The Palestinian Authority

# Data Collection Survey on Trade and Logistics in Jordan, Palestine and Region

# Final Report

May 2018

JAPAN INTERNATIONAL COOPERATION AGENCY

PADECO Co., Ltd.

# Executive Summary

The overall objective of the survey was to propose assistance plans to facilitate regional logistics to contribute to the peace and stability of the region by promoting the economic development of Jordan and Palestine through realization of the Corridor for Peace and Prosperity. Specific objectives included:

- assessing changes in regional logistics resulting from the civil wars in Syria and Iraq, and the current situation and issues related to border facilities and systems, by systematically reviewing existing research and data on logistics in Jordan, Palestine, and the surrounding region;

- preparing a forecast of the demand for logistics volumes and trade and assessing changes in freight flows, considering various possibilities and scenarios including postwar reconstruction, the reopening of borders, national transport development plans and policies, and assistance from other international development partners; and

- offering recommendations for the Japan International Cooperation Agency (JICA) and other international development partners for assistance projects for Jordan and Palestine, respectively, to facilitate the smooth flow of freight transport, with a list of short-, medium-, and long-term priority projects.

The overall approach to the survey was to determine the volume and direction(s) of cargo flows in the region to the extent possible and to identify and evaluate necessary infrastructure projects and policy measures to accommodate these cargo flows. Changes in trade patterns at each of the border crossings in the past and in the future were assessed and considered to be a particularly useful indicator for forecasting cargo flows, on the basis of which infrastructure projects and measures were evaluated. Since recent dramatic changes were caused by one-off events, the usual approach of extrapolating past trends into the future could not be adopted, but rather a case-by-case approach was taken.

Future trade flow projections were undertaken with two scenarios: (i) a low-growth scenario, which incorporated the JICA Survey Team's projections of GDP growth, projected timings of border reopening(s), new traffic generation sources, and the restoration of historical bilateral trade patterns; and (ii) a high-growth scenario, which assumed that master plans of Jordan and Palestine will be implemented.

In both the low- and high-growth scenarios of the JICA Survey Team, significant growth was projected for most transport routes. It was projected that (i) the Jordan border with Iraq (Karameh) will recover some, but not all of its pre-closure levels; and (ii) the Jordan border with Syria (Jaber) will also regain its former traffic levels, as well as regular annual growth. Traffic between the West Bank (Palestine) and Jordan across the Allenby / King Hussein Bridge (A/KHB) is expected to continue its rapid growth in the near term before slowing, although still increasing over time. Palestinian traffic moving through Israeli ports is not expected to increase dramatically in the low-growth scenario, although if the high-growth assumptions prevail, significant growth is expected. Since there are expansions underway at both Ashdod and Haifa Ports, capacity constraints will not be an issue at these locations in the foreseeable future. While high-growth projections show traffic through the Jordan-Saudi Arabia border crossing at Omari increasing to levels four times existing traffic by 2030, traffic moves well through this facility. The provision of additional scanning facilities should be sufficient to enable Omari to cope with this future growth.

In both the low- and high-growth scenarios, significant growth is projected for traffic across the Sheikh Hussein Bridge between Jordan and Israel, to nearly 1 million tons annually, but planned expansion of this facility will substantially increase its capacity to handle this forecast traffic growth. The cost of this expansion was estimated at US$70 million and it will take 3-5 years to complete. One of the improvements will be to double the capacity to scan vehicles, to scan two vehicles simultaneously, rather than one as at present. Overall, capacity at this border crossing will be doubled or tripled after the expansion program is complete.

The only border facility currently experiencing capacity pressures is the A/KHB crossing. There are plans to develop a new truck terminal and cargo/passenger handling facility on the Jordanian side and Israel is currently expanding the number of lanes at this crossing. The practice of back-to-back transfer (transshipment) of cargo at the A/KHB creates some congestion, since it increases the time to move a vehicle through the facility. While discussions continue to try to persuade the Government of Israel to abandon these costly and time-consuming measures, these procedures are likely to continue for some time.

The JICA Survey Team identified a number of critical issues, both physical and institutional, that work against trade and logistics facilitation. At the end of the report, the team produced a shortlist of projects proposed for potential JICA (or perhaps other development partner) assistance based on a strategic planning technique with logical reasoning. These selected logical and realistic improvement measures were proposed in view of overall regional optimization. It was assumed that assistance will benefit both Jordan and Palestine. Therefore, projects or policies that will benefit only one side and potentially harm the other were avoided.

The following projects were selected for Palestine:

- Construction of JAIP-dedicated road to A/KHB
- Implementation of demand matching services for shippers and truckers (web-based software)
- Implementation of risk management and trusted trader systems to reduce the need for back-to-back transshipment at the A/KHB
- Implementation of risk management techniques and provision of improved scanning equipment at commercial crossings
- Creation of an A/KHB users' group to resolve transport facilitation issues
- Use of modern technology to support trade facilitation measures (e.g., tracking devices, license plate and document readers)

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# Abbreviations

| | |
|---|---|
| ADC | Aqaba Development Corporation |
| AFD | French Development Agency (Agence Française de Développement) |
| AfTIAS | Aid for Trade Initiative for Arab States |
| ASYCUDA | Automated System for Customs Data |
| ASEZA | Aqaba Special Economic Zone Authority |
| ATF | Agreement on Trade Facilitation |
| COGAT | Coordination [Coordinator] of Government Activities in the Territories |
| COMCEC | Standing Committee for Economic and Commercial Cooperation of the Organization of the Islamic Cooperation |
| EBRD | European Bank for Reconstruction and Development |
| GAFTA | Greater Arab Free Trade Area |
| GATT | General Agreement on Tariffs and Trade |
| GCC | Gulf Cooperation Council |
| GDP | Gross Domestic Product |
| GIZ | German Development Agency (Deutsche Gesellschaft für Internationale Zusammenarbeit) |
| IAA | Israeli Airport Authority |
| IFC | International Finance Corporation |
| ISO | International Organization for Standardization |
| JAIP | Jericho Agro-Industrial Park |
| JEC | Joint Economic Committee |
| JICA | Japan International Cooperation Agency |
| KHB | King Hussein Bridge |
| LIBRA | List of Bilateral Road Agreements |
| NAFITH | National Freight Information and Transportation Hub |
| NCTFF | National Committee for Trade and Transport Facilitation |
| OPT | Occupied Palestinian territory |
| OSBP | One-Stop Border Post |
| SHB | Sheikh Hussein Bridge |
| PA | Palestinian Authority |
| PalTrade | Palestine Trade Center |
| PEC | Palestine Export Council |
| PFI | Palestine Federation of Industries |
| PIEFZA | Palestinian Industrial Estates and Free Zone Authority |
| PPP | Public-Private Partnership |
| PSC | Palestinian Shippers Council |
| QAIA | Queen Alia International Airport |
| Ro Ro | Roll-on/Roll-off |
| TEU | Twenty-foot Equivalent Unit |
| TFA | Trade Facilitation Agreement |
| TIR | Transports Internationaux Routiers (International Road Transport) |
| TTFTC | Trade and Transport Technical Committee |
| UfM | Union for the Mediterranean |
| UNCTAD | United Nations Conference on Trade and Development |
| UNDP | United Nations Development Programme |
| UNECE | United Nations Economic Commission for Europe |
| USAID | United States Agency for International Development |
| WCO | World Customs Organization |
| WTO | World Trade Organization |

# 1. Introduction

## 1.1 Background

The Middle East remains unstable, with many complex political issues blocking efforts for reconciliation and peacebuilding. Despite this complexity, Jordan has played a crucial role in the peacebuilding process through multiple negotiation channels with its neighboring Arab countries and Israel, and by accepting a large inflow of refugees from Syria and Iraq. It is expected that supporting the sustainable economic development of Jordan and strengthening its relations with neighboring countries will contribute to peace and stability in the region. To consider effective ways of achieving this objective from the viewpoint of the logistics sector, this study examined (i) changes in logistics patterns and routes between Jordan and its neighboring countries that have been affected by the closure of Jordan's borders with Syria and Iraq, (ii) recent trends in export and import cargo movements, and (iii) likely future cargo flows.

Palestine shares a border with Jordan and is developing Jericho Agro Industrial Park (JAIP) in the West Bank through trilateral cooperation among Palestine, Israel, and Japan, under the flagship Corridor for Peace and Prosperity initiative. The concept of this initiative is to contribute to a viable Palestine economy based on private sector development by facilitating the export of goods made in JAIP to various new markets via Jordan (e.g., the Gulf). However, there remain a number of constraints hindering achievement of this goal, including cumbersome border procedures, as well as the slow rate of development of logistics infrastructure in Jordan.

## 1.2 Objectives

The overall objective of the study was to propose assistance plans to facilitate regional logistics to contribute to the peace and stability of the region by promoting the economic development of Jordan and Palestine through realization of the Corridor for Peace and Prosperity. Specific objectives included:

- assessing changes in regional logistics resulting from the civil wars in Syria and Iraq, and the current situation and issues related to border facilities and systems, by systematically reviewing existing research and data on logistics in Jordan, Palestine, and the surrounding region;

- preparing a forecast of the demand for logistics volumes and trade and assessing changes in freight flows, considering various possibilities and scenarios including postwar reconstruction, the reopening of borders, national transport development plans and policies, and assistance from other international development partners; and

- offering recommendations for the Japan International Cooperation Agency (JICA) and other international development partners for assistance projects for Jordan and Palestine, respectively, to facilitate the smooth flow of freight transport, with a list of short-, medium-, and long-term priority projects.

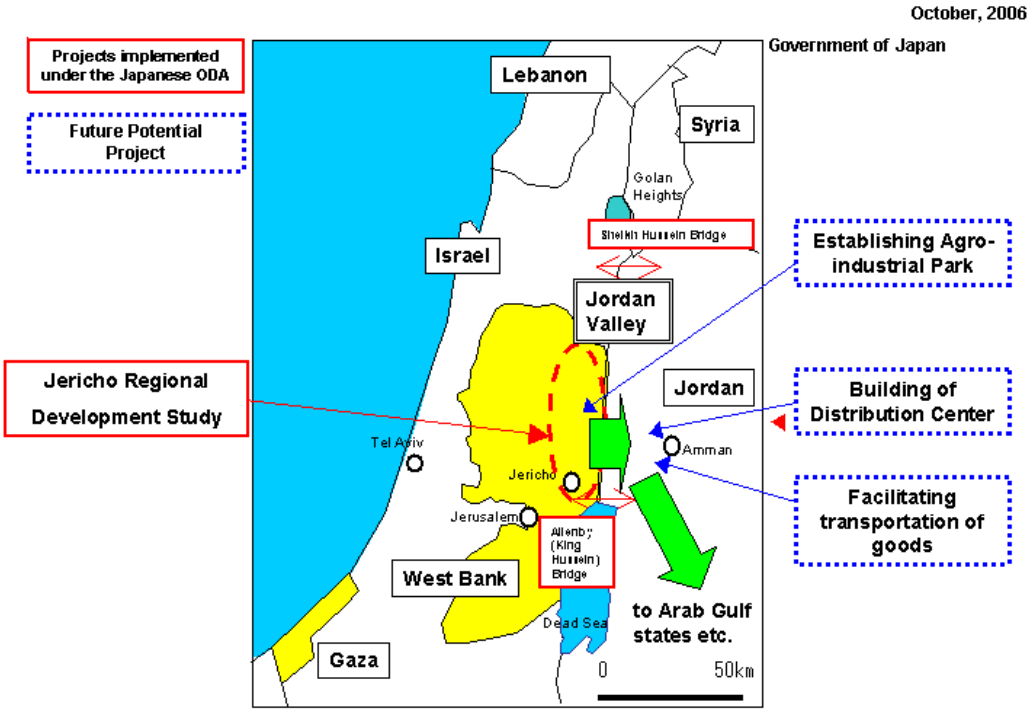
**The Corridor for Peace and Prosperity**

In July 2006, on the occasion of the then Prime Minister Junichiro Koizumi's visit to the Middle East, Japan proposed the Corridor for Peace and Prosperity as its mid- and long-term efforts to generate hope and trust among the people in the region for future co-existence and co-prosperity between Israel and Palestine. Two concrete projects are proposed as part of this concept.

(i) Establishing an Agro-Industrial Park
- Japan is ready to prepare a feasibility study (F/S) for this project. Based on the results of the F/S, various approaches to financing this project will be considered.
- Products will be transported to a distribution center to be built on the Jordanian side, and then shipped out to markets abroad.
- The private sector is encouraged to participate in this project.
- Capacity building is crucial for success of the project. Japan is ready to extend technical assistance for that purpose.

(ii) Facilitating the transportation of goods
- Japan is ready to finance a project to facilitate the transportation, mainly, products produced from the above-mentioned agro-industrial park to the above-mentioned distribution center of goods.
- A border control methodology should be established, giving due consideration to both security concerns as well as the impact on the regional economic development.

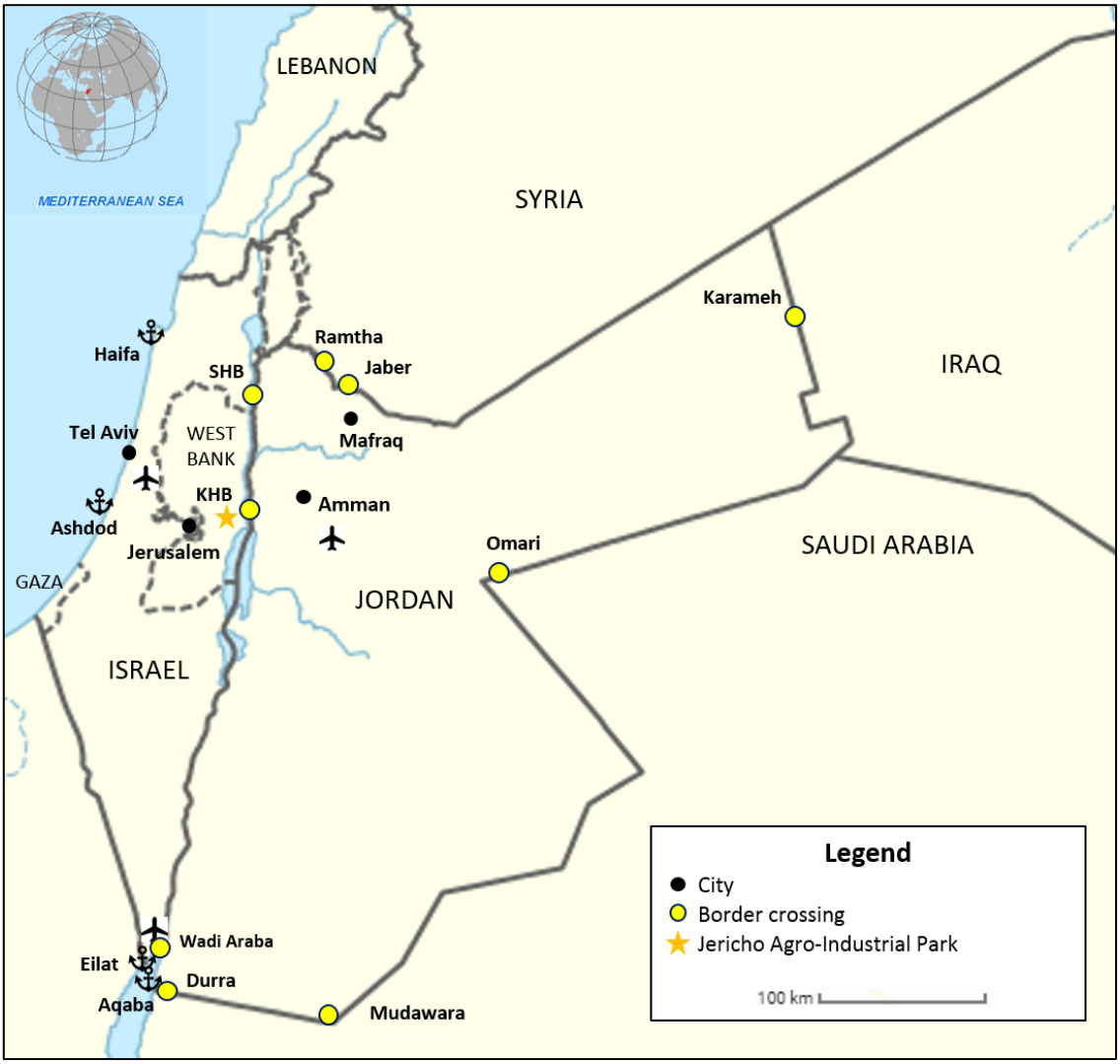
**Japan's Concept for Creating "Corridor for Peace and Prosperity"**




Source: Ministry of Foreign Affairs of Japan (http://www.mofa.go.jp/region/middle_e/palestine/concept0607.html)

## 1.3 Survey Area

Jordan, Palestine, and Israel were the main focus areas of the survey. In view of the objective of overall regional optimization, the study also covers other in the region (i.e., Iraq, Saudi Arabia, and Syria), as well as destinations of regional maritime transport shipments from and to major ports of the region, including Aqaba in Jordan, and Ashdod, Haifa, and Eilat in Israel. Figure 1.1 presents a schematic map of the survey area.




