e).
Both populations are also relatively young. With a median age of 23.7, the population of Jerusalem as a whole is young compared to the populations of Israel (29.6), Tel Aviv (35.2), and Haifa (38.2). The median age for the Muslim population (20) is lower than that of the Jewish population as a whole (25.7) and that of Arab Christians (33.6); however, the median age among Haredi Jews is 18 (Jerusalem Institute for Israel Studies, 2015c).

Jerusalemites are highly diverse in terms of culture, language, ethnicity, religion, and their country of origin. Such diversity provides an ideal environment for the study of how such factors affect environmental perception, attitudes, and worldviews within an urban context. Approximately 511,400 residents of Jerusalem are classified as “Jews and Others” and 293,000 as non-Jewish “Arabs” (Jerusalem Institute for Israel Studies, 2013b). After Gaza City, the coastal capital of the Gaza Strip, Jerusalem has the second-largest Arab Palestinian population in Israel and Palestine. The vast majority (around 93%) of Jerusalem's Arab Palestinian population are not classified as citizens of Israel, but as permanent residents, a distinction that carries great sociopolitical and legal weight. Permanent residents live and work in Israel without any special permits, are able to vote in local municipal elections, and are entitled to health insurance and other benefits through the National Insurance Institute; however, they cannot vote in national elections, their residency status cannot be passed to a spouse or child (except under certain conditions), and they are not granted “the right to return to Israel at any time” (B’Tselem, 2010). Although permanent residents have municipal voting rights, most choose to abstain from voting as a form of political protest against Israel. This decision severely limits Palestinian representation and engagement in municipal processes, including planning and development (Cohen-Blankshtain et al., 2013). However, in recent years, the Israeli government has experienced an uptick in the number of East Jerusalemite Palestinians applying for Israeli citizenship. While only 114 Palestinians applied in 2003, 1,434 Palestinians applied for
citizenship between 2012 and 2013, of whom 189 were approved and 169 were rejected, with the rest remaining in bureaucratic limbo (Lubell, 2015).

There is great cultural, linguistic, and spiritual diversity among Jerusalem’s Christian, Jewish, and Muslim residents. As of 2011, approximately 117,000 Jewish Jerusalemites were born abroad. The majority (around 83,000) immigrated from Europe and the Americas (especially the former Soviet Union, Poland, Romania, and France), with an additional 20,000 from Africa (Ethiopia, Morocco, Algeria, and Egypt) and 14,300 from Asia (Turkey, Iraq, Yemen, Iran, and India) (Central Bureau of Statistics, 2012b). There is also a very small community of Jews from Kaifeng, China, numbering less than 20 (Haas, 2011). All of these immigrants (*olim*) are part of *aliyah*, the mass migration of Jews to Israel from throughout the world; *aliyah* (“ascent”) is a basic tenet of Zionism, or Jewish nationalism. Jerusalem is a common first place of residence for new immigrants to Israel. In 2011, 15% of all new immigrants chose to settle in Jerusalem, compared to 5% in Tel Aviv and 7% in Haifa (Jerusalem Institute for Israel Studies, 2013f). This trend is due, in large part, to government policies that seek to maintain a strong Jewish demographic majority in the capital city by providing incentives to *olim* who settle there.

Various sects of Islam, including Sunni, Shī‘a, and Sufi, are represented in Jerusalem, as are various denominations of Christianity, such as Greek Orthodox, Russian Orthodox, Roman Catholic, Ethiopian Orthodox, and Egyptian Copts. There are significant populations of Armenians, Bahā‘īs, Bedouin, Circassians (former inhabitants of the Caucasus region), Druze, Persians, Mormons, and Turks. The Old City of Jerusalem is home to a small community of 1,000-2,000 Domari, a formerly nomadic people who practice Sunni Islam and are ethnically related to the Western European Romani, known colloquially as “Gypsies” (Shafrir, 2011: 497). There are also sizable populations of Filipino, Chinese, and Thai migrant workers (Ellman &
Lacher, 2003) and expatriate communities hailing from throughout Asia, Europe, Africa, and the Americas. This amalgam of cultural backgrounds contributes to remarkable linguistic diversity within the city. The majority of residents speak Hebrew and/or Arabic (Israel’s two official languages), and many can speak English, but a great variety of other languages are also spoken, including Russian, Amharic, Yiddish, Armenian, Marathi (one of India's 23 official languages), Romanian, Circassian, Domari, French, Italian, German, Chinese, Tagalog, Thai, Turkish, and Persian; furthermore, over 35 different languages are spoken throughout Israel (Language Policy Research Center, 2013).

Israeli Jerusalemites are, on average, poorer than residents of Tel Aviv, Haifa, and Israel as a whole. The average monthly wage for Jerusalemites in 2010 was 7,639 New Israeli Sheqel (NIS) (about $2,150), while Tel Avivim earned 10,837 NIS, Haifans earned 9,924 NIS, and the average Israeli earned 9,013 NIS (Jerusalem Institute for Israel Studies, 2013c). Palestinian Jerusalemites are, on average, wealthier than Palestinians in the West Bank and Gaza Strip, with increased employment and education opportunities; however, as of 2010, 77% of Palestinians in East Jerusalem live below the poverty line, compared to 25.4% of Jewish Jerusalemites (UNCTAD, 2013). The poverty rate among Haredi families is higher than among other Jewish families and, while the Arab poverty rate decreased slightly from 2012 to 2013 (from 54% to 52%), the poverty rate increased significantly among the Haredi population, from 65% to 74% (Jerusalem Institute for Israel Studies, 2015h). In 2011 the per capita GDP (per capita income) in the West Bank (excluding East Jerusalem) was 6,945 NIS ($1,955) and 3,769 NIS ($1,061) in the Gaza Strip (Palestinian Central Bureau of Statistics, 2012b).

For both Israeli and Palestinian Jerusalemites, rates of participation in the workforce are lower than those in the rest of Israel. Between 2008 and 2011, the rate of participation in the Jerusalem workforce (“employees as well as unemployed persons who were actively seeking
work, over the age of 15”) was 50% among the Jewish population (compared to 61% in Israel) and 37% for the Arab population (compared to 41% in Israel) (Jerusalem Institute for Israel Studies, 2013f). Among Jews in Jerusalem, rates of participation in the workforce are higher for Jewish women than for Jewish men, due to the high number of Haredi men who attend yeshiva (school for the study of Jewish religious texts) full time; this situation is unique to Jerusalem, which has the largest Haredi population in Israel. In contrast, Arab men in Jerusalem have a higher rate of participation in the workforce (59%) than Arab women (15%), who are traditionally discouraged from working outside of the home; a similar trend is present throughout Israel.

Jerusalemites are a distinctly religious group. Between 2011 and 2013, while only 9% of Israeli Jews (20 years and older) identified themselves as Haredi (the most religiously observant branch of Judaism) and 10% as observant, 34% of Jerusalem’s Jews identified as Haredi and 19% as observant; conversely, while 43% of Israelis and 64% of Tel Avivim identify as secular/non-religious, only 20% of Jerusalemites identify as such (Jerusalem Institute for Israel Studies, 2015d) (Figure 2.3.). The non-Jewish population is comparably religious. In the same period, 15% of non-Jewish Jerusalemites defined themselves as “very religious” and 60% as “religious”; only 4% said they were “not religious” and the remaining 21% said they were “not very religious”.
Figure 2.3. Jewish Population Aged 20 and Over in Israel, Jerusalem, Tel Aviv-Yafo and Haifa, by Religious Identification, 2011-2013, from 2015 Jerusalem Statistical Yearbook (Diagram III/18; Jerusalem Institute for Israel Studies, 2015d)

Jerusalem’s crime statistics are particularly intriguing, especially when compared to Israeli cities of comparable size. The volume of crimes committed (by both adults and juveniles) in Jerusalem is higher than in Tel Aviv or Haifa, but the character of the crimes is very different. Of the 16,786 crimes committed in Jerusalem in 2010 (compared to 9,419 in Tel Aviv and 1,953 in Haifa) 29% were “licensing offenses”, compared to 0.5% in Tel Aviv, 1.1% in Haifa, and 6.6% in Israel as a whole (Jerusalem Institute for Israel Studies, 2013e). Although information on the demographics of perpetrators is not provided with this data, due to the frequency of unpermitted construction in Palestinian neighborhoods, it is assumed that Palestinian residents of Jerusalem are cited for such licensing offenses more frequently than their Israeli counterparts (Cohen-Blankshtain et al., 2013). Illegal building occurs in the Jewish neighborhoods of West Jerusalem as well, but to a lesser degree and with less threat of legal repercussions (Chiodelli, 2012a). Offenses “against the security of the state” and “against public order” also comprise a larger percentage of total crimes in Jerusalem than in Tel Aviv and Haifa. However, the
percentages of “sexual offenses”, “moral offenses”, “property offenses”, “fraud offenses”, and “offenses causing bodily harm” are much lower in Jerusalem than in Tel Aviv, Haifa, and Israel (Jerusalem Institute for Israel Studies, 2013e).

The myriad ethnicities, cultures, languages, and religious traditions displayed proudly within Jerusalem society make the city unique among cities in the region and throughout the world. The history of the city is also unlike any other, for no place has been so revered or contested by such a variety of peoples. Each ruling authority has manifested their political aspirations and cultural heritage in the city’s architecture, development, and pattern of growth, creating a multifaceted urban landscape that exhibits a mosaic of traditions while simultaneously striving for a place in the modern world.

3. History, Heritage, and Urban Development

The illustrious history of Jerusalem spans over five millennia, during which it has been besieged twenty-three times, captured and recaptured forty-four times, completely destroyed twice, and controlled by no less than fifteen kingdoms, empires, and nations (Cline: 2004). This history has been detailed in innumerable secular and religious texts, filling pages as numerous as the stars and occupying historians and exegetes for centuries. The brief—and by no means exhaustive—history recounted here serves to provide social and political context for the policies, processes, and phenomena that shaped Jerusalem’s landscape over the millennia; thus, historical periods are distinguished by the prevailing forces at the time, such as Roman, Crusader, Muslim, British, and so on. An understanding of modern Jerusalem’s physical form and its complicated cultural, political, and economic inner workings is contingent upon an understanding of the city’s political and spiritual past, as manifested in the planning and development policies imposed on the urban landscape by its various authorities. As Cline writes, “it may be that the fires that burned in this bitterly contested city can serve to illuminate the way ahead”. 
The evolution of Jerusalem’s physical and political landscape began early in recorded history. The ancient world knew the area encompassing modern Israel, the Palestinian territories, Lebanon, Syria, and Jordan as Canaan. This land was home to a variety of Semitic and non-Semitic groups, including the Canaanites, Hittites, Israelites, and Philistines (the origin of the toponym “Palestine”) (Cline, 2004). Settlement of the Jerusalem area by the Canaanites (traditionally regarded as descendants of Noah, the primary character of the Biblical flood narrative) began in the Early Bronze Age (circa 3000-2800 BCE) on a raised area just north of the intersection of the Hinnom, Kidron, and Tyropoeon Valleys (“Jerusalem”, 2000). This site was chosen for its strategic elevated position and its access to the intermittent Gihon Spring, which provided residents with fresh water in the harsh mountain environment. Today this small area is known as the Ophel, a Hebrew word meaning “stronghold”. According to Abrahamic tradition it was here that the Biblical patriarch Abraham was given bread and wine by Melchizedek, the priest-king of the city of Salem; many years later, on God’s order, Abraham would almost sacrifice his son on Mt. Moriah, just north of the Ophel. Today this site is marked by the Foundation Stone within the Dome of the Rock, a shrine constructed by the Islamic caliphate which holds great significance for members of the Abrahamic faiths.

One of the earliest possible references to ancient Jerusalem outside of scripture is found in Middle Kingdom Egyptian execration texts dated circa 2000 BCE, which mention a place called Rushalimum (Wenkel, 2007); however, the translation of this name is disputed among some modern scholars. More agreed-upon and recognizable evidence of Jerusalem’s early existence is found in the Amarna letters, a series of clay tablets containing correspondence between Egyptian bureaucrats and local Canaanite rulers during the period of the New Kingdom of Egypt, circa 14th century BCE (Na`aman, 1996). These letters reveal that the Canaanite city
of Urusalim was ruled by a king named Abdi-Heba, who had been appointed by the Pharaoh as the head of the local dynasty. Although archaeological evidence from this period is relatively scant, the picture of Urusalim court society painted by the Amarna letters indicates some level of sophistication, culture, and order. As a royal capital—albeit the capital of a modest kingdom—Urusalim would have had a palace, temple, and small Egyptian garrison; in addition, Abdi-Heba offered tribute to the Pharaoh and corresponded with Egypt using an educated court scribe. The city also functioned as a commercial hub for the immediate area. By the Late Bronze Age, the settlement had grown to 50 dunams, or around 13 acres, an average size for Canaanite settlements of the time (Shiloh, 1980). Assuming a population density of 40-50 persons per dunam, the population of Jerusalem at this point can be estimated as between 2,000-2,500 people (Figure 2.4.).

![Map of Canaanite Urusalim (Jerusalem)](TerrestrialJerusalem2016.png)

Figure 2.4. Map of Canaanite Urusalim (Jerusalem) (Terrestrial Jerusalem, 2016).
Israelite and Roman/Byzantine/Sassanid Periods (1000 BCE-637 CE)

By the 13th century BCE the Israelite tribes of Benjamin and Judah had laid separate claims to the area surrounding Jerusalem, but the city remained under the control of the Jebusites, a Canaanite tribe, for another 300 years. According to Biblical tradition, around 1050 BCE the newly-anointed Israelite king David captured the stronghold, then known as Jebus, and established the capital city of the United Kingdom of Israel; the remnants of this ancient capital make up modern Jerusalem’s oldest neighborhood and most extensively-excavated archaeological site, the City of David (Emmett, 1996). The siting of the kingdom’s new capital in an area with no tribal allegiances was a calculated move by David, who sought to create a unified capital for all of the Israelite tribes. Under David’s four decades of leadership, the kingdom grew and prospered. His son, Solomon, built the First Temple and extended the city to the north of the Ophel (Figure 2.5.).
The northern Israelite tribes seceded from the kingdom after Solomon’s death in 931 BCE—resulting in the northern kingdom of Samaria and the southern kingdom of Judea—but Jerusalem remained the royal capital of the southern tribes and a hub of Israelite society. The fall of Samaria to the Assyrians in 721 BCE and the ceding of certain Judean provinces to the Philistines by the Assyrian ruler Sennacherib around 701 BCE created an influx of refugees from the north into Judea and, as a result, archaeological evidence suggests that Jerusalem increased to three to four times its previous size within just a few decades. While Jerusalem was approximately 44 *dunams* under David and around 150 *dunams* in the 8th century, by the 7th century the city had increased to at least 500 *dunams*, with approximately 24,000 inhabitants (Broshi, 1974). In response, Hezekiah (ruler between 715 and 686 BC) expanded the city to the
west, enhanced the existing fortifications, and greatly improved the city’s water supply by building a series of well-engineered aqueducts and tunnels, which remain intact and functional today. Excavations west of Hezekiah’s walls also suggest the existence of an unfortified suburb—an unsurprising method of adaptation to the explosive growth of the city.

In 587 BCE the Babylonian king Nebuchadnezzar destroyed Jerusalem (including the temple) for the first time and enslaved many of the city’s residents. This period of slavery would last for 50 years, until the renowned Achaemenid Persian king Cyrus the Great defeated the Babylonians. In a display of humanity and goodwill rare in the ancient world, Cyrus not only freed the Jews from slavery but also provided funds to rebuild Jerusalem and the Jewish temple (Reyner & Philips, 1975). Cyrus cited his actions as directives from God; these actions are recounted not only in scripture (Ezra 1:1-6 New International Version) but also on the Cyrus Cylinder, a clay cylinder discovered in Mesopotamia and dating to the 6th century BCE. The area of former Judea thus became the autonomous province of Yehud Medinata within the Persian Empire.

The rebuilding of Jerusalem and construction of the Second Temple, completed in the mid-6th century, was directed by the province’s governor Nehemiah and is documented in his titular book of the Hebrew Bible. In the next few centuries Jerusalem would fall to the Greeks under Alexander the Great in 332 BCE. Under Greek rule, like many other cities conquered by the empire, Jerusalem took on a Hellenistic character, including the construction of a public gymnasium, theater, hippodrome, and amphitheater (Levine, 2002). Foreign non-Jewish rule prompted a series of revolts by Judaeans and the establishment of the Jewish Hasmonean dynasty, which ruled until the mid-1st century BCE with Jerusalem as its capital. The Temple would stand through this period, a concrete symbol of Jewish faith, culture, and power. In 37 BCE the city was taken by Herod, king of the Roman province of Judaea, who proceeded to
greatly expand the Temple complex and further strengthen the city’s fortifications (Figure 2.6.). It was during the Herodian period that the events of the Christian Gospels, recounting the life, death, and resurrection of Jesus Christ, occurred in Jerusalem and the surrounding region. The area is thus regarded as the birthplace of the Christian faith and Jerusalem as its most sacred city.

Jewish revolts and riots against the Romans continued throughout the next few decades, until Jerusalem and the Temple were completely destroyed for the second time by the Roman general (and future emperor) Titus in 70 CE. The event is commemorated in a relief on the Arch of Titus in the Forum of Rome, which depicts Roman soldiers carrying the Temple’s grand menorah and other spoils (Figure 2.7.). According to the firsthand account of the Jewish-Roman historian Josephus, although the western wall of the Temple was spared to provide shelter for a
Roman garrison camp and three of the city’s towers were left to hint at the power the Romans had defeated:

...as for all the rest of the wall [surrounding Jerusalem], it was so thoroughly laid even with the ground by those that dug it up to the foundation, that there was left nothing to make those that came thither believe it had ever been inhabited. This was the end which Jerusalem came to...a city otherwise of great magnificence, and of mighty fame among all mankind (Josephus, 75/1737).

Figure 2.7. Arch of Titus relief panel, showing Roman soldiers with the spoils of Jerusalem (Steven Zucker, 2010).

The city was left in ruins, depopulated and unlivable, and remained so for several decades. Between 120 and 130 CE the Roman emperor Hadrian returned to the spot and established a Roman colony, Aelia Capitolina, within the Roman province of Syria Palaestina. Jews and Christians were forbidden from entering the city (Reyner & Philips, 1975: 329). As with the Greeks, the character of the city was altered by its Roman rulers and their architectural and planning standards. Roman Jerusalem was replete with temples to Roman gods and
goddesses (the site of the Second Temple became that of the Temple of Jupiter); the cityscape included a Forum and the standard Roman *cardo*, the main street running north to south, beginning at the northern Damascus Gate, and the east-west *decumanus* street (Figure 2.8.).

*Aelia Capitolina* and its *cardo* are prominently featured in the Madaba Map, located in a church in Madaba, Jordan (Figure 2.9.). This Byzantine floor mosaic, dating to the second half of the 6th century CE, is the oldest surviving depiction of the Middle East and Holy Land (Donner, 1992: 14). A well-preserved fragment of the *cardo* survives in the Old City’s central *HaKardo* Street.
Figure 2.8. Map of *Aelia Capitolina* (Roman Jerusalem) (Base map from Terrestrial Jerusalem, 2016; Annotations by the author).
Constantine the Great—Rome’s first Christian emperor—took a particular interest in Jerusalem’s Christian history and character. In the early 4th century, he ordered the construction of the Church of the Holy Sepulchre on the site traditionally regarded as site of Jesus’ crucifixion, which was then occupied by a temple to the goddess Venus. Constantine would build several other churches and basilicas throughout the area, fostering Jerusalem’s identity as a Christian city (Hunt, 1997). The area would remain under Roman control until the 7th century, when it fell to the Persian Sassanid Empire following the Siege of Jerusalem. It would pass between the Byzantines and Persians before finally being captured by Muslims under Caliph `Umar I in 638 CE, a few years after the death of the Prophet Muhammad, the founder of Islam.
Muslim and Crusader Periods (638 CE-1516 CE)

After capturing Jerusalem from the Byzantines, `Umar I put great care and energy into manifesting the city’s Islamic character (Figure 2.10.). He built al-Masjid al-Aqsa, located on the Temple Mount or al-Haram ash-Sharif (the “Noble Sanctuary”), by then the site of a Byzantine basilica. Over the next seven centuries, successive caliphs of the Rashidun, Umayyad, Abbasid, and Fatimid caliphates would follow his lead, constructing mosques, shrines, and other splendid monuments throughout Jerusalem and the rest of the growing Islamic world. One of the most magnificent and ambitious of these architectural endeavors was the Dome of the Rock, completed in 691/692 CE by Caliph `Abd al-Malik. This structure encloses the Foundation Stone, asserted by Muslim tradition to be the site from which Muhammad ascended into heaven after his “Night Journey” from Mecca to Jerusalem in 620 CE. It is also a site of significance for Christians and Jews, as the Foundation Stone is traditionally regarded as the site where Abraham almost sacrificed Isaac. Modeled after contemporary Byzantine churches—indeed, designed to surpass them—the Dome of the Rock became the first monumental building of Islam. It was promoted as a site of pilgrimage and Islamic culture, drawing a multitude of Muslims to the previously Judeo-Christian and Roman city, both as pilgrims and as permanent residents. Today, the monument’s striking gold dome and breathtaking blue mosaics stand out in a sea of pale Jerusalem stone, a treasured centerpiece within the sprawling cityscape (Figure 2.11.).
Figure 2.10. Map of Umayyad and Abbasid Jerusalem (Base map from Terrestrial Jerusalem, 2016; Annotations by the author).

Figure 2.11. Dome of the Rock and al-Asqa Mosque on the Old City’s al-Haram ash-Sharif.
Under the caliphs, Christians and Jews—members of the other monotheistic Abrahamic faiths, known as “People of the Book” or dhimmi—and other non-Muslims, such as Zoroastrians, were protected but lived under stricter laws than their Muslim neighbors. It was during this post-conquest, pre-Crusader period that the current configuration and distribution of faith-based quarters began to emerge as the Muslim population grew—by natural increase, immigration, and conversion—and the Christian populations splintered into different sects (Hopkins, 1971), reflecting a greater trend in Christianity throughout Europe. Christendom was experiencing an internal conflict that would eventually lead to the Great Schism: the split between the Eastern Orthodox and Western Catholic Churches. The Oriental Orthodox Churches (including Armenian, Coptic, and Ethiopian) had separated seven centuries earlier with their rejection of the Council of Chalcedon. In 1096, at the Council of Clermont, Pope Urban II incited Christian clergy and laymen to march toward Jerusalem and reclaim it for Christendom. The source of Urban’s ire was the encroachment of Seljuk Turks on the Eastern Byzantine Empire but at Clermont he stressed the importance of Jerusalem to the Christian faith and tradition—“the city in which He dwelt and suffered”—and lamented its capture by Muslims (Krey, 1921: 37). According to the French priest Fulcher of Chartres, who was in attendance, Urban beseeched Crusaders to go to the aid of their fellow Christians in the East and “expel that wicked race from our Christian lands before it is too late” (Fulcher of Chartres, 1127/1971). Waves of Crusaders began their eastern march the following year.

In Jerusalem, anti-Christian riots began a series of public interfaith conflicts that culminated in the expulsion of Christians by the ruling Fatimid caliph in 1099. That same year, the first wave of Crusaders arrived outside of Jerusalem’s walls. After a month-long siege they entered and sacked the city, indiscriminately slaughtering Jews and Muslims. The city would serve as the capital of the Crusader Kingdom of Jerusalem from 1099 to 1187, during which
Christian pilgrimage and the construction of Christian structures flourished (Figure 2.12). The Dome of the Rock and al-Aqsa Mosque were converted to a church and a palace, respectively; indeed, a 12th century Christian map of Jerusalem indicates the unmistakable Dome of the Rock as *Templum Domini*, “Temple of God”, and depicts a cross topping the massive dome (Boas, 2001; Gilbert, 1987).

