
The Wall, Bypass Roads and the Dual Transportation System in Palestine

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The road network in Palestine is a complex road system where the highway system is classified into main roads and bypass roads. The main roads are usually two-lane highways that connect the Palestinian cities in the West Bank while the Bypass roads is a road system that is constructed by the Israeli occupation to facilitate the movement of the settlers without entering the large Palestinian urban centers.

The movement of Palestinians usually occur on the main streets between cities. They can also use segments of the bypass roads which is most of the time has obstructions such as check points, gates and the separation wall. These on ground road facts have create obstacles on road accessibility for Palestinians and at the same time offers an none obstructed accessibility to destinations for Israeli settlers.

This paper will illustrate the road conditions in Palestine by explaining the dual transportation system for Palestinian and Israeli settlers. The paper will also elaborate on and explains the obstacles Palestinian face daily on their accessibility to destination. The paper will use Geographic Information Systems as a mapping tool to explain the existing conditions of the roads and the obstacles people face.

The paper will also use spatial analysis in vector and raster to quantify the connectivity characteristic of roads such as road density and intersection density and proximity and then compare these parameters between the roads used by Palestinians and the bypass roads used by Israeli settlers. The results of this paper can be used by local authorities in their planning for accessibility in the West Bank

Keywords: Separation Wall, Bypass roads, Spatial analysis, GIS

Introduction:

Change is necessary: facts needed, (immigrants were not welcome actually that is a kind of information I don't prefer to include because it minimizes the damage and reflects not even half the truth) The urban conflict starts when problem for Palestinians began with their kindness and hospitality. Palestine was the place that individual Jews immigrate at the beginning of the 20th century to live side by side with Palestinians. Things began to be complicated with the increasing number of immigrants which led to the creation of the state of Israel in 1948. UN resolutions such as 242 and 338 were established to solve the conflict and establish two states that can live side by side (Carter, 2006). None of the resolution worked out because the Israeli policy was to grab more and more land, and for Palestinians who are the owners of the land, this was illegal, and they want their rights back.

Considering the British mandate, Belford promise for Jewish population to move to Palestine taking the religious justification as an excuse for occupation, with focus on manipulation of the facts and the Zionist strategy in occupying more lands and claiming that no original owner of the land where there.

The complication in the case increased when Israel occupied the West Bank and Gaza strip as a result of the 1967 war, declaring that Israel does not plan to keep them but the action on the ground was the use of the state of art urban planning strategies to sprawl in the occupied land and actually leaving Palestinians with nothing to talk about. According to the Israeli author Michael Ben-Yair the six days war of 1967 was forced upon Israelis but on the seventh day



Israel has chosen to be a colonial state ignoring international treaties, grabbing land and transferring settlers to the west bank to establish an apartheid regime in the occupied territories (Ben-Yair, 2002, pp. 13).

More and more settlements were built over the seized Palestinian land in efforts of providing appealing living circumstances for coming settlers. Settlement's transportation systems were built based on the Palestinian original transportation network. This network was used for transportation between the new settlements and Israel. Giving promotions for settlers, Israel succeeded in increasing the number of settlers and added more settlement along the Palestinian transportation network between cities by seizing more and more land from Palestinians. Through out the years and with the increase of the occupational tracts provided to promote for immigration Israel modified the existing Palestinian transportation network by adding the bypass roads to have a comprehensive network which is now called the bypass roads and this network was mostly the modified Palestinian network which is now has obstacles for Palestinian use. The establishment of transportation networks and new settlements were elements of the Israeli plan called "Allon Plan" which consists of the annexation 35- 40% of the Palestinian land to Israel and establishing a self ruled or partnership in the remaining lands (Reinhart, 2002).

Israelis (under international and Palestinian pressure) were obliged to think about solutions for the transportation hassles facing the Palestinians. Therefore, Israelis began to plan for a dual transportation network by planning an isolated and detoured Palestinian transportation network. The emerged network is modeled and planned for the permanent settlement of the conflict utilizes longer distances and narrow roads on hilly places that makes it very difficult for Palestinians to use. As for the modified Palestinian network enriched by the Israeli bypass roads, it is prohibited for Palestinian use mostly and if permitted, Palestinians had to go through a series of Israeli check points and wall gates to reach their destinations even within the west bank . In contrast, settlers can travel through west bank and around Palestinian cities without encountering any hassles. The reality of the transportation systems in the west bank and Israel, demonstrate Jimmy Carter's view about the system that Israel is starting at that time, the acquisition of land and efforts to isolate the settlers from Palestinians so the Jewish family can commute from Jerusalem to the West Bank on roads where others are excluded from using them (Carter, 2006, pp. 190).

This paper discusses the wall, bypass roads, the dual transportation system inside the Palestinian lands and how they affect Palestinians in their daily life. The paper also discusses the Israeli plan for settlement growth, and restrictions on Palestinian city growth by the wall, restricted roads and building permits depending on the land zoning. This land zoning declares most of the lands outside cities and villages as agricultural and if not, it will be reserved Israeli settlement to grow.

Background:

In the recent history of Palestine, there have been many United Nations resolutions at different times to divide the land of historic Palestine into two states - Palestine and Israel. In 1988, preceding the Oslo agreements and for the preparations of the peace process, the Palestine Liberation Organization (PLO) agreed to recognize Israeli in 78% of historic Palestine. Nearly 20 years later, Palestinians are still striving for an independent state on the remaining 22% of their land. Israel strategic planning is to continue in settlement construction and in consolidating existing settlements in occupied Palestine. This policy turned the two states resolution to a be only a dream for Palestinian who simply want to live in a free state.