Abbreviations: KHB = King Hussein Bridge and SHB = Sheik Hussein Bridge
Source: Wikimedia commons, JICA Survey Team

**Figure 1.1 Schematic Map of the Survey Area**

## 1.4 Overall Approach and Methodology

### 1.4.1 Overall Approach

The overall approach to the study was to determine the volume and directions of cargo flows in the region to the extent possible and to identify and evaluate necessary infrastructure projects and policy measures to accommodate these cargo flows. Changes in trade patterns at each of the border crossings in the past and in the future were assessed and considered to be a particularly useful indicator for forecasting cargo flows, on the basis of which infrastructure projects and

measures were evaluated. Since recent dramatic changes were caused by one-off events, the usual approach of extrapolating past trends into the future could not be adopted, but rather a case-by-case approach was taken.

The overall approach to the survey included the following:

(i) **interviews** with:

(a) Jordanian public and private sector organizations, including:

| Public Sector |
|---|
| Aqaba Development Corporation |
| Aqaba Ports Corporation |
| Aqaba Special Economic Zone Authority |
| Civil Aviation Regulatory Commission, Marka Airport |
| Durra Border Customs |
| Greater Amman Municipality |
| Hedjaz/Hejaz Jordan Railway |
| Jordan Customs (Ministry of Finance) |
| Jordan Valley Customs |
| King Hussein Bridge Customs |
| Land Transport Regulatory Commission |
| Ministry of Industry, Trade and Supply |
| Ministry of Planning and International Cooperation |
| Ministry of Public Works and Housing |
| Ministry of Transport |
| Mudawara Border Customs |
| Omari Border Customs |
| Zarqa Free Zone Customs |
| Private Sector |
| Amman Chamber of Industry |
| Aqaba Logistics Village |
| Jordan Chamber of Commerce |
| Jordan Investment Commission |
| Jordan Phosphate Mines Co. |
| Jordanian Logistics Association |
| Jordanian-Iraqi Business Council |
| Jordanian-Palestinian Business Forum |
| Jordan Petroleum Refinery Co. |
| Kawar Group of Companies |
| Mafraq Development Corporation |
| Mitsubishi Corporation |
| NAFITH Logistics Services Co. |
| Nippon Jordan Fertilizer Co. |
| Saudi-Jordanian Business Council |
| Syndicate of Jordanian Trucks Owners |

(b) the Palestinian Authority and Palestinian private sector, including:

| Public Sector |
|---|
| Border and Passage General Department (passenger terminal, Jericho) |
| Ministry of Finance and Planning |
| Ministry of Health |
| Ministry of National Economy |
| Ministry of Transport |
| Palestinian Industrial Estates and Free Zones Authority |
| Palestinian Investment Promotion Agency |
| **Private Sector** |
| Ammar Group |
| Bassamco Ltd. |
| Choice Hygienic Products Ltd |
| Clearing and forwarding agent (SARL Company) |
| Core Associates |
| Development Alternatives Inc. |
| Freightos Ltd. |
| Jericho-Agro Industrial Park Company |
| Nestlé |
| Palestinian Federation of Industries |
| Palestine Investment Fund |
| Palestinian IT Association of Companies |
| Palestinian Shippers' Council |
| Palestine Trade Center |
| Palolea |
| Pharmacare PLC |
| Transport Company |

(c) Israeli authorities and nongovernment organizations, including:

| Public Sector |
|---|
| Israel Airports Authority (headquarters, Allenby Bridge, and Jordan River Crossing) |
| Israel Customs Administration |
| Israel Port Authority |
| Israel Railways |
| Ministry of Transport |
| Ports (Ashdod, Eilat, and Haifa) |
| **Private Sector** |
| Economic Cooperation Foundation |
| Tiran Shipping |

(d) development partners, including representatives of the World Bank, the United Nations Development Programme (UNDP), the European Bank for Reconstruction and Development (EBRD), the United States Agency for International Development (USAID), the German Development Agency (Deutsche Gesellschaft für Internationale Zusammenarbeit, GIZ), the French Development Agency (Agence Française de Développement, AFD), the Netherlands, and the Office of the Quartet (consisting of the United Nations, the European Union, the United States, and the Russian Federation).[1]

[1] Some organizations were met during a previous (July-December 2017) study of the legal and institutional aspects of border operations conducted for the PIEFZA and supported by JICA.

(ii) a **literature review**, including past logistics and logistics-related (e.g., trade) studies prepared by various governmental organizations and the private sector in Jordan and Palestine, and by JICA, the World Bank, UNCTAD, the European Union, AFD, and the Office of the Quartet.

(iii) f**ield observations** of transport and logistics infrastructure, including roads, railways, ports, airports, free trade zones, JAIP export facilities (Palestine), and border crossing facilities; and

(iv) **reference to trade facilitation examples in other parts of the world**, including the Greater Mekong Subregion (GMS) Cross-Border Transport Agreement and transport facilitation agreements of the Association of South East Nations (ASEAN), the implementation of one-stop border posts (OSBPs) in various parts of Africa,[2] and historical efforts toward trade facilitation in Europe.[3]

Based on these activities, logical and realistic improvement measures were proposed in view of overall regional optimization. It was assumed that assistance will benefit both Jordan and Palestine. Therefore, projects or policies that will benefit only one side and potentially harm the other were avoided.

### 1.4.2 Methodology

#### (1) Overview and Background

The study applied a number of specific methodologies, including the preparation of a forecast of traffic and trade volumes across borders, and an assessment of future cargo flows. Key aspects of this work are presented in this section.

As part of a previous JICA-funded study (2014) of Palestinian cargo flows over the King Hussein Bridge (KHB) – *Data Collection Survey on Logistics Improvement in [the] Jordan Valley* – forecasts of flows over a ten-year period were made using a regression model based on socioeconomic indicators of Palestine (West Bank) including population, gross domestic product (GDP), and employment. This previous JICA study presented a detailed analysis of KHB flows of Palestinian cargo and passengers; however, the focus of the current JICA study is regional, forecasting Jordan's future trade flows, as well as those of Palestine (West Bank). Forecasts were made for cargo flows across all of Jordan's borders, taking into account specific consequences of border closures with Syria and Iraq, and likely impacts after reopening. Regional trade is also affected by tensions between Saudi Arabia and its neighbors (Qatar and Yemen). All of these factors need to be considered in order to project a realistic future trade flow picture for the region.

Reliance on a statistical model considering only socioeconomic indicators can result in incorrect forecasts. For example, the primary reason for the dramatic increase in KHB traffic (about 20% annually) has been the importation of aggregates and gravel from Jordan to Palestine. This construction industry boom is expected to continue for several years, although GDP growth is expected to be only about 3% annually. The current survey incorporated these factors in its KHB traffic projections. In addition, forecast JAIP traffic was included in KHB traffic projections in this survey. The previous JICA survey projected freight traffic over the KHB to be 1.3 million tons by 2025; however, by 2017, KHB volumes had already surpassed 1 million tons.

[2] See *One-Stop Border Post Sourcebook, 2nd Edition*, May 2016, funded by the Japan International Cooperation Agency, subsection 5.2.6 [downloadable from https://www.jica.go.jp/english/publications/brochures/c8h0vm0000avs7w2-att/osbp_en.pdf].

[3] Extensive footnotes have been provided to cite sources.

The current study also forecast traffic moving through Jaber and Karameh/Karama,[4] on the Syrian and Iraqi borders, respectively. Both these border crossings were / have been closed for about two years, with only Karameh reopening in September 2017. If the team were to have estimated a multivariate regression function based on socioeconomic indicators of Syria, Jordan, and Iraq, meaningful results would not have been achieved. Also, at the primary Saudi borders of Omari/Umari[5] and Mudawara, traffic has been declining during recent years, mainly due to the closure of the Syrian and Iraqi borders, cutting off the once lucrative transit traffic, as well as closure of the Saudi borders with Qatar and Yemen. These border closure issues must be addressed directly, and assumptions made regarding dates of reopening as well as whether traffic that was moved previously would again appear with reopening. Other events occurred during the time of the border closures; for example, Iraq found new suppliers for its imports and Jordan now sources all of its crude oil from Saudi Arabia through Aqaba. If a regression model were applied to these Saudi borders, again, reliable future forecasts would not be forthcoming.

Based on these considerations, the JICA Survey Team decided not to estimate a regression model to forecast regional trade flows but rather to rely on reasoned estimates of the impact of future events at each border crossing point, as well as GDP growth rates once the situation "normalizes" at each border, and to use this approach to develop a realistic future traffic forecasts. The JICA Survey Team considered this to be the most appropriate methodology to apply in this volatile region.

### (2) Projections of Future Cargo Flows

The subject region of this survey is a complex one, with civil unrest, and many political issues that often result in the closure of borders, interrupting historical flow patterns and sometimes changing them forever. These are often the driving factors that determine the flow of goods through specific locations as well as regional trade in general. When projecting cargo flows, these political issues including the resulting civil unrest must be carefully considered and evaluated. While this assessment cannot be done with precision, the JICA Survey Team carefully analyzed each situation, making reasoned projections of these external factors, and preparing its traffic projections accordingly.

Critical to the understanding of existing trade flows in the region and the costs of moving goods along each route is the development of a database with reliable statistics on commodity flows and logistics costs. While trade flows can be measured using statistics from the concerned customs and border authorities including institutions responsible for border security, transport costs are market-based and therefore changeable, often based on transport capacity and demand and, in some cases, affected by government regulation(s). Even trade flow volumes can vary by the source of information and the reliability of the organization providing the data, often reflecting the rigor with which proper data collection procedures have been followed.[6]

[4] There are alternative Romanizations.
[5] See previous footnote.
[6] In preparing this report, the JICA Survey Team was faced with, in some cases, widely differing values for both freight flows and costs from different sources. Wherever possible, the team verified data inputs through exhaustive, follow-up communications and discussions with transporters, freight forwarders, and government organizations, and have included in this report, flows and costs determined to be reasonably accurate and reflective of current conditions in the region.

### (3) Demand and Infrastructure Assessment

The JICA Survey Team visited each major border crossing to assess the sufficiency of existing infrastructure and likely future demand in the form of projected cargo flows.[7] The team obtained border crossing statistics for the current year as well as for the previous five years.

Existing and historical cargo flow statistics were obtained from Jordan Customs[8] for Jordanian borders and the Israeli Airports Authority for Jordan/Israel borders controlled by Israel on the western side. In addition, statistics regarding Palestinian cargo volumes handled at Ashdod and Haifa Ports were obtained from visits to each of these ports. To forecast traffic demand, existing and future planned industrial and agricultural processing zones were visited and reports describing expansion plans of the respective governments were examined. Other factors may influence future demand, including the reopening of border crossings now closed. These include the Jaber border crossing between Jordan and Syria, closed since 2015, the Karameh border crossing with Iraq, which was reopened only in September 2017, and the Saudi Arabian borders with Yemen and Qatar, which were closed in June 2017. Current and projected gross domestic product (GDP) growth rates for each country were obtained from various sources, primarily from the World Bank Group.

### (4) Cargo Flow Estimates

Estimates of cargo flows were made by examining historic flows across each border, incorporating events that are likely to affect the level of future flows, including the development of new industrial parks and other traffic generating facilities, and projected timings for reopening of border crossings that affect regional trade, and considering historical country-to-country trade flows that may or may not continue into the future. Considering that historical cargo flows across many of the borders have decreased in recent years (with the notable exception of the Allenby/King Hussein Bridge), the reasons for these decreases were described and an assumed chain of events that is likely occur in the future formed the basis for the projections of cargo flows.

For the borders that are now closed, or have only recently been reopened (i.e., Karameh), the JICA Survey Team examined historical flow data and found that 2011 was generally the peak year of cargo flows. Based on an assumed chain of events in the future (e.g., regarding the timing of the reopening of other borders, cargo flows by major commodity in the past, and an assessment of the likelihood of these flows resuming previous levels), the team projected the likely "new" normal traffic flow level for each border crossing. Once this "new normal" level is reached, traffic flow is assumed to reflect GDP growth rates.

[7] Visits included the inspection of cargo handling facilities and scanners that were in operation, as well as discussions with border staff to determine the adequacy of these facilities. Discussions were held with border control management at each location and capacity constraints (if any) were identified.

[8] Considerable difficulties were encountered when examining cargo flow data from Jordan Customs. When comparing net tons moved across the border with the number of loaded trucks, some illogical results appeared. Upon questioning Jordan Customs about this issue, new numbers were presented, based on data from the administration's statistics section. In some cases, the difference between tonnages estimated by different departments or sections was large (e.g., for the King Hussein Bridge / KHB border crossing, one set of data showed 1.96 million tons of traffic during 2016, while another set of data showed only 0.46 million tons; similar discrepancies were found for the Sheik Hussein Bridge / SHB and Mudawara border crossings). The JICA Survey Team resolved these issues by selecting the data that logically matched historical trends; also, in the case of the KHB crossing, the team used tonnage data provided by the Israeli Airports Authority, which was also the approach adopted by the Office of the Quartet.

### (5) Transport Cost Estimates

Transport and logistics costs for each major transport route were determined based on detailed discussions with logistics companies, transporters, and government agencies.[9]

## 1.5 Schedule

The schedule of survey activities follows:

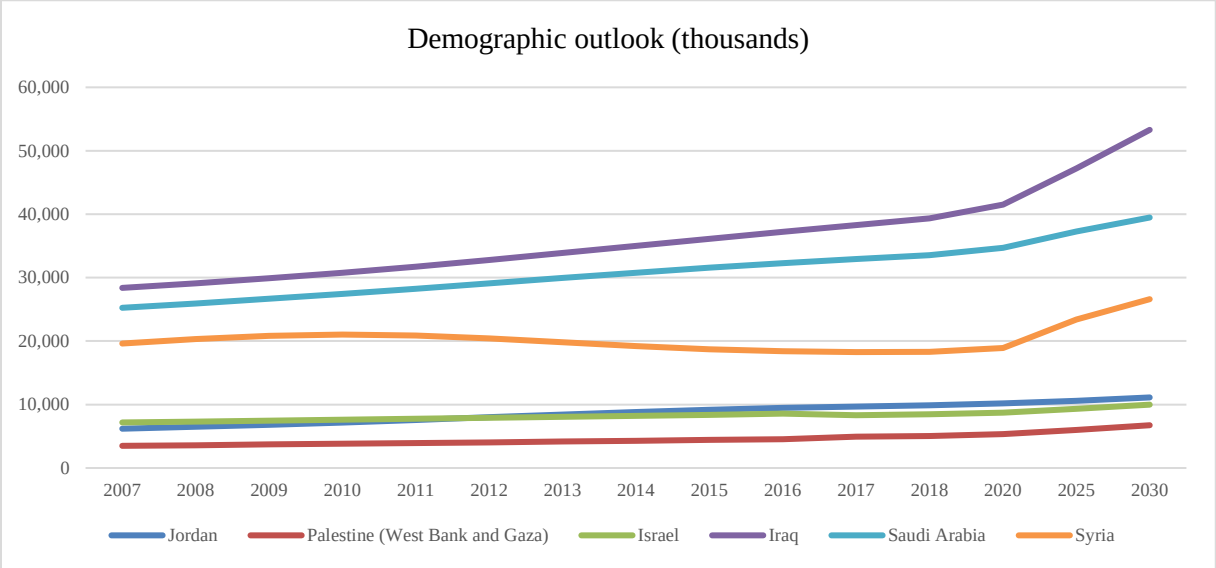
- 3 November-17 December 2017: first field work period;
- late December 2017-mid January 2018: preparation of interim report;
- 26 January-24 February 2018: second field work period;
- mid-February-end March 2018: preparation of draft final report; and
- April 2018: preparation of final report.

[9] In Palestine, the JICA Survey Team interviewed a number of companies based in JAIP as well as elsewhere in the West Bank and obtained costs for moving their products through Ashdod and Haifa Ports as well as across the KHB to Jordan and neighboring countries. In addition, the Palestinian Shippers' Council provided the results of interviews with 12 Palestinian companies, which indicated transport costs via each of these three routes, plus port charges at Haifa and Ashdod, as well as loading/unloading and other costs incurred at the KHB. In Haifa, the survey team met with Tiran Logistics and obtained additional cost data for trucks moving from Haifa across the SHB to Jordan; Tiran Logistics also provided deep-sea shipping costs from Israeli ports to overseas locations. In Jordan, meetings were held with the Jordanian Logistics Association, Kawar Transport, and NAFITH Logistics Services Co., from which land transport costs as well as deep-sea shipping rates from Aqaba Port were obtained.