Figure 2.12. Map of Crusader Jerusalem (Base map from Terrestrial Jerusalem, 2016; Annotations by the author).
In 1187 the city was retaken by Muslims under the military leadership of Saladin. Muslim shrines and mosques were converted back into Islamic centers of worship. This cycle of destruction, construction, redesign, and reappropriation—mirroring the growth and decline of power among the different religious populations—would continue for more than three centuries as Jerusalem was passed back and forth between Muslim and Christian rule. These rulers showed varying degrees of tolerance. In 1267 the Catalan Jewish scholar Nachmanides (also known as Ramban) traveled to Jerusalem and prayed at the Western Wall. He noted that there were two Jewish families in the city.

Ottoman and British Periods (1517-1948)

The Ottoman Turks captured Jerusalem in 1516 and would retain control for four centuries. Most growth was contained within the Old City walls, which were expanded by Suleiman to their modern position in the 1530s. The policies of the Ottoman Empire—and the empire’s relations with rising European powers—affect ed Jerusalem in ways that continue to resonate today. Although its political and economic influence was minimal under Ottoman rule, the city remained an important spiritual center. Pilgrims from all three monotheistic faiths continued to flock to the city from Europe and the rest of the known world, establishing a tourism economy that continues to thrive (Doumani, 1992). Jerusalem continued to grow and become more open to missionaries and pilgrims of various religions and denominations. Under the Ottomans, Jerusalem and the rest of Palestine benefited from the modernizing tanzimat (“reorganization”) reforms, which established administrative divisions, a postal service, and a census. Increased administration also meant increased safety, encouraging growth outside of the protection of the Old City walls.
At the middle of the 19th century, the only structures in the hills surrounding Jerusalem were cemeteries, small villages, farms, and the seasonal residences (qusur) of wealthy Jerusalemite Muslims. Islamic mosques, shrines, and dilapidated religious complexes, all manifestations of Muslim identity remaining from the late 13th and early 14th centuries, dotted the countryside (Kark & Landman, 1980). By 1851, Jerusalem’s population had passed 25,000 and was largely contained within the roughly 130 acres (.2 square miles) of the walled Old City. Sanitation issues, disease, overcrowding, and water insecurity plagued residents. Ottoman administrative and infrastructural improvements in Palestine included not only increased security and pavement of the roads leading from Jerusalem to Jaffa on the coast and through the mountains north to Nablus, providing a conduit for safe, fast travel to and from the holy city, and creating a focal point for expansion. Various European authorities began to take a greater interest in Jerusalem’s political and religious significance. Protestant, Catholic, and Orthodox churches sought improved services and greater protection for their pilgrims to the Holy Land. Last, but not least, mid-century Ottoman land reforms enabled non-Ottomans to own land in Palestine. The opening of Palestine to outside influence would begin a period of accelerated immigration, demographic change, and duplicitous political bargaining that continue to affect Jerusalem and the surrounding region to this day.

Beginning in the mid-19th century, Christian and Jewish families and groups—largely utilizing funds from European benefactors, such as the Russian government and the Jewish British banker Moses Montefiore—began to move outside of the walls in search of more livable, spacious conditions and increased business opportunities (Kark & Oren-Nordheim, 2001). Christian groups constructed schools, hospitals, and other public buildings; many, such as the formidable Russian Complex, stand today. Foreign and local Christians and Jews began to establish residential neighborhoods, isolated homes, and public institutions outside of the walls
around the 1850s. Wealthy local Muslims established permanent, non-seasonal dwellings north of the city walls, particularly in the area of the modern Palestinian neighborhood of Sheikh Jarrah, where they could maintain easy access to the Muslim Quarter and al-Haram ash-Sharif; beginning in the early 1870s (Kark & Landman, 1980). Most structures built outside of the walls were veritable fortresses boasting thick, high walls and gates that were locked at night. In 1860 the first Jewish neighborhood built outside of the walls, Mishkenot Sha’ananim (meaning “Peaceful Habitation”), was established by Montefiore to the southwest of the Old City. In 1874 the neighborhood of Mea She’arim (“one hundred gates”)—known today for being one of Jerusalem’s most insular and strictly-observant Jewish enclaves—was established to the northwest by Haredi Jews seeking to segregate themselves from the rest of Jerusalem society as a way of maintaining their religious traditions and practices (Fenster, 2005). Such insularity was common within these new communities, regardless of religious or ethnic orientation. It was merely a continuation of Jerusalem’s status quo, as such ethno-religious divisions had dictated territory and interactions within the walls throughout much of the city’s existence. In the late Ottoman period the various non-Muslim populations also began to enjoy greater rights and opportunities, thus attracting immigration, particularly by European Jews seeking solace from growing anti-Semitism in Europe.

With the end of the 19th century came the first wave of large-scale Jewish immigration—around 35,000 people—into Ottoman Palestine. Successive surges of immigration—referred to as Aliyah, “ascent”—would bring almost half a million Jews to Palestine, with the largest surge coming in the decade leading up to World War II. Although Jewish communities had existed in the area for generations, this massive, sudden influx of European Jews created great tension between the new immigrants and local Arabs. Mass Jewish immigration from Europe to Palestine was promoted by the ideology of Zionism, a political movement articulated by the
Austro-Hungarian author and activist Theodor Herzl in his pamphlet *Der Judenstaat* (The Jewish State), first published in 1896. Herzl advocated the establishment of an independent Jewish state as a means of combating growing anti-Semitism in Europe. As to the location of such a state, Herzl stated, “Shall we choose Palestine or Argentine? We shall take what is given us, and what is selected by Jewish public opinion” (Herzl, 1896/1988: 96). A Jewish population had existed in Argentina since the expulsion of Sephardic Jews from Spain in the 16th century, reaching its peak in the early 20th century; Herzl also noted fertile soil and a mild climate as potential draws. However, going beyond physical considerations, he described Palestine as “our ever-memorable historic home” and cited this aspect as a potent draw for Jews to a newly-established Jewish state. It must also be noted that Herzl—in a show of cultural self-superiority common among Europeans of the time—characterized the presence of a Jewish state in Palestine as “a rampart of Europe against Asia, an outpost of civilization as opposed to barbarism”; while he explicitly stated that Christian holy places would be protected with extra-territorial status, no consideration was given to the concerns of the local Muslim population and their centers of worship. The next year, Herzl convened the First Zionist Congress in Basel, Switzerland and established the Zionist Organization (ZO), later the World Zionist Organization, with the stated goal of establishing a Jewish state in Palestine (Figure 2.13.). Many of the administrative institutions established and developed within the ZO would survive as administrative divisions of the State of Israel, with some remaining in place today.
Concurrently with the Zionists’ concentrated work to establish a Jewish state in Palestine, the actions of Arab, British, French, Ottoman, and Russian powers were culminating to forever alter the boundaries, politics, and power structures of the Middle East. While some might claim that the modern Arab-Israeli conflict began with Isaac and Ishmael (sons of Abraham by Sarah and Hagar who are claimed as progenitors of Jews and Muslims, respectively) in reality, the conflict that rages today is a direct result of a series of events beginning with British and French colonialism in the Middle East between the 18th and 20th centuries, as well as the often-conflicting goals of Arab and Jewish nationalism, and culminating in the establishment of an independent Israel by the leaders of Zionism in Palestine in 1948.

Two of the most significant events in the history of Israel, Palestine, and the Middle East,
were the issuance of the Sykes-Picot Agreement in May 1916 and the Balfour Declaration in November 1917. The former was the result of a series of negotiations between Mark Sykes, a British diplomat, and François Georges-Picot, a French diplomat, which determined the partitioning of Ottoman territory following the Ottomans’ defeat by the British and French in World War I. In short, the French would control Greater Syria (where they had commercial and religious interests) and the British would directly control the area of Iraq, in order to exploit the regions existing oil resources and railroad infrastructure; Palestine, including Jerusalem but excluding Haifa, was distinguished as an International area, and the agreement would also distinguished areas of indirect British and French control (Figure 2.14.). The Balfour Declaration is regarded as one of the singular most important documents of Jewish, Israeli, and Zionist history. In November of 1917, British Foreign Secretary Arthur Balfour wrote a letter to Walter Rothschild, a prominent figure in the British Jewish community, which stated:

*His Majesty's government view with favour the establishment in Palestine of a national home for the Jewish people, and will use their best endeavours to facilitate the achievement of this object, it being clearly understood that nothing shall be done which may prejudice the civil and religious rights of existing non-Jewish communities in Palestine, or the rights and political status enjoyed by Jews in any other country* (Balfour, 1917).

In truth, the British were playing both sides, placating the interests and demands of both Arab and Jewish nationalists, all while pursuing their own economic and territorial goals in post-World War I Palestine, the Middle East, and Asia.
On December 27th, 1918, Sir Edwin Samuel Montagu—the Liberal Secretary of the State of India—and Faisal bin Husayn al-Hashimi—the imminent ruler of the Arab Kingdom of Syria, including the Sanjak of Jerusalem—met in London. Among the topics of discussion were Syria, the nationalist Arab Revolt against the Ottomans, the burgeoning Wahhabi Islam movement, and
Zionist activity in Palestine. According to a contemporary record of the meeting, when questioned on the last subject:

*Feisal remarked that the Arabs were under deep obligations to Great Britain, and that it would ill become them to make difficulties over a question of which they regard the British Government as the best judges. The Arabs recognise that many conflicting interests are centered in Palestine... [and] admit the moral claims of the Zionists. They regard the Jews as kinsmen whose just claims they will be glad to see satisfied. They feel that the interests of the Arab inhabitants may safely be left in the hands of the British Government* (Shuckburgh, 1918).

Throughout the first three decades of the 20th century, Jews from around Europe—fleeing growing anti-Semitism that would culminate in the horrors of the Holocaust during World War II—continued to immigrate *en masse* to Palestine, leading to fear and anger among Palestinian Arabs over their economic opportunities, access to holy places, and the future of an Arab state in Palestine (Sela, 1994). The unfettered sale of land to Zionist groups was also a point of extreme contention. In August 1929, this animosity erupted in violence when a series of riots led to the deaths of 133 Jews and 110 Arabs, the former having been killed by the latter and the latter killed by British forces trying to restore order. The subsequent British investigation and report of the riots, the Shaw Commission, would suggest that a solution would be increased limits on Jewish immigration to Palestine and increased efforts to understand and accommodate Palestinian Arab goals regarding the establishment of their own independent state. However, by that point, the floodgates had been opened for too long to stem the tide of Jewish immigration; even after strict quotas were created, massive numbers of illegal Jewish immigrants continued to pour into Palestine. Spurred by the rise of Nazism in Germany and its effects, which were felt throughout Europe, almost 300,000 Jewish immigrants entered Palestine between 1929 and 1939, during what is termed the Fifth Aliyah. Most settled in growing Tel Aviv, but many were
absorbed into existing Zionist agricultural communes (*moshavim* or *kibbutzim*) or founded their own on land either purchased or illegally seized from Arabs.

Between 1936 and 1939, Palestinian Arabs staged a revolt against British forces, angered by their continued political and military support of Zionist causes, including arming Zionist paramilitary organizations. The revolt began with a national Arab strike called in 1936, to which British forces responded by demolishing Palestinian homes in both urban and rural areas. Over the next decade, the cycle of Arab and Zionist violence and failed British peacekeeping attempts, would continue. Jews would continue to pour in from Europe, Africa, and the Arab nations surrounding Palestine. Tensions and violence between the British and the Zionists in Palestine climaxxed on July 22, 1946, with the bombing of the King David Hotel in Jerusalem—the headquarters of British Mandatory authorities—by the Zionist military organization Irgun. Both Irgun and Haganah, of which Irgun was an offshoot, would later become the Israeli Defense Forces. The following year, the British forces would announce their withdrawal from Palestine, having been unable to broker a solution between Palestine’s Arabs and Jews. The United Nations (UN) scrambled to devise a solution and, in November 1947, adopted a resolution to implement a partition plan that would create both an Arab and Jewish state, with Jerusalem distinguished as an international zone administered by the UN (Figure 2.15.). Jewish leaders and the majority of the Jewish population accepted the plan; however, Arab leaders in Palestine and elsewhere rejected it on the grounds that they would not accept any partition of Palestine, as such a plan would violate their right of self-determination (United Nations, 2003). On May 14, 1948, the British Mandate in Palestine expired; the same day, Zionist leaders gathered to announce the establishment of the independent State of Israel. The next day, members of the Arab League—including Egypt, Iraq, Jordan, Syria, and several other Arab nations—declared war and invaded.
Figure 2.15. Map of the UN Partition Plan adopted November 1947, showing the proposed boundaries of separate Arab and Jewish states, as well as international zone surrounding Jerusalem.
Israel and Palestine (1948 – Present Day)

In the years since Israel’s foundation, the nation has been in a constant state of conflict—both active and inactive, physical and political—with the local Arab population and surrounding Arab nations. The war of 1948, regarded by Israelis as their war of independence but known to Palestinians as al-Nakba (“the Catastrophe”), resulted in the expulsion and evacuation of more than 750,000 Palestinian Arabs to Jordan, Lebanon, Syria, and other Middle Eastern nations. Forced to abandon their homes, these Palestinian refugees—and their descendants, estimated to number over 5 million today—live in a state of limbo, refusing Israeli citizenship and refused citizenship by the Arab nations to which they fled (UNRWA, 2016). Today, more than 1.5 million of these Palestinians refugees live in 58 refugee camps in Jordan, Lebanon, the Gaza Strip, and the West Bank, including East Jerusalem; since the beginning of the Syrian civil war, Palestinian refugees living in the country have been uprooted yet again. Concurrently with the mass exodus of Palestinian Arabs from Israel, over 850,000 Jews living in Arab nations, such as Egypt, Iraq, Libya, and Yemen, were also forced to abandon their ancestral homes; however, unlike Palestinian refugees, these Jewish refugees were fully absorbed into the new Jewish state and automatically granted the rights of Israeli citizenship (Hoge, 2007).

Subsequent open warfare between Israelis, Palestinians, and Arab nations, including the 1967 Six-Day War (when the defeat of Jordan by Israel led to the annexation of the West Bank and the reunification of East and West Jerusalem), 1973 Yom Kippur War, 1982 and 2006 Lebanon Wars, 2008 Gaza War, and the First and Second Intifadas (1987-1993 and 2000-2005), as well as various skirmishes, citizen violence, rocket launches, and riots, have prevented the deep wounds of conflict from healing for over 50 years; the majority of Israelis and Palestinians have lived their entire lives in a state of conflict, fear, and open mistrust with each other, despite the fact that they often live within a few miles or even a few hundred feet of one another.
4. The Modern City

Modern Jerusalem struggles to balance between its expansive, volatile history, its status as a thriving capital and tourism hub, and the needs of both its diverse, growing population and the steady stream of tourists it welcomes year-round; of the 3.3 million people who visited Israel in 2014, 82% visited Jerusalem. Within the five decades since reunification (or, in the minds of many Palestinians, occupation) of East and West Jerusalem, the city has changed immensely, both physically and culturally. Israelis and Palestinians living in West or East Jerusalem move across the former Green Line with relative ease and interact on a daily basis. Areas that were regarded as No-Man’s Land between 1948 and 1967 have become posh, gentrified Israeli neighborhoods, complete with upscale shops, art galleries, and coffee houses (Figure 2.16.).

Tourists and pilgrims of all religions can visit and worship at their holy places freely—although access to the Temple Mount or al-Haram ash-Sharif for is fraught with stipulations and heavy security, and non-Muslims are not allowed to pray openly in the area.

Figure 2.16. Mamilla area, circa 1964 and 2013. Once an inaccessible No-Man’s Land, the area is today a thriving shopping center.

While Jerusalem’s inter-ethnic and inter-religious struggles receive the most press coverage and international attention, significant tensions regarding religiosity, ethnicity, and clan loyalty exist within the city’s different communities. The divide between Haredi Jewish Israelis...
and secular Israelis is a common point of contention throughout Israel, and is nowhere more apparent than in Jerusalem. The cityscape is frequently the backdrop for protests by the Haredi community against various manifestations of secular Israeli society, including mandatory military service, Judaic archaeological finds on construction sites, and public services operating on Shabbat. The community, equaling 34% of Jerusalem’s population and about 10% of Israel’s (Jerusalem Institute for Israel Studies, 2015d), are a significant presence in local and national politics. Yet, as when they established isolated neighborhoods like Mea Shearim, the Haredi go to great lengths to ensure that their traditions and identity are preserved, and resist assimilation into mainstream Israeli society (Figure 2.17.). The most recent point of contention between the Haredi community and mainstream Israeli society has been the expansion of the mandatory military draft to include Haredi Israelis who, since Israel’s inception, have been exempt from the draft. According to various sources, this exemption has enabled the male Haredi community to focus on studies in the yeshiva, school for the study of the Torah and Talmud, and has allowed Haredi men and women to avoid assimilation into secular Israeli society. However, like members of any other culture, Haredi Jews are not a monolith—any assumptions made about behavior or temperament can quickly be upended by the behavior and actions of individuals (Figure 2.18.).
Figure 2.17. Haredi men protest against the army draft, in Jerusalem’s Mea Shearim neighborhood, December 22, 2015 (Sindel, 2015).

Figure 2.18. Haredi man plays electric guitar in Zion Square, Jerusalem (Photo by the author).
Significant tensions also exist within the Palestinian Arab community, particularly between different familial clans. Palestinian clans or family associations (called *hamail*, singular *hamoola*) consist of multiple interconnected extended families (*ailat*), which are further made up of many individual households (*buyut*) of varying clout and wealth; the number of individuals within a single *hamoola* can range from a dozen to several thousand (Landinfo, 2008). However, sometimes families within a clan’s structure are unrelated to the central family of the clan, having pledged their loyalty in return for the clan’s protection or integrated themselves over time in order to increase their influence. Such hierarchies, which provide a network of social security, financial assistance, and physical protection, exist throughout settled communities in the West Bank and Gaza, as well as within refugee camps in Palestine and other nations; the Hebron area, about 20 miles south of Jerusalem, is particularly noted for its inter-clan activity and conflicts (Zilberman, 1996). For Palestinians lacking a central, unified government in those areas, clans signify a protective, powerful authority and provide avenues for political representation, dispute arbitration, and recourse under clan law. As one researcher observed: “Where states are strong and can reliably protect citizens, clans weaken; where states are weak, clans are strong” (Robinson, 2009).

A large aspect of all levels of the Palestinian *hamail* structure, from the individual to the *hamoola*, is the sense of collective honor, which can often lead to the escalation of personal conflicts between members of different clans. These inter-clan conflicts—which can be triggered by anything something as minor as a traffic accident—are often dealt with outside of legal channels, and have the potential to erupt in violence. In the Palestinian communities of Gaza, refugee camps, and rural parts of the West Bank, some clan groups can also function as armed militias or criminal groups engaged in smuggling, kidnapping, and contracted killing (Ze’evi, 2008). In 2012 multiple Palestinian Jerusalemites remarked that the Israeli security apparatus,
normally proactive and swift when it comes to dealing with the Palestinian community, often allows inter-clan conflicts to escalate to violence without intervening—until it gets to the point of affecting Israeli citizens or tourists; in short, one resident claimed that the Israeli police “do not come for us” (A. Duplantis, personal interview, June 2012).

Tension also arises from the disparity in service provision, security, and environmental quality between different Jerusalem neighborhoods. A survey conducted in Jerusalem between 2013 and 2014 found that Arab residents consistently expressed lower feelings of satisfaction with their area of residence more than Jewish residents (Central Bureau of Statistics, 2015c). Residents of Jerusalem also expressed less satisfaction with the conditions of their area of residence more than Israelis in other localities and Israelis in general (Table 2.1).
The neglect of many East Jerusalem neighborhoods by the Jerusalem municipality becomes obvious past the former Green Line. Following the route of the light rail line northeast, as it turns along HaTsanhanim Street from downtown West Jerusalem, to the Damascus Gate leads through a slice of former no-man’s land that is dominated today by a public transit hub and a bend of Israel’s Highway 60—also known as Jerusalem’s Road 1. As its name implies, Road 1 is a crucial north-south artery connecting Jerusalem to the rest of Israel; the road also connects the city to the Palestinian cities of Ramallah and Bethlehem, but travelers to these cities are subjected to long waits and searches at Israeli military checkpoints (Pullan, 2007). Highway 60 stretches from Nazareth, 25 miles from the Lebanese border, to Be’er Sheva, Israel’s southernmost large city located in the Negev Desert 30 miles southeast of Gaza City.

Continuing northeast on Sultan Suleiman Street, into the core East Jerusalem, many notable changes will become apparent: shop signs change from Hebrew to Arabic; Orthodox Jewish Israelis, ubiquitous in the Orthodox enclaves northwest across Road 1, are replaced by women in varying degrees of hijab. Further, the quality of buildings, roads, and service provision deteriorates. Sidewalks along West Jerusalem’s busiest thoroughfares are wide, well-maintained, and dotted with municipal trash cans (decorated with the Lion of Judah) every 100 meters or so; the streets are cleaned regularly. East Jerusalem sidewalks along the bustling streets of Sultan Suleiman or Salah ad-Din are cramped (when they exist), so that pedestrians sometimes must brave traffic to walk in the street. Municipal trash cans are scarce and garbage often collects in

| Average of All Measures | 44% | 53% | 48% | 60% | - | - | - | - | - |

[*The source did not indicate the percentage of Arabs satisfied with the amount of parks and green spaces. This figure was estimated using available figures for the measure and by assuming that the percentage of all Jerusalemites satisfied with a measure is the rough average of the percentage Arabs and Jews satisfied with the measure.]
piles in the sidewalks and gutters, frequently spilling into the road.

The disparity between Arab and Jewish areas of Jerusalem is the result of neglect by Jordanian authorities from 1949 to 1967, and by Israeli authorities since annexation following the Six-Day War. Jerusalem Plan No. 2000, the first municipal plan to include both East and West Jerusalem, was completed by the Jerusalem Municipality in 2004 and approved by the Israeli government in 2009. Despite its comprehensive scope and insistence that it seeks to address the needs of all residents, the plan states that its primary objective regarding society and population is “maintaining a Jewish majority in the city of Jerusalem while attending to the needs of the Arab minority” (Jerusalem Municipality, 2004). While the strategy promoted for Jewish areas is primarily one of expansion—expanding existing neighborhoods or creating new ones, particularly in East Jerusalem—the main strategy for Arab areas is one of densification—increasing the limits of height or volume of existing residences, thus restricting horizontal development (Chiodelli, 2012b). This is partially achieved by zoning the remaining open areas in East Jerusalem as “green” or leaving them un-zoned, thus proscribing any development by Palestinian residents—who cannot receive a construction permit for improperly zoned land—and thus leaving any structure built within that area vulnerable to demolition.

Like pre-existing planning policies, the plan was framed by a Jewish Israeli perspective. Arab residents and officials were almost entirely excluded from the planning process, which actively strove to include aspects of public participation. Of the 95 representatives who collaborated on the plan—including local government officials, urban planners, and experts from a variety of fields—only one representative was Arab (Jabareen, 2010). Furthermore, while the planning committees distributed a survey—published only in Hebrew—in Israeli neighborhoods, to question residents about their “neighborhood vision” and assess the needs of their communities, Palestinian residents were not surveyed, thus completely excluding their
perspective from the process The language used by the municipality framed Palestinians areas as riddled with issues of service provision and infrastructure, but failed to advance an organized program to deal with these specific issues, focusing instead on curbing illegal Palestinian construction and restricting Palestinian territorial expansion. The municipality characterized Palestinian areas of Jerusalem as chaotic, but failed to acknowledge its own hand in feeding the chaos. It is imperative that future planning initiatives in Jerusalem acknowledge that Jewish Israelis are not the city’s only population, and that plans that give preferential treatment to one ethnic population at the expense of many others, are not sustainable, ethical, or effective. It is of crucial importance that Israeli citizens and Palestinian permanent residents in Jerusalem demand comprehensive, inclusive planning and development solutions, and that authorities on both sides attempt to understand the perspectives of all Jerusalemites, regardless of their ethnicity, religion, or political ideology.

**Jerusalem in Numbers**

The situation on the ground in Jerusalem, like that of any site of conflict or divided city, changes quickly. In order to contextualize this research, the following section provides a statistical snapshot of Jerusalem, for the period surrounding 2012, when this research was conducted.
Figure 2.19. Population of Arabs and Jews/Others in Jerusalem, 1922-2013 (Adapted from Jerusalem Institute for Israel Studies, 2015a) [*In 1998, the classification groups were changed from “Arabs and Others” and “Jews”, to “Arabs” and “Jews and Others”].