The historic Palestine as of 1922, at the time of the British mandate consists of all the lands that are now deemed as the State of Israel in addition to the occupied Palestinian territory of the West Bank and the Gaza Strip. The population at that time was approximately 89% Palestinian Muslims and Christians and 11% Jews. Due to the planned mass immigration from other countries, by 1946, Palestine's population was approximately 1,800,000, of which 66% were Muslim and Christian Palestinians and 34% were mostly foreign-born Jews (McCarthy, 2001).

In 1947, the United Nations General Assembly recommended partitioning Palestine into separate Arab and Jewish states, with an internationally administered city of Jerusalem. Arabs through their governments rejected this resolution. However, this was a United Nations' non-binding resolution, Arab governments claimed that the United Nations had no right to allocate more than one half of Palestine to Jews who were immigrants and are only less than one third of the population and don't own the land (the ownership percentage was less than 6%). The next year, the British Mandate ended and the Jewish armed troops controlled most of the land and fought against six Arabic armies and won the war. Israel, by force expanded its control beyond the 1947 allocation to the Jewish State. In that Israel expelled more than 400,000 Palestinians and destroyed more than 400 Palestinian villages (Khalidi, 1992). By the end of the war, Israel controlled 78% of historic Palestine. The remaining of the land was controlled by Jordan for the West Bank and by Egypt for Gaza strip.

In June 1967, Israel invaded Egypt, Jordan, and Syria, in this process Israel occupied the Palestinian territory of the West Bank including East Jerusalem, Gaza Strip, Egypt's Sinai and Syrian Golan Heights. Israeli claimed that the war was only defensive in nature and that keeping the occupied Palestinian territories was not intended. But soon, Israeli's real aims started to reveal on ground by expanding its borders to include East Jerusalem and several surrounding villages in the West Bank. A few months' later, Israeli settlements chain was established in the occupied territories, and continued until recent days. In doing so, Israel tried to attach the West Bank to Israel by erasing the 1948 border (Brownfeld, 2007).

In 1993, the Palestinians and Israelis signed Oslo Agreements. The Oslo Agreements were based on the idea that the parties would gradually develop a relationship of trust and cooperation during a specified grace period. In this period both sides should work on resolving the larger and more difficult two state solution for the conflict (MEMRI, 2007 & Carter, 2006).

In June 2002, Israel began constructing a wall inside the occupied Palestinian territory. The wall, which in some sections consists of concrete wall up to 12 meters high and in others a series of trenches, wires, electrified fencing, motion detectors, sniper towers and military roads. Most of the wall was located inside the occupied West Bank. As a result, the wall severely restricts Palestinian freedom of movement, separates Palestinians from schools, health facilities and jobs (PNA-MOP, 2007 & Carter, 2006).

In the construction of the wall, which acts like a prison for Palestinians, wide swath is bulldozed in addition to the concrete, electrified fencing, sniper towers and patrol roads, all in Palestinian lands and the area between the segregation barrier and the Israeli border is regarded as a closed military region (Carter, 2006).

Roughly calculating, we would say that the wall and other settlement infrastructure added nearly one half of the West Bank to Israel. This percentage is much more of what was planned by the Israeli in the "Allon" Plan and will leave less than 12% of the historic Palestinian land for Palestinians to negotiate and build their future state (PNA-MOP, 2003). Figure 1 shows the Palestinian land seized in the period 1946- 2000 as well as the fragmentation of the West Bank. The figure clearly shows that since the year 2000, there is no geographic continuity

between the Palestinian lands that were isolated by the bypass roads and the Israeli settlements.

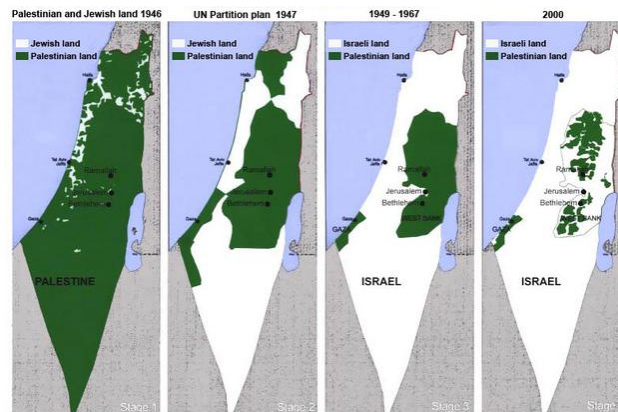


Figure 1: Palestinian loss of land 1946 to 2000

Source: the Palestinian PASSIA

The history of settlement from the first settlement in 1967 to now, shows the increasing number of established settlements even after the peace talks, since 1967, Israel has encouraged settlements in the occupied Palestinian territories by transferring parts of its Jewish population into the West Bank and the Gaza Strip. Settlements has been aimed to change the status of the land to prevent the return of Palestinians. For this reason, Israel's settlements put the greatest threat to the establishment of an independent and viable Palestinian state. Israeli settlement today contains more than 834000 Israeli settlers (مر Arab Studies Society. Land Research Committee,2015 compared to 4,780,000 Palestinian populations in the West Bank and Gaza strip (Palestinian Bureau of Statistics, 2017).