# 2. Existing Trade and Logistics Environment

## 2.1 Socioeconomic Overview

As shown in Figure 2.1 and Table 2.1, the region comprises a varied set of small and medium-sized countries in terms of population, with Iraq the largest country, having a population of about 38.3 million in 2017. In the same year, Jordan had a population of 9.7 million, while Palestine (West Bank and Gaza) and Israel had populations of 4.9 million and 8.3 million, respectively. The population of the region has been gradually increasing, with the exception of Syria due to the civil war there since 2011. The UN Population Division projects a steady increase in the population of the region by 2030, showing a positive demographic outlook, with consequent economic implications for the region.




Source: United Nations Population Division

**Figure 2.1 Population of the Study Area, 2007-2030 ('000)**

**Table 2.1 Population of the Study Area, 2007-2030 ('000)**

| Year | Jordan | Palestine (West Bank and Gaza) | Israel | Iraq | Saudi Arabia | Syria |
|---|---|---|---|---|---|---|
| 2007 | 6,193 | 3,494 | 7,180 | 28,390 | 25,253 | 19,633 |
| 2008 | 6,490 | 3,597 | 7,309 | 29,111 | 25,941 | 20,325 |
| 2009 | 6,821 | 3,702 | 7,486 | 29,895 | 26,661 | 20,825 |
| 2010 | 7,182 | 3,811 | 7,624 | 30,763 | 27,426 | 21,019 |
| 2011 | 7,575 | 3,927 | 7,766 | 31,727 | 28,238 | 20,864 |
| 2012 | 7,993 | 4,047 | 7,911 | 32,777 | 29,086 | 20,421 |
| 2013 | 8,413 | 4,170 | 8,060 | 33,883 | 29,944 | 19,809 |
| 2014 | 8,809 | 4,295 | 8,216 | 35,006 | 30,777 | 19,203 |
| 2015 | 9,159 | 4,422 | 8,380 | 36,116 | 31,557 | 18,735 |
| 2016 | 9,456 | 4,552 | 8,547 | 37,203 | 32,276 | 18,430 |
| 2017 | 9,702 | 4,921 | 8,322 | 38,275 | 32,938 | 18,270 |
| 2018 | 9,904 | 5,053 | 8,453 | 39,340 | 33,554 | 18,284 |
| 2020 | 10,209 | 5,323 | 8,714 | 41,503 | 34,710 | 18,924 |
| 2025 | 10,610 | 6,022 | 9,349 | 47,200 | 37,290 | 23,411 |
| 2030 | 11,122 | 6,739 | 9,984 | 53,298 | 39,480 | 26,608 |

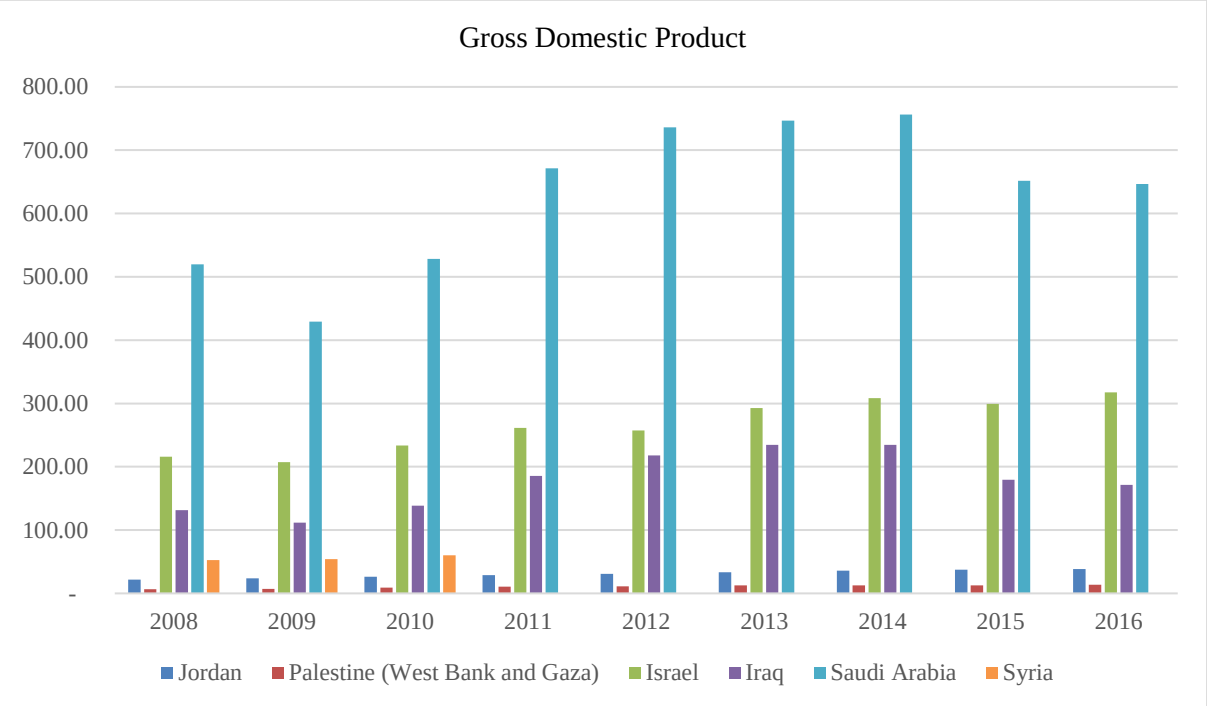
Source: United Nations Population Division

Table 2.2, Figure 2.2 and Figure 2.3 present an overview of the gross domestic product (GDP) of the region. The GDP in Jordan was US$38.7 billion in 2016, while Palestine and Israel had GDPs of US$13.4 billion and US$ 317.8 billion, respectively. The Israeli GDP is much larger than the combined GDPs of Jordan and Palestine. Saudi Arabia – a resource-rich country – has the largest economy in the region, with a GDP of US$646.4 billion. Iraq's economy has recovered over the last decade but its growth slowed down in recent years. Syria's economic output has been negative since the start of the civil war, without a sign of economic recovery in the near future.

**Table 2.2 GDP and GRP Growth Rate by Country (US$ million)**

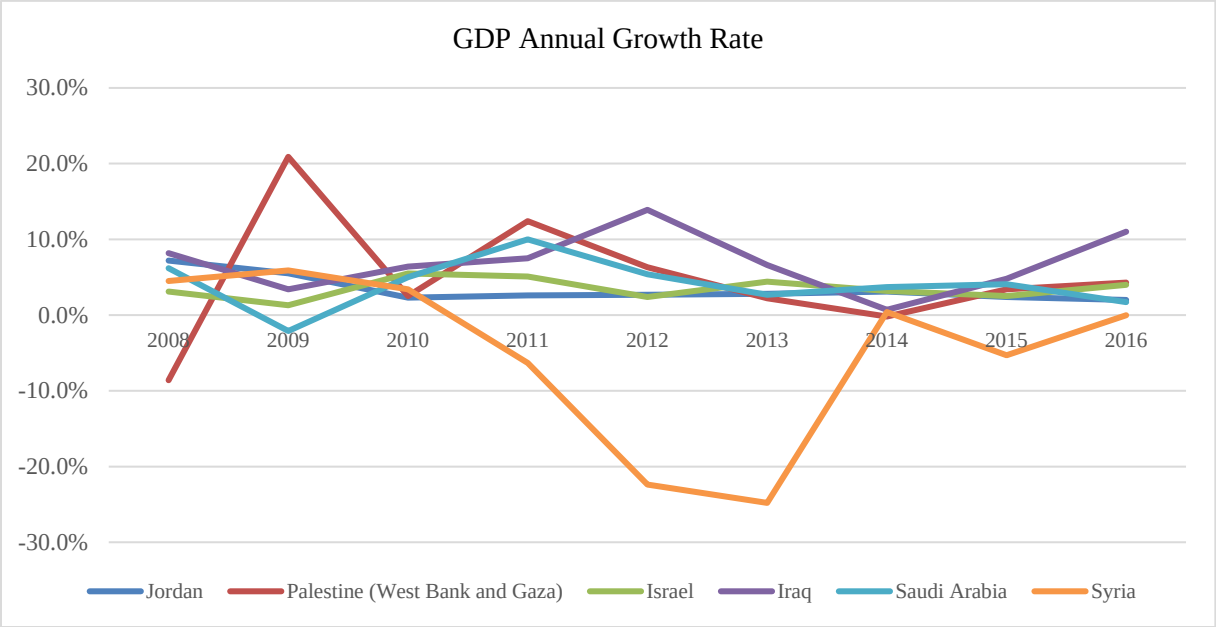
| Year | Jordan | | Palestine (West Bank and Gaza) | | Israel | | Iraq | | Saudi Arabia | | Syria | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | GDP | Rate | GDP | Rate | GDP | Rate | GDP | Rate | GDP | Rate | GDP | Rate |
| 2008 | 21.97 | 7.2% | 6.67 | -8.6% | 215.84 | 3.1% | 131.61 | 8.2% | 519.80 | 6.2% | 52.63 | 4.5% |
| 2009 | 23.82 | 5.5% | 7.27 | 20.9% | 207.42 | 1.3% | 111.66 | 3.4% | 429.10 | -2.1% | 53.94 | 5.9% |
| 2010 | 26.43 | 2.3% | 8.91 | 2.5% | 233.61 | 5.5% | 138.52 | 6.4% | 528.21 | 5.0% | 60.04 | 3.4% |
| 2011 | 28.84 | 2.6% | 10.47 | 12.4% | 261.63 | 5.1% | 185.75 | 7.5% | 671.24 | 10.0% | - | -6.3% |
| 2012 | 30.94 | 2.7% | 11.28 | 6.3% | 257.30 | 2.4% | 218.00 | 13.9% | 735.98 | 5.4% | - | -22.4% |
| 2013 | 33.60 | 2.8% | 12.48 | 2.2% | 292.49 | 4.4% | 234.65 | 6.6% | 746.65 | 2.7% | - | -24.8% |
| 2014 | 35.83 | 3.1% | 12.72 | -0.2% | 308.42 | 3.2% | 234.65 | 0.7% | 756.35 | 3.7% | - | 0.4% |
| 2015 | 37.52 | 2.4% | 12.67 | 3.4% | 299.10 | 2.5% | 179.64 | 4.8% | 651.76 | 4.1% | - | -5.3% |
| 2016 | 38.65 | 2.0% | 13.40 | 4.3% | 317.75 | 4.0% | 171.49 | 11.0% | 646.44 | 1.7% | - | - |

Source: International Monetary Fund; World Bank




Source: International Monetary Fund; World Bank

**Figure 2.2 Growth Domestic Product by Country (US$ million)**




Source: International Monetary Fund; World Bank

**Figure 2.3 GDP Annual Growth Rate by Country (%)**

Table 2.3 illustrates an overview of total merchandise trade by country in the study area. Both Jordan and Palestine have a significant trade deficit, with high dependency on imports.

**Table 2.3 Total Merchandise Trade by Country (US$ million)**

| Country | Trade | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|
| Jordan | Export | 7788 | 6531 | 7023 | 7965 | 7926 | 7896 | 8376 | 7849 | 7509 |
| | Import | 16764 | 14534 | 15085 | 18463 | 20691 | 21701 | 22952 | 20016 | 19479 |
| | Balance | -8976 | -8002 | -8062 | -10499 | -12765 | -13804 | -14576 | -12166 | -19970 |
| Palestine (West Bank and Gaza) | Export | 558 | 518 | 576 | 746 | 782 | 839 | 865 | 912 | 929 |
| | Import | 3466 | 3601 | 3959 | 4374 | 4697 | 4580 | 5055 | 4942 | 5058 |
| | Balance | -2908 | -3082 | -3383 | -3628 | -3915 | -3740 | -4190 | -4030 | -4128 |
| Israel | Export | 60825 | 47934 | 58392 | 67648 | 63191 | 66607 | 68553 | 63607 | 60174 |
| | Import | 67656 | 49278 | 61209 | 75830 | 75392 | 74861 | 75483 | 64990 | 68879 |
| | Balance | -6831 | -1344 | -2817 | -8182 | -12201 | -8254 | -6931 | -1382 | -8705 |
| Iraq | Export | 61273 | 41929 | 52483 | 83300 | 94400 | 89550 | 88968 | 49320 | - |
| | Import | 33000 | 37000 | 43915 | 49000 | 57000 | 61000 | 59000 | 52000 | - |
| | Balance | 28273 | 4929 | 8567 | 34300 | 37400 | 28550 | 29968 | -2680 | - |
| Saudi Arabia | Export | 313427 | 192296 | 251147 | 364699 | 388371 | 375872 | 342481 | 203652 | 182329 |
| | Import | 115133 | 95544 | 106864 | 131587 | 155592 | 168155 | 173908 | 174785 | 135904 |
| | Balance | 198294 | 96752 | 144283 | 233112 | 232779 | 207718 | 168573 | 28868 | 46426 |
| Syria | Export | 15410 | 10855 | 14000 | 10700 | 4000 | 3000 | - | - | - |
| | Import | 18105 | 15291 | 16950 | 16400 | 7800 | 5800 | - | - | - |
| | Balance | -2695 | -4436 | -2950 | -5700 | -3800 | -2800 | - | - | - |

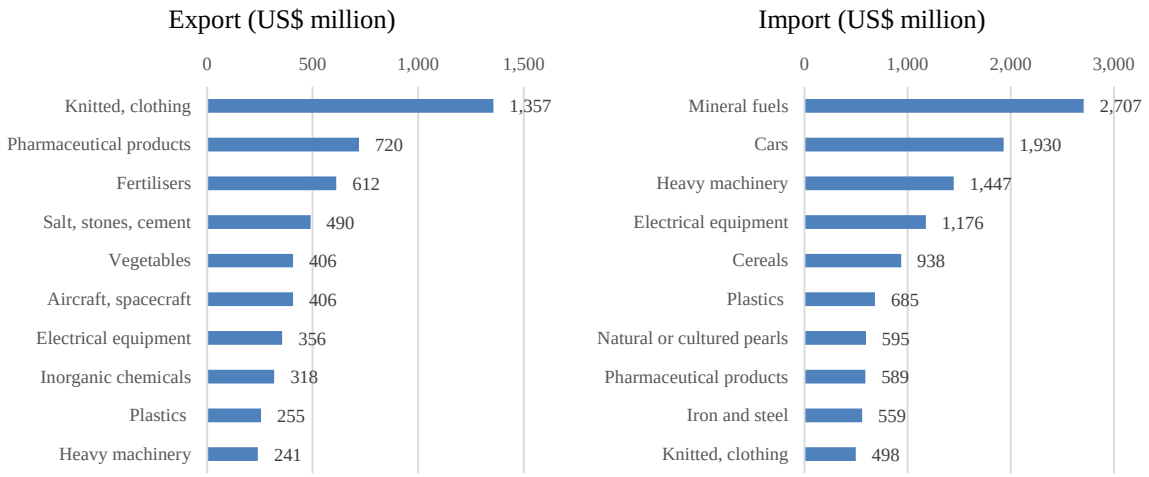
Source: United Nations International Trade Statistics (Comtrade), 2016

## 2.2 Trade Patterns

### 2.2.1 Jordan

Jordan is a middle-income country with limited natural resources. In 2016, Jordan's exports were valued at US$7.51 billion, while its imports reached US$19.21 billion.[1] Its GDP growth rate has been relatively stable and was 2.0% in 2016, although the rate decreased from 3.0% in 2014 and 2.4% in 2015; its average GDP growth rate over the last five years was 2.8%. Jordan recorded a large trade deficit of US$11.7 billion in 2016.

As shown in Figure 2.4, in 2016 the top exported commodity of Jordan was knit/clothing (US$1,357 million), which represented 18.1% of the total exports of Jordan, followed by pharmaceuticals (US$720 million), fertilizers (US$612 million), salt, stone and cement (US$490 million), vegetables (US$406 million), and airplanes, helicopters, and spacecraft (US$406 million). Its top imports included mineral fuels (US$2,707 million), accounting for 14% of total imports, followed by vehicles (US$1,930 million), heavy machinery (US$1,447 million), electrical machinery and equipment (US$1,176 million), and cereals (US$938 million).




Source: United Nations International Trade Statistics (Comtrade), 2016

**Figure 2.4 Jordan's Top Ten Exported and Imported Commodities (2016)**

As shown in Table 2.4, the top export destination of Jordan was the United States (US$1,558 million), representing about 21% of its total export values, followed by Saudi Arabia (US$993 million), Iraq (US$498 million), India (US$490 million), and the United Arab Emirates (US$399 million). The top origin country for imports was China (US$2,690 million), with a share of 14% of total imports, followed by Saudi Arabia (US$2,326 million), the United States (US$1,341 million), Germany (US$881 million), and the United Arab Emirates (US$878 million).