Figure 2.20. Age Structure of Jerusalem, by Population Group (Jerusalem Institute for Israel Studies, 2015i)
Figure 2.21. Total Fertility Rate (Children per woman) in Jerusalem, by Population Group, 2006, 2010, 2013 (Jerusalem Institute for Israel Studies, 2015j).

Figure 2.22. Poverty Rate in Jerusalem, by Population Group, 2013 (Jerusalem Institute for Israel Studies, 2015k).
Figure 2.23. Jerusalem Residents Suspected of Crime, by Type of Offense, 2013 (Adapted from Jerusalem Institute for Israel Studies, 2015).

Figure 2.24. Demolition of houses built without permits, and people/minors left homeless in East Jerusalem, 2004-2015 (Adapted from B’tselem, 2015).
III. LITERATURE REVIEW

This research addressed commonalities and differences in environmental perceptions and world views among Jerusalemites, a highly diverse and conflicted population. It was motivated by previous research across several disciplines, and its objective was twofold. The primary objective was to capture Jerusalemites’ perceptions of the urban landscape and its growth through survey methodology, and compare the responses to find shared interests and issues across different groups. The foundation of such research was the line of discourse—beginning with the ancient Greeks—regarding the interplay between perception, knowledge, and the objective environment. Given its implications for planning and governance, the relationship between perceptions, attitudes, and behavior was also highly relevant, as were the effects of cultural and religious background, demographic makeup, and past experiences.

The secondary objective of this research was to explore a combination of questionnaire surveying, participatory planning, and geospatial analysis as a method for the fair, objective, and inclusive mitigation of planning issues in Jerusalem. The city’s current political, environmental, and regulatory realities were examined, and the challenges of comprehensive, inclusive, and effective planning in divided cities—as evidenced through the experience of other divided cities—were addressed. Participatory planning, in theory and in practice, geographic information systems (GIS), and participatory GIS (PGIS) was discussed as potential methods and tools to mitigate Jerusalem’s planning and development issues. Previous endeavors employing these methods, in Jerusalem and beyond, were also examined.

In short, this review will explore the relationship between the objective city of Jerusalem and the unique, subjective realities experienced by each Jerusalemite. It will examine various strategies for reconciling these perspectives, in order to facilitate inclusive, effective, and mutually-beneficial planning and development.
1. Environmental Perception, Attitudes, and Behavior

*Objective Reality, Subjective Perception*

An understanding of how Jerusalemites perceive and form attitudes about their city begins with an understanding of how humans perceive, gain knowledge, and form attitudes about an environment and the phenomena within it. Discussion of the relationship between reality and a person’s conception of the world emerged early in classical philosophical thought, amid discussions of the meaning of knowledge and the methods by which it is obtained. Socrates rejected the idea of knowledge as purely perception from the senses, arguing that knowledge is not gained through sensory experiences alone but through an educated reasoning of those experiences (Plato, 360/1969). He noted a newborn baby’s ability to perceive sensations, such as the sound of flowing water, despite lacking the experiences, mental capacity, and education to contemplate the “reality” or “usefulness” of such sensations, and thus acquire and retain knowledge about them (Chappell, 2004). Aristotle continued this line of thought in *Metaphysics* by characterizing animals that are able to form and retain memories from sensations as more intelligent than those that cannot remember; he stated that man’s superior capacity for intelligence resided in his unique ability to connect many memories of a single object, space, or event in order to form a single experience, to which reason could then be applied (350/1953: Book 1, Section 1).

Through sense perception humans interact with the same objective reality using sense organs that we share, for the most part. The way that our minds filter, evaluate, and organize the details returned to us by our senses is highly subjective, relying on our previous knowledge, experiences, and views of the world to “make sense” of it all. Each component involved in the process of human experience and the development of knowledge is unique, but also inherently
connected and dependent on one another. In his treatise *On the Soul*, Aristotle would further contemplate the development of human knowledge through sensation, thought, and desire (Aristotle, 350/1931). Sensation is a passive process in which we are constantly engaged as we perceive the world with all senses simultaneously, thereby consciously and unconsciously gaining a wealth of information. Thought is the more active process of the mind that manipulates the information gained about reality as we perceive it, through sensation, without coming into direct contact with that reality. This is the part of the mind that uses logic and reason to gain lasting knowledge about external beings, objects, events, and the relationships between them; with this knowledge, an individual forms attitudes, personal opinions, and worldviews. The knowledge gained through the reasoning of sensations and the attitudes formed as a result of that knowledge are manifest as urges, words, and actions. Classical discussions of the connections between reality, perception, knowledge, and action, formed a solid foundation for future philosophical and geographical discourse.

Geographers intrigued by the relationship between perception of the objective, external environment and the formation of subjective, personal worldviews are indebted to Immanuel Kant, a philosopher for whom geographical enlightenment was both a practical and theoretical necessity. Kant valued geographical knowledge to such a degree that, in his forty years of teaching at the University of Königsberg, his lectures on geography—collected in his *Physical Geography*—were outnumbered only by those on logic and metaphysics (Church, 2011). His writings and lectures on the nature of knowledge, space, and geography constitute a significant part of the Kantian corpus, and fostered further work on geographical epistemology, geographical space, and environmental perception from the 19th century onward. Kant characterized geography—the physical description of the earth, its processes, and their relationships—as preliminary knowledge for further understanding of the world through the
natural sciences, such as physics or chemistry (Richards, 1974: 7). Like geographers who commonly summarize the value of their field by stating, “everything happens somewhere”, Kant emphasized the inherent existence of sense data—the raw, original material of human experience and knowledge—in the bounds of space and time. Thus, as the study of space and time, respectively, “geography and history encompass the entire range of knowledge” by acting as a “propaedeutic [preliminary instruction] for knowledge of the world” (Kant, 1802/2012: 450).

Kant’s theories of perception, knowledge, and space formed the basis for his geography lectures throughout the late 18th century and would be expounded further in his *Critique of Pure Reason*, which was published within the same period. Central to the *Critique* is the notion that knowledge originates in perceptions of external stimuli, acquired through the senses, and the mind’s reasoned understanding of those perceptions. Kant distinguished between a phenomenon, the representation of a physical object, accessible to humans through sense perception alone, and a noumenon, “the object in itself”, the imperceptible object that is the cause of the perceptible phenomenon (Kant, 1781/2010).

The existence of a phenomenon in our world is dependent on our senses, the mode of our perception, and thus it cannot exist without a percipient or subject; as Kant wrote, “if we take away the subject, or even only the subjective constitution of our senses in general, then not only the nature and relations of objects in space and time, but even space and time themselves disappear...these, as phenomena, cannot exist in themselves, but only in us” (Kant, 1781/2010). In contrast, a noumenon is not dependent on our senses for its existence. It exists as itself in objective reality but, due to the mind’s filtering of sense information in a way that is unique to the individual, humans cannot perceive or know the object as it is, but only as it is represented to us by our senses, through phenomena.
Phenomena are objects as they appear to us, but noumena are objects as they are; we see
the world as it appears to us, not as it truly is. This appearance depends as much on us—our
emotions, opinions, and preconceptions—as it does on the object or event we witness. Kant did
not go so far as to deny the existence of an external, objective world in favor of an internal,
subjective “factory of our minds”, but favored an interaction between the two and the
understanding that “some of the properties we observe in objects are due to the nature of the
observer rather than the objects themselves” (Livingstone & Harrison, 1981). The subjectivity of
perception and knowledge, as theorized by Kant, has significant implications for studies
addressing the effects of cultural background, demographic makeup, and socioeconomic
characteristics on the formation of environmental perceptions, attitudes, and worldviews. Yet,
despite his love of geography and his insistence on the importance of knowledge of the world,
Kant never left his native Königsberg and had no desire to do so. Furthermore, he actively
avoided discussing the ways in which the shared culture or history of a certain group might
influence how an individual within that group perceives the world, gains knowledge, and
organizes their views of reality; indeed, Kant dismissed such discussion as “matters of ‘mere
anthropology’” (Livingstone & Harrison, 1981).

Neo-Kantians expanded upon Kant’s epistemological discourse by finding a place for
knowledge that is culture-specific, such as art, history, traditions, and social values. This type of
cultural, historical, or social knowledge was categorized as idiographic science—focused on
unique, specific, and subjective qualities—and differentiated it from the generalized, objective
natural sciences, which he called nomothetic (Thomae, 1999). This distinction between the
natural and social sciences remains ingrained in modern academics. However, Kant’s successors
encouraged interaction and collaboration between the two, in order to form a more holistic view
of the world—a direct effect of the Kantian legacy. Kant stressed that the achievement of a
comprehensive worldview begins with an understanding of geography—a science that is both qualitative and quantitative in nature—which provides knowledge of the world, its processes, and the relationships between them.

Alongside Neo-Kantianism and the other surging philosophical currents of the late 19th century, there also emerged the philosophical movement or practice of phenomenology. This movement, pioneered by Edmund Husserl, emphasized the description of phenomena as manifested to the percipient or “experiencer”, but without the “misconstructions and impositions placed on experience” by religious or cultural traditions, common sense, or science; in short, before phenomena could be explained they must be “understood from within” (Moran, 2000). Phenomenology, with its focus on reality rather than the mind, was touted by adherents as a fresh, innovative way of addressing philosophical problems and, thus, was considered a radical rejection of dominant methods of philosophical inquiry at the end of the 19th century.

*Landscape, Culture, & the Behavioral Environment*

Discussion of the nature of geographical knowledge, the effect of the environment on man (and vice versa), and the resulting formation of worldviews thrived throughout the late 19th and early 20th century. More efficient methods of communication and travel fostered globalization and the growth of geographical subfields that focused on specific regions of the world, their inhabitants, and the processes at work within those regions. The evolution of the field of Geography during this time was heavily influenced by French geographer Paul Vidal de la Blache, whose work focused on the concepts of landscapes (*paysages*), settings (*milieux*), “lifeways” (*genres de vie*), and their unique manifestations within different regions of the world. This line of thought encouraged greater development of regional and political geographies, which, focusing on qualitative descriptions rather than quantitative calculations, relied on methods that were more idiographic than nomothetic in nature. The effects of the interaction
between man and different environments became a pervasive theme within the field, giving rise to the concept of environmental determinism. Seeking to explain the great spectrum of culture, ethnicity, and lifestyles that had been detailed by regional geographers—as well as why some societies were more “successful” than others, or at least perceived as such by Westerners—proponents of this controversial theory proposed that such variety was caused by the earth’s equally diverse array of environmental conditions. The theory was succinctly stated by Semple (1911), a famous American adherent that “man is a product of the earth’s surface”.

Into the 20th century, interest in the unique qualities, inhabitants, and landscapes of different regions of the world would continue to grow within geography; the subjectivity of the human experience would be at the forefront of geographic research. Studies of areal differentiation—termed *chorographia* (“description of land”) by Strabo and *chorology* by modern geographers—and the interdependence of phenomena across space, occupied many in the field. The nature of geography as the study of space, landscapes, and the man-environment relationship, as well as the role of subjectivity within the field, was paramount in the work of Sauer, Hartshorne, and Wright, which built upon work by Kant, Ritter, von Humboldt, de la Blache, and Hettner. In his treatment of the *Morphology of Landscape*, Sauer (1925/1969) examined the interrelationship of all objects and phenomena within a landscape, which he described as “the unit concept of geography” and defined as “an area made up of a distinct association of forms, both physical and cultural”. Through the empirical morphologic method (the focus of Sauer’s seminal work) the different forms within a landscape, valued differently by different individuals or fields of study, are classified, ordered, and organized into a system. These systems of forms, or morphologies, can then be compared, contrasted, and related to one another, within both scientific discourse and the mind of the experienced individual.
Different forms comprise different landscapes and are manifested in different ways. Sauer’s theory differentiated between the physical landscape—the collection of natural forms that man can exploit, alter, and subtract from, but not add to—and the cultural landscape—the forms which man has created and imposed on the natural landscape, as a result of his culture. While the former includes climate, vegetation, and mineral resources, the latter is comprised of populations, residential and commercial structures, and modes of communication and production. Much like Plato’s eternal Forms, these forms are general in the abstract but made specific in reality. The same natural and cultural forms exist in every physical and human landscape, but how they are manifested in reality depends on the specific location and specific culture. Every physical location on earth has a climate, but with areal differentiation comes different kinds of climates, whether tropical, polar, or something in between. The existence of a productive population is inherent in the man-made cultural landscape, but whether a population relies on agrarian or industrial modes of production depends on the culture of that population. In this characterization, description of the cultural landscape was less concerned with the specific customs, values, or practices of a culture, but more with “man’s record upon the landscape”, the manifestation of these subjective cultural tenets. Sauer’s theories were a direct, unapologetic rejection of environmental determinism, constituting a turning point in modern geography.

Like Kant, Sauer described a general typology under which physical or cultural specifics might be organized; unlike Kant, Sauer did not regard culture or history as matters of “mere anthropology” but as crucial elements of the cultural landscape, the physical landscape, and geography as a whole. Sauer insisted that the comparison of areal differentiations across cultural and physical landscapes was a crucial endeavor within human and physical geography. He encouraged interdisciplinary mixing between geography, anthropology (“the sister discipline”), and the physical sciences (such as climatology and geomorphology) in order to learn new
methods and techniques, and to form a more holistic view of the relationship between man and the environment (Sauer, 1941). In addition, although his exposition of landscape did not explicitly mention the role of human perception (which can be as much of an expression of culture as the cultural landscape itself), Sauer did note that certain features of a landscape are distinguished and valued over other features through the selective, personalized nature of geographic description.

This selective nature characterizes human perception in general. The individual—geographer or otherwise—focuses on qualities, objects, and events that are of value or interest to her or him. While the layman might pass an outcrop of limestone without a second glance, the same phenomenon could captivate the karst geologist for hours—or even years—on end. Although the two individuals possess the same sense organs and perceive the same outcrop, the layman does not possess the specialized education, experience, and interest of the geologist, and thus his perception and valuation of this landscape element is relatively reduced. In Sauer’s explanation, the value placed on a phenomenon is a matter of interest, which may or may not arise from or be augmented by culture. To extend the metaphor, a Chinese geologist and Israeli geologist might both take interest in this limestone outcrop, but their distinctive cultural backgrounds might affect their perception of that outcrop in different ways, regardless of their similar training. While the sight or feel of the limestone might, for the Israeli, evoke images of sun-gilded blocks of Jerusalem stone or the busy quarries of Bethlehem, the Chinese geologist might recall the stunning karst towers of the Shilin Stone Forest and the palatial caves of Wulong. Again, the interplay of culture, education, and past experience—the subjectivity of perception—cannot be discounted. Subjectivism would be the focus of Wright’s discussions of the nature of geography and the study of geographical knowledge, which he termed geosophy (Wright, 1947) and promoted as a critical element of geographic education and training.
Hartshorne expounded prodigiously on the nature of geography (1939), the lineage of geographical theory and methodology, and the field’s role as the science of space (1958). He would also, through his work, become a main critic of Sauer’s definition of landscape as the core unit of geography and his dualist conceptualization of landscape. Hartshorne demonstrated that landscape had become an ambiguous concept, confused by the wide variety of connotations applied to it by various geographers following its translation to English from German (*Landschaft*) and French (*paysage*). He insisted that, for the benefit of the field and the reader, the term would either need to be standardized or abandoned altogether. Although he avoided stating his own conceptualization of landscape, Hartshorne did note that the underlying thought connecting the various uses of the term is the existence of a visible, tangible surface of the earth, composed of both natural and man-made phenomena (1939).

Hartshorne took great umbrage with Sauer’s differentiation of the natural and cultural landscapes, arguing that there was only one total, real landscape, which could be qualified further based on its level of interaction with humans. He claimed that a landscape altered or inhabited by humans, for any period of time, was no longer natural. Rather, he argued that the natural features of an area should be termed the “natural environment”; a landscape untouched by man should be termed “primeval”, although today such a place is rare if not entirely vanished. A landscape that had been inhabited and altered by man could be “primitive” (with very little, usually negative alteration), “wild” (once inhabited or altered but then left to “grow wild”), and “tamed” (its character totally under human control) (Hartshorne, 1939).

Despite their differences, the combined work of Sauer and Hartshorne concerning the nature of geographic inquiry and the conceptualization of landscape is of great significance to the present work and the field as a whole; however, perhaps more important is their contribution to the discussion of perception and the formation of environmental attitudes. Early on, in *The
Morphology of Landscape, Sauer noted the subjective, selective quality of an individual’s valuation of certain aspects of a landscape, based on their interests. In his Foreword to Historical Geography, Sauer characterized environmental response—the relationship between man and environment or “habit and habitat”—as behavior fostered not by physical stimuli or logic but by culture, which involves attitudes, skills, and preferences that are acquired, learned, and invented (1941). Furthermore, he explained that changes in a group’s culture (their habit) would inevitably lead to changes in the valuation and interpretation of the environment (their habitat). Finally, as Kant noted that our subjective perceptions do not form independently of the objective environment, so did Sauer note that a cultural complex (a precursor to the cultural landscape) originates “in a certain time in a particular locality” within the physical landscape. Hartshorne directly addressed perception to a lesser degree, noting that the value of physical geography in expanding one’s perception of the world and, within his greater treatment of landscape’s many connotations, that some geographers characterize landscape as a collection of sense perceptions of phenomena within a certain area. However, Hartshorne (1958) spurred future interest in perception within the field of geography by emphasizing and reevaluating the contribution of Kant to discussions of space and the acquisition of knowledge. From the mid-20th century onward, environmental perception would become an important theme in geographic inquiry, promoted by the development of new theories, methodologies, and tools of inquiry.

Discussions of subjective cognitive and behavioral responses to an objective environment, as well as the physical changes imposed on that environment as a result of these subjective responses, continued to grow in volume and significance within modern geography throughout the 20th century. Interdisciplinary collaboration with the growing field of psychology fostered the emergence of perception geography and behavioral geography, which focused on the systematic assessment of the effect of the man-environment relationship on human patterns of
movement, decision-making processes, spatial organization and reasoning, and the acquisition of
spatial knowledge. One of the most significant contributions of psychology to geography was the
theory of Gestalt, literally “form” or “shape”, which set forth a series of fundamental principles
governing human cognition, perception, and pattern recognition. Koffka, one of the leading
Gestalt psychologists, encapsulated the theory with the oft-repeated phrase “the whole is
something other than the sum of its parts”, commonly misquoted as “the whole is greater than
the sum of its parts” (Koffka, 1935). The idea that several simple parts combine to form a
complex, separate whole—a process referred to as emergence—was not new. Aristotle had
addressed the same concept in Metaphysics: “the totality is not...a mere heap, but the whole is
something beside the parts” (350/1953).

The principles of Gestalt applied the concept of emergence to the complex processes of
the human mind, in order to explain how the brain organizes the innumerable sense perceptions
of external stimuli, encountered every moment of one’s life, into lasting memory and knowledge.
Gestaltists demonstrated that the brain’s capacity for organization and recognition was so
powerful that, having previously encountered a certain stimuli through sense perception, a
peripient could still recognize the stimuli even if parts of it had been altered, rearranged, or even
removed. An intriguing example of this process in action, as explained by Wertheimer, was
recognition of a familiar tune. For instance, upon hearing the basic melody for “Yankee Doodle”,
which is composed of seven tones, the average American adult will easily recognize the tune.
However, even if the melody is transposed into a different key, and is played using seven
different tones, the melody itself will remain the same and will still be recognized as “Yankee
Doodle”. According to Wertheimer, recognition of the melody as a whole is due to the existence
of something more than the sum of the seven tones, “[an eighth] something, which is the form-
quality, the Gestaltqualität, of the original [seven]” (1924/1997). The impact of Gestalt
psychology on geographic theory and practice was immediate and long-lasting. To this day, an
assessment of basic Gestalt principles is standard practice in modern courses on cartography and
other visual representations of data, geographic or otherwise. Dissemination of the revolutionary
principles of Gestalt would constitute a watershed event in geographic thought in the mid-20th
century, as geographers began to incorporate these same principles of perception and cognition
into their work on natural environments, hazards, patterns of human movement, settlement,
consumption, and the myriad other phenomena that constitute the complex relationship between
humans and the physical environment.

The study of human-environment interaction has also benefitted greatly from the
development of the interdisciplinary field of environmental psychology. With a holistic focus on
the effects of an environment on its inhabitants, environmental psychology research seeks to
solve environmental problems—crowding, noise, air pollution, litter—in order to create spaces
that are both functional and pleasing to the senses, thus improving the experience of inhabitants.
Such research frequently addresses the interplay between the environment, human perception,
and behavioral responses (Fransson & Gärling, 1999; Mehrabian & Russell, 1974). Survey
methods are commonly utilized to gauge environmental attitudes and values among different
demographic groups or citizens of different countries, with the goal of predicting how such
psychological components will result in “ecocentric” or “anthrocentric” behavior that will, in
turn, affect the environment (Schultz & Zelezny, 1999).

Kirk was one of the earliest and most impactful geographers to explicitly address
environmental perception within larger discussions of the nature of geography, by combining
philosophical theories of the interaction between objective reality and subjective human
perception (and the resulting knowledge) with Gestaltist theories of cognition, perception, and
recognition. Expounding on the role of geographers and geography as a bridge between the
physical sciences and humanities—and, echoing Kant, stressing an understanding of space and time as a crucial component of such a role—Kirk dismissed the idea that environment and man are “two entities of unreconcilable \textit{sic} character” as regressive (1952/1990). Instead, closing the gap between the two, he advanced the revolutionary concept of the behavioral environment, an internal universe suspended between the external, physical world (the “Phenomenal Environment”) and the internal world of the individual mind, the latter of which could be affected as much by group culture as by reality and experiences (Figure 3.1). In this space between reality and the mind, objective facts perceived through the senses are arranged into a culturally-conditioned structure that varies for each observer; thus, the filtration of stimuli and spatial information through the individualized behavioral environment means that the same physical phenomenon or space affects and appears differently to each percipient, based on their experiences as both an individual and as a member of a group, whether cultural, religious, socioeconomic, demographic, political, or otherwise. The behavioral environment, like the natural environment and the human mind, is constantly in flux.
Figure 3.1. Kirk’s initial visualization of the active relationship between the behavioral environment (B), physical environment (A), the physical human group or individual present in this environment (C), and group culture (D). From Kirk, 1952/1990.

It is within this behavioral environment that elements of physical reality take on value, meaning, and importance, which, in turn, “attract or repel human action” (1952/1990). The man-environment relationship, being reciprocal, dynamic, and ceaselessly active, thus creates a behavioral environment that is constantly changing and adapting to new input. The changing structure of an individual’s behavioral environment acts as a catalyst for decisions and actions, and can thus lead to changes in the phenomenal environment. The frequency, magnitude, and impact of such changes differ between individuals, as does the value of different phenomena. While a negative experience within a certain area of a city might lead a short-term visitor or apathetic citizen with no connection to the area to simply alter their route to avoid the area in the
future, the same experience by the empowered citizen, elected official, or city planner might compel them to use their influence in order to mitigate the perceived or actual cause of the negative experience, which can result in physical changes in the phenomenal environment. As Kirk posited: “the greater man’s knowledge of the environment, the greater his awareness of its potentialities, the greater not less does it influence his actions” (1952/1990).

**Perception Studies in Geography**

After the geographers of the early to mid-20th century laid the theoretical and practical groundwork for research on the relationship between the environment, perception, attitudes, and behavior, the field witnessed a deluge of perception studies that sought to understand the effects of an individual’s demographic, cultural, or socioeconomic makeup on that relationship. Such studies were aided by the advent in geography of the “quantitative revolution”, and the methods and goals of such studies, like the characteristics they study, were diverse.