According to the Israeli human rights organization B'Tselem, more than 40% of the West Bank is now under the control of Israeli settlements. During the Oslo peace process alone, the settler's population increased from approximately 270,000 in 1993 to around 834,000 in 2015. Israelis are promoted to the settlements through a variety of government incentives, including housing subsidies, income tax reductions, disproportionate budget allocations and business grants (B'Tselem, 2018). Figure 2 shows the Israeli settlements and their land reserves in the West Bank

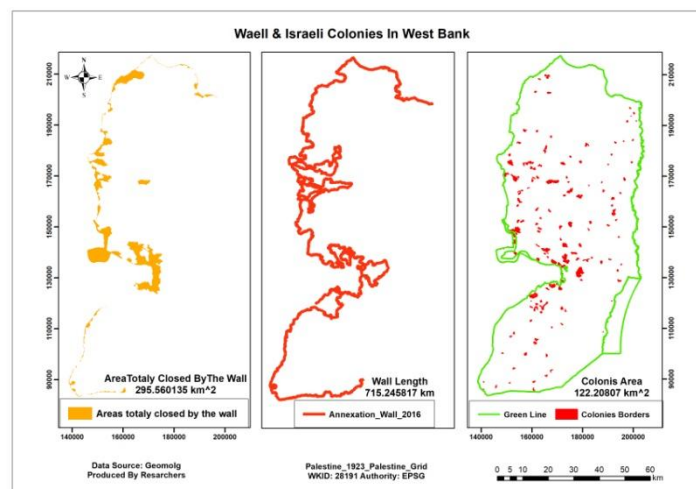


Figure 2: Israeli colonies and their reserved growth area
Source: GEOMOLG- PNA- Ministry of local Government

In the summer of 2002, Israel began construction of the wall which is 701 km long and is approximately 12m high in the occupied West Bank. The wall is nearly twice the length of the 1967 border. Israel claims that the wall is for security purposes but on the ground it forms a component of Israel’s settlement infrastructure called “The Settlement Enterprise” and an element of their strategic sprawl plan. The wall has been routed around existing settlements as well as planned expansion areas in order to expand the settlements sizes. In doing so, the wall separates Palestinians from their lands and if completed according to plan, it will take an additional of 9.0% of the West Bank lands. When combined with settlement-controlled areas east of the wall and those in the Jordan Valley would leave Palestinians with only half of the West Bank which is nearly 12% of the historic Palestine (PALDIS, 2002). The construction of this wall was declared as illegal according by the International Court of Justice. According to Carter (2006), the president of the Unites States George W. Bush said that he think that the wall is a problem and it is difficult to build a confidence between Israelis and Palestinians with a wall snaking through the West Bank (Carter, 2006). Figure 3 shows how the wall is built inside the West Bank, annexing Palestinian land to Israel and surrounding cities in Palestine such as “Qalqilya”.

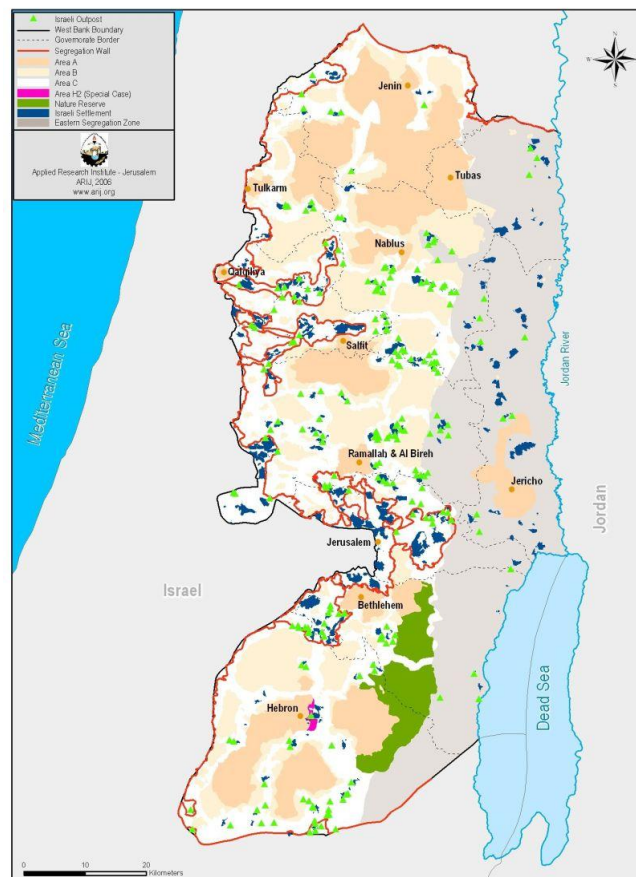


Figure 3: The wall

Source: Applied research institute ARIJ, Jerusalem

Israeli settlements benefit much from massive Israeli investment in roads and other infrastructure. Settler bypass roads combined with the Palestinian road network connect settlements together and to Israel. For Palestinians, who are generally prohibited or restricted from using these roads even though the vast part of it is Palestinian, these roads create a grid of physical barriers that cross the entire West Bank, isolating Palestinian communities,

preventing their expansion, restricting access to their lands, natural resources and destroying the Palestinian territorial unity (Finoki, 2006). Figure 4 is a map prepared by the United Nations Office for Coordination of Human Affairs UN- OCHA. This map shows that this road network which is primarily for Israeli use is 1,661 km long.

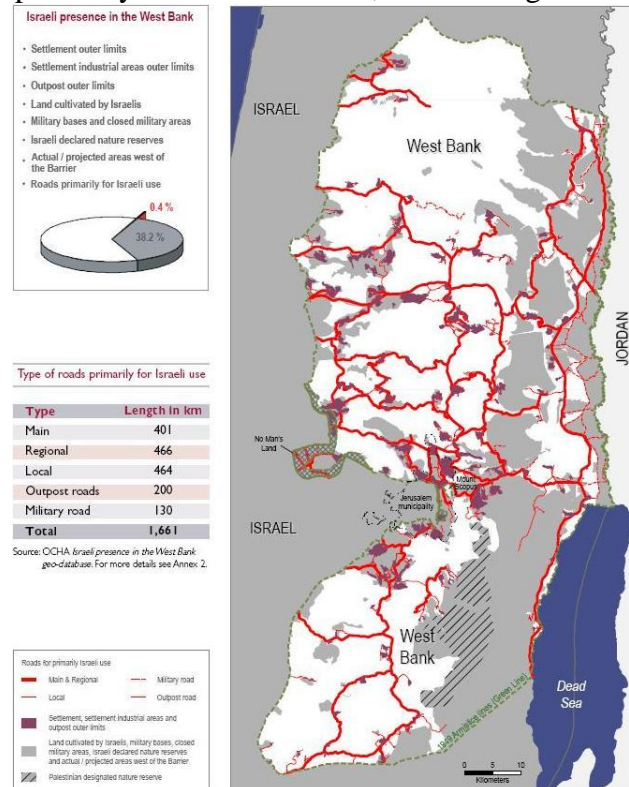


Figure 4: The Bypass Road Network

Source: UN- OCHA

Methodology:

In this paper the methodology used was first explaining the background of the conflict and introducing what is meant by the wall and the bypass roads, gathering information about them from different sources to familiarize the reader with a background about the conflict and the Israeli urban planning and transportation policies used in the West Bank. The background is prepared using different Palestinian, Israeli and international sources in a trial to give a clear understanding of the situation and the elements of the Israeli urban structure.

After introducing the background of the conflict, this paper will introduce and discuss the research finding obtained from reviewing different literature on the conflict and plan. The study findings will first introduce the effects of the wall on the daily life of the Palestinians which will be explained mainly by summarizing statistical surveys from the Palestinian Bureau of Statistics and the Palestinian Ministry of Planning. The study will show the negative effects on the different aspects of the Palestinians' life.

The paper uses geographic information systems GIS in creating maps and to perform spatial analysis considering the dual transportation systems and their efficiency. The paper examines the length of roads by line density per square kilometer (Samarani, 2015). Intersection density is also examined between Palestinian communities and settlements. First, the intersections were extracted out of the road file topology and then intersections are counted per square kilometer. A raster image is created for both road density and intersection density. The length of roads per area or per capita is an indication of connectivity for road networks

Results and Discussion:

- **Effects of the Wall on Palestinian Aspects of Life:**

The wall constructed by Israelis has affected Palestinians in their daily lives and imposed restriction on travel and movement of Palestinian households. These restrictions include the wall, fences, and restrictions on bypass roads in addition to the gates and check points (PNA-MOP, 2003, 2004).

Surveys conducted by the Palestinian Bureau of Statistics shows that there was an increase in the number of governorates and localities affected by the wall. During 2003-2006, the number of governorates affected by the wall in the west bank has increased from 6 to 8. The number of localities affected by the wall in the West Bank has increased in the same period from 76 to 159 localities. The population in the localities directly affected by the wall in the West Bank has been increased from 397 thousands in October 2003 to 654 thousands in August 2006. The following table shows the percentage of people affected by the wall in different aspects.

The height of the wall is 3-8 m and its overall width is 40-100 m which includes military roads, fences, concrete walls and other installations. Along the wall there are many military points and towers. The wall is expected to isolate 46% of the land from the West bank. These lands is isolated between the wall and the 1949 border.

The wall is considered one form of the land control procedures established to extent the settlements coverage over the Palestinian land. It also seen as an obstruction to transportation networks used by Palestinian. This reduces the accessibility between Palestinian communities on one hand and isolate these communities from the remaining historic Palestinian land on the other hand (Abu Eisha)

The he wall is built on Palestinian land and the area between the wall and the Israeli border is declared as closed military areas. The following map shows the wall around the West Bank in the year 2017. The statistics in the figure shows that the remaining land for Palestinians to the east of the wall is only 54% of the 1967 Palestinian lands internationally recognized by the UN resolution 242 and 338.

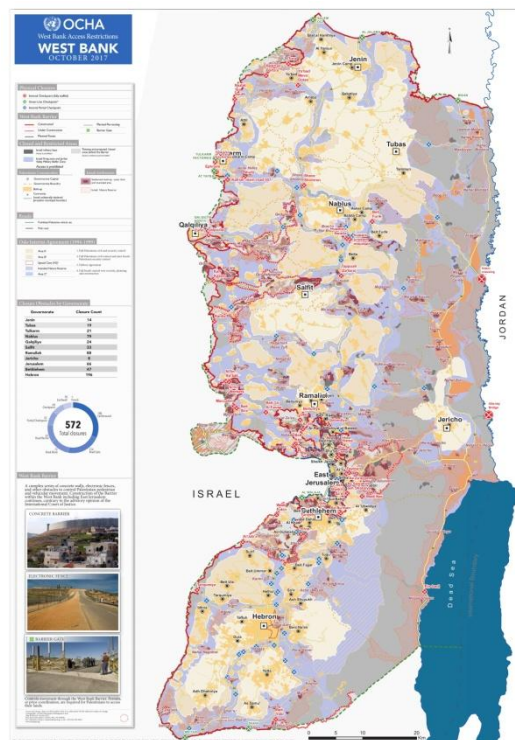


Figure 5: The Wall Map as of year 2017

Source: OCHA Organization

From the map we can see that there are cities and localities that are totally surrounded by the wall and isolated from their neighbor cities in the West Bank, these localities have gates that operate only on certain hours which make it difficult for people to travel.

In conclusion, the surveys shows clearly the negative effect of the wall on the aspects of daily life for Palestinian in terms of education, health, social life, income, and loosing land that's in addition to the fragmentation of the territory and the difficulties in movement due to the wall and check points (OCH,2017 & PNA-MOP, 2003).