Jordan's exports to Israel are relatively small, amounting to only US$114.6 million during 2016, while its imports from Israel are even smaller, amounting to only US$30.3 million in that same year.[2] Jordan's main exports to Israel include plastic and rubber products, textiles, and agricultural products, while its main imports from Israel include vehicles, vegetables, machinery, chemicals, and refined petroleum.[3]

[1] United Nations International Trade Statistics (Comtrade), *International Trade Statistics Yearbook*, 2016.
[2] See previous footnote.
[3] http://mfa.gov.il/MFA/InnovativeIsracomel/Economy/Pages/20-years-of-peace-Israeli-exports-to-Jordan-2-Nov-2014.aspx.

**Table 2.4 Jordan's Top Five Exports and Imports by Destination/Origin (2016)**

| Top Export Destinations | | | |
|---|---|---|---|
| Rank | Country | Value (US$ million) | Share (%) |
| 1 | United States | 1,558 | 20.8 |
| 2 | Saudi Arabia | 993 | 13.2 |
| 3 | Iraq | 498 | 6.6 |
| 4 | India | 490 | 6.5 |
| 5 | UAE | 399 | 5.3 |

| Top Import Origins | | | |
|---|---|---|---|
| Rank | Country | Value (US$ million) | Share (%) |
| 1 | China | 2,690 | 14.0 |
| 2 | Saudi Arabia | 2,326 | 12.1 |
| 3 | United States | 1,341 | 7.0 |
| 4 | Germany | 881 | 4.6 |
| 5 | UAE | 878 | 4.6 |

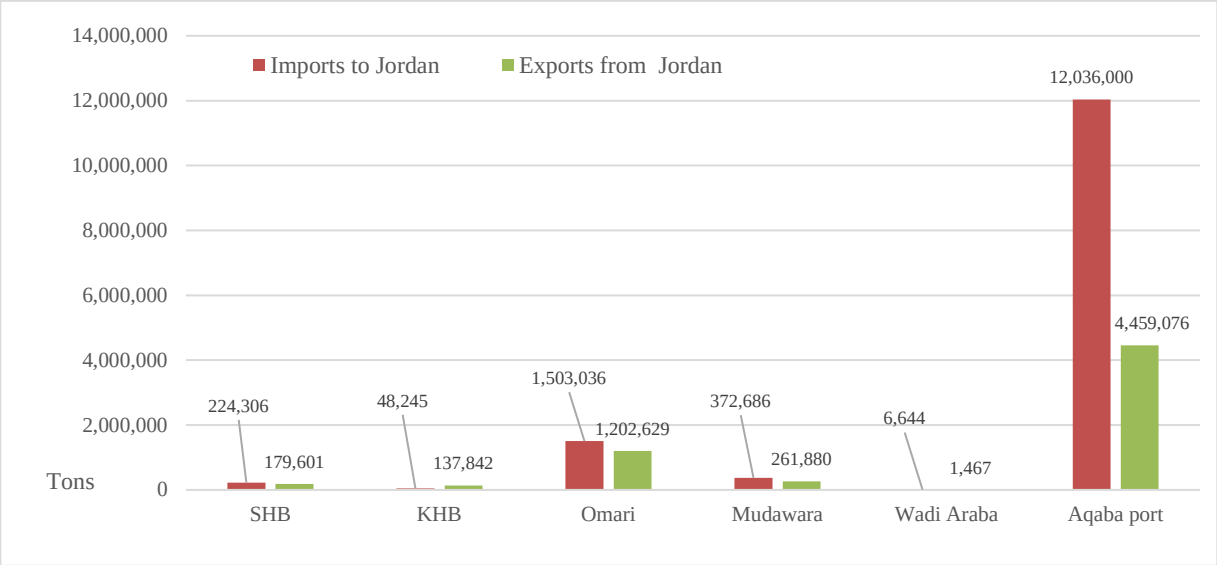
Source: World Bank

In the past, many of Jordan's imports were routed from Europe through Turkey and Syria by road; in addition, significant trade relations were established with Iraq, Qatar, and Yemen. However, the conflict in Syria has closed that route; in addition, continued instability in Iraq forced, until recently, the closure of Karameh/Karama[4] border crossing and disputes between Saudi Arabia and Qatar/Yemen have limited Jordan's access to these countries.

As a result, Jordan's foreign trade routes have become increasingly concentrated on Aqaba Port. When the Iraqi border was open, Jordan imported about 340,000 tons of crude oil from Iraq and exported 730,000 tons of goods to Iraq. Now all crude oil is sourced from Saudi Arabia and arrives in Jordan through Aqaba Port; Iraq has substituted its imports from Jordan with imports from Iran and Turkey. The continued closure of the Syrian border has blocked at least several million tons of Jordanian imports and exports that used to move through this strategic gateway; most of these imports and exports now are routed through Aqaba.

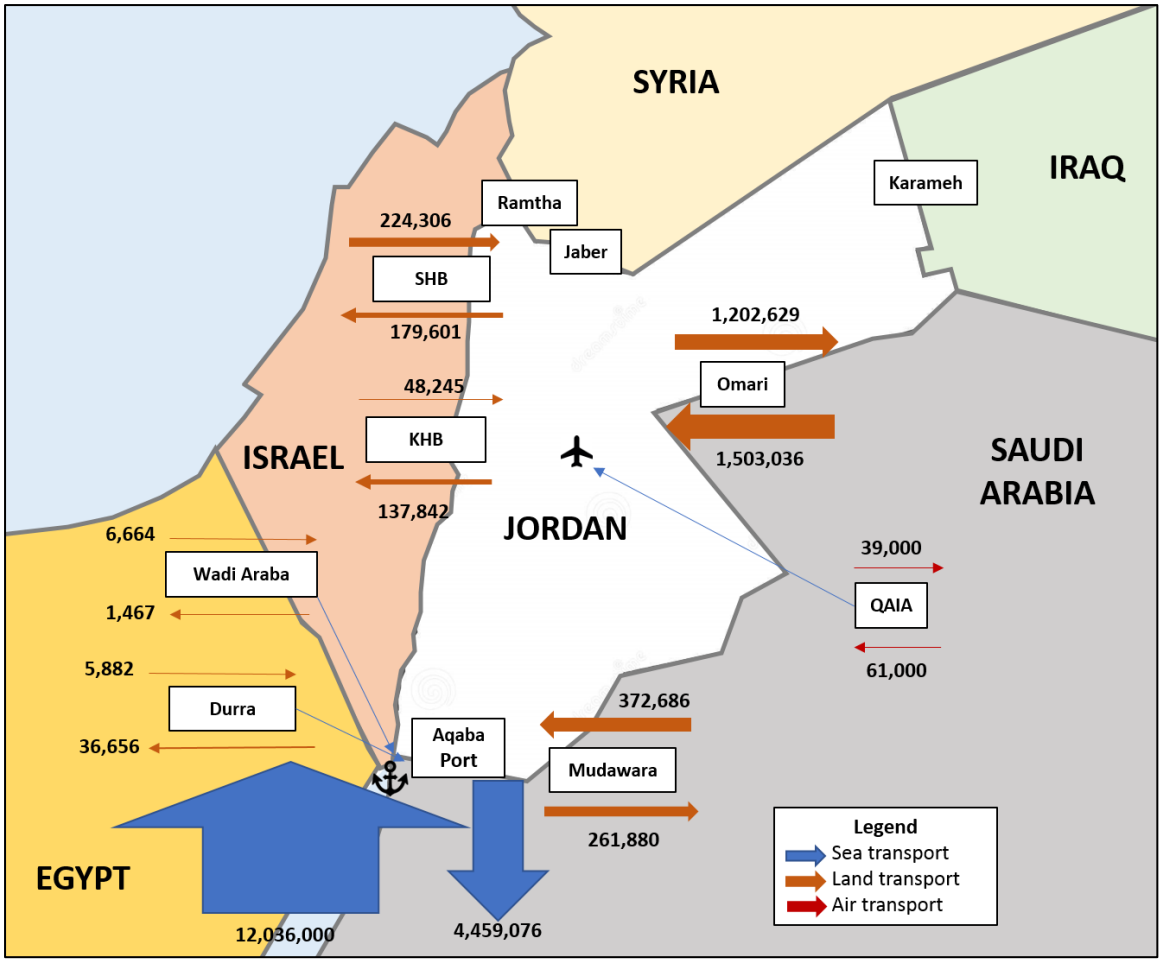
Figure 2.5 shows the gateways used for Jordan's imports and exports, in terms of net tonnages in 2016, followed by a map in Figure 2.6 showing the location and volume of trade. Aqaba Port dominates and trade across the borders with Saudi Arabia at Omari/Umari[5] and Mudawara is also important. With the closure of Jaber and Karameh in 2016, Jordan's trade with Syria and Iraq has been limited, with virtually no transit trade between these countries and Saudi Arabia through Jordan.

[4] Karameh and Karama are alternative Romanizations.
[5] Omari and Umari are alternative Romanizations.




Source: Jordan Customs, United Nations International Trade Statistics (Comtrade), and Aqaba Ports Corporation

**Figure 2.5 Routing of Jordan's Foreign Trade, 2016**



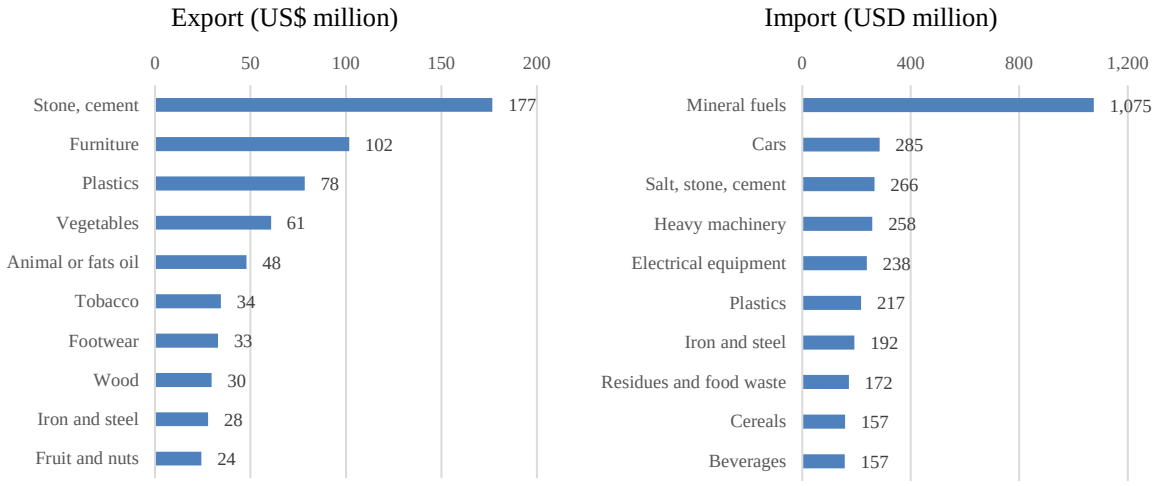

Source: Jordan Customs, **United Nations International Trade Statistics (**Comtrade), and Aqaba Ports Corporation

**Figure 2.6 Distribution of Jordan's Foreign Trade Routes, 2016 (tons)**

### 2.2.2 Palestine

The economy of Palestine, both in the West Bank and Gaza, is small and fragmented. Palestine has a large trade deficit due to its overreliance on the Israeli market for its exports. In 2016, the value of Palestinian exports amounted to US$957.8 million, while its imports amounted to US$5.2 billion, resulting in a negative trade balance of US$4.43 billion. In 2017, the GDP of Palestine was US$12.7 billion. Despite political and economic constraints that restrict its economic expansion, Palestine's GDP growth rate has been steady (although slow), at about 3.5% since 2015 (e.g., 2.7% in the West Bank and 5.5% in Gaza in 2017).[6]

As shown in Figure 2.7, based on 2016 statistics, Palestine's main exports were building materials such as stones and cement (US$177 million), which accounted for 18.5% of the total, followed by furniture (US$102 million), plastics (US$78 million), vegetables (US$61 million), and animal and fat oil (US$48 million). Its top imported commodity was mineral fuels (US$1,075 million), which represented 8.5% of total imports, followed by cars (US$285 million), salt, stone, and cement (US$266 million), along with heavy machinery (US$258 million) and electrical equipment (US$238 million).




Source: United Nations International Trade Statistics (Comtrade), 2016

**Figure 2.7 Palestine's Top Ten Exported and Imported Commodities (2016)**

As shown in Table 2.5 and Figure 2.8, based on 2016 trade values, Palestinian exports were concentrated on several destinations, with Israel the largest (US$771 million), followed by Jordan (US$51.5 million), the United Arab Emirates (US$23.3 million), Saudi Arabia (US$18.3 million), Kuwait (US$10.9 million), the United States (US$10.4 million), and Qatar (US$10.0 million). The top import origins were Israel (US$3.12 billion), China (US$383 million), Turkey (US$477 million), Jordan (US$132 million), Germany (US$186 million), Italy (US$76.4 million), Saudi Arabia (US$70.2 million), and Egypt (US$65.2 million). A total of 82% of Palestine's exports were destined for Israel and 59% of its imports were sourced from that country.

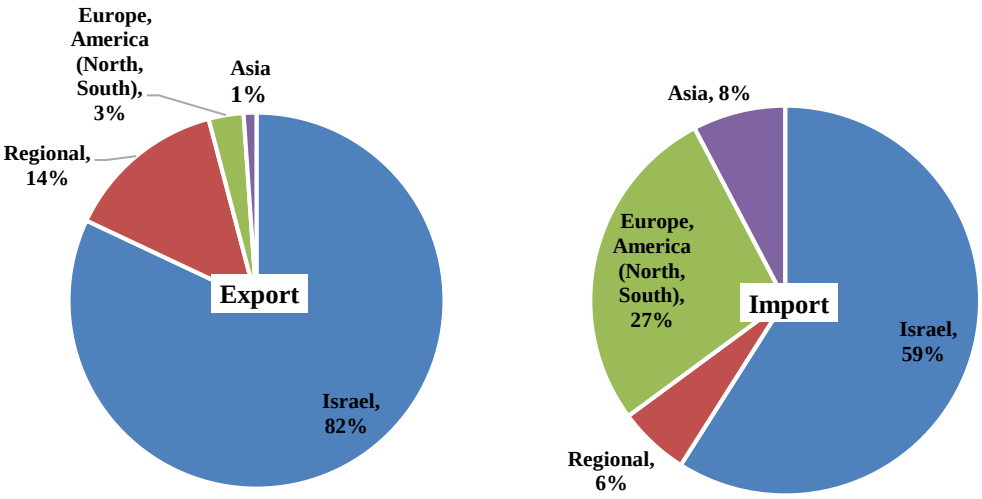
[6] http://www.worldbank.org/en/country/westbankandgaza/publication/economic-outlook-april-2017.

**Table 2.5 Palestine's Top Five Exports and Imports by Destination/Origin (2016)**

| Export | | | |
|---|---|---|---|
| Rank | Country | Value (US$ million) | Share (%) |
| 1 | Israel | 771.0 | 82 |
| 2 | Jordan | 51.5 | 5 |
| 3 | UAE | 23.3 | 2 |
| 4 | Saudi Arabia | 18.3 | 2 |
| 5 | Kuwait | 10.9 | 1 |

| Import | | | |
|---|---|---|---|
| Rank | Country | Value (US$ million) | Share (%) |
| 1 | Israel | 3,120 | 59 |
| 2 | Turkey | 477 | 9 |
| 3 | China | 383 | 7 |
| 4 | Germany | 186 | 4 |
| 5 | Jordan | 132 | 3 |

Source: United Nations International Trade Statistics (Comtrade), 2016

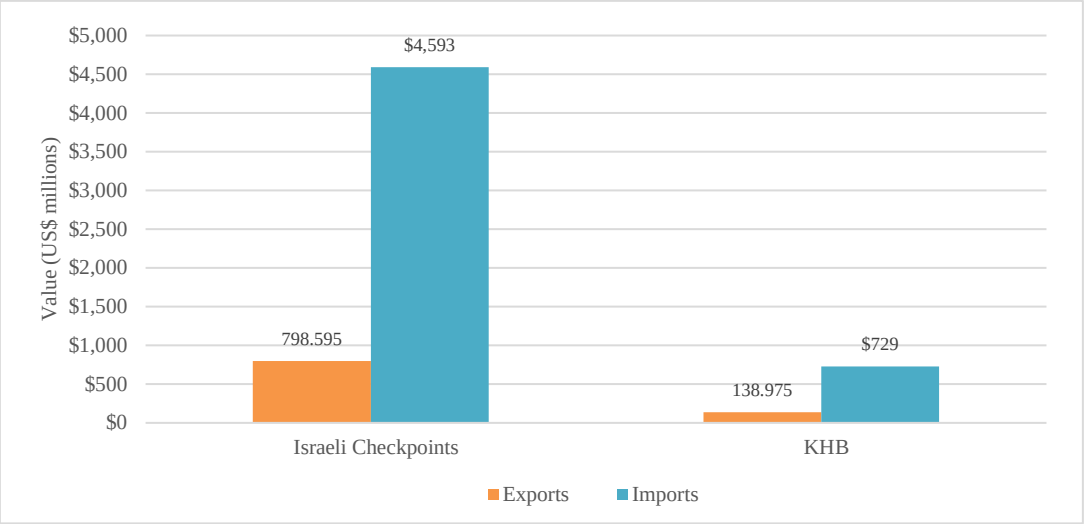



Source: United Nations International Trade Statistics (Comtrade), 2016

**Figure 2.8 Distribution of Palestine's Foreign Trade by Share (2016)**

In line with the survey background and objectives, this section provides a detailed overview of trade in the context of the West Bank. In 2016, 828,600 tons of cargo were moved over the (Allenby /) King Hussein Bridge (KHB) – the sole route by which Palestinian cargo can be moved to and through Jordan (see subsection 2.3.2). This total included about 680,600 tons of imports and 148,000 tons of exports moved to and from Palestine (West Bank). Ashdod Port in Israel dominates the non-Israeli trade with a total of 902,000 tons of Palestinian goods moving through this port followed by Haifa Port with a total of 110,000 tons. A significant constraint in moving Palestine's cargo is the requirement for back-to-back transfer of truck cargo at the KHB, and for exports, at all checkpoints entering Israeli territory.