Lynch, with his elegant exploration of *The Image of the City* (1960), framed the study of environmental perception within a modern urban context, advancing a greater understanding of perception as a path for creating more beautiful, harmonious, and well-planned cities. The titular image, formed from the constant, combined operations of the senses, is “soaked in memories and meanings” gained from the citizen’s experiences during their lifetime; it is a product of the reciprocal human-environment relationship. The image acts as a unique filter through which an individual processes incoming stimuli and endows meaning on phenomena and places, which thereby “limits and emphasizes what is seen”. Lynch’s specific focus was what he termed the “imageability” of a city: the potential for its parts to be recognized and organized into a coherent pattern, thus facilitating an emotional response or feeling of connection in an observer. Such coherence and connection would endow that observer with a sense of “emotional security”,

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facilitating a harmonious, positive relationship between the individual and the external world, thus creating a deeper, more intense human experience.

Using case studies of three American cities (Boston, Jersey City, and Los Angeles) and the environmental perceptions of their inhabitants, Lynch’s research relied on two distinct but complimentary elements: in-depth interviews with a small sample of long-term residents of each city, which included place descriptions, imaginary trips, and sketches; and extensive field reconnaissance of areas less than 4 square miles, which included mapping of key features, subjective judgments of the visibility of those features, image problems (such as broken paths, direction ambiguity, and characterless areas) and the connections and disconnections between features, all of which combined to form the city image (Figure 3.2). Subjective images and physical reality, gained through interview material and field reconnaissance results, respectively, were then compared. Finding that analysis and mapping of the study areas accurately predicted, to some degree, the images derived from interviews, Lynch postulated that the physical form of the environment “played a tremendous role in the shaping of the image”. Often, various respondents would use the same words and phrases to describe the same area or feature. Lynch’s examination of standard urban features—nodes, paths, landmarks, districts, and edges— their qualities, and their interrelations, and of how they compared to residents’ perceptions, fostered a renewed understanding of the experience of the urban resident and the importance of designing cities in such a way that their separate, distinct parts come together to form something greater—“a source of daily enjoyment to millions of their inhabitants”. Lynch’s work remains a seminal moment in the study of perception of the environment, particularly in the dynamic, complex context of the modern urban landscape.
Figure 3.2. The visual forms of central Boston and Los Angeles, “as seen in the field”. Both maps employ identical scales, orientations, and legends. From Lynch, 1960.
From the mid-20th century onward, geographers would continue to develop the theory, vocabulary, and methods of perception geography. Such development was often couched within broader discussions of the nature of geography, its methods, values, and its role in answering questions about the world, often fostering work that read like philosophy. Indeed, Kirk (1978) observed that geography and philosophy search for answers in the hazy area between empirical and formal inquiry, between what can be observed and what can be deduced. Lowenthal (1961) asserted that geographical knowledge and geographical discourse is “shared by billions of amateurs” around the world, as all humans experience and are affected by the planet’s various geographic phenomena: the sun rises and sets; one observes, interacts with, and moves through the various elements and features of their landscape; areas of the planet are distinguished by various interlaced natural or manmade groupings, whether climates or countries. Despite different locations, languages, cultures, and levels of economic development or education, humans share a common world—it is the way that the world is perceived that is unique. This perception can be affected not only be demographics or culture, but also by physical or psychological states, such as blindness, schizophrenia, or phobias of closed or open spaces. Like a dream, a person’s subjective perception of the objective world makes sense only to them, the one who has experienced it firsthand. The role of the perception researcher is to develop methods and tools to gauge and measure that experience and its effects on the real world, whether one is specifically interested in planning, hazards, economics, or otherwise. Brookfield (1969) stressed that care must be taken when attempting to isolate, classify, and analyze elements of the perceived and real environments; the former he characterized as “ephemeral”, and not subject to the rational, physical laws of the latter. Scientific study of perception and the perceived environment, being a relatively new research path at the time, would require time to develop a coherent, defendable methodology and understandable nomenclature.
Schiff (1970) was one of the first researchers to distinguish a working terminology for the study of perception, including wading through the various connotations and uses of the word *perception*, and distinguishing it from the related concept of *attitudes*. Schiff insisted that what perception geographers termed perception would more accurately be called “social perception”—the impressions an individual has of an environmental stimulus or group of stimuli, as those impressions are affected by the percipient’s past experiences and mood—as opposed to the study of the physical, neurological process perception, wherein the sense organs and the brain process external stimuli to retrieve and store information about the external world. *Awareness* of stimuli, being the initial act in the perception of those stimuli, is a separate concept, although one of equal research value. Schiff also stressed that the term *perception* should only be used when “there is an actual stimulus to be perceived”; in contrast, when studying a series of processes over time or a collection of beliefs, *belief* or *cognition* would be more accurate. *Attitudes* she defined as “an organized set of feelings and beliefs” that are taught and/or learned, that both influence and are influenced by perception, and which themselves influence behavior. The biggest difference between perceptions and attitudes, which both form from experience and can both affect behavior, is that perception occurs when a stimulus is or has been physically present, while an attitude is a set of beliefs regarding that stimulus, which are harbored over an extended period. The measurement of attitudes requires attention to both the *direction* of the attitude (whether it is positive or negative) and the *magnitude* (the strength of the attitude). A Likert scale, employed within a survey questionnaire, is a crucial tool for measuring both the direction and magnitude of an attitude (*e.g.* creating a Likert scale of attitudes ranging from strongly disagree to strongly agree, with varying degrees of disagreement or agreement in between).

Tuan framed the study of perception as a crucial aspect of the study of space and of the concept of *topophilia*: “the affective bond between people and place or setting. Diffuse as a
concept, vivid and concrete as personal experience...” (Tuan, 1974). Without an understanding of the attitudes or values that binds a person or group to a place, Tuan argued, any solution to an environmental problem will be inadequate due to its lack of such a crucial piece of any “environmental calculus”. Like Schiff, Tuan endeavored to pin down meanings for the various vague terms that are found throughout perception and behavioral research—perception, attitude, world view—and his exact definitions will be listed here, as they are critical to the discussion at hand and beautifully effective in their simplicity:

- **Perception** is both the response of the senses to external stimuli and purposeful activity in which certain phenomena are clearly registered while others recede in the shade or are blocked out.

- **Attitude** is primarily a cultural stance, a position one takes vis-à-vis the world. It has greater stability than perception and is formed of a long succession of perceptions, that is, of experience.

- **World view** is conceptualized experience. It is partly personal, largely social. It is an attitude or belief system; the word *system* implies that the attitudes and beliefs are structured, however arbitrary the links may seem, from an impersonal (objective) standpoint. (Tuan, 1974)

Tuan’s exposition on these various concepts, within the greater discussion of topophilia and how it affects real-world behavior, left no stone unturned. He described how perception is affected by the operation of the senses—sight, smell, touch, sound, working individually and in concert to reveal a phenomenon or space’s “essential character”—and, in turn, affects what is sensed in the future. Culture exerts a powerful influence that is inbred by the environment and practices of that culture—for instance, while citizens of most Western nations rely largely on sight to navigate their structured environment of the modern city, individuals of other cultures (such as, in Tuan’s example, the Aivilik Eskimo) place greater importance on their senses of smell and touch to move through their world. A percipient’s sex can also affect their view of the world, as men and women not only differ biologically but also in their interactions with the
world; this is particularly true in traditional cultures that have strictly-defined roles for men and women, such as within the Orthodox Jewish or Muslim communities of Jerusalem. In such communities, outside space is regarded as the realm of men, filled with action and violence, while women are relegated to the more passive indoor spaces, which are perceived as safer. Finally, it is important to note the stark differences in perception of a space by those who live in it, versus how it is perceived by a visitor. While a tourist’s view of a city is affected by the city’s most immediate characteristics (aesthetics, smells) and an experience that might last a few days, the citizen’s view of their home city is the result of layers of experience and daily activity that accumulate over many years. However, it should be noted that a well-trained outside observer—lacking the familiarity that causes certain phenomena to recede into the fog of daily routine—may have a heightened sense of awareness and perception when observing and experiencing a particular area of a city, enabling them to develop important insights into a certain issue, such as a troublesome intersection or ill-designed public space.

Tuan also explored how our brains work to compartmentalize and make sense of the world’s myriad phenomena. An interesting example is the human tendency to arrange things in opposing pairs: life and death; male and female; us and them; north and south; heaven and earth. These manmade groupings are then transposed onto physical reality, further affecting what is perceived and how it is perceived. Relevant to the discussion at hand is the common bifurcation of Israeli and Palestinian; to the average Israeli, Palestinian, or outsider (all of whom will have varying degrees of knowledge about the conflict), places, objects, or people associated with either group take on a certain connotation, which can be positive or negative, depending on past experiences and the perciipient’s world view. An interesting research path would be to present similar objects, places, or people to various respondents in Israel and Palestine, and determine their reaction to these stimuli when they are labeled as “Israeli/Jewish” or “Palestinian/Arab”.
Even more interesting would be to present an identical object or place (for instance, a piece of artwork) at different times, employing a different label each time; one day the painting is described as being painted by an Israeli artist, the next by a Palestinian—based on this small difference of provenance, would the percipient react differently each time?

Tuan also discussed the role of perception and experience in the formation of ideas about 

**place.** Places are not only dots or areas represented on a map, but are “centers of meaning” constructed through experiences, and having the power to evoke strong, visceral feelings in the percipient (Tuan, 1975). Like spaces, places are experienced at different scales, from the immediate room one currently occupies to the nation state of which one is a citizen. Unlike space, which has a connotation of open emptiness waiting to be filled, a place is filled with objects, people, architecture, symbols, and a barrage of sensual stimuli and experiences, all of which having varying layers of meaning and value. At all scales, places evoke certain emotions and attitudes; these, in turn, evoke certain behaviors. The same place does not mean the same thing to two different people or groups; indeed, they may even call the place by different names. The power of language and words to create, construct, and impart a place with meaning and value, is a crucial aspect of place-making (Tuan, 1991). Jerusalem exemplifies this idea. Simultaneously it is Jerusalem, *Yerushalayim*, and *al-Quds*; these places mean different things to different people, yet the physical reality is the same. Speaking from experience, the Hebrew-speaker and Arabic-speaker might argue voraciously over whether the Old City market they are standing in is in fact the “*shouq*” or the “*souq*”—and they would both be correct! But, as Tuan notes, “naming is power...to impart a certain character to things”, and names matter. To the Israeli and the Palestinian, whether you call the esplanade at the Old City’s core the “Temple Mount” or “*al-Haram ash-Sharif*”, or whether the area between the Jordan River and the Mediterranean is called “Israel” or “Palestine”, matters. As researchers and authorities attempt to
mitigate issues of territory, planning, and development in Jerusalem, Israel, and Palestine, these differences in perception and valuation of place and space—subtle or invisible to the outsider, stark and of critical importance to the resident—must be at the forefront of any “environmental calculus”.

As geographers explored the potential of behavioral and perception research, substantial critiques were also leveled against the progress of behavioral and perception geography, and against geography in general; of these critiques, none were more cutting than those by fellow geographers. The most common charge against the field as a whole was a lack of coherence in theory and methodology—unsurprising, given the wide variety of geographic specialties (economic, political, urban, biological, feminist) and the field’s dynamic position as mediator between the quantitative and qualitative (Kirk, 1963). Incohesive, exploratory methodology was also stressed within critiques against behavioral and perception geography (Wood, 1970), along with inconsistent terminology (Johnston, 1973) and what was characterized as an incorrect approach to the subject of human behavior, its internal and external motivations, and its effects on the physical environment (Bunting & Guelke, 1979). Such critiques were not aimed at Kirk, Sauer, or Wright—those who had established the theoretical basis for perception and behavioral research within geography—but, rather, at the geographers who used these original key theories for their own work on environmental perception, without making any significant contributions themselves. The most searing and comprehensive critique of these geographers and their work was made by Buting and Guelke, who claimed that the most damning weaknesses of such studies were their core assumptions and basic methodological approach. The questionable assumptions were: first, that “identifiable environmental images exist that can be measured accurately”, having been extracted—with risk of distortion—from the minds of percipients who have been asked to entrust their innermost thoughts and deeply personal experiences with strangers; and,
second, that “strong relationships between revealed images and preferences and actual (real-world) behavior” are guaranteed and can be scientifically measured. The prevailing methodology of perception and behavioral studies of the time was also criticized. Instead of first focusing on internal perceptions and environmental images among individuals and groups, Bunting and Guelke argued, behavior studies should focus on just that—behavior. Only after a thorough examination of overt behavior patterns had been made, similarities and differences between subjects realized, and their real-world effects quantified—only then could any useful exploration of the underlying perceptions and attitudes fostering those behaviors begin. Bunting and Guelke also stressed the importance of a renewed focus on the individual, rather than solely utilizing aggregated statistical data about generalized demographic and social groupings. Indeed, in-depth, personal conversations with key individuals—each with their unique story to tell—invariably yield richer insights about a place or issue than random sampling using a static, generalized questionnaire survey; a balanced combination of the two is ideal. A detailed, objective examination of the individual’s or group’s historical, social, economic, cultural, and political background is also a prerequisite for a comprehensive understanding of their behavior, perceptions, and world view. Each individual’s behavioral environment is unique to them alone, the sum that is something different than the parts of demographic makeup, personal and collective experiences, and identification with various groups.

Religion, like physiology, political ideology, or culture, exerts a powerful influence on an individual’s perception, attitudes, and behavior. Events recounted in myths or scripture, such as creation narratives, help construct the world in which an adherent lives by ascribing meaning or value to various phenomena, in a manner that is consistent with that religion’s doctrine, traditions, and values. A particularly striking example of this phenomenon is the perception of mountains in different cultures. Mountains for the ancient Hebrews represented peace, strength,
and, in their grandeur and might, a sign of God’s existence: “As the mountains surround Jerusalem, so the Lord surrounds his people both now and forevermore” (Psalms 125:2). The Prophet Muhammad received his first revelation from the angel Jibreel (Gabriel) on Jabal an-Nour, the Mountain of Light, where he had retreated to pray and contemplate existence away from the crowds and noise of Mecca. In contrast, the Greeks and Romans perceived a mountainous landscape as wild and hostile; mountains complicated transportation and trade, and were obstacles to conquest (Hyde, 1915). In both cultures the peaks of Mt. Olympus were the sacred home of the gods, from which they cast judgment, chaos, and destruction on the mortals below. Perhaps in a continuation of this perception within Greco-Roman culture, the violent eruptions of Mt. Etna and Mt. Vesuvius are often viewed by southern Italian Catholics as retribution for sinful behavior (Chester, Duncan, & Dibben, 2008). The association of mountains with deities also existed outside of Western cultures. Within pre-Buddhist Tibetan mythology, mountain gods existed on each of the thousands of peaks throughout the Himalayas. The perceived temperament of each god depended on the perception of the mountain he occupied: communities that benefitted from an adjacent snowy mountain’s abundant nutrient-rich glacial meltwater deified those mountains as “benefactors of mankind”; isolated, densely-forested mountains far from civilization were shunned as the fearful abodes of evil deities (Jisheng, 2001).

Because religion is such a personal experience—disparate even among members of the same denomination or congregation—the interplay of religion and worldview varies greatly among individuals. Secular education and personal experiences can also alter the extent to which religion affects worldview. Paradise (2005) examined how adherence to Islamic ideology and traditions can affect perception of earthquake risk and, in turn, attitudes and behavior regarding earthquake preparedness, earthquake-resistant construction, and seismic forecasting. Like
volcanoes to the Italian Catholics, earthquakes are viewed by Muslims as events of divine retribution and signs of God’s might. In Agadir, Morocco—a city devastated by a 5.7 magnitude earthquake in 1960—surveys about the 1960 earthquake and earthquake risk in general elicited overwhelmingly religious responses from Muslim respondents. When asked if and when another large earthquake would strike the city, 53% of respondents replied “Allahu a’lam”, meaning “God knows best” or, literally, “God is the universe”. This response was more common among respondents with little formal education. Furthermore, many respondents characterized seismic prediction, earthquake preparation schemes, and the construction of earthquake-resistant structures as *haram* and “akin to fortunetelling, undermining God’s omnipotence”. The prevalence of such attitudes among residents of a seismically-active region have immense implications for disaster evacuation preparedness and education. Paradise found that respondents who regularly watched television exhibited a greater understanding of the 1960 earthquake and its destruction, leading to the conclusion that television is an efficient tool for disseminating important information and providing education about hazards (or any subject) quickly and over a wide area. Obviously, religion and culture are powerful forces; any consideration of environmental worldviews must account for the conscious and unconscious effects of such forces on society at large and in the minds of individuals.

However, when considering the effects of personal and group traits on perception, it is also crucially important to remember that religious and cultural worldviews do not form in a vacuum. The attitudes of certain traditions towards a phenomenon are formed from or affected by the existence and experience of that phenomenon in the region where the traditions were formed. Romans viewed mountains as terrible obstacles because the frozen, treacherous Alps complicated their northern military campaigns and colonial endeavors. The *Qur’an* is filled with references to earthquakes (containing an entire chapter, *Surat al-Zalzala*, devoted to the subject)
and Muslims differentiate them from other disasters because Islam arose in and initially spread throughout the seismically-active area of the Arabian Peninsula and the Levant. Ancient Tibetans deified mountains as good or evil based on how those physical features benefitted the surrounding communities. In short, although the subjective factors of demographics, cultural and religious traditions, and individual physiology have massive effects on perception and the formation of attitudes, the effect of the objective environment—the space in which the perceived external stimuli operate—cannot be underestimated within any discussion of the relationship between man, mind, and nature.

As world populations have become increasingly urbanized, the interaction between humans and the urban landscape has become an increasingly relevant area of research throughout the world. Perceptions and attitudes towards urban environments—and the behavior fostered by those internal phenomena—are of particular interest to researchers involved in planning research, as well as the planners, architects, and elected officials who rely on the insights that such research provides. Many researchers, while accepting the effects of demographic, cultural, and socioeconomic characteristics, have chosen to focus on the objective environment as the dominant factor in the formation of environmental perceptions and attitudes. Brody, Highfield, and Peck (2005) recognized the effects of gender, level of education, and political ideology on perceptions of water quality, but found, using geospatial analysis, that location had a comparable effect. Their results demonstrated that environmental perceptions are—to some degree—“spatially dependent”.

*Perception Studies in Israel and Palestine*

Previous research on perception among different groups in the context of Israel and Palestine has unveiled key insights into how these groups perceive their shared environment. Israeli and Palestinian society are both decidedly urban, with 92% of people in Israel and 75% of
those in the West Bank and Gaza Strip territories residing in cities (World Bank, 2012). Due to this longstanding and ongoing trend of urbanization, localized research on perception of urban phenomena within Israeli and Palestinian communities is not lacking, even within the specific context of Jerusalem.

Seeking to gauge divisions in perception and the functional and spatial relationships between East and West Jerusalemites, Romann (1989) measured familiarity with sites in the two sectors among Israeli and Palestinian high-school students, an age group that (in 1982, when the surveys were conducted) had spent their entire lives in a united Jerusalem. The research measured familiarity in two ways: (i) by asking students to locate and describe sites throughout Jerusalem, such as main streets, popular cinemas, and transportation hubs, and to indicate if they had ever visited the site; and (ii) questioning the purpose and frequency of visits to the opposite sector, how they felt when they went, if they went alone or as a group, and if they desired to learn more about the other side. Unsurprisingly, it was found that Israelis were more able to identify sites in West Jerusalem and Palestinians more able to identify sites in East Jerusalem; proximity to “the other side” did not make students more familiar, e.g. Arabs living within a mile of the Green Line were no better at identifying western sites than Arabs living on the city’s periphery. Romann posited that limited familiarity with the other side was a direct result of “persisting, widespread patterns of institutional, functional, and spatial segregation” which, in turn, reflected and reinforced segregation in reality. Interestingly, Romann also found that Arab students were 70% more adept at locating sites in West Jerusalem than Jewish students were at locating sites in East Jerusalem. In addition, Jewish outings in East Jerusalem tended to be primarily general outings, visits to religious or cultural sites in the Old City, or shopping trips, while Arab outings in West Jerusalem were motivated by a specific purpose, such as work, a
medical or administrative appointment, or a visit to a specific public site, such as a pool, park, or zoo.

These findings led Romann to hypothesize that Arabs feel a greater sense of reliance on more developed Jewish West Jerusalem than Jews on the less-developed Arab East Jerusalem; as a result, Arabs are compelled to learn more about West Jerusalem as a matter of survival and to take advantage of the benefits the sector has to offer, while Jewish Jerusalemites feel no such compulsion or drive. It is also interesting to note that, while all of the Jewish respondents had visited East Jerusalem at least once, 12% of Arab males and 17% of Arab females had never set foot in West Jerusalem; Jewish students were also more likely to feel totally at ease on the other side, while 35.5% of Arab males said they felt “totally uneasy”. Finally, when it came to their level of desire to learn more about the other side, females of both populations expressed a much greater desire to “become much more familiar” than their male counterparts; indeed, a much larger percentage of male respondents indicated that they had “no desire to become more familiar”. Romann concluded that these findings showed that Arabs and Jews, as a result of their segregated populations and a general lack of information about the other side, utilize very different mental maps of the city: “a clear case of divided perception of a united city”. The research at hand is along the same vein as Romann’s, in that it sought to quantify different perceptions of Jerusalem among members of different groups; however, while Romann made no attempt to connect his findings to real-world issues faced by Jerusalem’s citizens and authorities, such as the effects of spatial segregation, biased planning practices, or unequal development, this research seeks to understand differences in perception as well as shared issues, for the purpose of creating more comprehensive and inclusive planning and development initiatives. In addition, while Romann interviewed high school students alone—a population with little active connection to the economic and political systems of Israel and Palestine—this research sought to
gain perspectives from members of society who are of legal age and thus engaged in such systems in their day to day lives. In any case, sociopolitical circumstances and the landscape change frequently and quickly in Jerusalem; as Romann’s survey was conducted over 30 years ago, a reassessment of perception among Jerusalemites in the 21st century is in order.

Other research has also revealed differences in perception among Israelis, whether focusing on the effect of the objective environment on perception of environmental hazards, or differences in how poverty—a common issue among Jerusalem’s Haredi community—is perceived by men and women (Strier, 2005). Drori & Yuchtman-Yaar (2002) used survey questionnaire methods to gauge perceptions of environmental hazards (air quality, water quality, noise, congestion, sewage, etc.) among residents of Israel’s three largest cities, Haifa, Tel Aviv, and Jerusalem, which exhibit high, medium, and low levels of hazard risk, respectively. It was found that actual levels of environmental hazards played a larger role in residents’ perceptions of those hazards and their attitudes towards them, while respondent socioeconomic characteristics (age, education, income) were of lesser importance. Residents of Haifa, which has a higher level of environmental hazards than the other cities due to greater industrial activity, were consistently found to give their city the lowest rankings of environmental quality across all hazard measures, whereas residents of Jerusalem (which has very little industrial activity and strict regulations regarding environmental hazards) gave their city the highest rankings; residents of Tel Aviv, which has less industrial activity than Haifa but deals with a very large volume of cars and buses creating noise, congestion, and air pollution, gave their city moderate rankings of environmental quality. The researchers concluded that the objective environment has a more statistically-significant effect on environmental perceptions and attitudes than age, education, and income. Notably, religion was not included as a respondent characteristic, nor was its potential to affect environmental perception, attitude formation, and behavior discussed. This is surprising, given
the fact that Jerusalemites are noted for their religiosity, while Tel Aviv and Haifa are often lauded (or, conversely, condemned) as secular bastions within Israel. While the researchers’ findings conclusively showed that the objective physical environment affects subjective perceptions of that environment more than socioeconomic considerations, one could argue that religion—something that is actively practiced and often a dominant component of one’s identity, if not the dominant component—may be more powerful than circumstantial socioeconomic characteristics. Thus, given Jerusalem’s diverse religious communities and their rich traditions, the research at hand must address how such traditions might affect a Jerusalemite’s perception of their city and how they judge and value its various phenomena and spaces.

Jerusalem in the Abrahamic Religions

Like Mecca or the Vatican City, Jerusalem is inextricably linked with the spirituality of millions; however, unlike those other holy cities, Jerusalem bears monumental spiritual significance for followers of more than one religion. This quality has undoubtedly affected how the city is perceived and valued within societies based in monotheistic Abrahamic tradition, by both the pious and the secular individual. As Paradise (2005) and others have shown, faith can greatly impact perception of environmental phenomena. Given Jerusalem’s status as a holy city for Christians, Jews, and Muslims, as well as the fact that residents of Jerusalem are (on average) more religious than Israelis and Palestinians in general, the value and meaning of the city that is imbued throughout the traditions of these religions, is a critical part of any discussion of environmental perception among Jerusalemites.