- **Israeli Urban Sprawl Versus Palestinian Restricted Growth:**

A network connecting Israeli cities make it easy for Israelis to work in Tel Aviv and reside in the West Bank settlements. There are currently 120 Israeli settlements and 102 Israeli out posts built illegally in the West Bank including East Jerusalem, which is Palestinian land occupied by Israel in 1967. All of these settlements and outposts are illegal under international law and many United Nations Security Council resolutions. Israeli outposts are also illegal under Israeli law. These settlements and outposts are inhabited by a population of 460,000 Israeli settlers. Settlements are built on less than 3 percent of the area of the West Bank. However, due to the huge network of settler roads and restrictions on Palestinians accessing their own land, Israeli settlements dominate more than 45 percent of the West Bank. The wall by itself has been designed to include 56 settlements to Israel, incorporating 76 percent of the settler population currently living in the West Bank. The Wall and Israel's matrix of settlements will divide the West Bank into four isolated areas or the so-called cantons, fracturing its geographic, political, economic, and social unity and decreasing the possibility of a future independent Palestinian state (Aronson, 2007 & B'Tselem, 2002).

Settlements are linked to each other and to Israel by an extensive network of the bypass roads. For each 100 km of by-pass road, about 2,500 acres of West Bank land is confiscated. All bypass roads have a 50–75m buffer zone on each side, where no construction is allowed. These buffer zones have led to a great loss of agricultural and privately-owned Palestinian land. Considering that these roads are built on confiscated Palestinian land, these roads are forbidden for use by Palestinians. They create Israel's system of Apartheid in the West Bank, and fracture communities across country.

Restrictions on Palestinian movement have been a routine of the Israeli occupation since 1967; Israel began to institutionalize these restrictions after the start of the peace process in the early 1990s. Starting in 1993, Israeli military checkpoints were established along the 1967 border and between Jerusalem and the rest of the West Bank, and permits were required for non-Jerusalem Palestinians wishing to enter that city. In the year 2000 and later, the Israeli military intensified restrictions on Palestinian access and movement considerably (UN-OCHA, 2006).

The major restriction can be seen in the bypass roads, according to B'Tselem, Palestinians are currently restricted or prohibited from 41 roads, comprising some 732 km, in the West Bank, including 17 roads (124 km) from which Palestinians are completely prohibited. In September 2004, Israel began implementing a new plan aimed at creating two separate road networks, one for Palestinians and another one for Israeli settlers. This dual network is called "Road and Tunnel Plan". The aim of the Israeli Roads and Tunnel Plan is to consolidate Israeli settlements throughout the West Bank, to further fragment Palestinian population centers into isolated enclaves and cantons, and to permanently replace calls for Palestinian territorial unity (B'Tselem, 2007). The following figure shows different types of barriers that fragmented the west bank into different enclaves while annexing parts of the west bank to Israel.

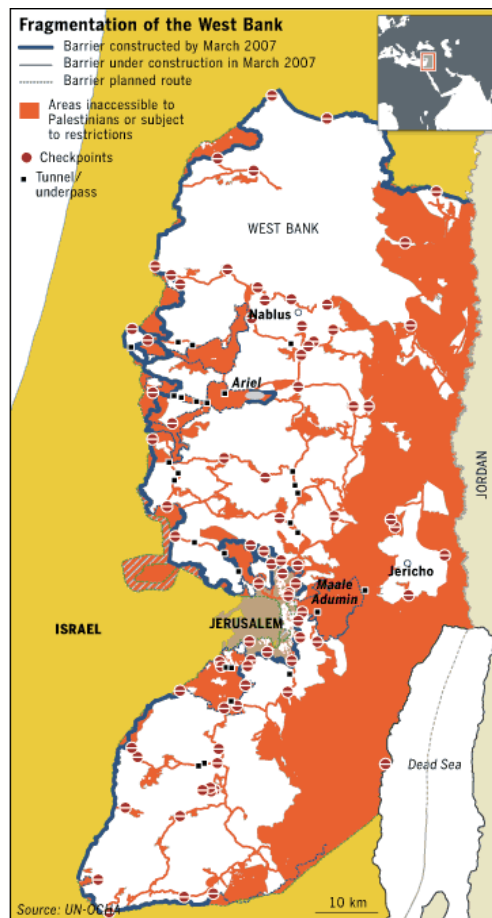


Figure 6: Fragmentation of the West Bank

Source:

UN- OCHA

Another major restriction in movement can be seen in the wall gates and check points. Access problems derive from the operation of these gates with limited and varying hours of operation. Sometimes they open and close without notice contrary to the stated schedule. Permission to cross often appears to be arbitrarily granted; permit policies are informally announced and vary by region (PNA-PCBS, 2006).

According to (OCHA, 2018). The following road obstructions has been reported

Type	Number
Road gate	165
Earth mounds	149
Road block	96
Partial check point	76
Road barrier	67
Check point	64
Other	45
Earth wall	31
Trench (ditches)	12

Among the difference between 2016 and 2017, it has been noted that 39 gates were added and 31 earth mounds has been removed. Most new obstructions has been added to Ramallah governate which include 15 new obstructions (OCHA, 2018)

The hours of operation of gates appear particularly inconsistent. Informants from west bank cities reported waiting as much as five hours at the gates. When gates do open (generally twice daily), it is often for 10 to 20 minutes which is insufficient time for workers that need to cross the barriers to reach fields, greenhouses and other employment locations. In some places the afternoon opening of the gate lasts between five and ten minutes which is not enough for all persons to pass through the gates. In contrast, other gates are open for considerably longer time (PNA-PCBS, 2006). The following figure shows the Israeli checkpoints in the West Bank.



Figure 7: Check Points in West Bank

Source: UN- OCHA

Palestinians holding Israeli permits are usually allowed to use the apartheid network which is Palestinian roads in origin and constructed on Palestinian land no need to repeat. However, they are often subject to long delays. At the same time, the Israeli settlers can travel from their settlements to any city in Israel without stopping at any checkpoints (PASSIA, 2005 & Carter, 2006).