Figure 2.9 presents the most likely routing of the West Bank's trade. It was assumed that trade to and from Israel, Europe, and North and South America uses Israeli checkpoints and Israeli ports, while trade between Palestine and Jordan, as well as with neighboring countries (e.g., Saudi Arabia), uses the KHB.




Sources: (i) United Nations International Trade Statistics (Comtrade), 2016; and (ii) the JICA Survey Team

**Figure 2.9 Routing of Palestinian Foreign Trade (2016)**

Based on data obtained from the Israel Airports Authority (IAA), the United Nations International Trade Statistics (Comtrade, 2016), Comtrade, Haifa, and Ashdod Ports, Table 2.6 shows the distribution of Palestine's (West Bank) foreign trade by route, while Table 2.7 presents the value per ton for Palestinian trade in 2016.

**Table 2.6 Routes of Palestinian Foreign Trade (thousand tons, 2016)**

| Routes | Imports | | Exports | |
|---|---|---|---|---|
| | Volume | % | Volume | % |
| Israel | 2,451.0 | 59.3% | 797.9 | 83.1% |
| KHB | 680.6 | 16.4% | 148.0 | 15.4% |
| Ashdod | 891.0 | 21.6% | 11.0 | 1.1% |
| Haifa | 107.8 | 2.6% | 2.2 | 0.2% |
| Total | 4,130.4 | 100% | 959.1 | 100% |

Note: The distribution of tonnages by direction at the King Hussein Bridge (KHB) was based on the distribution of loaded trucks by direction.
Sources: (i) Israeli Airports Authority, (ii) Ashdod and Haifa Ports, and (iii) Comtrade Israeli trade data

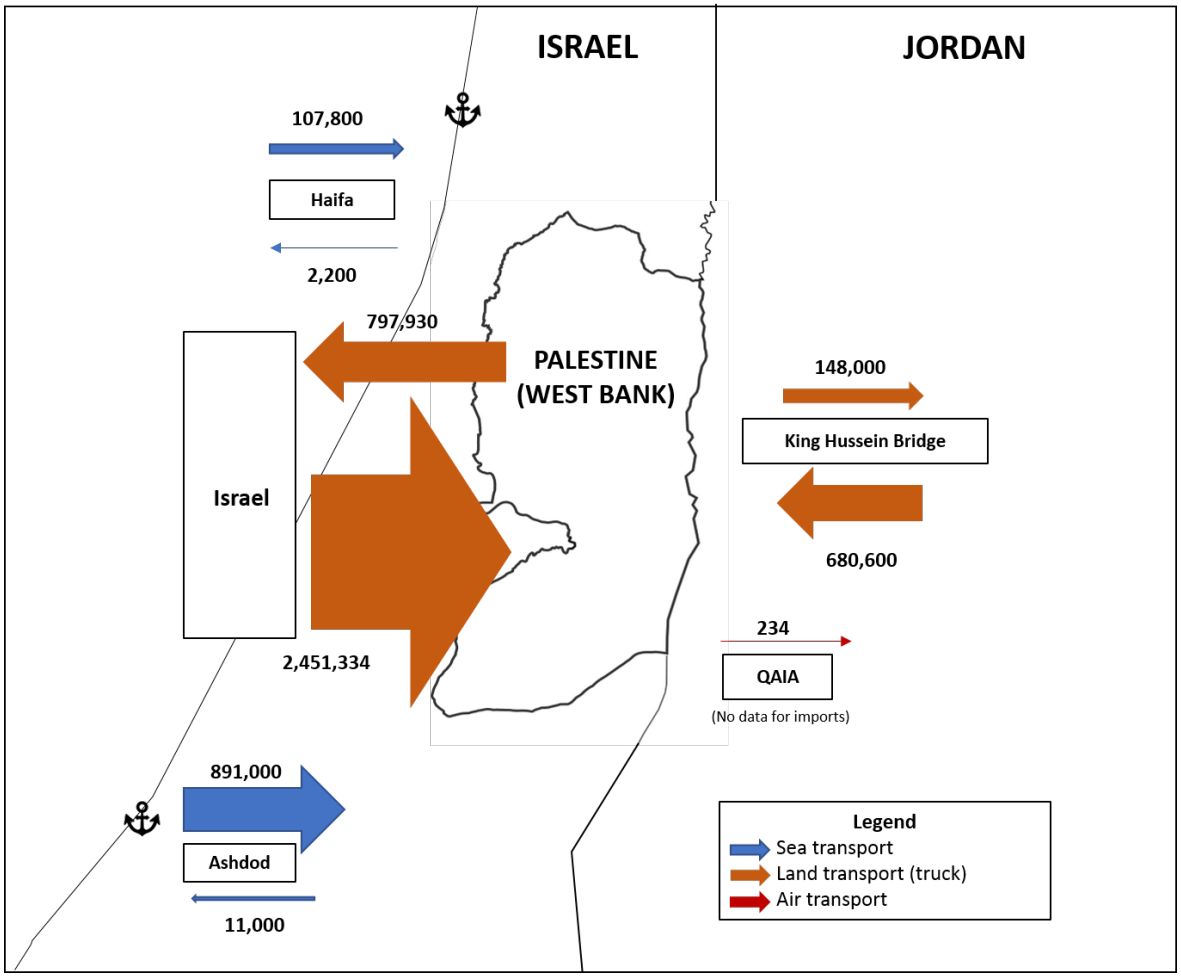
**Table 2.7 Value/Ton for Palestinian Trade (2016)**

| Direction | Value | Tons | Value/ton |
|---|---|---|---|
| From Palestine | US$166,770,000 | 172,640 | US$966 |
| To Palestine | US$2,199,158,000 | 1,726,184 | US$1,274 |

Sources: (i) United Nations International Trade Statistics (Comtrade), 2016; and (ii) border crossing data from the Israeli Airports Authority and Israeli ports

Considering all foreign trade of Palestine (West Bank), Israel is itself the single most important trading partner, as shown in the schematic diagram in Figure 2.10. The most important route for non-Israeli foreign trade is Ashdod followed by KHB. Of the KHB traffic, movements from and to Jordan and Gulf countries dominate, while Asian traffic is of some importance, although only for imports. The tonnages shown in the diagram were obtained from several sources: (i) the KHB tonnages were obtained from border post records of tonnages and loaded trucks from the IAA, (ii) the Ashdod and Haifa tonnages were obtained from statistics provided to the JICA Survey Team during visits to those facilities, and (iii) the tonnages to and from Israel were derived from

average values and tonnages computed for KHB traffic for imports and exports, respectively, and applied to the value data obtained from the United Nations International Trade Statistics (Comtrade).




Sources: (i) Source: United Nations International Trade Statistics (Comtrade), 2016; and (ii) the JICA Survey Team

**Figure 2.10 Routes for Moving Palestine's Foreign Trade (2016, Tons)**

As shown in Figure 2.10, a total of 828,600 tons of Palestinian foreign trade moves across the KHB, or about 16% of the total. Included in the data is 324,186 tons of Palestinian imports from Asia and 10,550 tons of exports to Asia. The tonnages shown moving to and from Asia are likely routed mostly through Israeli ports, although specific routing information is not available. If current difficulties moving goods across the KHB are resolved in the future, there are likely to be cost savings from routing this Far East traffic through Aqaba. This possibility will be explored further in this report.

A small quantity of Palestine's exports are moved by air from Queen Alia International Airport (QAIA) in Amman. Based on statistics from Jordan Customs, a total of 392 tons of Palestinian exports were moved through QAIA in 2016 and 234 tons were moved in 2017 (to November 2017).[7]

[7] Interview with Jordan Customs, QAIA Cargo Terminal, November 2017.

## 2.3 Major Logistics Corridors and Facilities

This section presents the state of practice of the major logistics corridors, borders, and destinations in the region, with the identification of issues through the JICA Survey Team's observations and evaluations.

### 2.3.1 Regional Corridors

#### (1) Desert Highway (the Longest North-South Corridor in the Region)

As shown in Figure 2.11, the Desert Highway in Jordan, Route 15, links Aqaba and the Syrian border at Jaber; it is the main route between Aqaba Port and the capital of Amman, a distance of 352 km. It also links with other major urban centers and free zones in the northern part of the country. It is a heavily used four-lane facility throughout and is in need of resurfacing and repair in many places. Contracts have been awarded for the reconstruction of the 220 km section of the road between QAIA and Ma'an, to be commenced in early 2018. Funding for this work (US$170 million) is from the Saudi Fund for Development, launched in November 2015.[8]

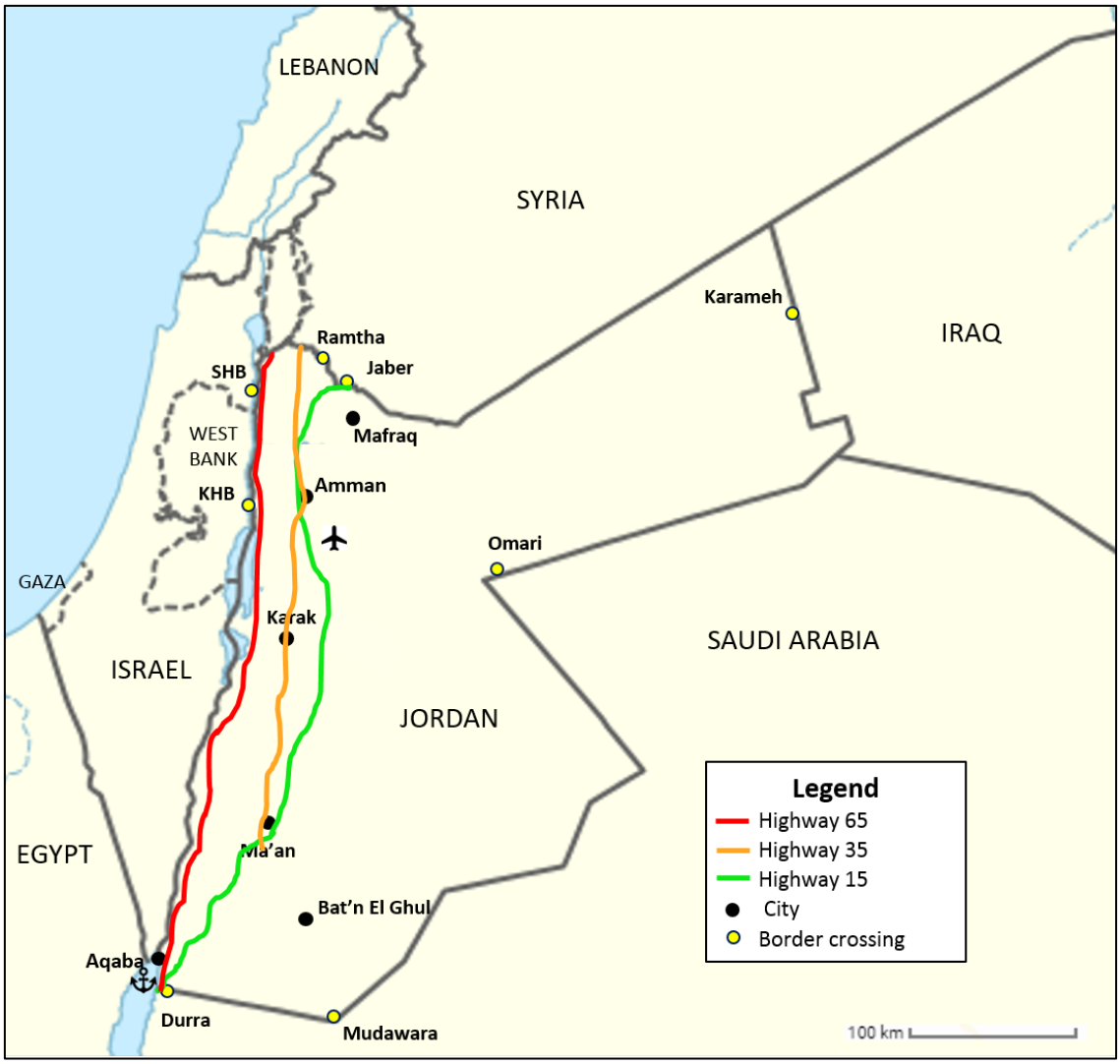
The Desert Highway is the lifeline of the country since all crude oil is landed at Aqaba and moved by thousands of trucks to the country's only refinery in Zarqa, about 30 km northeast of Amman. Also, most of the country's imports and exports are moved over this highway from and to Aqaba, and it was along this route that many transit goods were moved between Aqaba and neighboring countries. However, with the closure of the borders with Syria and Iraq (the latter recently reopened), the volume of transit traffic has decreased substantially, with adverse impact on Jordan's economy.

In addition, sections of the road linking Amman with the Saudi border at Omari[9] are being rehabilitated with assistance from Saudi Arabia.

Other than the Desert Highway, there are two major highways, the King's Highway (Route 35) and the Valley Road (Route 65). These highways run in parallel and are connected at several points to form a "rib-and-backbone" like structure.

[8] http://invest-export.brussels/documents/16349/1140680/Jordan+-+Infrastructure+pojects+2016/a7035624-6c98-410f-98b6-a08a5b6588f9.

[9] Alternatively, Romanized as Umari.

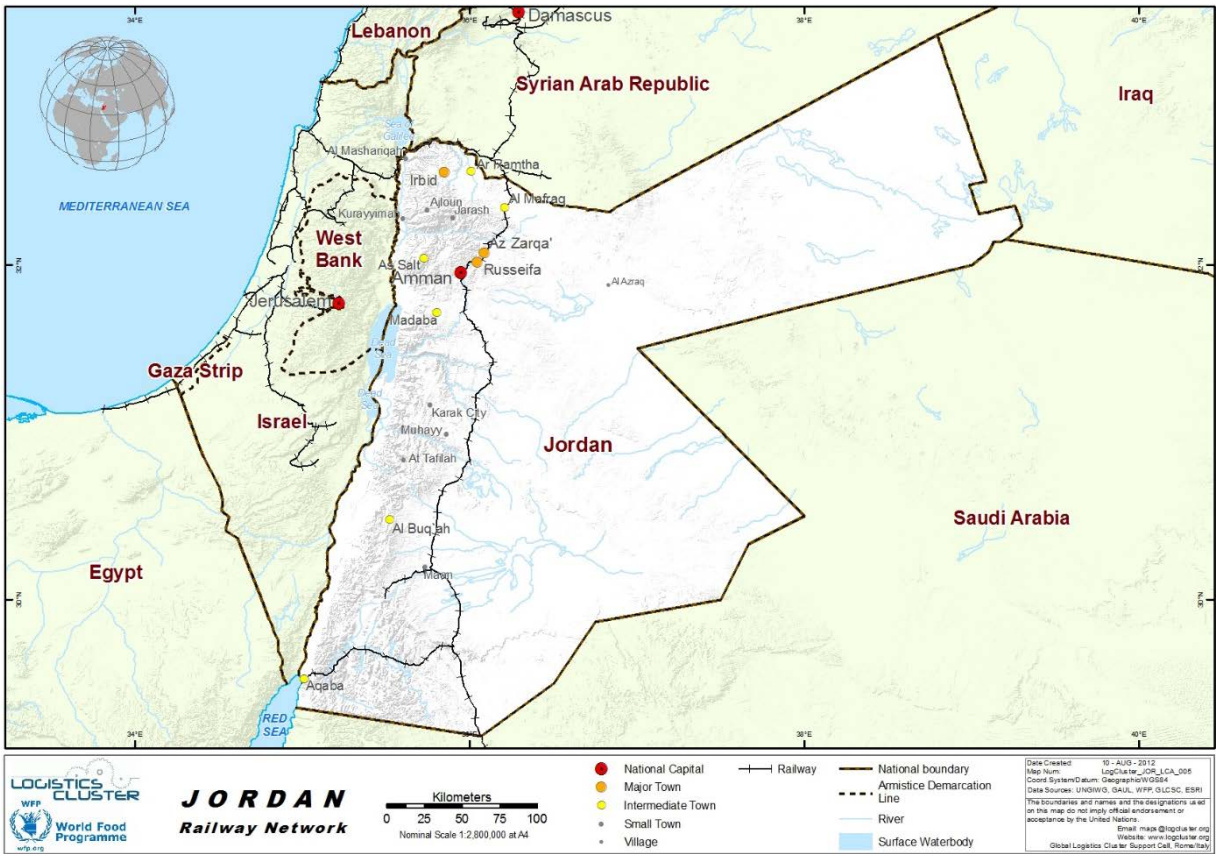



Source: Wikimedia commons, JICA Survey Team

**Figure 2.11 Jordan's Road Network**

## (2) Jordan's Existing Railway (Hedjaz/Hejaz Jordan Railway)

Jordan's railway originally was the old Hedjaz [or Hejaz] Jordan Railway, with a gauge of 1,050 mm, which extended from Damascus (Syria) through Amman continuing south to the Saudi Arabian city of Medina. This line was constructed to move religious pilgrims to the holy cities of Medina and Mecca and was never meant to be a high-capacity freight line. Much of the line in Saudi Arabia was destroyed at the end of the Ottoman Empire although most of the route through Jordan remained. In 1972 a new branch was constructed from Bhatn El Ghoul, a point on this line just south of Ma'an, to Aqaba, mainly for the transport of phosphate rock for export, with operations by the Aqaba Railway Corporation. This remains the main operating route of the rail line in Jordan, with only short sections of the line between Amman and Mafraq and Al-Jeezah station, close to QAIA, operating charter passenger trains on an intermittent basis with most of the remaining line largely unused or abandoned. On average, eight passenger trains per month are operated along the line, with higher numbers during the peak summer season. Figure 2.12 shows Jordan's railway network.