For Jews in Israel or throughout the world, there is no location on the planet—historically or currently—that holds more significance than Jerusalem. The city has been the stage for much of Jewish history, from the establishment of the United Kingdom of Israel by King David and the rule of the wise King Solomon, to the building and destruction of both Temples; throughout the
highs and lows of the Jewish people, Jerusalem has stood witness. Psalm 137, in which the Israelites mourn the destruction of the Temple and their enslavement by the Babylonians (and said to be written during that period of captivity), reads: “If I forget you, Jerusalem, may my right hand forget its skill. May my tongue cling to the roof of my mouth if I do not remember you, if I do not consider Jerusalem my highest joy”. Today the Western Wall—the last remnant of the Second Temple—is the ultimate site of Jewish pilgrimage and worship; Jewish congregations face Jerusalem when they pray. However, within the grounds of the Temple Mount itself, non-Muslim prayer is forbidden by the Islamic Waqf, the religious trust that administers the site; in 2013 the Waqf’s director, Sheikh Azzam al-Khatib, asserted “this place belongs to the Muslim people, and no others have the right to pray here” (Booth & Eglash, 2013). Non-Muslims are still allowed to walk the grounds, but any open display of prayer or worship is not allowed. Some rabbis, including the Chief Rabbinate of Israel, have asserted that Jews should not even walk the grounds, as it could inadvertently lead them to walk over the site of the former Temple’s innermost sanctuary, the Holy of Holies; a sign is in place on the grounds that warns Jewish visitors of this risk (Figure 3.3).
On occasion, the zealous devotion to the site of the former Temples has taken a dark turn. Talk of construction of a Third Temple on the Temple Mount—known to Muslims as al-Haram ash-Sharif (the Noble Sanctuary) and today the site of the Dome of the Rock and al-Aqsa mosque—was long considered taboo by Jewish authorities; however, since the 1980s, such a concept has become increasingly normalized in Israeli and Jewish society, and is a frequent talking-point for Israeli politicians and pundits, much to the horror and anger of Muslims throughout the world (Armstrong, 1998). A highly-publicized visit to the Temple Mount by Israeli president Ariel Sharon in 2000, meant to symbolize or assert the right of Israelis to visit the site, is cited as the catalyst of the Second Intifada, a violent 5-year period of increased Israeli-Palestinian conflict (Greenburg, 2000). It is unfortunate that the dominant narrative and activity of Israeli and Palestinian authorities reinforces the spatial and social division between Jews and Muslims, despite the fact that the space being contested has shared meaning for both religions.
Suggestions that the site and right to worship openly should be shared among all faiths, have yet to gain any real traction or support.

Jerusalem holds special significance for Christians, a population that often gets lost in the shuffle of sensationalized conflicts between Jews and Muslims over the city and its holy sites. The ancient city and the surrounding area are regarded as the site of the ministry, death, and resurrection of Jesus Christ; Bethlehem, a few miles south, is regarded as Christ’s birthplace. Like Judaism before it, Christian tradition also regards Jerusalem as the center of creation. The arrangement of the world with Jerusalem at the center was a pervasive theme in European cartography between the 6th and 17th centuries, epitomized by so-called “T and O”, or orbis terrarum, maps. Tuan notes that cartographers who employed this theme were less concerned with practical use than with “expressed beliefs and experiences of a theological culture that placed Christianity—and its topographic symbol, Jerusalem—at the center” (1974). In 1581, German theologian-cum-cartographer Heinrich Bünting depicted the metropolis as the center of a three-leaf clover, with the leaves of Africa, Asia, and Europe radiating outward to the unknown (Figure 3.4.). A need to control the city and restore its Christian character—articulated by Pope Urban II at the Council of Council of Clermont in 1096—was the primary catalyst for the Crusades. Today, the thriving Christian Quarter of the Old City serves as the end-point for Christian pilgrims visiting the Church of the Holy Sepulchre, which is purported by some sects to be built on the site of Christ’s crucifixion and burial. Other sites of Christian pilgrimage include the Garden of Gethsemane (where Christ communted with God before his arrest by the Romans), which lies beneath the Mount of Olives, where Christ is said to have conducted many of his sermons and later ascended to heaven.
Although the Arabic name of Jerusalem (Bayt al-Quds, “the holy sanctuary”) is not explicitly mentioned in the Qur’an, the city has been highly venerated throughout the history of Islam. Before the emergence of Islam, Jews and Christians had long regarded Jerusalem as the site of divine interactions between God and the most revered figures of monotheistic theology, namely Abraham, David, Solomon, and Jesus. Islam, as the continuation of the Abrahamic religious and prophetic tradition, maintains the same reverence and regards Jerusalem as its third-holiest city, after Mecca and Medina. This tradition is directly linked to the teachings and actions of the Prophet Muhammad, as recounted in the Qur’an and the hadith. In his review of Jerusalem in the Qur’an, El-Khatib (2001) details 70 possible references to the holy city. The most important and, according to El-Khatib, most unanimously accepted reference is found in
Surat al-Isra (“the Journey”), which recounts Muhammad’s miraculous journey from Mecca to Jerusalem in one night: “Exalted is He who took His Servant by night from al-Masjid al-Haram [the Sacred Mosque of Mecca] to al-Masjid al-Aqsa [the Farthest Mosque], whose surroundings We have blessed, to show him of Our signs” (Qur’an 7:1). A particular sunnah—a record of the actions of the Prophet Muhammad, as recorded by his companions—suggests that the first Muslims faced Jerusalem instead of Mecca, as they do today (El-Khatib, 2001; Sahih al-Bukhari 1). The tradition goes that one day, in the middle of prayers, the Prophet turned from Jerusalem to Mecca and instructed early Muslims to do the same, claiming that Allah had instructed them accordingly. This intriguing tradition is supported by an unusual architectural feature of at least three contemporary mosques, which have two separate niches (mihrāb) indicating the direction of prayer (qibla): one pointing to Jerusalem and the other to Mecca. The most well-known is Medina’s Masjid al-Qiblatain, “Mosque of Two Qiblas”, a common stop for Muslims undertaking the hajj (pilgrimage) to Mecca. Another Masjid al-Qiblatain stands in ruins in the once-prominent port town of Zeila, Somalia, reduced to rubble by time and the civil war of the late 1980s; a third, more obscure, double-qibla mosque, Masjid as-Shawadhinah can be found in Nizwā, Oman. All three mosques date to the 7th century (Bandyopadhyay, 2005). Recent renovations of the Medina mosque converted the Jerusalem mihrāb to a blind arch; however, the rare feature and the tradition behind it continue to draw visitors, and an informational sign at the mosque’s entrance describes the story of the first qibla. Although the idea of the double qibla is contested by some Muslims (Saifullah et al., 2001), the tradition of the original qibla remains strong within Islam and Jerusalem continues to occupy a unique place in the hearts of Muslims (St. Laurent & Riedlmayer, 1993). For members of all the Abrahamic faiths, the city is a symbol of faith, a destination of pilgrimage, a connection to a shared past, and the site of a shared future.
2. Planning and Space in Divided Cities

With an understanding of the interaction between the objective environment and individual’s subjective perception of that environment—and how demographics, culture, or experience might affect perception, attitudes, and resulting behavior—a review of planning and space in politically and ethnically divided cities is in order. The unique challenges of effective planning and governance in a contested urban landscape will be examined; history does not lack for examples of the issues that have faced divided cities and attempts to mitigate those issues. It may be that planning policies implemented in a divided Berlin, Johannesburg, Nicosia, or Beirut might illuminate potential solutions for Jerusalem’s modern planning problems.

The Divided City

Whether at the local or regional level, designing and successfully implementing planning policies and initiatives means conquering various challenges, such as zoning requirements, infrastructure renovations, budgetary restrictions, environmental regulations, and objections of the general public. In divided cities the situation is further complicated by especially delicate sociopolitical circumstances, such as ethnic, nationalistic, or religious intergroup conflicts, which have the potential to erupt in violence, and often do so. Different groups within any city will perceive the city’s various phenomena differently and have different priorities; if those groups are actively in conflict, the differences in perception and attitudes will be even starker, and planning issues will be even more challenging to mitigate. This is particularly true when one party of such a conflict occupies a position of power or authority over the other, as is the case with Israeli municipal authorities and Palestinian residents in Jerusalem. However, while the close proximity of different groups within a city can exacerbate the conflict, it also has the potential to foster interdependence and pressure authorities on all sides to compromise and find
working solutions, which may in turn have a positive impact on related regional, national, or international conflicts (Bollens, 1998a). Decisions on housing construction, lot allocation, zoning, or other public actions thus become part of a greater political or cultural conflict, with consequences that have the potential to radiate from the local to the international scale. In this context and atmosphere, the building of a new Israeli housing project in a Palestinian area of Jerusalem is not just a construction project: for Israelis it is a show of Jewish pride, development, and resourcefulness; for Palestinians, it is perceived and regarded as another act of Zionist aggression, and perhaps even an act of war.

Another issue that often arises in divided cities is a lack of trust in the prevailing social institutions of the ruling majority among the disenfranchised minority; that minority population may even denounce or reject such institutions outright, viewing them—and any decisions they make—as illegitimate and inherently unjust (Bollens, 1998b). Although Palestinian permanent residents of Jerusalem do have the right to vote in municipal elections, the vast majority choose to abstain; this act of political protest not only disenfranchises Palestinian Jerusalemites even further, but gives the Israeli municipal government absolute control over all planning and governance decisions in the city. The resulting decisions are shamelessly partisan, having been designed and implemented based on how they will benefit and promote the growth of one ethnic group while hurting and limiting the growth of another.

A common theme in research on divided cities is the importance of shared, communal spaces as places where disparate groups might congregate peacefully, interact at a distance, and, perhaps, begin to realize they are not so different, after all. Public recreational spaces, such as parks or shopping malls, are good examples of such environments (Kuo et al., 1998).
Planning in Jerusalem

Throughout its history, the urban planning and development of Jerusalem has been a direct reflection of the values and goals of the ruling authority, which has been in constant flux. In controlling and molding one of the world’s most famous, beloved, and symbolic cities to fit their needs, the Israelites, Romans, Muslims, Crusaders, Ottomans, British, Jordanians, Israelis, etc. have used the city to project their power and influence to the world. Although the entirety of Jerusalem’s planning history is significant, for the purposes of this research, this review will focus on planning policies implemented in Jerusalem’s modern period, since the beginning of the British mandate period.

Although the Ottomans had enacted sweeping modernization reforms in Palestine during the *tanzimat* period, which included building roads and official structures, modern planning standards and practices—those which emphasized social, aesthetic, and economic concerns as well as physical infrastructural needs—were first implemented under the British (Efrat & Noble, 1988). The preservation and maintenance of the holy places, and the establishment of a uniform architectural character, were primary concerns of the new British planners and authorities. Many of the planning and design standards put in place by the British remain largely in use today, such as limits on building height, prohibition of construction immediately adjacent to the Old City walls, and the use of domed roofs and Jerusalem stone for exterior walls was meant to imbue buildings with that essential traditional character and allow them to visually merge with the rocky landscape. The Old City, the cultural, architectural, and social core of the city, was separated from the spreading New City by green belts around the walls; initially, new construction was focused to the west, southwest, and north, in order to maintain the sweeping panoramic views of the eastern hills. Patrick Geddes, the Scottish planner who is best known in Israel for his plan of Tel Aviv, worked in Jerusalem between 1919 and 1925. His plan of
Jerusalem followed the building standards and zoning put in place by the British, and created the first visualization of Jerusalem’s future growth and development, with repercussions that are felt today (Figure 3.5.) However, it also reflected a colonial, pro-Zionist perspective, with little regard for existing local populations, their needs or values, or the political reality on the ground (Rubin, 2011).

Figure 3.5. Patrick Geddes’ 1919 Plan for Jerusalem (Rubin, 2011).

With the expiration of the British Mandate and the establishment of Israel in 1948, and the subsequent division of Palestine into Israeli and Jordanian-controlled territory, Jerusalem was torn in two. Jews and Arabs who found themselves on the wrong side of the border promptly fled, were evacuated, or were forcefully ousted, further dividing and homogenizing the city’s
halves. Between 1948 and 1967 Jordanian Jerusalem suffered from economic stagnation and a lack of cohesive planning, while Israeli Jerusalem thrived and continued to practice the modern land use standards and infrastructural development processes first implemented by the British (Tsimhoni, 1983). The new Israeli government immediately declared Jerusalem the capital of Israel, and transferred most government offices from Tel Aviv; thus, the city’s status as an administrative center and a symbol of Israeli nationalism was further cemented. Physical and demographic control, not administrative claims, became a priority, a trend that continues today. The city also became—and remains—the primary settlement point for new immigrants, who were continuing to stream in by the tens of thousands every year; as a result, residential, commercial, and industrial construction to support the growing population, occurred at a prodigious rate. All development during this period was focused westward. A particular issue of the time was the difficulty in planning effective transportation routes through the divided city.

In contrast, East Jerusalem and the Jordanian West Bank did not experience the same level of organization and development; the planning of roads and allocation of land for public buildings and commercial or industrial use failed to take future growth into account (Abdelhamid, 2006; Efrat & Noble, 1988). In 1967, with the defeat of Jordan in the Six-Day War, Israel annexed not only the area of East Jerusalem but also an additional 64 km² of the West Bank, including parts of the municipalities of Bethlehem and Beit Jala, two prominent Arab Christian towns. However, the borders of the new “united” Jerusalem were carefully gerrymandered to include as much open land and as few Arabs as possible (B’Tselem, 2010). Sometimes peripheral Palestinian towns, villages, and neighborhoods were even split in half by the new borders. Arabs who fell within the new borders were granted status as permanent residents of Israel, while those who were excluded were subject to Israeli military rule in the West Bank, lacking both permanent resident status and Israeli citizenship.
In the decades since reunification, although hundreds of thousands of Palestinians became subject to Israeli law in 1967, the Israeli authorities have given little thought to improving the lives of Palestinian Jerusalemites. Relative to West Jerusalem and newly-built Israeli neighborhoods in East Jerusalem, the infrastructural development and funding of Arab areas of East Jerusalem has been purposely insufficient. Bollens (1998b) noted that municipal spending in Jewish versus Arab neighborhoods was consistently cited by both Israeli and Palestinian planners as a ratio of 8:1; Amirav (1992) found that 4% was the highest amount of the infrastructural development budget ever allocated to Arab areas. Even as recently as 2013, only 10% to 13.6% of the city budget was invested in Arab East Jerusalem, despite the fact that residents comprise 37% of Jerusalem’s population (Ir Amim, 2014). In 2011, an Israeli city engineer estimated that it would cost $520 million to close the development gap between East and West Jerusalem (Miller, 2015). In 2014 the Israeli government approved a five-year budget of $52 million to be used to upgrade East Jerusalem’s physical infrastructure, improve security in Arab neighborhoods to combat crime, and invest in community centers and vocational training. A significant piece of the budget was allocated to improving transportation infrastructure and road paving, which is severely lacking in the city’s eastern half.

However, despite what is touted as progress on budget reports, city plans and development initiatives continue to neglect the needs of Palestinian Jerusalemites. Jerusalem Plan No. 2000, the first municipal master plan to include both East and West Jerusalem, was completed by the Jerusalem Municipality in 2004 and approved by the Israeli government in 2009. Despite its comprehensive scope and insistence that it seeks to address the needs of all residents, the plan states that its primary objective regarding society and population is “maintaining a Jewish majority in the city of Jerusalem while attending to the needs of the Arab minority” (Jerusalem Municipality, 2004). While the strategy promoted for Jewish areas is
primarily one of expansion—expanding existing neighborhoods or creating new ones, particularly in East Jerusalem—the main strategy for Arab areas is one of densification—increasing the limits of height or volume of existing residences, thus restricting horizontal development (Chiodelli, 2012b). This is partially achieved by zoning the remaining open areas in East Jerusalem as “green” or leaving them un-zoned, thus proscribing any development by Palestinian residents—who cannot receive a construction permit for improperly zoned land—and thus leaving any structure built within that area vulnerable to demolition.

Like pre-existing planning policies, the plan was framed by a Jewish Israeli perspective. Arab residents and officials were almost entirely excluded from the planning process, despite the insistence that the plan actively strove to include aspects of public participation. Of the 95 representatives who collaborated on the plan—including local government officials, urban planners, and experts from a variety of fields—only one representative was Arab (Jabareen, 2010). Furthermore, while the planning committees distributed a survey—published only in Hebrew—in Israeli neighborhoods to question residents about their “neighborhood vision” and assess the needs of their communities, Palestinian residents were not surveyed, thus completely excluding their perspective from the process. The language used by the municipality framed Palestinian areas as riddled with issues of service provision and infrastructure, but failed to advance an organized program to deal with these specific issues, focusing instead on curbing illegal Palestinian construction and restricting Palestinian territorial expansion. The municipality characterized Palestinian areas of Jerusalem as chaotic, but failed to acknowledge its own hand in feeding the chaos.

One does not need a specialized education or planning background to recognize Jerusalem’s current division or the detrimental effects of biased Israeli planning and development. Crossing the former Green Line or looking at the towering separation wall, the
social, spatial, and infrastructural chasm separating Palestinian East and Israeli West is as plain as the nose on one’s face. As Bollens notes, “When there is a single dominating ethnic group in control of the government apparatus, the morally based doctrines of that ethnonational group regarding sovereignty and cultural identity will merge with the state's urban policy” (1998a). The result is that the dominant ethnopolitical ideology—a product of collective and individual perceptions, experiences, and world views within the dominant group—is manifested in the real world through discriminatory planning policies and the biased allocation of resources and territory, all at the expense of the non-dominant groups. Authorities will, in turn, seek to justify and defend such policies as necessary for security or for larger government goals. Jerusalem exemplifies such a situation. Since Israel gained control of East Jerusalem in 1967, the explicit official policy of the Jerusalem municipality has been to promote Jewish demographic growth and territorial control while limiting that of Palestinian Arabs; this policy has been replicated throughout the West Bank territory as a whole. Because Israel is touted as The Jewish State and Jerusalem its capital, the state and municipal authorities work tirelessly to ensure a Jewish demographic majority and cultural dominance in the city. This is accomplished through blatantly insidious measures, such as: making building permits prohibitively expensive and extraordinarily difficult for Palestinians to obtain, resulting in building or renovations that are technically illegal and thus frequently subject to demolition (Chiodelli, 2012a); creating plans that place Palestinian-owned land outside the boundaries of the approved building area and designating Palestinian land within the planned area as reserved for “public use”, thus severely limiting the amount of land that can be legally built on (if the owners can obtain a permit) (Kaminker, 1997); and erecting separation barriers and restricting roads in such a way that Palestinian communities have become veritable islands, enclosed, isolated from one another, and difficult for residents to access (Thawaba, 2011). The Israeli authorities also employ less-obvious measures to promote
the Jewish presence in Jerusalem, such as transliterating Hebrew place-names into Arabic script on official road signs that show both official languages; this practice, termed Hebraicizing, further erodes the presence of Arab culture and identity in Jerusalem, a city long famed for its cultural diversity (Figure 3.6.).

Figure 3.6. Highway 1 sign outside of Jerusalem, which transliterates the Hebrew name for the city (Yerushalayim) into Arabic, instead of using the Arabic name (al-Quds) (972 Mag, 2015).

Municipal developments that are touted as progress by the Israeli government are, from a Palestinian perspective, perceived as biased, harmful, and regressive. The continued expansion of the separation wall from Jerusalem into the surrounding area, and throughout the West Bank, is the defining example of how Israeli planning decisions routinely disregard the needs of the Palestinian population. The wall, touted as a security measure to prevent violent terrorist attacks on the Israeli population, frequently cuts through Palestinian neighborhoods and farmland,
severing ties between communities and drastically reducing Palestinian quality of life by restricting access to economic opportunities, healthcare, education, and other community services. In 2014 the Israeli Supreme Court upheld the state’s decision to expand Begin Highway (Highway 50), which runs north-south through West Jerusalem, eastward to connect with Highway 60, in order to facilitate growing traffic between West Jerusalem and a cluster of West Bank settlements known as Gush Etzion. While the Israeli government lauded the decision as beneficial to Jerusalem’s interconnectedness and a boon to the communities of Gush Etzion, Palestinian residents of the southwest Jerusalem village of Beit Safafa were outraged, as the construction will physically divide their community in half and prevent them from constructing new homes within the highway’s vicinity (in other words, anywhere in the village). Several residents perceived that they would not be able to access the highway and, thus, it had no value to them; many claimed that the Israeli government was trying to push them out of the Jerusalem municipality and into Bethlehem, where they would lose their status as permanent residents. One 60-year resident of the village observed:

“What’s legal for them is illegal for the village, because it destroys it... My family will live on the other side of the highway... It’s for the Jews, and I’m not talking [with] prejudice, I’ve lived and worked with Jews all my life and am not against the people. It’s just that the plans they’re making are good for them, and no one else” (Eisenbud, 2014).

As of December 2015 the municipal initiative to connect Highway 50 —known as the South Begin Expressway Extension Project—was expected to be complete by April 2016, and was lauded by Israel’s Minister of Transportation as a positive element in the country’s “transport revolution” (Jerusalem Municipality, 2015). Whether Palestinian residents of Jerusalem will benefit from the revolution remains to be seen.

Bollens (1998b) examined four model urban planning strategies that planners of a divided or ethnically-polarized city can undertake: (i) neutral, in which planners seek to remain “color-
blind” and to separate urban issues from politics by framing them as technical issues that can be solved using standard planning practice; (ii) partisan, in which citizens are identified by their ethnicity, enabling decision-makers to prioritize the needs and values of the empowered ethnic group while ignoring those of the disenfranchised ethnic group; (iii) equity, which uses ethnic affiliation and status as a way of determining where inequalities can be mitigated and where resources should be allocated, based on “affirmative action policies”; and (iv) resolver strategy, which seeks solutions to planning issues by focusing less on the symptoms of urban inequality and more on the causes, such as power imbalances or competing ethnic identities. Israeli planning policies in Jerusalem, being undeniably partisan and a reflection of the values and priorities of the Israeli government in general, show little to no regard for the glaring needs of the Palestinian population. This is a reflection of a more general social mindset among Israelis, which justifies a situation in which the most basic needs of the Palestinians—workable utilities infrastructure, adequate housing, economic opportunity, freedom of movement through their home city—are secondary, if considered at all, to a need for Jewish demographic supremacy and security. Thus, asking Israeli planners and authorities to practice a more “neutral” planning approach, would be akin to putting the cart before the horse. The first step is convincing Israeli authorities that all of Jerusalem’s population could benefit from plans and initiatives that take the needs of all populations into account. This is no easy feat, as it would require the challenging of a deeply-entrenched mindset and fear of the Other. However, a plan that promotes its participatory aspect but restricts the opinions it seeks to those of Hebrew-speaking Jerusalemites, as the current master plan has done, is a shameful excuse for a comprehensive city master plan, and wastes the extraordinary opportunity to alter the status quo of planning in Jerusalem, which is undeniably biased and divisive, and results in development that is unsustainable and ineffective.
Change must come from both communities. In the current situation, the Israeli
government yields overwhelming political power, military force, and control over planning and
development decisions, which affect the daily lives of Palestinians but in which they have very
little to no input, often by choice. A first step to obtaining more leverage in the current system
involves Palestinian permanent residents practicing their rights as Jerusalemites, such as the right
to take part in municipal elections. The situation for Palestinians in Jerusalem will not and cannot
improve unless the Palestinian community attempts to work toward beneficial change and reform
within the existing political systems. Although they regard the Israeli municipal government as illegitimate, they must attempt to work within that system, as a step toward their own
enfranchisement and right to self-determination. This would enable them to take some measure
of control of their own destiny, empowering them to assert their needs, opinions, and goals
within their beloved city. Abstention from voting and refusal of Israeli citizenship is a method of
fostering Palestinian autonomy and identity, which must be respected; however, there comes a
point where ideology must be tempered with reality, on both sides. Neither Israeli nor Palestinian
authorities will relinquish claims to Jerusalem; neither community is going anywhere, thus both
must cooperate to solve the issues that plague all Jerusalemites. This relationship must be
reciprocal: the Jerusalem municipality and greater Israeli state must actively pursue cooperative
efforts and seek the input of Palestinians, if they are truly invested in creating policies that
protect the rights and address the needs of all residents; Palestinian residents must be willing to
cooperate with the Israeli officials and leverage their rights in the municipal government to
obtain basic rights in their city. Only then could a combination of the “equity” and “resolver”
planning strategies—considering the different needs of distinct populations, and working to
develop solutions to planning issues—be possible, and only then could Jerusalem’s planners
make any claims regarding inclusivity, public participation, or a sustainable future.
3. Participatory Planning and GIS Methods

In his review of perception studies in geography, L.J. Wood asserted that “town planners have no direct mechanism whereby they can discover what people want; hence, plans are often made in terms of what people ought to want” (1970). Various planning professionals, researchers, and both private and public entities have sought to rectify this issue by developing and employing a more democratic and inclusive planning process, using a variety of methods and tools. This final section of the review will discuss the theory, history, and motivations of participatory planning models and methods, which have been employed in a variety of contexts in cities throughout the world. Participatory planning initiatives in Jerusalem, Israel, and Palestine will be examined, in particular. A combination of GIS (Geographic Information System) technology—a revolutionary advance in modern city and regional planning—and participatory planning methods, resulting in Participatory Geographic Information Systems (PGIS), will be advanced as a potential tool to address Jerusalem’s unique politically-charged planning and development issues.