The question of why this transportation system constrains the extension and growth of the Palestinian cities is indeed very simple to understand. Many of the bypass roads acted as built roads around cities. In many cases fences and walls separate the city from its future extension lands. Moreover, this land which is outside the Palestinian cities is administrated by Israelis and not by Palestinian authority. No growth plan for a Palestinian city will be approved in these areas by the Israelis which Israeli organizations (transportation or defense?? (Ramallah Municipality- Personal Contact, 2008).

In addition to the roads that restrict the growth of Palestinian cities there are the zonal classifications of land that restrict the growth of Palestinian cities on the claim that these lands are agricultural. At the same time the settlements are built on these lands. In many cases Israel destroyed any house built in these areas even though it is some time permitted according to Oslo Agreement zonal classifications (Palestinian Department of local Government-Personal Contact, 2008).

On the Israeli side Settlements benefited from the bypass roads because if facilitate their sprawl in the West Bank because they are allowed to use these roads and the wall seized Palestinian land and annex it to the reserve areas for Settlements growth. Therefore, what had been used to restrict the growth of Palestinian cities, had been used to increase the growth of settlement that controls more than 50% of the West Bank land and built up only on 3% and anyway owns nothing from these lands and declared as illegal by international law (PASSIA, 2005).

Road length / Area Lost	Bypass road example	Governerate
12 km/ 5000 donums	Hebron Halhoul road	Hebron
14 km /3850 dunums	Expressway no 35	
NA	Bethlehem	Jerusalem
9 km	Jerusalem Ramallah	
NA	Ramallah Al Bireh Bypass	
8 km/ 2400 donums	Shomron/ Eibal Mountain	Nablus
24km	Nablus Bypass	
NA	road 477	
NA	Qalqilya bypass	Qalqilya
7 km	Jenin Bypass	Jenin
NA	Main bypass corridor that divides the west bank into two part	Road 60
NA	Road 45	Ramallah
NA	Road 55	

Israel is currently building two separate transportation networks in the occupied West Bank; One for Palestinians, and the other for Israeli settlers. The so called “Roads and Tunnels Plan” refers to the series of 24 tunnels and 56 roads for Palestinians. Meanwhile, Israel is constructing a separate highway network to link settlements on both sides of the wall with Israel and each other. Together, both transportation networks serve to facilitate settlement expansion throughout the occupied West Bank while limiting any future Palestinian development. Declared in 2004, the new roads and tunnels will enable the permanent segregation of Palestinians and Israeli settlers. Currently, Israel grants settlers freedom of movement within the occupied West Bank by denying freedom of movement Palestinians.

This is known as the closure regime matrix of military checkpoints, Palestinian-free or Palestinian-restricted roads, and obstacles that frustrate travel and trade between Palestinian areas. The closure regime, according to the World Bank and the United Nations, is in large part responsible for the humanitarian crisis in the occupied West Bank (UN-OCHA, 2006).

Since the year 2002, Palestinians cannot freely move between Palestinian towns and villages, which frustrate access to school, work, and health care. Part of the closure regime is the innovation of the mostly apartheid freight movement system, which is called the back-to-back system, this requires goods to be off-loaded then reloaded into a new truck at the other side of a roadblock or loading borders founded by the Israeli military, even when transferring goods between some Palestinian villages. Because the back-to-back system can increase transportation costs for Palestinian merchants, goods from illegal Israeli settlements and Israel not subject to the back-to-back system are promoted. Again, this plays as an unfair competitive advantage. The Roads and Tunnels Plan is Israel’s response to pressure from the international community to allow Palestinians to travel and trade within the Palestinian territory. However, Palestinians already have an adequate road network, one to which Israel restricts its access. The problem is not the lack of infrastructure, but the closure regime, which restricts Palestinian access to the roads, lands and cities these roads are not created to serve Palestinian’s cities and villages needs- (Juma, 2005). The following table shows examples of the bypass roads.

Israeli occupation forces also impose restrictions on the use of 400 km of the roads and made them for settlers’ exclusive use. This imposes pressure on 88000 Palestinians who are forced to find alternative routes. These alternative routes are between 2- 5 times the length of the original route for the nearest city or to the nearest activity cent(OCHA, 2016). Figures 8 and 9 shows the road and intersection densities overlaid with Israeli settlements. The figures shows clearly the concentration of these road in and around Israeli settlements which is an

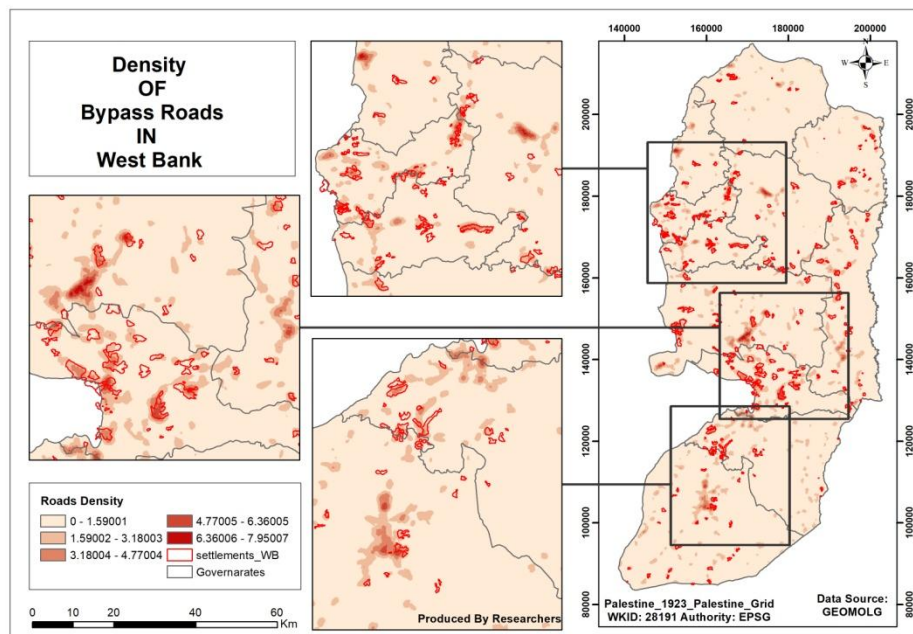


Figure 8: Road Density km/km²

indicator of the strong connectivity of roads for the settlers and its poor connectivity for Palestinian residents