Source: Global Logistics Cluster

**Figure 2.12 Jordan's Railway Network**

### (3) Proposed Haifa Hub Land Bridge between Israel and Saudi Arabia

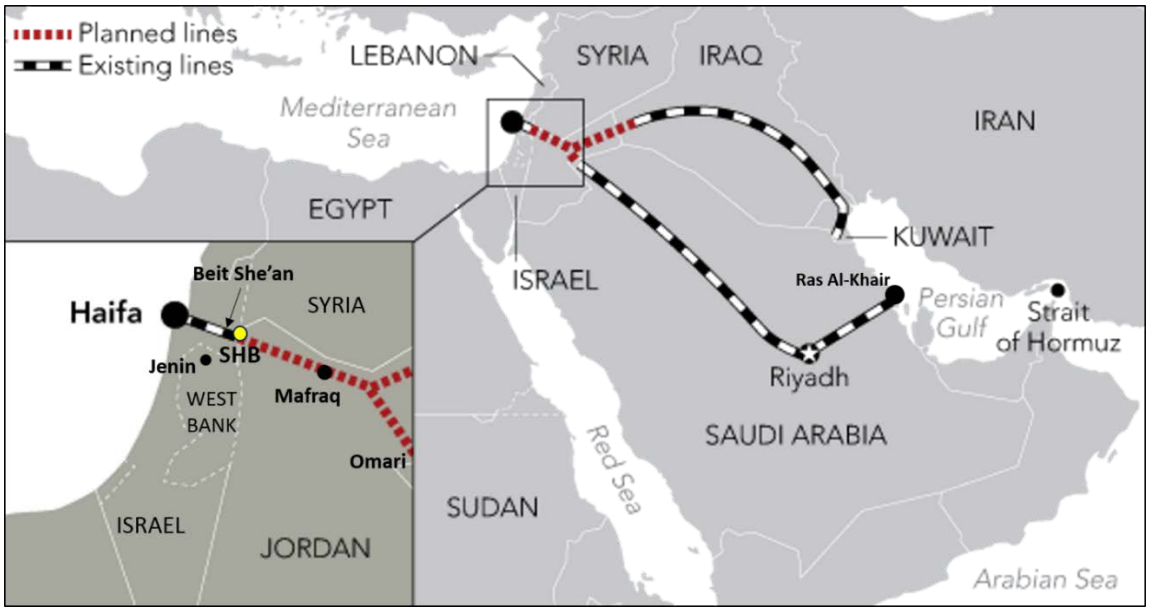
Outline and Background of the Concept

The concept of the Haifa Hub was formulated in 2013 when civil war in Syria resulted in the closure of its ports and transit routes to Jordan and to other Gulf Cooperation Council (GCC) countries. The region needed a new sea/land route primarily for moving imports from Europe to the region, and many transporters and logistics companies made arrangements to use Haifa Port as a renewed gateway to Jordan and the region. To date, a limited number of imports to the country, as well as some exports, have moved along this route, although regional politics have made it difficult for the route to be more widely available to other countries (e.g., Saudi Arabia). About 25-30 Turkish trucks per week now move to Haifa on roll-on/roll-off (ro-ro) vessels,[10] then through Israel and Jordan across the Sheikh Hussein Bridge (SHB), terminating at the Zarqa Free Zone, where their cargo is offloaded and moved to final destinations using other vehicles.

This route has been featured in recent news reports, e.g., when Israel's Minister of Transport traveled to Japan in October 2017 to make the case for extending Israel's newly constructed rail line to Beit She'an further to the Jordanian border, where it would link up with a proposed rail link from the SHB across Jordan to the Saudi border, to connect with the north/south railway line in Saudi Arabia. This new Saudi line connects Al-Haditha, located just across the Saudi border from the Jordanian border post of Omari, with the new port city Ras Al-Khair (60 km north of

[10] Ro-ro ships are vessels designed to carry wheeled cargo (e.g., cars, trucks, semi-trailer trucks, trailers, railroad cars), which are driven on and off the ship on their own wheels or using a platform vehicle, such as a self-propelled modular transporter.

Jubail, Saudi Arabia). This trans-Jordanian route will take several years to materialize and it will depend not only on Jordan constructing the proposed new line but also on development in regional politics to allow such cooperation between and among the countries involved. Figure 2.13 provides an overview of this proposed link from Israel to Saudi Arabia.




Abbreviations: SHB = Sheik Hussein Bridge
Source: *Nikkei Asian Review*

**Figure 2.13 Proposed Haifa Hub Land Bridge between Israel and Saudi Arabia**

State of Practice in Route Operation and Views

In November 2012, the Tiran Group of Haifa started the Haifa Hub project by arranging for trucks from Turkey to move fresh fruits and vegetables to Jordan. After early setbacks, this route has been operating without major difficulties over the past 1.5 years. While most cargo moves to Jordan, and vehicles return empty, some shipments have been made to Saudi Arabia and Iraq, using the Omari and Karameh border crossings, respectively. Most trucks end their journey at the Zarqa Free Zone, where goods are transshipped to other vehicles for delivery in Jordan or further movements to neighboring countries. As noted, an estimated 25-30 trucks per week make this journey. In addition to the trucks from ro-ro vessels, between 80 and 100 TEUs per week are moved to Jordan, after destuffing (unloading) at the SHB border. While these containers now move from Haifa by road, Israel Railways has started a test run moving containers by rail to Beit She'an (located about 10 km west of the SHB) over a newly constructed rail line, then to the SHB by road shuttle, arranged by the railway.

There has been renewed interest in this route due to closer ties between Israel and Saudi Arabia. There have been (unsubstantiated) rumors that Saudi Arabia is prepared to finance the construction of the about 200 km standard gauge rail line through Jordan between the SHB and the Omari border with Saudi Arabia.

If this Saudi Arabia-Jordan-Israel rail link were to become a reality, it would transform Haifa into a strategic regional port, serving Jordan, Saudi Arabia, and other Gulf countries. This rail link would eventually be connected with Jordan's National Railway Project, which includes new rail lines to neighboring countries. However, this National Railway Project has been dormant for several years, since funding for this high-cost investment has not been available. During discussions with the JICA Survey Team in November 2017, the General Manager of the Land

Transport Regulatory Commission in Jordan indicated that he was aware of the plan to construct a rail line to the Israeli border, but in further discussions with the Ministry of Transport it was clarified that Jordan would require that a railway between Israel and Saudi Arabia pass through Palestinian territory. Since Israel already has a plan to extend its line to Jenin, an extension to a new border crossing with Jordan would be required.

During discussions in January 2018 with US Safe Ports, an American company that will be one of the operators in the Mafraq Logistics Zone, as well as an operator of a future dual-use airport adjacent to the logistics zone, it was learned that the company's chief executive officer had been recently informed by the Israeli Ports and Railways Authority that Shanghai International Port Group (SIPG), the future operator of Haifa Port, is also interested in constructing (and possibly operating) the rail line from the existing end of track at Beit She'an to Mafraq, across the SHB.[11]

Transport Demand and Costs

The Haifa-SHB route is now being used by about 200-250 trucks per week, which move in convoy to the border, including the 25-30 trucks per week from Turkey. Container volumes are estimated at 80-100 TEUs per week, although the containers must be destuffed at the border due to current Jordanian restrictions on containers entering the country at gateways other than Aqaba Port. Trial shipments of containers by rail have been made over the new rail line with a shuttle road service operated by the railway from Beit She'an to the SHB. Based on discussions with freight forwarders in Haifa, this rail service is about US$80 cheaper per container than movement by road.

Transport costs for trucks from Haifa to the SHB, including port and customs fees, are about US$450 in each direction. The cost of moving containers by road is about US$1,500 per container, including all port and customs fees at Haifa and the SHB. From the SHB to Haifa, the cost is about US$950 per container, not including terminal handling charges at Haifa, since this is usually included in sea freight charges. By rail, the cost to move a container from Haifa to the SHB would be about US$80 less than by truck, or about US$1,420. From the SHB to Amman, truck rates range from US$550-650 per vehicle. Trucks pay no transit fees in Israel, although such fees are levied in Jordan.

For vehicles moving across the KHB to Amman, additional costs include US$100 for customs fees, US$50 for fuel plus road use charges to Amman of about US$200, and insurance for one month for US$200; if the vehicle moves to the Saudi border at Omari, road use charges could be US$300 from the KHB.

Transit times are quick for this route; a truck leaving Turkey on Monday night and arrives at Amman Customs on Thursday. Box 2.1 shows the transport costs for using the Haifa Hub ro-ro road corridor instead of sending containers via Aqaba.

[11] Regarding Jordan's existing prohibition on containers entering Jordan except through Aqaba (pursuant to a 1991 Cabinet Decision, with an exception for Palestinian goods across the KHB granted in 2016), US Safe Ports indicated that discussions were underway with the Government of Jordan to allow containers to enter Mafraq from Israel, although this was not confirmed by the JICA Survey Team during meetings in Jordan.

**Box 2.1 Comparison of Transport Costs and Transit Time between the Haifa Ro-Ro Road Corridors and Using Aqaba Port**

(i) Turkey to Jordan via Haifa

Turkey to Haifa, US$1,300/truck; Haifa to the SHB, US$450/truck; SHB to Amman, US$422/truck. Total cost of US$2,172; transit time: 3 days. Goods remain in the same vehicle during the entire journey from Turkey to Jordan.

(ii) Turkey to Jordan via Aqaba

Turkey to Aqaba, US$1,405 per 40-foot container; Aqaba port charges (e.g., terminal handling charges, customs fees), US$250; Aqaba to Amman by road, US$564. Total cost of US$2,219. Transit time between 18 and 25 days.

While the transport costs for each route are similar, the substantially shorter transit time through Haifa is significant.

Source: JICA Survey Team

### 2.3.2 Borders of Jordan and Israel

There are two main crossing points between Jordan and Israel: the SHB and Wadi Araba (called Yitzak Rabin on the Israeli side), near Aqaba. The third border crossing is the KHB (also known as the Allenby Bridge), marking the border between Jordan and the West Bank, although Israeli security is fully in charge of cargo and passenger movements across this facility. The JICA Survey Team visited and observed operations at all of these border crossings, as described below.

#### (1) SHB / Jordan River Border

General View

The border crossing between Jordan and Israel via the SHB is also known as the Jordan Valley Crossing in Jordan, and in Israel as the Jordan River Crossing. It is the closest border crossing of Jordan to Haifa Port. In 2016 a total of 27,752 loaded trucks crossed this border, although based on preliminary data for 2017, this volume decreased to about 23,000 trucks. Back-to-back transfer of goods is generally required at this border crossing although exceptions have been made for Turkish trucks moving imports to Jordan from Haifa; these vehicles do not need to transfer their cargo at the border.

While the IAA (the organization in charge of Israel's borders) does not record tonnages moving across the SHB, an estimate can be made by applying the average load per truck at the KHB to the number of loaded trucks moving cross the SHB. This results in a total of 388,902 tons during 2017, which is close to the tonnage data provided by Jordan Customs (383,235 tons).

The SHB remains a bottleneck for the smooth flow of traffic, with the necessity of back-to-back transshipment of goods (with the exception of the ro-ro trucks from Haifa) and prohibition on loaded containers entering Jordan. The Israeli side of the border works until 8:00 pm, while the Jordanian side works only until 4:00 pm. With no refrigeration facilities available at the SHB, the movement of perishable commodities is risky. Transshipment is performed with minimal infrastructure: forklifts move into containers on steep inclines placed against the truck, potentially damaging to the product. An exemption from Jordan to allow refrigerated containers to cross the border would address this issue. Figure 2.14 pictures an aerial view of the cargo station at the SHB.

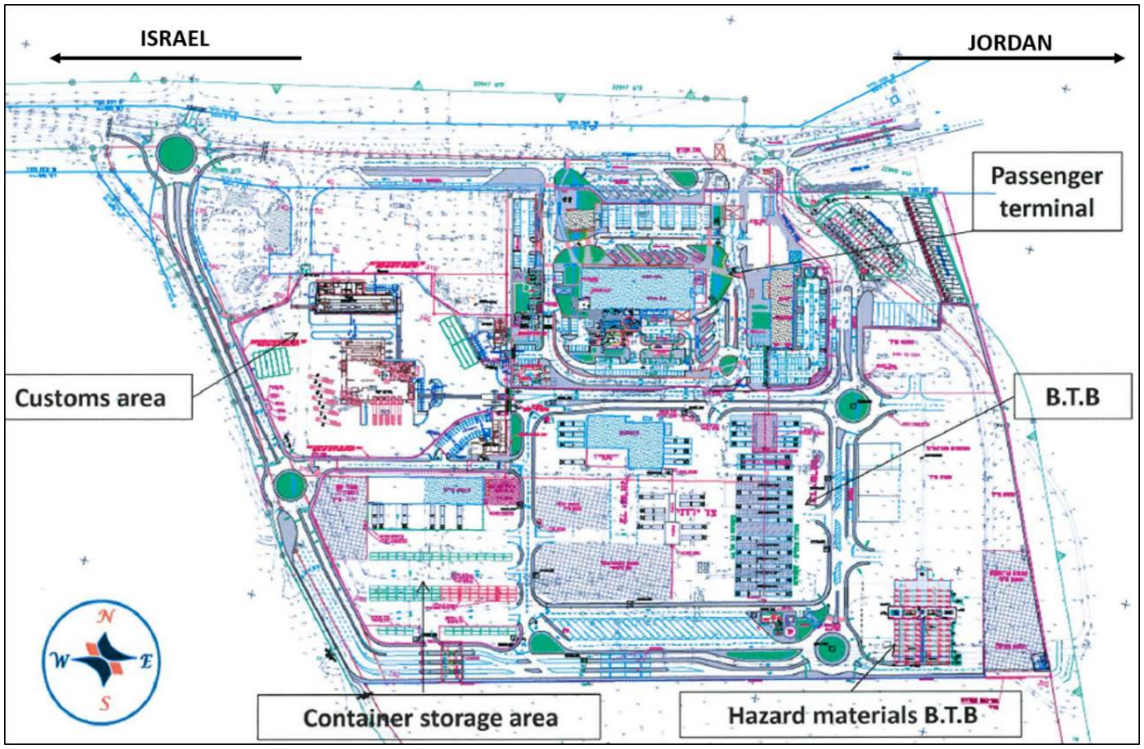
Source: Israeli Airports Authority

**Figure 2.14 Cargo Station at the Sheikh Hussein Bridge**

Proposals for Railway Development

The SHB border post was established in 1994 and is about 10 km east of the Israeli city of Beit She'an. The new rail line from Haifa terminates at Beit She'an although some containers have been moved to the border using a road shuttle offered by Israel Railways. There are also plans to extend the line to the border, although construction would be difficult since the difference in elevation is 180 m. It is estimated that the construction cost would be about ILS 2 billion (about US$570 million equivalent). There is an unconfirmed report that an Austrian engineering firm prepared a feasibility study for a new rail line from the Jordanian side of the border to Irbid; the route includes 7 km of tunnels and would extend for 52.2 km.