Participatory Planning Theory and Methods

The concept of incorporating public participation in the planning process emerged among American and European planners and researchers around the middle of the 20th century. In America, citizen participation was first mandated in 1954 as part of the Urban Renewal Program, a federal effort to combat the physical deterioration and spread of “blight”—building deterioration, unsanitary conditions, lack or deficiency of adequate public services, overcrowding—in the industrial cities of the East and Midwest and in southern cities with large concentrations of impoverished African American communities (Johnstone, 1958). The growth of the participatory planning movement largely began as a reaction to critiques of the failure of
traditional planning practice to sufficiently incorporate the needs of disadvantaged populations; this resulted in experimentation with *advocacy* or *pluralistic* planning, in which plans are developed on behalf of a society’s many disparate socioeconomic groups (Damer & Hague, 1971). Over time, the trend became not just planning on behalf of disenfranchised populations, but fostering and enabling the active participation of those populations in processes that were previously the purview of experts and elected officials. Since its emergence, the subject of participatory planning has amassed an immense, diverse, and dynamic body of literature. As planning theory and methods continue to evolve, the successes and failures of participatory planning initiatives will generate new models and avenues for exploration and improvement.

The first question to ask in a public participation effort is, “Who are the public?” The word denotes “ordinary people in general; the community” (Oxford Dictionaries). In the context of city planning, “public” refers to those individuals not traditionally involved in the planning process, *i.e.* anyone who is not a trained city planner, government official (elected or otherwise), or private developer. The public are those who interact with the environment being planned, who experience the space on a daily basis, and who—for the most part—pay the taxes that will fund aspects of the work at hand, including its planning, construction, operation, and maintenance. While public participation was once an experimental feature of planning, in the United States, governments at all levels—from the district to the state—have mandated that citizen input be sought and considered when developing and adopting plans (Brody *et al.*, 2003). But what does “participation” entail? Some of the most common methods of obtaining citizen input are public hearings or community forums, workshops, and citizen advisory committees (Creighton, 1992; Sanoff, 2000). Survey questionnaires on specific issues are also useful, as they enable the quantification of perceptions and attitudes for further analysis. Visualization techniques, such as sketches, GIS mapping, and digital modeling, are also useful tools for enabling enhanced citizen
participation, identifying issues and brainstorming solutions, and increasing public understanding of proposed plans (Al-Kodmany, 1999).

The goals of participatory planning are admirable: increased citizen responsibility and interest in their environment; greater accountability of elected officials and developers to their constituents and the people whose lives will be affected by official activities; and neighborhood, city, and regional plans that are inclusive of a wide array of stakeholder needs, not just those with the most money or political influence. However, many issues also arise in a participatory effort. Cost is a frequent issue, both in terms of money and time; in short, working to gain the myriad diverse opinions of citizens requires extensive meetings, interviews, surveys, and analysis. Depending on the scale, context, and objectives of the participatory planning initiative, such an effort can require a varying amounts of time, money, coordination, and communication between public agencies, private entities, and a diverse array of citizens, all with unique motivations and goals. However, the upfront cost of a participatory effort pays off in a public sense of ownership, reduced chance of future stakeholder conflict, increased quality of resulting plans, and more enduring and equitable solutions to planning issues. The ideal public participation planning effort recognizes the diverse perspectives of different parties, incorporates the needs of all stakeholders fairly, and empowers citizens of all stripes to actively connect and enact positive change in their communities.

In her *Ladder of Citizen Participation* (1969), Arnstein stressed the redistribution of power as a key to effective public participation efforts. Her model illustrated eight levels, or “rungs”, of a citizen’s power to affect decision-making efforts, ranging from lower rungs of “nonparticipation” to middle rungs of “tokenism” and upper rungs of genuine “citizen power” (Figure 3.7.). Truly effective citizen participation efforts would transfer some level of real power—the upper rungs of the ladder—to the “have-not” citizens (in this context, racial/ethnic
minorities in urban America), thus facilitating their participation in the processes that affect them and enabling them to enact real change in their communities. Many initiatives incorporating citizen participation—such as elements of Lyndon Johnson’s Model Cities and Community Action Programs within wider urban renewal efforts—failed, Arnstein claimed, because participants’ power was limited to the lower rungs of the ladder, rendering their participation an “empty ritual” affecting no actual change. Only in the 6th rung and higher are “have-not” participants able to rise above merely voicing their opinions and needs in a consultative or advisory atmosphere, to being able to engage with powerful stakeholders in meaningful ways and, ultimately, become the decision-makers themselves. In the meantime, while the middle rungs—particularly Informing and Consultation—cannot alone constitute genuine participation, they are important first steps to fostering the evolution of citizen power to the higher rungs.

Within those higher rungs, the success of a citizen-focused initiative often relies on two factors: “the quality of technical assistance…in articulating their priorities; and the extent to which the community has been organized to press for those priorities” (Arnstein, 1969). Arnstein’s ladder focused on federal government programs in urban areas, but she insisted that the same typology could be applied to any situation where the power imbalance between a governing authority and its citizens, students, workers, or congregants must be addressed and mitigated.

Connor’s new ladder of citizen participation (1988) was designed to prevent, address, and resolve controversy over public or private policies, programs, and projects, whether in urban, suburban, or rural contexts (Figure 3.7.). Unlike Arnstein’s ladder, in which rungs represented levels of citizen participation and power from lowest (least effective or genuine) to highest (most effective and genuine), the rungs of Connor’s ladder represented the steps taken in a systematic approach to resolve or prevent a conflict involving the general public, with each rung acting as a basis for the proceeding rung and all having a cumulative effect. As they climb higher, both
ladders increase the amount of active public participation in the planning or resolution process. The crucial first step in Connor’s ladder is ensuring that both parties are educated about each other and about the issue at hand: the public must be informed of stakeholders’ objectives and activities; the public or private entity seeking the public’s participation must first understand the needs, perspectives, and goals of that public. Surveying can be an effective method of gaining a greater understanding of the public, while also revealing information gaps, negative myths, and stereotypes before they have a negative effect on the process.

Figure 3.7. Arnstein's (left) and Connor’s (right) respective Ladders of Citizen Participation (Arnstein, 1969 & Connor, 1988)

A particular weakness of the public participation process, noted by both Arnstein and Conner, is that it is costly, time-consuming, and labor-intensive, but success is not guaranteed at
any point—even after implementation. All parties must be dedicated to investing time (group meetings, consultation sessions, workshops), money (to compensate those involved, purchase and distribute media, litigation costs), and energy into the initiative, and seeing it through to resolution. However, the widespread use of the Internet throughout the world—a medium and trend that most people could not have fathomed before the 1980s—creates a very different situation. Where once information on a government initiative might be spread through newspapers, phone calls, flyers, and door-to-door campaigners, the same information can now be rapidly distributed over a large area through online news platforms, social media, and E-mail. Digital media allows for fast, responsive content creation and enables stakeholders to respond to questions or concerns in real time. Internet tools also facilitate the information-gathering phase of the process. While Connor suggested the use of “reply-paid postcards” to survey the public, the use of online survey tools—many of which are free to use—and crowdsourcing methods could drastically reduce the amount of time and money used to collect responses (Brabham, 2009; Hanzl, 2007). Greater connectivity across any distance through communication programs such as Skype or Google Hangouts, and the ability to steam live or recorded events and conduct meetings with participants anywhere in the world, can enable parties to attend elements of the planning or resolution process at their convenience, and without having to physically cross borders.

Support for participatory methods in public work only continues to grow. In 2007, the International Association for Public Participation (IAP2) published their “Spectrum of Public Participation”, an updated framework and methodology that can be used to guide modern public participation efforts. Like the ladders of Arnstein and Connor, the IAP2 spectrum outlines increasing levels of public participation (from first “Informing” to finally “Empowering”), each of which involve different participation goals, “promises to the public” (ranging from “we will
keep you informed” to “we will implement what you decide”), and techniques for incorporating public input at each level, such as fact sheets, web sites, workshops, focus groups, and citizen advisory committees (International Association for Public Participation, 2007). The frameworks and methods provided by participatory research, such as the IAP2 spectrum and the use of visualizations to educate the public on complex plans, are invaluable tools for fostering, formulating, and successfully executing public participation efforts in the field of city planning and beyond.

**Participatory Planning in Israel, Palestine, and Jerusalem**

Researchers have explored public participation theory and methods in contexts outside of the United States, where different challenges exist for both citizens and governments. Cities in various nations throughout the world—including Israel and Palestine—have experienced explosive growth due to rapid rural to urban migration over the last few decades, creating great demand for services, utilities, and housing. Choguill (1996) argues that the governments of such nations may be unable or unwilling to meet these demands; thus, a community or group must practice “self-help” or “community mutual-help”, contributing their own time, labor, and money to reach their mutual objectives—ideally, with strategic outside assistance, such as international aid funds.

Several planning professionals and researchers in Israel and Palestine have recognized the potential of participatory methods to mitigate the region’s unique planning issues; others have insisted that public participation cannot succeed in Israel until basic democratic rights (such as full public representation and equal distribution of decision-making power) are achieved (Alfasi, 2003). Shmueli and Kipnis (1998) applied participatory planning theory among a mixed Arab and Jewish community, with the objective of identifying the basic needs and wants of two distinct minority communities, formulating solutions as a group, and determining who the
citizens felt was the best equipped to deal with the community’s problems. As hypothesized, the researchers found that the problems and needs articulated by members of the different minority groups were a direct reflection of their social status within the community and focused on their immediate experiences. For instance, recently immigrated Russian Jews sought greater assimilation and employment opportunities within Israeli society, while the Arab participants focused on issues of a geopolitical nature, such as land and territory, social equality, and representation in government, rather than material concerns like employment. The result was a proposed plan that not only took the community’s physical characteristics, demographics, urban design, and economic considerations into account, but also included citizen input and suggestions for development that would take these inputs into account. The researchers concluded that “people welcome the opportunity to be heard”, taking the participants’ enthusiasm to share their views and needs as a validation of the participatory process in itself.

Shmeuli (2008) also explored how framing—“a cognitive process whereby individuals and groups filter their perceptions, interpretations, and understandings of complex situations in ways consistent with their own...world views and experiences”—can play an important role in analyzing and mitigating environmental conflicts, such as land use disputes, resource competition, and the siting of noxious facilities, in the context of Israel. In general, framing is a useful tool for understanding and managing relationships between humans and their environment. Using three environmental disputes in Israel as case studies, Shmueli exhibited that Arabs (whether Israeli or Palestinian) and Israeli Jews frame the same issue in different ways, which must be taken into account when authorities work to resolve these issues. It is of crucial importance that disputants work to gain a greater understanding and respect of each other’s perspectives, in order to reach sustainable and mutually-beneficial solutions. In working toward such solutions in Israel and Palestine, some research suggests that the involvement of larger
organizations, such as NGOs, may be required to ensure adequate, cohesive representation of a population’s goals and needs, and to facilitate the transfer of power from a government to its citizens (Cohen-Blankshtain et al., 2013). Altogether, theoretical and practical research on participatory planning has demonstrated that such a process has great potential to mitigate the planning and development issues of Israel, Palestine, and Jerusalem. The addition of quantitative tools, such as GIS, could also lend a component of objective, unbiased data to support research conclusions, planning efforts, and the resulting development schemes.

**GIS (Geographic Information System) and PGIS (Participatory GIS) Methods**

The advancement of Geographic Information System (GIS) technology since the 1980s has had a revolutionary effect on myriad business and governance processes, including city planning, resource extraction (mining, drilling), climate research, environmental conservation, and transportation and logistics. Data with any connection to a geographic location can be mapped and analyzed, enabling the discovery and further analysis of spatial trends. For years, GIS software was expensive and accessible only to those geographers or geospatial scientists with years of specialized training, restricting the technology’s use and insights to a select few. In recent years, however, the widespread availability of easy-to-use geospatial technologies that require very little to no training, such as inexpensive GPS tools and online mapping tools, such as Google Maps, has empowered citizens, businesses, and governments to shape spatial analysis methods and tools to meet their needs, enabling data-driven decisions for a variety of applications and solutions. Such a combination of GIS and participatory methods is referred to as a Participatory Geographic Information System (PGIS) (Dunn, 2007) or Public Participation Geographic Information System (PPGIS) (Sieber, 2006). The advent of online GIS tools that are open to the public has also enabled planners to seek input from the citizens who will be affected by a plan or initiative (Obermeyer, 1998; Kingston et al., 2000; Schlossberg & Shuford, 2005).
When it comes to more day-to-day issues of urban life, such as potholes, crime, dangerous intersections, or noise complaints, easy-to-use online geospatial tools—often run on the Google Maps platform—enable members of the public to report issues or incidents to governments for further evaluation and mitigation; citizens can then track the status of their complaint and progress of a solution from the same platform, fostering official accountability and a more engaged public (Blečić et al., 2014). Input from such platforms can also be transferred to a more robust GIS program, such as ArcGIS, for more detailed analysis and record-keeping. Within the context of planning, and particularly when it comes to planning in a contested environment like Jerusalem, the addition of the objective analysis and results that GIS provides (with the proper methodology to reduce or eliminate bias) can be an invaluable tool throughout the planning process, including exploratory surveys, construction siting, and infrastructural development. Plans and development initiatives can be developed based on the objective reality on the ground, rather than anecdotal evidence, partisan opinion, or biased special interests. In Palestine, a combination of perception assessment through surveys and GIS analysis has successfully been implemented to enable the siting of needs-based parks in Ramallah (Thawaba, 2014). Overall, the addition of GIS and PGIS/PPGIS tools to planning and other official processes fosters high-quality, comprehensive decisions that are driven by data rather than opinion, while simultaneously enabling governments to aggregate input from large numbers of stakeholders from different backgrounds and with different needs. GIS can also be a useful tool for creating random sampling schemes within certain geographic or spatial parameters. The use of such data-driven tools will be invaluable in mitigating Jerusalem’s myriad planning and development issues, ensuring inclusive planning decisions that benefit all residents, regardless of ethnicity, religion, or politics.
IV. METHODOLOGY

This research seeks to compare and find commonalities between the environmental perceptions and attitudes of the diverse residents of Jerusalem, a divided city. This was achieved primarily through the distribution of survey questionnaires to respondents representing a wide variety of cultural, religious, economic, and demographic backgrounds. The research as a whole, including the design of the survey instrument, was guided and given context by a review of previous research on environmental perception and attitudes, as well as theories of urban planning and development initiatives (particularly in areas dealing with religious or ethnic conflict).

Survey questionnaire techniques are crucial for such a study, providing an operationalized method for quantifying and analyzing the imperceptible phenomena of perceptions and attitudes. Such techniques are commonplace in research on perception, behavior, environmental psychology, and planning (Balram & Dragicevic, 2005; Drori & Yuchtman-Yaar, 2002; Paradise, 2005; Schiff, 1970; Thawaba, 2014). The link that questionnaire surveys provide between psychological phenomena and quantifiable data makes such surveys of great value to geography, a field which has faced criticism—both internal and external—for its perceived lack of quantitative methods and results. As Matthews notes, “Nothing is wrong with a qualitative statement, but it will carry more weight if it is possible to make a statement quantitatively…to convey unbiased, objective information” (1981). Such objective information is particularly important in the context of Jerusalem, where discussions, processes, and decisions are easily complicated by conflicting subjective views of national and religious identity, cultural traditions, and land ownership and use.
1. Study Population

During the summer of 2012, 225 respondents completed a survey instrument designed to assess environmental perceptions of Jerusalem’s growing urban landscape, as well as attitudes toward current growth and the planning processes that drive it. Respondents included Israeli citizens, Palestinians (classified as “permanent residents”, the legal status for those living in Jerusalem who have refused Israeli citizenship), and foreign non-citizens/non-residents, all of whom had lived, worked, or attended school in Jerusalem for more than one year. If a potential respondent indicated that they did not live, work, or attend school in Jerusalem, or had done so for less than one year, the interview was discontinued. Depending on the preference of the respondent, the written survey was self-administered in Arabic, English, or Hebrew.

2. Survey Design

The survey consisted of three sections. The first section, containing ten questions, assessed the demographics of the respondent (age, sex, religious affiliation, level of education, sector of employment, and annual income), the type of environment in which they grew up and were socialized (urban, suburban, or rural), and the length of their residence or employment in Jerusalem; the latter question was to provide an idea of the respondent’s familiarity with the Jerusalem cityscape. Respondents had the option of naming their place of socialization (childhood environment or hometown) and their current neighborhood but, because the focus of the study was not the spatial correlation of environmental perceptions and attitudes, it was not required. This section also assessed the respondent’s primary source of transportation and their primary source for news and other information, in order to assess their level of connectivity within the physical urban environment and the wider world of information.

The second section consisted of 10 statements regarding Jerusalem and the phenomena
within it. Respondents indicated their level of agreement or disagreement with these statements on a seven-point bipolar scale ranging from *strongly disagree* to *strongly agree*, with an option to indicate “not sure”. These responses were used to assess the respondent’s perception of Jerusalem’s urban environment, as well as their attitudes towards the process of urban growth and the current urban development initiatives under the auspices of the Jerusalem municipality. These scaled responses enabled the assignment of a numerical value for each respondent’s experience with and opinion of various subjects, which could then be used in descriptive statistical analyses.

The final section of the survey instrument asked respondents to rank ten urban issues from 1 to 10, with 1 being the “most important” and 10 being the “least important” *in their opinion*; that is, which elements of Jerusalem’s urban environment they felt were in need of more or less attention (*i.e.* funding) from the municipal or national government. This section was designed to enable the assessment of the priorities and environmental values of each respondent. The choices provided for ranking, in alphabetical order, were: Aesthetic/Cultural Development and Renovation (museums, libraries, public art, monuments, etc.); Environmental Cleanup and Protection; Green Space and Recreational Space (parks, gardens, sports facilities, etc.); Healthcare Facilities and Provision; Housing Development, Renovation, and Maintenance; Industrial and Commercial Development; Public Transportation, Streets, and Accessibility; Religious Development and Renovation (churches, mosques, synagogues, religious programs, etc.); Security (police, military, firefighters, and other emergency services); and Utility Provision (water, electricity, waste management, etc.). The qualifications of each category included above were also included with the survey question.
3. Procedures

This research followed a purposive maximum variation sampling method, in which a wide variety of people were chosen to be surveyed and interviewed based on the judgement of the researcher in the field. Maximum variation sampling is useful in research that seeks to understand “how a phenomenon is seen and understood among different people, in different settings” (Cohen & Crabtree, 2006). Purposive, non-probability sampling methods are not immune to researcher bias; however, for this exploratory research, it was decided that a maximum variation sampling methodology would be sufficient. Random sampling was deemed too cost and labor-intensive to conduct; in addition, a comprehensive list of the populations of both East and West Jerusalem, which would enable such random sampling, was unavailable.

Each interview was conducted in a public space by the primary researcher, with durations ranging from less than five minutes to over an hour. The average interview time was estimated to be around twenty minutes. Potential respondents were approached in public, communal spaces throughout East and West Jerusalem, based on their perceived openness to participating in such a survey. Unless the respondent asked the researcher to record their answers, the survey was self-administered. The survey portion of the interaction was prefaced with a succinct verbal explanation of the research and its motivations, in English or Arabic. As the respondent filled out the survey and/or after the survey was completed, the respondent was encouraged to share more in-depth insight into their experience in Jerusalem through a one-on-one interview with the researcher. In these cases, the researcher let the respondent take the lead; the conversation was allowed to develop organically, based on what the respondent desired to discuss or share. These insights were either recorded by the researcher (in English) or written by the respondent on the survey instrument (in their choice of language). These personal notes, unencumbered by the structure of predetermined multiple choice answers or Likert scales, enriched the researcher’s
understanding of the respondent’s real perspective of urban growth, planning, development, and—above all—life in the city. Selected interview excerpts can be read in Appendix C (Data Tables).

Respondents were surveyed mostly in Jerusalem’s active urban core, surrounding the centralized Old City. Notable survey sites included: Hebrew University’s Mt. Scopus and Givat Ram campuses; Malha Mall, one of Israel’s largest and most popular malls, whose patrons include Israelis, Palestinians, and tourists; Independence Park, Jerusalem’s second-largest municipal park; shops, markets, and restaurants throughout the Armenian, Christian, Jewish, and Muslim quarters of the Old City; Zion Square; King David, Jaffa, and King George Streets in West Jerusalem; Salah ad Din, Sultan Suleiman, and Derech Shchem Streets in East Jerusalem; and East Jerusalem’s Bab a-Zahara and Wadi al-Joz neighborhoods (Figure 4.1.). Thirty-four respondents completed their survey through the online Survey Monkey platform. The location of online respondents was verified using their IP address, as recorded by the survey platform.
Figure 4.1. Map of General Survey Locations in the Jerusalem Municipality (Created by the author).
4. Assumptions

Several assumptions about this research and the resulting data must be noted. First, given that the Israeli-Palestinian conflict is ongoing and constantly evolving—for better or worse—it is crucial to state that the field work for this research was conducted in the Summer of 2012, a relatively quiet period in the history of the conflict. During the research timeframe, the most notable political activity in Jerusalem was a protest over the privatization of the city’s light rail line; the researcher, an American, was free to travel to and from Ramallah in the West Bank without restriction. Because the survey component of the research was conducted during in this context, it is possible that results would differ if the survey was conducted during a period of active, violent conflict or civil unrest.

The survey was self-administered in the respondent’s chosen language; thus, it was assumed that respondents fully understood the questions asked. In addition, given that the majority of survey questions inquired about personal beliefs and past experiences—an unobservable trait—it was assumed that all respondents answered truthfully. It was also assumed that all respondents had some degree of familiarity with the process of completing a questionnaire.

Finally, not only when distributing the survey questionnaires but throughout the entire research period, it was assumed that each respondent identified themselves as being within one of three distinct sociopolitical groups: citizens of the State of Israel; Palestinian “permanent residents” or citizens of the State of Palestine; and foreigners who identify as citizens of another state, although they might also identify as Jewish, Muslim, Christian, Arab, etc. A survey question explicitly requesting a respondent to self-identify as Israeli or Palestinian was intentionally omitted from the questionnaire, in an attempt to avoid negative confrontations or political debate. Therefore, it is assumed that if a respondent completed the survey in Hebrew,
and identified as Jewish, they identify as Israeli; conversely, if a respondent completed the survey in Arabic and identified as Muslim or Christian, it was assumed that they identify as Palestinian. All of these assumptions, and the final one in particular, are not immune to criticism.