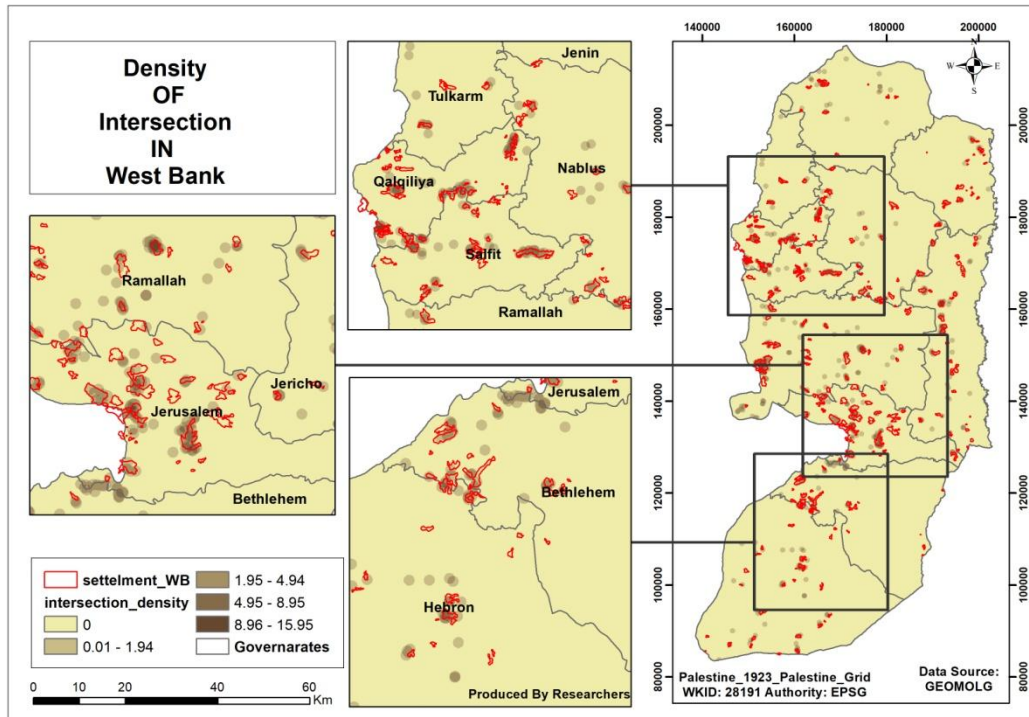


Figure 9: Intersection Density km/km^2

The aims of the Israeli Roads and Tunnel Plan is to consolidate Israeli settlements throughout the West Bank, take more Palestinian land and resources for settlement expansion on both sides of the wall and to isolate the remaining Palestinians into discreet Palestinian population centers or cantons connected only by long detour roads. In the future, according to the Israeli Plan, traffic will not mix in the West Bank. Israeli settlers would enjoy a Palestinian free West Bank transportation network and would continue to use fast and direct highways that connect West Bank settlements to Israel and to each other. In contrast, Palestinians will be forced to travel over alternative, often non-direct roads that will shift Palestinian traffic away from Israeli settlements and restricted settler bypass roads. In some cases, Palestinians will be diverted to hilly or mountainous terrain. Not only will the road network increase travel times and distances, but also the proposed road restricts Palestinian socio-economic development. These narrow roads will not meet the capacity of heavy traffic or trucks carrying large loads. These increased distances and longer travel times will decrease the competitiveness of Palestinian products regionally by increasing the costs of Palestinian goods and services (PLO-NAD, 2005)

An adequate network of roads does exist in Palestine. Palestinians, however, are prevented from using many of the roads without permits. These roads are reserved instead to provide Israeli access to illegal settlements. Palestinians do not need a new network of roads; they just need to be able to freely use the roads they already have, which is their right under international law (PNA-MOP, 2003).

The Palestinian National authority (PNA) analyzed the Roads and Tunnels Plan in September 2004; the PNA determined that the plan as a whole would strengthen Israeli settlements. It would substitute Palestinian “territorial contiguity” with “transportation contiguity” and

facilitate the continued presence of the Israeli wall and its regime by diverting Palestinian traffic away from areas west of the wall (Closure zones). The PNA also determined, however, that not all of the road's projects were meeting to Palestinian national interests and the two-state solution. Because the Israeli army had destroyed the Palestinian infrastructure, many existing roads needed to be rehabilitated so that Palestinians could get to school, access their fields and engage in trade. Accordingly, in October 2004, the Palestinian Cabinet rejected the Plan as a whole. The Palestinian Inter-Ministerial Committee devised a method of rating the roads to determine the extent to which they support the wall or the segregated roads system, and whether or not they were of any interest to Palestinians (PLO-NAD, 2005).

Figure 10 shows the map for the proposed Road and Tunnel Plan. We can see the continuity of the proposed system for Israelis and how they used segments of the Palestinian network for their use. The network for Palestinians as shown in the figure is not continuous in the whole West Bank but has only local connectivity. The Israeli network, as it is restricted areas for Palestinians, will fragment the west bank into four isolated regions. Furthermore, the figure shows the new roads proposed for Palestinians, where in most cases long detour segments is used to replace short confiscated segments.