Planned expansion of the border facility, as depicted in Figure 2.15, will substantially increase its capacity to handle future traffic growth. The cost of this expansion is estimated at US$70 million and it will take 3-5 years to complete. One of the improvements is the doubling of capacity to scan vehicles; two vehicles could be scanned at the same time, rather than one at present. It is estimated that capacity would be doubled or tripled after the expansion program is complete.




Abbreviation: B.T.B. = back-to-back
Source: Israeli Airports Authority

**Figure 2.15 Master Plan of the Sheikh Hussein Bridge**

Movements and Operational Issues

About 8,000 containers are moved to the border annually, split approximately 50/50 by direction. Considering holidays on both sides, the total number of working days for the border for cargo are between 200 and 220 days per year. There are 5,000 additional cargo movements, so in total there are 13,000 trucks crossing. The major commodities are garments from Jordan and European fruits from Israel.

The number of tourists crossing decreased substantially after an incident at the Embassy of Israel in Amman in July 2017; current passenger volumes are one-half or less than volumes in 2015.

The closure of the Jordan/Iraq border has had a significant impact on transit traffic moving across the border. Transit traffic decreased by 30% since the Iraq border closure in 2015. About 20-30 trucks per week move across the border from Turkey as well as from other countries, including Romania and Greece, but they move only to Amman or to the Zarqa Free Zone. From there, goods may be transshipped to other vehicles for movement to Saudi Arabia or other GCC countries. The Turkish trucks no longer cross into Saudi Arabia from Jordan.

Problems at the border include the prohibition of loaded containers entering Jordan, either for transit or entry. Also, the back-to-back system causes damage and product losses, as well as resulting in additional time spent at the facility. The roadworthiness of Jordanian trucks is an issue and the stated reason for Israel not allowing these vehicles on its territory.

The back-to-back operation is done on the Israeli side only. The Jordanian trailers enter the Israeli truck handling yard, and Israeli operators handle the freight with forklifts. There are difficulties in handling refrigerated goods at the terminal since during the back-to-back cargo transfer process, fruits and vegetables may have to stay in the hot sun for many hours waiting for customs clearance.

A refrigerated storage facility at the border crossing would facilitate the movement of these commodities.

The operating hours of the border are 7:00 am to 10:00 pm, five days/week. The Jordanian side works only between 9:00 am and 4:00 pm, also five days/week. Coordinating vehicle movements during these times results in quite a short "window" when vehicles can cross, completing all necessary formalities on both sides. Communications between the Jordanian and Israeli sides is facilitated by mobile phone hotline, which provides an active communications link. The Israeli manager has not changed during the last two years, but the Jordanian manager has changed three times during this period. There are two bridges at the border – the southern one was built by Israel and the northern one was built by Jordan, with assistance from the Government of Japan. The Israeli manager mentioned that maintenance of the Jordanian Bridge has been insufficient.

### (2) King Hussein (Allenby) Bridge

General View

This critical border crossing is the only route by which Palestinian cargo can be moved to/through Jordan and is known as the King Hussein Bridge (KHB) on the Jordanian side and the Allenby Bridge on the Palestinian (West Bank) side. Israel, through the IAA, provides security and customs inspection functions at the bridge. The bridge structure and the 7.7 km approach road were built with grant aid from the Government of Japan and commenced operation in 2001.

An ILS 512 million (about US$145 million equivalent) investment is being made to improve the West Bank side. It is expected to increase the handling capacity of the facility from 8-10 vehicles per hour to 20 vehicles per hour. The arrival area on the West Bank side will be expanded to six lanes leading from the bridge to the parking area by the end of 2018; additional storage facilities as well as a larger area for unloading/loading and inspection will be constructed. A lounge will also be built for drivers while they wait for cargo to be unloaded and inspected. Finally, an aggregate conveyer belt for bulk commodities is included in the plan. The operating hours of both the KHB and the SHB for cargo are 8:00 am to 8:00 pm, Sundays through Thursdays.

There is a wide variation in reported average truck dwell time on the West Bank side. During interviews with IAA officials, it was stated that it takes about 1.5 hours for all tasks, including waiting to enter the facility. With the new scanner, this time could be reduced to about 45-60 minutes. Only imports to Palestine are subject to scanning, not exports. However, other studies as well as discussions with users indicate this time to be about 5-6 hours.

Plans for Capacity Expansion and Conveyer Belt

Significant improvements are planned for the Jordanian side of the KHB. The Government of Jordan signed a contract with the International Finance Corporation (IFC) of the World Bank Group for transaction advisory services for the development of new facilities for cargo and passengers. An area of 5 million $m^2$ has been made available for the project. The Governments of Germany and the Netherlands are financing the feasibility study for the master plan, through Jordan's Ministry of Public Works and Housing. The first phase (7 months) will formulate a master plan during which future demand for cargo and passenger flows through the facility will be forecast. A public-private partnership (PPP) transaction will be undertaken in the second phase (about 15 months), during which a transaction advisor will select a concessionaire, an agreement will be signed, and construction will commence. Involvement of JICA would be possible, but it is too early to determine in what capacity.

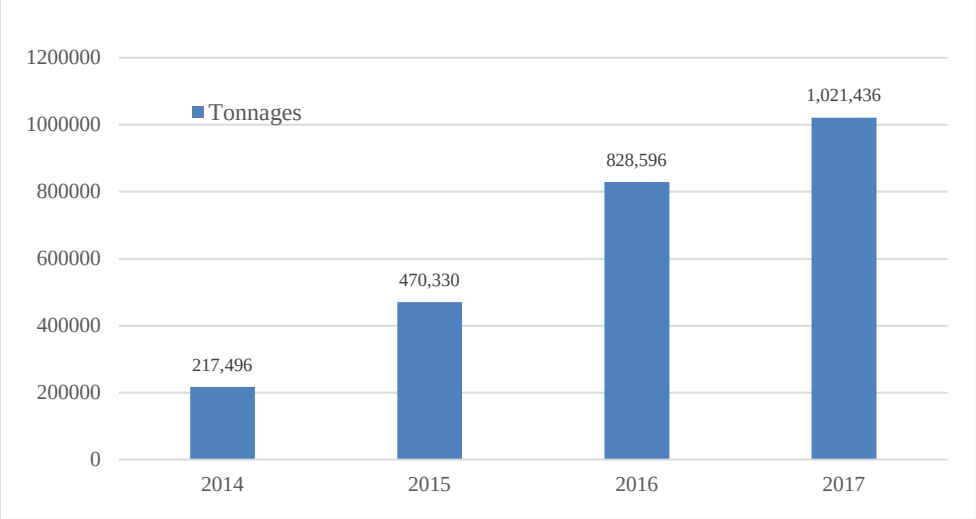
As noted, IAA plans to improve cargo throughput across the bridge with the installation of a conveyer belt for bulk materials, between the two sides of the border facility, similar to

installations at the commercial crossing at Kerem Shalom between Israel and Gaza. Since most of the 680,000 tons of imports moving across the bridge to Palestine consist of sand and aggregates, moving these materials by conveyer would significantly reduce the volume of trucks crossing the border.

Movements, Operational Issues, and Recent Upgrades

Trucks arriving from Palestine are often required to spend several hours while Israeli security checks incoming loads, requiring the unloading of each vehicle and reloading of the cargo onto a Jordanian vehicle. The same procedure is followed for loads arriving in Palestine from Jordan, except that all incoming loads are scanned.

As shown in Figure 2.16, tonnages moving across this border have been increasing steadily. Over 1 million tons were moved in 2017, with a year-on-year increase of 23% compared to 2016.




Source: Israel Airports Authority

**Figure 2.16 Tonnages Moving Across the Allenby/KHB (tons)**

The main problem at this border crossing is that, as per Israeli security practice, all goods inbound or outbound from Palestine must be transferred from one vehicle to another; i.e., "back-to-back" transfer or transshipment. This strict, time-consuming procedure has been in place since the second *intifada* between 2000 and 2005. This not only is time consuming and costly, it often causes damage to the product during this transfer process. However, recent developments have somewhat eased this situation with the installation of a Dutch-funded scanner; while the owner of the scanner is the Palestinian Authority, it is operated by the Israel Customs Administration.

Operation of this scanner officially commenced on 30 January 2018; on that date, Israeli security also announced that containers would now be accepted to move through this facility. While containers are subject to scanning, the box must be lifted off the inbound truck and placed onto the outbound vehicle. In addition, a previous limitation that no pallet could be higher than 1.6 m has been removed, since pallets of all sizes can now be scanned.

Israel's requirement that all cargo must be transferred or transshipped "back-to-back" at this border is a major constraint on growth in trade and adds to costs for shippers using the route. It was expected that improved scanning technology would reduce the burden on transporters of Israeli security checks by not requiring all cargo to be offloaded and inspected; however, this has

not yet happened. These question of where Israeli security inspections and customs procedures will be undertaken would be a matter for negotiation as part of the project to construct a dedicated road to/from the Jericho-Agro Industrial Park (JAIP); details of JAIP traffic and the issue of the dedicated road are described elsewhere in this report.

### (3) Jordan-Israel/West Bank Borders Summary

Table 2.8 presents data on the existing and historical movement of loaded trucks over the borders of Jordan with Israel and the West Bank. Technically, the Government of Jordan does not consider the KHB to be an international crossing point. While it does connect Jordan with Palestine, the Israeli military is in control of the Palestinian side; in addition, the West Bank was Jordanian territory before 1967 and it has not yet constitutionally ceded this territory.[12]

The large imbalance of trade in the direction of Palestine is clear at the KHB; however, the Jordan River Crossing (SHB) volumes are nearly equal in each direction, although this border serves the movement of cargo between Israel and Jordan. Cargo over the Yizhak Rabin crossing, also known as the Wadi Araba crossing, between Eilat and Aqaba, is insignificant, with only 784 loaded trucks moving across this border in 2016.

**Table 2.8 Truck Movement Comparisons among Jordan/Israel/ West Bank Borders**

Jordan to Israel/West Bank (loaded trucks)

| Border | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|
| KHB | 15,495 | 16,840 | 22,127 | 30,831 | 39,433 | 42,845 |
| Jordan River | 11,242 | 12,449 | 13,971 | 14,110 | 13,742 | 14,033 |
| Yitzhak Rabin (Wadi Araba) | 522 | 664 | 749 | 986 | 698 | 692 |

Israel/West Bank to Jordan (loaded trucks)

| Border | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|
| KHB | 8,230 | 8,312 | 9,556 | 9,492 | 8,572 | 10,079 |
| Jordan River | 14,312 | 17,030 | 14,892 | 17,232 | 14,010 | 8,578 |
| Yitzhak Rabin (Wadi Araba) | 262 | 159 | 118 | 110 | 86 | 88 |

Note: The figures for 2017 were annualized based on January-October data.
Source: Israel Airports Authority

Regarding tonnages crossing the KHB, IAA estimates that during 2017 a total of 1,021,436 will be moved, an increase from 828,596 during 2016. Dividing net tonnages by the number of loaded trucks during the same year results in an average load per truck of 17.2 tons. The number of loaded trucks crossing the KHB has increased substantially since 2012. The average annual rate of growth between 2012 and 2016, as well as from 2015 to 2016, was 19%. These growth rates are far greater than the average annual GDP growth rates of both Palestine and Jordan, which have been during recent years been about 3%. This high rate of growth in KHB cross-border tonnages is likely due to the increase in construction projects in Palestine and the consequent growing need for building materials.

Tonnages moving over the Yitzhak Rabin border is small, since this border is used mainly by passengers. During 2017, total freight traffic was calculated to be 8,519 tons, which represents a decrease from the 10,647 tons moved across this border in 2015.

[12] http://www.jordantimes.com/opinion/daoud-kuttab/bridging%E2%80%99-dilemma.

### 2.3.3 Borders of Jordan with Other Neighboring Countries

Jordan has six major border crossings with other neighboring countries, i.e., Saudi Arabia, Iraq, and Syria. The JICA Survey Team visited these border crossings, observed the facilities, and summarized the traffic as follows.

#### (1) Omari Border Crossing (Jordan/Saudi Arabia)

All trucks entering the Omari border crossing proceed across without the need for back-to-back transshipment. Areas for truck arrivals provide for initial inspection of the vehicles, inspection of customs documentation/drivers' passports, and selected inspection of the goods. An X-ray machine is available for scanning vehicles upon arrival at the facility.

During interviews with border officers, it was stated that another X-ray machine is needed to scan vehicles moving to Saudi Arabia. The average time for vehicles to move through all areas of the border facility was reported as about 1.5 hours. At present, no Turkish, Cypriot, or Romanian trucks move across this border. Cargo from these vehicles is offloaded at the Zarqa Free Zone and reloaded on Jordanian trucks for further movement to GCC countries.

There has been a 50% decrease in truck movements across this border crossing since closure of the border with Syria. In 2009, a total of 800 trucks per day crossed at Omari, but now only about 400 vehicles per day do so. In practice, Jordan prohibits entry of foreign empty trucks. In addition, foreign trucks with loads to Jordan can obtain backloads, but only destined to the country of registration of the vehicle. The facility was expanded in 2014 to accommodate expected traffic increases up to about 1,000 vehicles per day, but the expansion plan was prepared around 2009, based on the growth of Iraq trade from around 2006-2008. Hours of operation are 7:30 am to 1:30 pm and from 3:00 pm to 6:00 pm during winter, seven days a week. During the summer, the closing time is 7:00 pm. The same operating hours are kept on the Saudi side. For passengers, operation is 24 hours a day, seven days a week.

#### (2) Mudawara Border Crossing (Jordan/Saudi Arabia)

Passenger movements are most important at Mudawara, particularly during the times of the *Hajj* and *Umra* Islamic pilgrimages. Saudi Arabia has designated Mudawara as the only land border through which pilgrims may enter. During these peak times, the number of passengers moving across the border can be as high as 5,000 per day, or more than 80 tourist buses. Those pilgrims are not only from Jordan, but also from Egypt, detouring via Aqaba from Nuweiba (Egypt).

Cargo is less important than passengers at this border crossing, with about 100 loaded trucks per day into Jordan and 50 in the direction of Saudi Arabia. Only cargo to/from Saudi Arabia moves across this border; nearly all cargo to/from GCC countries moves through the Omari border.

Border officials receive prior information regarding incoming shipments before arrival. The border is open from 7:30 am to 1:00 pm; then again from 3:00 pm until the last truck is processed (usually around 6:00 pm). Operation is seven days a week. Passenger facilities operate 24 hours a day, seven days a week.

The main commodities moving from Jordan to Saudi Arabia include stone/building materials and cleaning materials; from Saudi Arabia, the main commodities include glass, ceramics, tea, sugar, blankets, and foodstuffs. Ma'an stone products are a major export. About 70% of vehicles originate or terminate at Amman, with the remaining 30% at the Zarqa Free Zone or in other countries.

Facilities are adequate for the amount of cargo traffic moving; there is an X-ray machine for scanning inbound trucks, as well as a gamma ray scanner, used for smaller vehicles. It takes about 15 minutes to scan each vehicle. The gamma ray scanner reportedly produces poor quality images and needs to be replaced. There is also a portable X-ray machine for scanning passengers' baggage.

The JICA Survey Study team inspected the platform for inbound freight, on which the X-ray facility was started in 2015 and completed in 2017. The quality of the visualization and the facility itself is quite good, but cleaning maintenance of the facility itself has been inadequate. Customs officers showed the team an example of detection with the X-ray visualization, showing that a driver had hidden drugs in his cabin.

Few chemical or hazardous commodities are handled at Mudawara and thus there is no need for training in dangerous goods.

Facilities that are lacking at Mudawara include sufficient space and buildings to process the large numbers of pilgrims traveling each year during the *Hajj* and *Umra* pilgrimmages. Requests for additional space have been made to the Ministry of Public Works and Housing, but with no response to date.

### (3) Durra (Dera'a) Border (Jordan/Saudi Arabia)

Durra[13] is a small border post, severely constrained for space, with the Red Sea on one side and the newly expanded Aqaba Port on the other. Originally planned to handle primarily passenger movements, it now handles considerable quantities of cargo, considering its small size and staff. The passengers are mainly Saudis living in Jordan, just south of the city of Aqaba. These persons have resident "passes" enabling them to travel freely across the border. In addition, about 80-100 trucks move across the border in both directions (50% each way). If there are no paperwork difficulties, each truck can move across the border in about 30 minutes.