5. Analysis

Each survey was given a unique numerical identifier ranging from 1-225. Responses were translated to English by third parties (with Hebrew surveys translated by an Israeli citizen living in the United States, and Arabic surveys translated by a Palestinian citizen of Ramallah) and entered into an Excel spreadsheet. The data was analyzed in Excel and SPSS Statistics, using descriptive statistics and cross tabular analysis. The respondent’s neighborhood of residence and the survey areas were mapped using Esri’s ArcMap software. Graphs and visualizations were created using Excel.
V. RESULTS

1. Demographics

A total of 225 respondents completed a self-administered survey in Arabic, English, or Hebrew; the language of the survey was chosen by the respondent. One-hundred twenty two respondents (54%) chose Hebrew, 92 chose Arabic (41%), and 11 respondents (5%) chose to complete the survey in English. The majority of English-speaking respondents were recent immigrants or foreign students studying at Hebrew University for an extended period; one exception was an older Israeli—a Bosnian survivor of the Siege of Sarajevo—who requested that the surveyor record his responses.

Eighty-one female respondents (36%) and 144 male respondents (64%) indicated their age within a series of ranges. The majority fell within the 16-25 (n=89 or 39.6%) and 26-35 range (n=81 or 36%). Twenty-four respondents (10.7%) were in the 36-45 range, 17 (7.5%) in the 46-55 range, and 11 (4.9%) in the 56-65 range. Only 3 respondents (1.3%) were over the age of 66. Respondents’ age, language, and sex are summarized in Figure 5.1.

![Figure 5.1. Respondent Age Group, Language, and Sex (Created by the author)]
Respondents were asked to indicate their religious affiliation or lack thereof. A little over half (52%, n=117) identified as Jewish; three Jewish respondents also identified as Atheist. Only one Jewish respondent, a man in the 36-45 age range, identified as Haredi. Eighty-nine respondents (39.6%) identified as Muslim and 5 (2.2%) as Christian. Those who identified as Atheist alone made up 6.7% (n=11) of respondents. Three respondents indicated their religious affiliation as “Other”: one respondent identified as Buddhist, while another stated his religion was “Love”.

Over 90% of respondents who chose to complete the survey in Hebrew identified as Jewish, and 95% of those who completed the survey in Arabic identified as Muslim (Figure 5.2.). Although Jerusalem is home to a significant Christian Arab population, only 2 Arabic-speaking respondents identified as Christian. English-speakers identified as Jewish (n=6), Christian (n=3), or Other (“Atheist”) (n=2).

Figure 5.2. Respondent Language and Religious Affiliation (Created by the author)
2. Education and Employment

The survey asked respondents to indicate their highest level of education; there was the option “None” to indicate a lack of formal education. A total of 3 respondents (1.3%) indicated that they had no formal education and 7 respondents (3.1%) had a primary-level education. Sixty-one respondents (27.1%) had completed a secondary education (high school) and 48 (21.3%) had spent some time at a university. Seventy-five respondents (33.3%) had completed a Bachelor’s degree, 24 (10.8%) had completed a Master’s degree, and 7 (3.1%) held a Doctorate (Figure 5.3.).

Figure 5.3. Respondent Level of Education as Percentage of Total, and Respondent Language and Sex as a Percentage of Each Level of Education (Created by the author)
Respondents were asked to identify their sector of employment or indicate if they were unemployed. The majority of respondents were either students (29.3%, n=66) or worked in the Service and Retail industry (23.6%, n=53). Twenty respondents (8.9%) worked in the tourism industry. A total of 18 respondents (8%) indicated they were unemployed. A wide variety of occupations were indicated by the remaining respondents (Figure 5.4.).

Respondents indicated their annual salary in New Israeli Shekel (NIS) within one equal interval income range. More than half of respondents (n=124 or 55.1%) made less than 50,000 NIS (about $14,000) annually. Fifty respondents (22.2%) made between 51,000 and 149,000 NIS ($14,500 to $42,000); 7 respondents (3.1%) made between 150,000 and 249,000 NIS ($42,200 to
$70,000); 2 respondents (.9%) made between 250,000 and 349,000 NIS ($70,400 to $98,000); and one respondent made more than 550,000 NIS (around $155,000). No respondents fell within the 450,000-549,000 NIS range (Figure 5.5.).

Figure 5.5. Respondent Annual Income in New Israel Shekel (NIS) and Language (Created by the author)

3. Environment

Over half of respondents (n=108) had been a resident of Jerusalem for more than 20 years, and over a quarter were short-term residents, with 27% (n=61) having resided in Jerusalem for less than 5 years. Another 12% (n=27) had been residents for 16-20 years, 6.2% (n=14) for 11-15 years, and 6.7% (n=15) for 6-10 years. Respondents had the option of writing the name of their current neighborhood; 154 (68.4%) chose to do so. Forty-seven Jerusalem neighborhoods were indicated with varying frequency. In order to gain further perspective on their experience, respondents were also questioned about the type of place in which they had been raised. The
overwhelming majority (n=170 or 76%) indicated they had grown up in an urban environment, while 13% (n=30) grew up in suburbs and 11% (n=25) grew up in a rural environment.

4. Transportation

Respondents were questioned about their means of transportation and movement throughout the city. Public transportation was the most common form of transportation, with 36% of all respondents (n=81) indicating Jerusalem’s tram and bus system as their sole method of transportation; 45.3% (n=102) said they use public transportation in combination with another method. The second most-common form of transportation was car, which 33.8% of respondents (n=76) said was their primary method; for 36.9% (n=83) cars were used in combination with other methods. Simply walking was the sole method of mobility for 11.6% of respondents (n=26). A small portion of respondents claimed to use only a bike to get around (6.7%, or n=15) or in combination with other methods (8%, or n=18). Other responses included “scooter”, “roller skates”, and “hitchhiking” (Figure 5.6.).
Transportation methods differed among different groups. More Arabic speakers listed a car as their sole source of transportation (42% of language group, n=39) than did Hebrew speakers (27% of language group, n=33). A similar trend occurred when cars were considered in combination with other methods: 46% of Arabic speakers versus 32% of Hebrew speakers listed a car as one method among others utilized. Biking was also more common among Hebrew speakers (12% of language group, n=14) than Arabic speakers (4% of language group, n=4). Public transportation as the sole source of transportation was more common among those in the 16-25 and 56-65 age groups than in those in other age groups, with 47% (n=42) and 55% (n=6), respectively.
5. Information and Media

Respondents were questioned not only about their physical mobility and connectivity within the city, but also about their connectivity to news and information. Out of 225 total respondents, 52.4% (n=118) indicated the Internet as their sole source for news and other information; 77% of all respondents (n=173) indicated the Internet as one information source used in combination with other media. The second most-utilized medium was television, which 32% of all respondents (n=74) indicated as a source of information in combination with other media; only 12% (n=27) claimed television was their sole information source. Newspapers were the third most-popular information source, with 14% of respondents (n=36) using them in combination with other media and 2.2% (n=5) as their sole information source. Approximately 10% (n=24) of respondents use radio as a source of information, but less than 2% (n=4) indicated radio as their sole media source. Magazines were the least common responses, with 2% (n=4) of respondents indicating them as an information source at all; no respondents indicated magazines as their sole source for information. Other responses, written in by respondents, included “friends”, “trade”, and “books”. Information transfer that could be called “word of mouth” (“friends”, “hearsay”, etc.) was a source of information for 5 respondents. Three respondents indicated that they didn’t read or listen to news in any form, with one Israeli claiming, “I’m not interested. I’m young, I can’t help it”. Respondent information sources are summarized in Figure 5.7.

The primary source of information for Arabic-speakers and Hebrew-speakers differed. While 24% (n=22) of Arabic-speakers indicated they used television as their primary source of information, only 4% of Hebrew-speakers (n=5) indicated the same. About 63% of Hebrew-speakers (n=77) indicated the Internet as their primary source for information and other news, compared to 37% of Arabic-speakers (n=34). The Internet is used in combination with other
media by 60% (n=55) of Arabic speaking respondents, compared with 86% (n=105) of Hebrew speaking respondents.

Preference for different sources of information also differed greatly by age group. Use of the Internet as a source for information (either alone or in combination with other media) decreased steadily with age. While 84% (n=75) of respondents aged 16-25 indicated they used in the Internet in combination with other media, and 62% (n=55) indicated they used the Internet alone, 80% (n=65) of members of the 26-35 age group indicated they used the Internet with other media and 56% (n=45) used the Internet alone; for the 36-45 age group these numbers decreased further to 58% and 46%, respectively, and the trend continued with each successively-older age group. Among older age groups, television, newspapers, and radio were more prevalent news and information media than the Internet.

Figure 5.7. Respondent Sources of Information, by Number of Respondents Using Source Alone and in Combination with Other Sources (Created by the author).
6. Likert Scale Responses: Environmental Perceptions and Attitudes toward Cooperation

Likert scales (Montello & Sutton, 2006) were designed to indicate the respondent’s attitudes toward various aspects of Jerusalem’s urban environment, such as traffic, crime, pollution, and access to water and other utilities; in addition, residents were also asked if they believed cooperation between Israelis and Palestinians was necessary to solve issues in the urban environment. After reading a series of ten statements, respondents indicated the direction (positive or negative) and magnitude (strength) of their agreement with each of those statements; respondents could answer “not sure” to any of the questions. Broaching a wide range of topics through the Likert scale questions encouraged respondents to expound further on issues that struck them as particularly important. The questions evoked candid views on the effects of the current geopolitical conflict on the city’s growth, development, and livability.

- **Statement 1:** I have adequate and reliable access to essential utilities and services (including water, electricity, waste management, streets, and housing).

   A majority of respondents (64%, n=143) agreed with this statement to some extent, while 29% (n=66) disagreed and 6.7% (n=15) were unsure. The results varied depending on the language and religion of the respondent. Arabic-speakers and Muslims were more likely than Hebrew-speakers and Jews to disagree that their access to essential utilities and services was adequate and reliable. While 54% of Arabic-speakers disagreed with the statement to some degree, only 12% of Hebrew-speakers disagreed. Conversely, while 80% of Hebrew-speakers agreed that they had adequate access, only 40% of Arabic-speakers agreed. Most English-speakers (82%) agreed with the statement to some degree (Figure 5.7.). Comparable trends were found when comparing the responses of Jewish and Muslim respondents. Most Jewish Jerusalemites (81%, n=95) agreed that they had adequate access to services and utilities, but less
than half (40%, n=35) of Muslim Jerusalemites agreed. All Christian respondents agreed their access was adequate.

![Figure 5.8. Respondent Agreement with Statement 1, “I have adequate and reliable access to essential utilities and services”, by Language (Created by the author).](image)

Men were slightly more likely than women to disagree that their access to essential utilities and services was adequate (33% of men disagreed compared to 23% of women). Disagreement with the statement increased with length of residence. The data did not indicate a correlation between a respondent’s sentiment regarding access to essential services, and the factors of age, annual income, level of education, or employment sector.

- **Statement 2: Jerusalem is accessible and easy to navigate.**

Jerusalemites were equally likely to agree or disagree (to some extent) that their city was accessible and easy to navigate; 44% percent of respondents (n=98) agreed, 44% (n=99)
disagreed, and 12% (n=28) were unsure. Magnitude of agreement differed greatly by direction; while only 14 respondents (6%) agreed strongly with the statement, 40 respondents (18%) disagreed strongly. Respondents who use a car for transportation (either alone or in combination with other methods) were slightly more likely to disagree that Jerusalem is accessible and easy to navigate (54% disagree vs. 40% agree), as were respondents who use a bike (50% disagree vs. 45%). Public transportation users were not only more likely to agree with Statement 2 (47% agree vs. 36% disagree), but were also more likely to express uncertainty about Jerusalem’s accessibility than car and bike users (17%, 6%, and 6%, respectively). There did not appear to be a strong correlation between length of residence and opinion of Jerusalem’s accessibility.

Among Arabic-speakers, 45% of respondents (n=41) indicated some level of agreement and 53% (n=49) indicated disagreement; among those who disagreed with the statement, 31 said they disagreed “strongly”. Among Hebrew-speakers, 43% (n=53) indicated agreement and 37% (45) indicated disagreement. Only 2 Arabic-speaking respondents (2%) indicated that they were unsure if Jerusalem was accessible and easy to navigate, while 24 (20%) Hebrew-speakers indicated uncertainty. The trends are similar when comparing responses between Jews and Muslims.

- **Statement 3: Jerusalem’s growth has caused environmental problems (air pollution, water scarcity, etc.).**

  A large number of respondents (n=58) indicated uncertainty about the impact of urban growth on Jerusalem’s natural environment. However, almost half of respondents (n=102) agreed that the city’s growth has caused environmental issues. Similar numbers of Arabic- and Hebrew-speakers agreed on the negative effects of growth on the environment (n=41, 49% and n=55, 45%, respectively), as did 6 out of 11 English-speakers. While 41% of Arabic-speakers disagreed that there were growth-related problems (n= 36), only 22% of Hebrew-speakers
disagreed (n=27). A greater percentage of Hebrew-speakers expressed uncertainty (“not sure”) about the negative environmental effects of urban growth than Arabic-speakers (32% vs. 16%).

Respondents of all age groups—except those aged 36-45—were more likely to agree with Statement 1 than disagree. Men were slightly more likely than women to agree that growth had caused environmental issues. A greater percentage of women expressed uncertainty about the statement (33% of women vs. 22% of men).

- **Statement 4: Water scarcity is a problem in Jerusalem.**
  
  A small majority of respondents (47%) disagreed that water scarcity is a problem in Jerusalem, compared with 35% agreeing and 18% expressing uncertainty. 40% of Arabic-speakers agreed with the statement, compared to 29% of Hebrew-speakers. Respondents originating from rural areas were more likely to agree that water scarcity was a problem (13 respondents vs. five disagreeing and seven unsure). Equal numbers of short-term residents (1-5 years) agreed and disagreed. No significant correlation was found between agreement with Statement 2 and age, sex, education, or income.

- **Statement 5. Air pollution is a problem in Jerusalem**
  
  Over half of Jerusalemites surveyed (54%) agreed that air pollution is a problem in Jerusalem; 20% were unsure and 26% disagreed. Women were slightly more likely than men to agree that air pollution is an issue in Jerusalem (58% of women agreeing to some extent vs. 51% of men).

- **Statement 6. Overcrowding is a problem in Jerusalem.**
  
  The majority of respondents (69%) agreed that overcrowding is a problem in Jerusalem, versus 20% who disagreed and 11% who were unsure. Seventy-eight percent of Arabic-speakers agreed with Statement 6, compared to 61% of Hebrew-speakers.
• **Statement 7. Unemployment is a problem in Jerusalem.**

A majority of respondents (67%) agreed that unemployment is a problem in Jerusalem. More respondents expressed uncertainty than disagreed with the statement (19% vs. 14%). Arabic-speakers were more likely to agree than Hebrew and English speakers (80% vs. 60% and 46%, respectively).

• **Statement 8. Crime is a problem in Jerusalem.**

A slight majority of respondents (46%) indicated that they believe crime is a problem in Jerusalem, compared to 35% who disagreed and 20% who were unsure. Arabic-speakers and Muslims were more likely to agree with Statement 8 than Hebrew-speakers and Jews. Respondents who had been residents for more than 15 years were more likely to agree than disagree that crime is a problem, while the opposite was true of those who had been a resident for 15 years or less. Respondents above the age of 35 were more likely to agree that crime is an issue in Jerusalem than younger respondents. The data did not reveal a relationship between agreement with Statement 8 and sex, income, level of education, or employment sector.

• **Statement 9. The Israeli-Palestinian conflict has altered my access to essential utilities and services.**

A slight majority of respondents agreed, to some extent, that their access to essential utilities and services has been altered by the conflict: 43% agreed, 39% disagreed, and 18% were unsure. Arabic-speaking respondents were more likely to say that the conflict has altered their access to essential utilities and services than English- and Hebrew-speaking respondents (Figure 5.8.). Christians and Muslims were also more likely to agree than Jews and others.
Respondents who had lived in Jerusalem for more than 10 years were more likely to agree that the conflict had altered their access to essential services, but the data showed no relationship between agreement with Statement 10 and sex, income, or level of education.

- **Statement 10. In order to solve urban problems, cooperation between Israelis and Palestinians is necessary.**

  A majority of respondents agreed that compromise is necessary to solve Jerusalem’s problems, with 57% (n=127) indicating agreement to some extent. A quarter of respondents (n=57) disagreed to some extent and the sizable remainder—41 respondents or 18%—indicated uncertainty (Figure 5.9.).
A majority in agreement was found across all language, religious, age, and education groups. When responses were compared to length of residence, it was found that a majority of respondents in each residence length group agreed, except for residents of 11-15 years. Older respondents were more likely to agree that cooperation was necessary than respondents in younger age groups.

7. Ranking of Urban Issues

Respondents were asked to rank ten common issues of urban planning and development from 1 to 10, with a rank of 1 indicating the highest priority, and a rank of 10 indicating the lowest priority in their opinion. Utility provision was ranked first most frequently, while religious development was ranked last by almost half of respondents (Table 5.1.).
Table 5.1. Number of Times an Issue was Ranked Most Important (1\textsuperscript{st}), Least Important (10\textsuperscript{th}), in the Top 5, or in the Bottom 5 (Largest Value in Each Column in Bold for Emphasis)

<table>
<thead>
<tr>
<th>Issue</th>
<th># of Times in Top 5</th>
<th># of Times Ranked First</th>
<th># of Times in Bottom 5</th>
<th># of Times Ranked Last</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aesthetic/Cultural</td>
<td>44</td>
<td>7</td>
<td>86</td>
<td>33</td>
</tr>
<tr>
<td>Environment</td>
<td>69</td>
<td>14</td>
<td>33</td>
<td>2</td>
</tr>
<tr>
<td>Green/Recreational Space</td>
<td>67</td>
<td>10</td>
<td>39</td>
<td>8</td>
</tr>
<tr>
<td>Healthcare</td>
<td>116</td>
<td>32</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td>Housing</td>
<td>93</td>
<td>26</td>
<td>31</td>
<td>4</td>
</tr>
<tr>
<td>Industry/Commercial Development</td>
<td>71</td>
<td>8</td>
<td>36</td>
<td>12</td>
</tr>
<tr>
<td>Public Transportation, Streets, Accessibility</td>
<td>105</td>
<td>20</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Religious Development</td>
<td>36</td>
<td>7</td>
<td>106</td>
<td>70</td>
</tr>
<tr>
<td>Security</td>
<td>97</td>
<td>20</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>Utility Provision</td>
<td>106</td>
<td>42</td>
<td>16</td>
<td>4</td>
</tr>
</tbody>
</table>

A significant number of Arabic- and Hebrew-speakers ranked utility provision highly; however, while the former prioritized housing, the latter focused on healthcare and security (Figure 5.10.). Hebrew-speakers ranked the environment and public transportation first more than Arabic-speakers. English-speakers focused on public transportation and healthcare.
Figure 5.11. First Ranked Issue, by Respondent Language Group

8. Key Results

- Fifty-seven percent of respondents agreed that cooperation between Israelis and Palestinians is necessary to resolve issues in Jerusalem’s urban environment.

- Utility provision, housing, healthcare, public transportation, and security were ranked most important by the majority of respondents; religious development, aesthetic/cultural development, green/recreational space, and industrial/commercial development were ranked least important.
  - More Arabic-speakers ranked Housing as a priority than Hebrew-speakers.
  - More Hebrew-speakers ranked Healthcare as a priority than Arabic-speakers.

- Notable discrepancies existed between urban experiences of Hebrew-speakers and Arabic-speakers, and between Jews and Muslims.
  - Large discrepancy between amount of Israelis (less) vs. Palestinians (more) who said their access to essential utilities and services has been altered by the conflict.

- Hebrew-speakers answered “Not Sure” more than Arabic-speakers when asked about issues of access and environmental quality.

- Concerns about car traffic, transportation accessibility, unemployment, and utility provision
were shared by Arabic and Hebrew-speakers.

- Car and bike users were more likely to disagree that Jerusalem is accessible and easy to navigate.

- Cars were more utilized by Arabic-speakers, while Hebrew-speakers were more likely to use public transportation.

- The Internet was a frequently utilized source for news and information among Jerusalemites, with 174 respondents (77%) indicating they used the Internet in combination with other media and 118 respondents (52.4%) indicating they used the Internet alone.
VI. DISCUSSION

This study utilized a survey questionnaire to capture data on environmental perceptions and attitudes toward urban development among Jerusalemites, for the purpose of comparing worldviews among religious, social, and demographic groups. A total of 225 respondents were surveyed. The study population for this exploratory research was relatively small, but revealed some key insights about the experiences of modern Jerusalemites.

1. Key Findings

A Likert scale portion of the survey sought to capture and quantify environmental perceptions and attitudes towards Jerusalem’s growth and development. It was hypothesized that respondents who identified as opposites in the city’s most common bifurcations (Jewish-Muslim, Israeli-Palestinian) would show disagreement on key measures and indicate vastly different urban experiences; resulting data showed that Israeli and Palestinian Jerusalemites do, in fact, have widely different experiences within the city. These differences are largely an effect of the biased planning and development schemes implemented by the Israeli municipal government which, in short, systematically favor Jewish Jerusalemites at the expense of non-Jewish Jerusalemites. However, it was also found that several issues were shared by Israelis and Palestinians in Jerusalem. The most notable shared issues revolved around transportation and city accessibility, housing, utility provision, environmental pollution, and unemployment. The revelation of such shared issues provides a focus point for future research.

In addition, when asked if they felt that cooperation between Israelis and Palestinians was necessary to solve the city’s development issues, a majority of respondents (57%) agreed, indicating potential willingness between the two main populations to cooperate and work together to improve their shared city—despite the fact that they are often put at odds in the media and popular opinion. Whether the indication that they are willing to cooperate would translate
into real-world action, is another matter. A more rigorous survey would need to be performed to
gauge the potential of real-world cooperative efforts, explicitly asking respondents not only if
they would be willing to cooperate with other populations, but what actions they would be
willing to take to foster and follow through with such efforts.

A sizable majority of Jerusalemite respondents, across different age, sex, religious, and
socioeconomic groups, use the Internet as a source of news and information. Considering the
widespread global use of the Internet for communication, information, and recreation, this result
is not surprising; however, it has important implications for communication between
governments and citizens. Government and non-governmental initiatives that seek citizen
participation may find great success utilizing the Internet to contact and engage citizens of
certain age and cultural groups. However, care would need to be taken to also utilize methods
that connect with groups that do not utilize the Internet as frequently or at all, such as older age
groups and the Haredi population, the latter of which eschews many aspects of modern
technology in favor of a more traditional lifestyle.

It was found that Arabic-speakers were more likely to use a car as their primary method
of transportation, as opposed to public transportation, which was more common among Hebrew-
speakers. It is possible that this trend is due to an unwillingness or hesitation among Arabs in
Jerusalem to use the light rail line or bus system in West Jerusalem, which may be perceived as
an Israeli system or symbol of Israeli domination of the city landscape. Further investigation of
Arab Jerusalemite motivations to drive instead of utilize public transportation, may reveal greater
insight into whether such a decision is politically or culturally-motivated, is affected by Arab
perception of public transportation accessibility (i.e. Arabs feel unwelcome or unsafe when
utilizing public transportation), or otherwise.

The majority of respondents had lived in Jerusalem for either more than 20 years or less
than 5 years. Sizable populations at the disparate ends of the scale enabled distinctive comparisons of environmental perceptions and attitudes between long- and short-term residents.

2. Areas for Improvement

Although the findings of this research are promising, certain aspects of the survey and the resulting data are not without issue. Some segments of Israeli and Palestinian society are relatively over-represented; namely: students and retail workers; respondents between the ages of 18-35; and men. The former two over-representations are a direct result of the locations in which the survey was conducted. The campuses of Hebrew University and the markets of the Old City were focal points for survey distribution, given the communal, public nature of these areas and the general willingness of members of these communities to participate in the survey. As a result, a sizable portion of the survey population consists of students (~30%) and those employed in the retail and service industries (~25%). In addition, the vast majority (~76%) of respondents were under the age of 35.