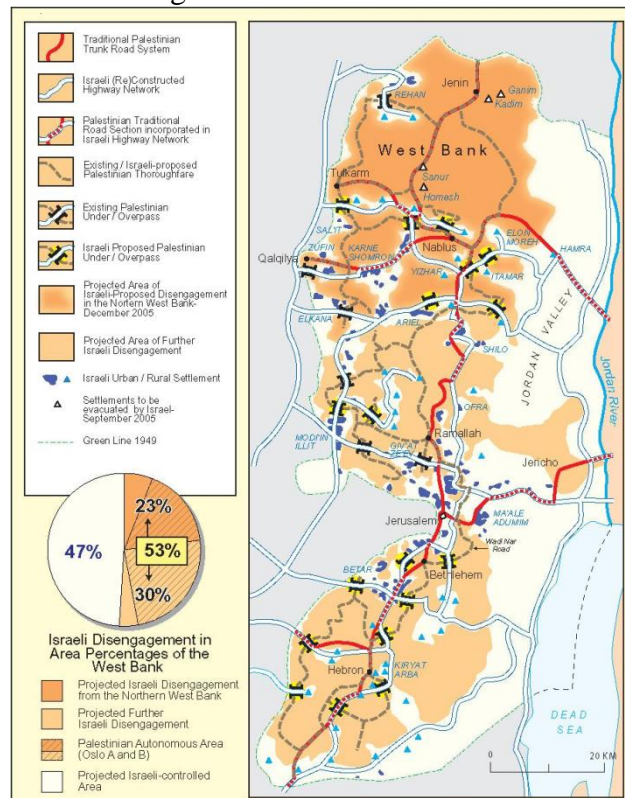


Figure 10: Proposed Road and Tunnel Plan

Source: Palestinian Ministry of Planning

The Palestinian scenario or plan is prepared according to Palestinians needs concentrates on the upgrading of the Palestinian road network. Based on that, the Palestinian Authority made recommendations to the international donor community which Israel had asked to financially support their Plan as to whether or not particular projects could be funded. When maps of the wall and settlements were overlaid with the Road and tunnel plan, it became clear that the Plan supports the wall and the continued presence of settlements, which contradict implementation of the two-state solution. Therefore, many of the donors refused to support and fund te Israeli proposed Road and Tunnel Plan (Juma, 2005).

The International Court of Justice (ICJ) concluded on July 9, 2004 that the construction of the wall in Occupied Palestinian Territory, including in and around East Jerusalem are contrary to international law. In reaching this conclusion, the court also determined that Israeli establishment of settlements within the Palestinian occupied land to be unlawful. In light of these findings, the ICJ determined that states are under an obligation not to recognize the illegal situation resulting from the construction of the wall or to render aid or assistance in maintaining the situation created by such construction. States are also under an obligation, while respecting the UN Charter and international law, to see to it that any impediment to the exercise of self-determination, resulting from the construction of the wall, is brought to an end (Juma, 2005).

Israel depends on the short terms effect to market its plan. In the short term, the Plan means that Palestinians within the major Palestinian cities and towns will experience an easing of the closure. Once Palestinians can again engage in unrestricted trade between some Palestinian towns, their urban economies will improve. In the long term, however, the Plan means the end of the two-state solution. Rather than ending the closure regime. In total, the wall and settlements, combined with the Roads and Tunnels Plan will only leave Palestinians with 54% of a fragmented West Bank; and while Palestinians will have better access to and between major Palestinian towns, Palestinian will lose access to much of their land and resources (PLO-NAD, 2005).

On the Israeli side The Plan facilitates the expansion of Israeli settlements. The settlements themselves are strategically placed throughout the West Bank, taking lands and water resources. Moreover, the roads and tunnels also serve as barriers, fragmenting the Palestinian territory as they are often as difficult to cross as the wall. If implemented, the roads and tunnels will provide Palestinians with “transportation contiguity” but will seize any future Palestinian state of “territorial contiguity” which is a requirement recognized by the international community, including the United States. This means that all Palestinian territory will be fragmented for the convenience of Israeli settlers. Finally, the Plan will ultimately increase the burdens on Palestinian economy, exacerbating the dependence of the Palestinian economy and its position as a captive civilian market for Israeli goods and a cheap labor force for the Israeli economy (PLO-NAD, 2005).

Conclusions:

The question that comes in mind is what the Israelis government objectives in proposing the Road and Tunnel Plan. Studying their plan and the actions on ground, it is clear that the Israelis are not talking about a two states solution for the conflict. All the elements of the Israeli plan go in the direction of creating isolated enclaves or cantons for Palestinian in the West Bank that looks like reservations but with so much less rights.

Of course, the transportation system and free travel is needed for development of Palestinian cities, but Palestinians have a good transportation system that was deployed for the use of Israeli settlers. Palestinians are prohibited to use it. Instead Israel proposed an apartheid travel system where the Road and Tunnel Plan and the back to back freight movement system. At the meantime it is obviously known that human rights and free movement for people and freight is the base for building a viable state.

In this paper we first discussed the land historic increase of settlements and their size over the years of occupation. The paper also discussed the controversial bypass roads and the apartheid wall and how they affected the transportation system for both Palestinian and Israelis. This analysis showed that this wall and the transportation system helped the Israelis to urbanize places with accessibility to the transportation system, and because they build a huge network, the urbanization actually sprawls in the Israeli side, whereas this transportation system acts

like a barrier for Palestinian cities to grow. This paper also showed that the Israeli Government goal was to control and grab lands and not the security claim. The urban sprawl grabbed most of the Palestinian areas, and the reserved areas for future settlements growth will not leave much land for Palestinians who are surrounded by the wall and the Israeli bypass roads.

The problem of growth, land use and transportation in the Palestinian territories is not something than can be solved by urban planning theories. It is a political issue and needs to be resolved according to the international law and a valid peace process. Until that happens, the international community should play a positive rule to urge Israelis to free the Palestinian transportation movement on their own road network so as they can live in dignity in their own land.

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