The paucity of female respondents (36.4% of all respondents) is highly regrettable. Christian and Muslim women were particularly absent; 65% of female respondents were Jewish, while Muslim women comprised only 25% of female respondents. Older Muslim women were particularly underrepresented, with 85% of Muslim women who completed the survey being age 35 or under. The paucity of female Muslim respondents can partially be attributed to prevailing cultural norms regarding the behavior of women in public spaces. There were several instances in which the survey instrument would be offered to a potential female Muslim respondent, only for her to refuse and defer to her male companion; sometimes, even if the woman agreed to complete the survey, some would still ask their male companion for assistance or guidance before answering certain questions. One accommodating male Muslim respondent graciously offered to take copies of the survey and distribute them to his female family members in their
home; such connections between public and private spaces in Jerusalem are invaluable. In future research that utilizes survey methods in such populations, special care should be taken to ensure that less visible and less vocal segments of society are not excluded from the survey population. Any legitimate discussion of environmental perception among women in Jerusalem would require greater numbers of women in general, and comparable samples of women from the city’s various sociopolitical and religious groups. Like any other population, women are not a monolith; perceptions of Jerusalem’s environment will differ greatly among female Jerusalemites—whether Bedouin, Christian, Druze, Jewish, Muslim, Ashkenazi, Mizrahi, etc. In order to make any defensible comparisons between such groups, a larger female population is necessary.

Another common issue with the survey was language accessibility. In Jerusalem the power and diversity of languages cannot be underestimated. Although the survey was available in three languages (Arabic, English, and Hebrew) this was found to be inadequate, much to the surprise and regret of the researcher. The linguistic diversity of Jerusalemites—and the abundance of residents both young and old with absolutely no knowledge of Israel’s two official languages nor of English—warrants the translation of such a survey into a variety of other languages, so that all segments of Jerusalem’s population might be included in future research on environmental attitudes and perceptions. Languages required for this endeavor would include: Amharic, for the Ethiopian Jewish community; Russian, for immigrants from the former Soviet Union; and Yiddish, for the Haredi community. Furthermore, given that Israel has gained many citizens from Western Europe and South America, translation of the survey into French, German, Italian, and Spanish could also be beneficial. In fact, the researcher encountered one older Jewish resident who could only speak French and another who spoke only Uzbek.

In light of these issues with the research design and methods, there are several aspects of
the survey that could be improved for more reliable and valuable results:

- **Larger, more inclusive survey population**, as opposed to certain populations being over-represented (e.g. 16-25 age group, students, men) within a relatively small population of respondents. This can be partially achieved by conducting the survey in a denser, more focused area, and by using less time- and labor-intensive methods (e.g. conducting the survey over the Internet or phone, as opposed to approaching respondents on the street). In the context of Jerusalem, future surveys could ensure inclusion of more female respondents by setting quotas for respondent demographic groups or following culturally-sensitive methods of arranging interactions with female respondents (such as organizing interviews in private spaces). In addition, certain populations within the Israeli and Palestinian communities (Ethiopian Jews, Haredi Jews, Bedouin Arabs, Bahá’ís) were entirely absent from the survey population; inclusion of such groups, which are noted for their insularity, would require assistance from members of those communities to breach barriers of language and culture. Inclusion of these groups would result in a richer and more in-depth assessment of planning and development issues in Jerusalem, and would be well worth the added effort of connecting with and surveying/interviewing such groups.

- **In-depth interviews with key stakeholders**, such as local planners, public figures, clan leaders, academics, law enforcement, and religious leaders, in order to gain deeper insight into the issues highlighted by an exploratory survey, and how those issues affect the city’s various populations. Again, special care would need to be taken to ensure inclusion of views from many different segments of Jerusalem society, not only the ones that are the most visible and accessible to outsiders.

- **More focused line of questioning**. This research, being exploratory in nature, casts a wide net. Respondents were questioned on a wide range of topics; combined with a relatively small survey population, this unfocused line of questioning resulted in unfocused results. Trends are observable but few, if any, are concrete. However, this survey did illuminate certain issues as being shared, narrowing the focus for future research along the same vein. In future research, the use of an initial pilot or exploratory survey over a wide study area could help provide focus, both thematically and geographically, and enable the creation and implementation of a survey that focuses on f

- **Incorporating spatial data collection and GIS analysis** into multiple steps of the survey process, which would enable more objective and bias-free study site location and spatial sampling, aid in data collection and quality, and provide greater insight through geospatial analysis. The various demographics, perceptions, and attitudes captured through the survey could be linked to locations, enabling the comparison of responses across space and illuminating any location-based trends for further study. The use of GIS could also enable effective random sampling using various spatial and demographic parameters.

- **Improved survey design**, including improved instructions, clearer wording, and a more localized “flow” for a multicultural and multilingual population. The wording of some questions was confusing for some respondents. One question that confused quite a few respondents was the question of annual income. The concept of quantifying income by year was unknown to most people, both Israeli and Palestinian, for whom the concept of income
by month was more familiar. Indeed, it was noted multiple times that some respondents, when they reached the question on annual income, would begin to count on their fingers or look into the distance as they conducted mental math. This flaw in survey design is a slight cultural difference, but perhaps an important one to note when designing survey questionnaires for use in Israel, Palestine, and potentially other Middle Eastern nations. This could be aided by pilot testing of the survey instrument among the study population, which was not performed for this exploratory round of research. In any case, redesigning the survey so that respondents are not forced to perform mathematics would be beneficial for all involved. Overall, an improved survey instrument could be achieved through stricter adherence to established survey design methods and administrative organization, as outlined by the Total Design Method (Dillman et al., 1984). Special design and analytical consideration must also be made for any surveys conducted online (Dillman & Bowker, 2001). Some research also suggests that positioning demographic questions at the end of the survey, rather than the beginning, can improve survey results within politically or ethnically-charged contexts; such design enables the respondent to answer without explicitly considering their affiliation with any one group. The data gathered from the demographic section of the survey could also be improved by asking whether a respondent is a citizen, permanent resident, or long-term visitor in Jerusalem, which has great impact on their level of civic involvement (voting, taxes), social standing, freedom of movement through the city and surrounding region.

- **Objective terminology** to describe various phenomena in Jerusalem’s urban environment, as opposed to terms that might have different meanings for different populations. For instance, the generalized use of the terms “overcrowding” and “crime”, without any clear, quantified explanation of what the terms denote, may mean something very different to a wealthy Russian Jew and an impoverished Ethiopian Jew, despite the fact that they are both Jews living in Jerusalem. Similar research that seeks insights into environmental perception among various populations in a diverse, multicultural population, should take special care to ensure inclusivity across cultures, classes, and education levels, and to utilize objective terminology within a survey questionnaire or respondent communication.

- **Probability sampling method**, such as systematic or cluster (area) random sampling, would enhance the scalability and representativeness of the sample population, and greatly reduce the risk of any potential researcher bias. Random probability sampling would also enable more concrete generalizations about the wider population, based on the sample population.

- **“Forced choice” format** for all questions, including no option for “nonresponse” on any question, particularly those utilizing a Likert scale. There was also a notable issue with the survey’s final section, the ranking of urban concerns. Respondents were asked to rank ten concerns from 1 to 10 (1 being the highest concern and 10 being the lowest), but the instructions did not indicate that each number was to be used only one time. Thus, many respondents, feeling that two or more things were of equal importance and value, applied the same ranking to multiple choices. This problem would be easily remedied by including the instruction that each number may be used only once within the ranking scheme, which would force the respondent to indicate precisely which concern outranks another.

- **Greater control over the survey instrument**, achieved through administration of the survey
by the researcher in English or in the respondent’s primary language (unaided or through a translator), as opposed to self-administration by the respondent. This would not only allow the researcher to ensure a higher quality of responses (no unvoiced confusion over wording and no skipped questions, for instance) but would also engage the respondent more thoroughly, ideally leading to greater insight into the respondent’s experience and reasoning for their views.
VII. CONCLUSIONS & IMPLICATIONS

This research utilized survey methods to divulge data on environmental perceptions, attitudes, and world views among Jerusalem’s different cultural, religious, and socioeconomic groups. These data were used to compare and contrast responses between these groups, with the ultimate goal of exploring how different residents experience Jerusalem’s urban landscape and finding shared issues that create potential for cooperative efforts. A combination of questionnaire surveys, participatory planning theory, and geospatial technologies was advanced as a methodology for fairly and objectively mitigating planning issues for all populations in Jerusalem. Related previous research compared attitudes within certain demographic groups or between residents of different cities in Jerusalem, Israel, and Palestine, used survey methods to gauge public opinions on various urban development issues, and utilized geospatial analysis to address and explore these issues in Jerusalem and the surrounding area; research that compared perceptions between Israelis and Palestinians in Jerusalem focused on high school students, and did not advance suggestions for how insights into differences in perception could be utilized to mitigate the city’s currently biased planning and development trends, and spatial segregation.

This research explored a combination of survey, participatory planning, and GIS methods to find shared issues between groups in Jerusalem, in order to pursue shared solutions through cooperative efforts.

Jerusalem was chosen as the focus of this research for its unique history, religious importance, multiculturalism, and environment of conflict. Such an environment is ideal for the comparison of world views across diverse groups. The allure of Jerusalem has drawn multitudes from across the globe, from varied cultural and religious traditions, political and social systems, and stages of economic development. The celebrated diversity of the city’s residents has fostered a unique urban environment, but not without conflict. Differences in religion, ethnicity, and
political ideology, not only in the capital but throughout Israel, Palestine, and the Levant, have led to one of the most grueling conflicts in modern history. This research was motivated by a recognition of the vital importance of exploring potential methods of cooperation and novel solutions to the conflict.

Considering the well-publicized, increasingly documented, and, at times, sensationalized conflict between Israeli and Palestinian Jerusalemites over land, political autonomy, and control of holy sites, it was originally assumed that differences in perception and experience between respondents who identified with either of these two groups would be stark, and their views irreconcilable. In reality, although the results did suggest that Israelis, Palestinians, and other residents do experience the city differently as a result of their social status (Israeli citizen vs. Palestinian permanent resident or foreign long-term visitor) it was found that certain issues—specifically transportation accessibility, utility provision, and housing—were common across various groups. Despite the different lenses through which they perceive reality and the different treatment they receive from the governing authorities, Jerusalemites share and experience the same spaces, and experience similar problems as a result. Residents experiencing similar problems may also seek similar solutions and, based on the sample population, may be open to intergroup cooperation to solve local shared issues. This research advances the potential of utilizing subjective stakeholder views and objective scientific tools—the qualitative and the quantitative—to create and execute a Jerusalem planning initiative that is data-driven, inclusive, and sensitive to the needs of all populations, regardless of ethnicity, religion, or political affiliation.

1. Research Conclusions

Based on past research and the key findings of this research, several conclusions are
advanced for further study:

- Jerusalemites welcome the opportunity to share their experiences in the urban environment and their attitudes towards planning and development issues in their city. Survey methods can be employed effectively in Jerusalem, in order to quantify resident experiences and attitudes for further analysis and discussion.

- Jerusalemites across different ethnic and socioeconomic groups believe that cooperation between Israelis and Palestinians is a necessary component of successful, sustainable solutions to urban issues, such as housing availability, provision of essential utilities and services, environmental degradation, and transportation accessibility.

- Pockets of Israeli and Palestinian society—which already interact peacefully on a daily basis—are ready to work with “the other side” in Jerusalem; they must be given the resources and forum to do so. Participatory planning initiatives could enable and guide such efforts and ensure inclusivity.

- The most pressing issues for Israeli and Palestinian Jerusalemites are issues of utility provision, housing availability, transportation accessibility and efficiency, unemployment, and overcrowding. These shared issues provide a basis for greater, more focused exploration into how such shared issues might foster shared, cooperative efforts.

- Planning that utilizes a combination of survey questionnaires, GIS analysis, and inclusive public participation is a viable method for mitigating Jerusalem’s unique urban planning and development issues. These methods would enable the incorporation of both objective, data-driven decisions and subjective resident experiences—both equally-important aspects of planning—into development initiatives that are beneficial to all segments of Jerusalem society.

These key conclusions are encouraging. Given the interdependence of Jerusalem’s Israeli and Palestinian populations, and what seems to be a willingness and readiness to cooperate among certain segments of those populations, a focused research initiative that seeks to determine specific avenues for cooperation, could find success in Jerusalem. Various quantitative tools, including survey questionnaires and GIS, could be both in an exploratory capacity (to determine the pockets of society, the areas of Jerusalem most open to cooperation, and the spatial trend of issues experienced by respondents), a fieldwork capacity (spatial planning for the shared initiative), and an analysis and presentation capacity (enabling data-driven decisions by both researchers and stakeholders involved in the project).
2. Future Research

There is great potential for similar research that utilizes a more robust survey method and larger sample size in a smaller, more cohesive area, such as two neighborhoods on the East-West Jerusalem border or Israeli-Palestinian border towns. If a significant amount of residents from the two communities were found to share a certain key issue, and to be amenable to cooperative efforts to solve that issue, the findings could be used to initiate and support a realistic joint planning effort. Methods of participatory and cooperative planning that have led to positive results could be contextualized and implemented. The project could be as small as a shared garden or a monument of significance to the participating populations: the most important part would be the effect of something shared on relations between those involved. Engaging in a shared effort, with a shared result and shared pride in their accomplishment, would empower participants to engage in cooperation in other areas of life, and potentially encourage others to do the same.

It is difficult to say if such efforts would face greater challenges in cosmopolitan Jerusalem, where tensions and stakes are high and building restrictions abound, or smaller, more homogenous border towns, where the military has greater control. Approval of cooperative efforts may not be as strong in rural areas as it was observed to be in the city. An initial exploratory survey could be deployed in several potential sites, in order to gauge residents’ interest in engaging in such research and collaborative activity; GIS could be used to aid study site location, spatial sampling of survey populations, analysis of the exploratory and primary results, and planning efforts throughout the entire process. The use of GIS methods would add an objective, data-driven, visual component to the process.

Ultimately, the most crucial aspect of comprehensive planning initiatives in Jerusalem is equal consideration and inclusion of the perspectives and needs of all stakeholders. This research
has demonstrated that such inclusion can be achieved by: (i) employing participatory planning theory and practice as a guide for empowering populations that have historically been excluded from the planning process, thereby enriching the resulting policies; (ii) utilizing survey methods to measure and assess stakeholder perceptions, thereby illuminating opportunities for collaboration and conflict resolution; and (iii) incorporating GIS and other geospatial technologies to enable objectivity and support data-driven conclusions. Successful results of such an effort would encourage cooperative, comprehensive city planning and promote efforts to create policies that benefit and improve the quality of life of Jerusalem residents.

All Jerusalemites, regardless of ethnicity, religion, social status, or any other categorization, deserve the opportunity to express their needs and goals for the governance, planning, development, and growth of their city. All Jerusalemites must be empowered to practice such expression, in order to demand and pursue initiatives that will benefit their communities. The Jerusalem municipal and Israeli state authorities, eschewing any destructive ethnic bias, must encourage and enable such citizen expression and empowerment by actively seeking public input from all corners of society, providing the forums and tools for such expression, and ensuring that all Jerusalemites feel a sense of ownership and responsibility for their shared home. A cooperative, inclusive, progressive vision for the future of Jerusalem, which ensures the prosperity, security, and advancement of all Jerusalemites, is long overdue and can wait no longer.
VIII. REFERENCES


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Israel Regional Database. Israel Social Sciences Data Center (ISDC), (2011a). *Population at end of period: Locality, Jerusalem.*

Israel Regional Database. Israel Social Sciences Data Center (ISDC), (2011b). *Total active construction, total area: Locality, Jerusalem.*


Josephus. (1737). The wars of the Jews, In *The works of Flavius Josephus* (William Whiston,


Madaba Map segment depicting *Aelia Capitolina* (Roman Jerusalem) [Online image, with annotations by A. Duplantis]. Retrieved February 21, 2016 from https://upload.wikimedia.org/wikipedia/commons/c/c7/Madaba_map.jpg.


Terrestrial Jerusalem. (2015d). Old City [map]. No scale given; generated by Andie Duplantis;


IX. APPENDIX

A. Survey

This is an anonymous survey - please do not include your name. Please circle your answer, unless directed otherwise.


3. Religion (include branch or school, if you like): Christianity Islam Judaism Other

4. Level of Education: Primary Secondary Some University Bachelor’s Degree Master’s Degree Doctorate

5. Sector of Employment: Education Government Agriculture Service/Retail Industry/Manufacturing Tourism

6. Annual Income: less than 50,000 NIS 51,000 – 149,000 NIS 150,000 – 249,000 NIS 250,000 – 349,000 NIS 350,000 – 449,000 NIS 450,000 – 549,000 NIS +550,000 NIS

7. Birthplace: Urban Suburban Rural

8. Length of Residence in Jerusalem (in years): 1-5 6-10 11-15 16-20 21 or more

Optional - Name of your current neighborhood:

9. What is your primary source for news and other information? Television Internet Newspaper Magazines Radio Other

10. What is your primary method of transportation? Car Bike Walking Public Transport

Please indicate your level of agreement with the following statements, by placing an X in the corresponding box:

(Note: “Essential utilities and services” include water, electricity, waste management, streets, and housing… “Environmental problems” and “urban problems” include air pollution, water scarcity, overcrowding, crime, and unemployment.)

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Not Sure</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have adequate and reliable access to essential utilities and services.</td>
<td>Jerusalem is accessible and easy to navigate.</td>
<td>Jerusalem’s growth is positive and “headed in the right direction”.</td>
<td>Jerusalem’s growth has caused environmental problems.</td>
<td>Water scarcity is a problem in Jerusalem.</td>
<td>Air pollution is a problem in Jerusalem.</td>
<td>Overcrowding is a problem in Jerusalem</td>
</tr>
</tbody>
</table>

Please turn over for the final question...

Figure 9.1. English copy of questionnaire survey used in Jerusalem
Final Question: If you were given $5,000 to improve the city, how would you rank the following urban concerns, in terms of importance and funding priority? Please order your concerns from 1 (top priority) to 10 (lowest priority):

___ Utility Provision (water, electricity, waste management, etc.)
___ Healthcare Facilities and Provision
___ Security (police, firefighters, and military)
___ Industrial and Commercial Development
___ Housing Development, Renovation, and Maintenance
___ Public Transportation, Streets, and Accessibility
___ Green Space and Recreational Space (parks, gardens, sports facilities, etc.)
___ Environmental Cleanup and Protection
___ Religious Development and Renovation (synagogues, mosques, churches, etc.)
___ Cultural/Aesthetic Development and Renovation (museums, libraries, public art, monuments, etc.)

Thank you very much for your participation!

If you have any questions or concerns, please contact:
Primary Researcher: Andie Duplantis –
Research Advisor: Thomas R. Paradise
University of Arkansas - Department of Geosciences
Fayetteville, Arkansas 72701 United States of America

Figure 9.1. English copy of questionnaire survey used in Jerusalem, continued
B. Research Compliance

MEMORANDUM

TO: Andie Duplantis
    Thomas Paradise

FROM: Ro Windwalker
    IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 12-05-694

Protocol Title: Perception of Urban Growth and Landscape Change among Palestinians and Israelis

Review Type: ☑ EXEMPT ☐ EXPEDITED ☐ FULL IRB

Approved Project Period: Start Date: 05/17/2012  Expiration Date: 05/16/2013

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form Continuing Review for IRB Approved Projects, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 400 participants. If you wish to make any modifications in the approved protocol, including enrolling more than this number, you must seek approval prior to implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.

May 17, 2012

Figure 9.2. Research Compliance
### C. Data Tables

Table 9.1. Selected interview excerpts, by language/religion of respondent and topic of discussion

<table>
<thead>
<tr>
<th>Language</th>
<th>Religion</th>
<th>Topic of Discussion</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hebrew</td>
<td>Judaism</td>
<td>Israeli-Palestinian Cooperation</td>
<td>It is very hard to be Ultra-Orthodox. People hate us... I am very radical in my opinions, but [the Palestinians] have been here for hundreds and hundreds of years—why should they leave? They have a right to be here.</td>
</tr>
<tr>
<td>Hebrew</td>
<td>Judaism</td>
<td>Israeli-Palestinian Cooperation</td>
<td>There are no Palestinians in Jerusalem.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Israeli-Palestinian Cooperation</td>
<td>I do not care who you are, Jewish or Muslim. All I want to do is live my life with my family, in the city where I was born.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Israeli-Palestinian Cooperation</td>
<td>Jerusalem is dying! I strongly disagree, with the biggest “X”.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Israeli-Palestinian Cooperation</td>
<td>The solution to conflict is reconciling differences. We need parents to educate and raise their children well. We have young men with good ability and minds, university educated, but they’re dishwashers and store clerks.</td>
</tr>
<tr>
<td>Hebrew</td>
<td>Judaism</td>
<td>Transportation and Housing</td>
<td>A city should be a city. Buildings now, with private parking, encourage people to be isolated, but the street is where the city lives.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Utility Provision, Housing, Green Space, and Cultural Renovation</td>
<td>There is a huge difference between roads and trash collection in East and West. Housing, green spaces, culture: we don't have these.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Income</td>
<td>The cost of living is too high, but we make so little. It doesn't equal out.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Housing and Green Space</td>
<td>Development is needed in Arab areas, but not in Jewish ones because they are already good.</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>-------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Utility Provision</td>
<td>What is needed is to develop all services, and the most important one is sovereignty and to remove all racist elements.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Utility Provision and Cultural Renovation</td>
<td>I live in an Arabic area, and I can feel that there is a huge gap between Arabic areas and Jewish ones, concerning cultural, political, and social issues.</td>
</tr>
<tr>
<td>Hebrew</td>
<td>Judaism</td>
<td>Transportation</td>
<td>The system is patched, rather than planned. We need comprehensive planning from start to finish, A to Z. [There is] a lack of synergy between government and entrepreneurial activity and residents' needs. Since they put in the tram, business owners in the area [Jaffa Road] have seen a 50% drop in business due to less access by buses, cars, and taxis. They have to rely solely on foot traffic... Having such a large distance between stations literally destroys businesses. A better solution is probably long lines to serve people from far away areas and neighborhoods, but on Jaffa Street we need something more localized. We need more frequent stops in the City Center.</td>
</tr>
<tr>
<td>Hebrew</td>
<td>Other</td>
<td>Utility Provision</td>
<td>Water is especially important.</td>
</tr>
<tr>
<td>English</td>
<td>Judaism</td>
<td>Transportation</td>
<td>Cramming the narrow streets with trams and double buses is a crime against history. Our [transportation system] is bad, theirs [Arabs] is worse.</td>
</tr>
<tr>
<td>Arabic</td>
<td>Islam</td>
<td>Security</td>
<td>They [the police] do not come for Arabs.</td>
</tr>
</tbody>
</table>
D. Photos

Figure 9.3. Palestinian men playing backgammon in the Old City’s Muslim Quarter (Photo by the author).

Figure 9.4. Israeli men meeting at a coffee shop on West Jerusalem’s Jaffa Street (Photo by the author).
Figure 9.5. A street in East Jerusalem, near the Damascus Gate (Photo by the author).
Figure 9.6. The streetcar route along Jaffa Street in West Jerusalem (Photo by the author).

Figure 9.7. Haredi man riding his bike down Jaffa Street (Photo by the author).
Figure 9.8. Protestors at a demonstration against the privatization of Jerusalem’s Light Rail Line (Photo by the author).
Figure 9.9. Separation barrier north of Jerusalem, at the Qalandia Checkpoint (Photo by the author).

Figure 9.10. Graffiti depicting Palestinian politician Yasser Arafat, on the inside of separation barrier at Qalandia Checkpoint (Photo by the author).
Figure 9.11. Tire barricade erected by Palestinians inside Qalandia Checkpoint (Photo by the author).
Figure 9.12. Palestinian children in the Old City’s Muslim Quarter (Photo by the author).
Figure 9.13. Israeli children playing ball in the Old City’s Jewish Quarter (Photo by the author).
Figure 9.14. Market street in the Old City’s Muslim Quarter (Photo by the author).

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Figure 9.15. Market street in the Muslim Quarter during prayers (Photo by the author).
Figure 9.16. Residential street in the Old City’s Armenian Quarter (Photo by the author).