The border post has one portable X-ray machine, but it is located inconveniently, at the exit gate to Jordan. Vehicles should be scanned upon arrival from Saudi Arabia, and not as they exit to Jordan. Border officers mentioned that they would like the scanner relocated, to just outside the border gate to Saudi Arabia, but still inside Jordanian territory. There is sufficient space, although this move would need the approval of the headquarters of Jordan Customs, as well as from the Government of Saudi Arabia. It was reported that images from this scanner are not good, although the team could not verify this finding during its visit. Since images from the scanner were said to be unclear, a new scanner was requested, as well as training for the scanner operator. The existing machine was installed in 2004.

The main commodities moving from Jordan to Saudi Arabia include food, clothing, plastics, industrial products, and furniture; the main commodities moving from Saudi Arabia are fruits and phosphate products. About 50% of passengers are traveling from Saudi Arabia through this border are destined to Egypt, via Aqaba to Neweiba Port in Egypt by the Arab Bridge ferry. About 300-500 passengers per day move through the facility.

### (4) Karameh Border Crossing (Jordan/Iraq)

For security reasons, the JICA Survey Team could not visit Jordan's border crossing with Iraq at Karameh.[14] This checkpoint was closed from 2015 to September 2017. Previously it handled more than 4 million tons of cargo, composed primarily of Iraqi imports from Aqaba Port, Jordanian imports, crude oil from Iraq to Jordan, and some cargo moving between Iraq and Saudi

[13] Alternatively Romanized as Dera'a.
[14] Alternatively Romanized as Karama.

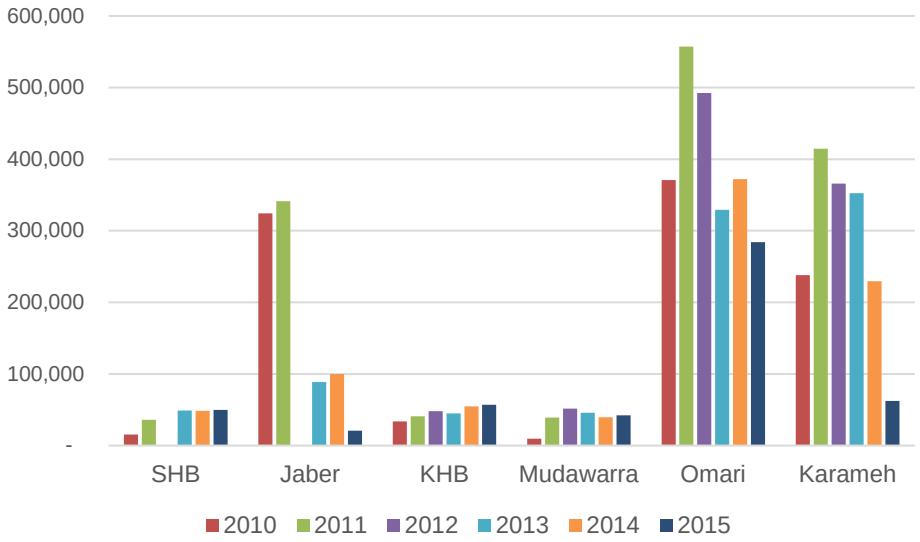
Arabia through Omari. At Karameh, most cargo is transferred back-to-back, with inadequate facilities for that purpose. Goods are offloaded and placed on the ground and then reloaded to the outbound truck. This transfer is required mainly because Jordanian drivers do not drive in Iraq; however, some cargo from Aqaba to Iraq was moved in Iraqi trucks from Aqaba, requiring no transfer at the border. In discussions with Jordan Customs and the Ministry of Public Works and Housing in Amman, the team was informed that there are power and water supply issues at this border, as well as a need for improved staff accommodation and paving of the entrance and exit areas.

### (5) Jaber Border Crossing (Jordan/Syria)

For security reasons, the JICA Survey Team could not visit the border of Jordan with Syria at Jaber, which has been closed since 2015 due to the civil war in Syria. Before the closure, Jaber was the major land border of Jordan with nearly 8 million tons crossing in 2011. It was an important not only for Syrian/Jordanian trade but also for transit traffic between Turkey/Europe and many GCC countries. In 2011, the value of Jordanian/Syrian trade was US$663 million.[15] While the border crossing remains closed, the Government of Jordan advised Jordan Customs to prepare plans for reopening of this facility when security conditions permit. A number of facilities (e.g., a backup generator, a desalinization plant) are lacking at Jaber and these issues should be addressed before or upon reopening of this border crossing.

### (6) Traffic Summary of Jordan Border Crossings

Figure 2.17 presents statistics on the numbers of loaded trucks crossing all international land border crossings of Jordan.




Note: There is no data for 2012 for Jaber and the SHB.
Source: Ministry of Transport [Jordan], *Transport Sector Annual Report 2015* [latest available as of this writing]

**Figure 2.17 Changes in Number of Loaded Trucks Crossing Jordan's Borders**

[15] United Nations International Trade Statistics (Comtrade), 2016.

**Table 2.9 Number of Loaded Trucks Crossing Jordan's Borders**

| | SHB | Jaber | KHB | Mudawara | Omari | Karameh |
|---|---|---|---|---|---|---|
| **2010** | 15,551 | 24,348 | 33,509 | 9,528 | 370,885 | 237,840 |
| **2011** | 35,797 | 341,095 | 40,679 | 39,293 | 557,304 | 414,799 |
| **2012** | - | - | 48,172 | 51,716 | 492,378 | 365,704 |
| **2013** | 48,740 | 88,686 | 45,040 | 45,676 | 328,985 | 352,361 |
| **2014** | 48,283 | 99,786 | 54,770 | 39,638 | 372,127 | 229,621 |
| **2015** | 49,856 | 20,949 | 57,121 | 42,308 | 283,936 | 62,287 |

Note: There is no data for 2012 for Jaber and the SHB.
Source: Ministry of Transport [Jordan], *Transport Sector Annual Report 2015* [latest available as of this writing]

The decrease in traffic at Jaber and Karameh is clear starting in 2013. Traffic at Omari also decreased from 2014 due to the closure of the Iraqi and Syrian borders. Details of this traffic, including future projections, are described further in this report, in Chapter 5.

### 2.3.4 Ports in Region

There are three ports in Israel and Aqaba Port in Jordan. This subsection gives a brief summary of the state of practice, expansion plans, and a comparison of these ports.[16]

#### (1) Ashdod Port

General View and Expansion of Capacity

In 2016 Ashdod Port handled about 1.4 million TEUs of containerized traffic plus 24 million tons of dry cargo. Compared with Haifa, since 2005 Ashdod increased its share of Israel's total TEUs from about 33% to 53% due to the opening of the new Eitan container terminal; it now has 15 m depth and this will be increased to 16.5 m in the future. While Ashdod Port is now a government company, it is planned to be privatized within five years, following the path of Haifa Port.

The Eitan terminal, opened in 2005, consists of two berths; pier (berth) 21 is 800 m, mainly for general cargo, bulk, roro, and passenger vessels, with plans to convert it to a container terminal; pier 23 is 600 m, with 16.5 m depth. The main container terminal is equipped with gantry cranes and can accommodate vessels of 14,000-TEU vessels (330 m in length), with plans to expand the capacity to accommodate 18,000-TEU vessels over 400 m in length. The other terminals (berths 1,3, and 5) and berths 11-13 were developed in the 1960s, as an alternative port for Tel Aviv.

Smart lanes for trucks were installed in 2010, with integration of three procedures (customs document control, measurement, and instructions to drivers), which reduced the waiting time from 2 hours to 5 minutes. About 5% is carried by rail, as there is a rail shuttle between Haifa and Ashdod.

Port expansion at Ashdod is the result of Transportation Minister Yisrael Katz's initiative. Ashdod and Haifa Ports have a new container mega port development plan, which aims to expand its TEU capacity up to 6 million by 2020, with expansion undertaken by a Dutch firm in Ashdod and a Chinese firm in Haifa.

[16] It was not possible for the JICA Survey Team to visit the Israeli port of Eilat. While this port is important for passengers, little cargo moves through this facility. There was a regulation that Eilat will receive the new car imports from Asia exclusively, but it expired in 2015 and cargo through Eilat has been decreasing. Passenger handling was exclusively in Haifa only up to 2005. Due to the Gaza conflict in 2011, numbers of passenger vessels have decreased.

Operations

A major commodity handled at Ashdod is new vehicles, mostly from Europe. In 2016 about 300,000 new vehicles were moved through the port. These vehicles can be seen taking up all available space along the quays and other areas in the port.[17] There is direct rail access in the port although it is limited to moving phosphate inbound and some containers outbound. The port expansion includes adding 2,100 m of new railway lines, improving rail access.

Ashdod Port offers real time tracking information for customers on line as well as meeting Construction Specifications Institute (CSI) standards and is Megaport compliant; also, it meets the strict standards set by the United States for ports sending goods to that country.

Palestinian Cargo

In 2016, Ashdod handled about 81,000 TEUs of imports and 1,000 TEUs of exports for Palestine. In 2017, total Palestinian cargo was expected to reach 90,000 TEUs. In 2010, the port moved away from ad valorem based port charges to rates per container, regardless of the contents' value.

### (2) Haifa Port

Haifa Port handled about 25 million tons of cargo in 2016 (10 million tons of exports and 15 million tons of imports) plus 1.2 million TEUs. A new container terminal, the Bay Port, is under construction on reclaimed land in the sea and is to be opened by January 2021. This new container terminal will be operated privately, by SIPG, in direct competition with the existing container port, operated by the government-owned Israel Ports Company. The Bay Port will operate over a quay of 800 m in length with depth of 17.3 m, increasing capacity by 1.1 million TEUs. The existing breakwater will be extended by 800 m and a new one, 2,100 m long, will be constructed.[18]

Israel Railways has seven tracks directly serving the port area, but movements of port traffic by rail is relatively small (only about 5% of the total), compared with road. Ample rail capacity is available in the port if the Haifa-Jordan railway route becomes more heavily used for this transit traffic. Haifa's container terminal operation is more efficient than Ashdod (at Aqaba), measured in terms of the average rate of container handling per hour (Haifa 30, Aqaba 26, and Ashdod 22). Haifa usually handles larger vessels than Ashdod due to its high efficiency. There is little transshipment in the port.

Following the onset of the civil war in Syria, effectively closing transit routes through that country, the ro-ro ships from Turkey began to call at Haifa on the average of 1-2 times per week. This service was initiated and arranged by Tiran Shipping in Haifa. On average, 200-250 trucks per week move from these ro-ro vessels to the Jordanian border at SHB.

Haifa Port can be divided into three parts: an old port, a container terminal, and a new container terminal (SIPG). The old port will be renovated as an exclusive passenger terminal and redesigned for tourism purposes. The truck entry control gate is now under renovation, and an intelligent gate system, Global Gate, will be installed in 2018, to integrate the processes for document checks, measurement, and delivery directions to drivers.

[17] This feature was also noted in Haifa Port. In addition, the main cargo at Eilat Port is new vehicles, since this port moves 34% of Israel's total volume of new vehicle imports; Ashdod handles 51% and Haifa 15%.

[18] In addition, a private port, Israel Shipyards Company, which competes with the government operators at Haifa and Ashdod, is located in Haifa and moves about 5% of the country's non-containerized cargo.

Palestinian Cargo

About 10,000 TEUs are moved annually to and from Palestine through Haifa port. Imports to Palestine are usually subjected to strict security procedures with most shipments subject to X-ray scanning. This procedure takes about 40 minutes per container and two containers can be scanned simultaneously. Regarding storage costs, Haifa allows six free days without charge, compared with only four days at most Israeli ports. Most containers destined for Palestine move through the port is less than six days.

### (3) Aqaba Port and Industrial Zone

In 2016 a total of 16.8 million tons of cargo was handled at Aqaba Port, plus 792,841 TEUs. Among the cargo, imports amounted 12.2 million tons and exports 4.5 million tons. Due to regional insecurity and border closures, these amounts have decreased significantly since 2012, when 19.3 million tons and 817,434 TEUs were moved.

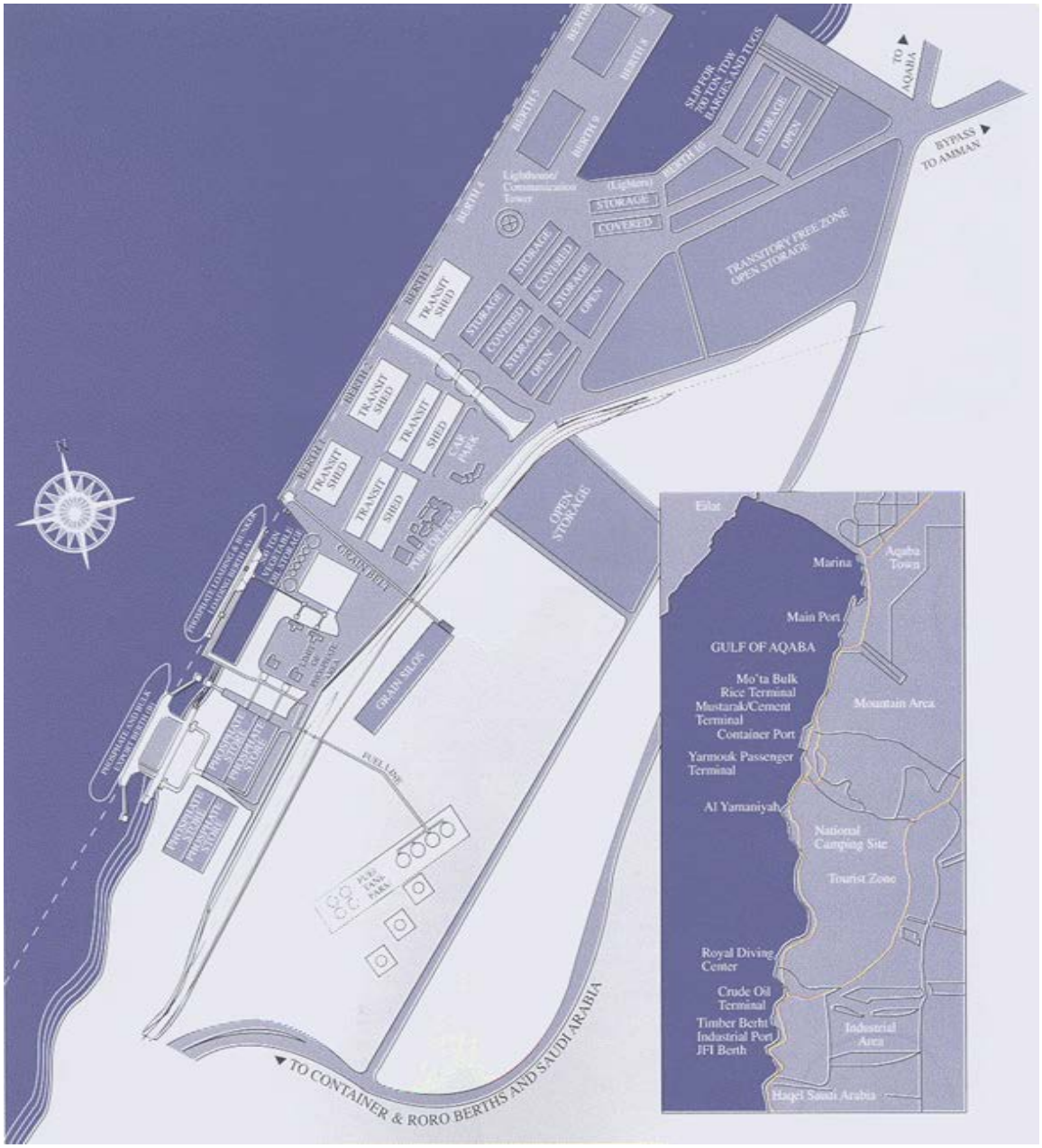
**Table 2.10 Number of Loaded Trucks Crossing Jordan's Borders**

| Imports | Volume | Exports | Volume |
|---|---|---|---|
| Liquid bulk | 5,271,284 | Dry bulk | 3,906,097 |
| Gas | 340,423 | Fertilizer | 1,216,824 |
| Ammonia | 133,381 | Potash | 1,179,060 |
| Mineral Oil | 20,081 | Phosphate | 1,492,893 |
| Vegetable Oil | 3,339 | Other | 17,320 |
| Other | 4,774,060 | General cargo | 641,463 |
| Cereals | 3,226,769 | | |
| Grain | 2,921,897 | | |
| Other | 304,872 | | |
| Iron and Steel | 961,599 | | |
| Timber | 26,475 | | |
| Construction materials | 2,312 | | |
| Miscellaneous | 2,730,062 | | |
| Vehicles | 551,512 | | |
| Sulphur | 840,022 | | |
| Frozen foods | 104,850 | | |
| Sugar | 106,350 | | |
| Other | 1,127,328 | | |
| Total | 12,218,501 | Total | 4,547,560 |

Source: Aqaba Development Corporation

In 2001 a master plan for Aqaba City was formulated according to which the existing main port land use has been altered to promote tourism and allow for expansion of the city center. This plan required the relocation of all port operations to the far southern area.

Starting in 2006, the port is being relocated from the city's center to the south, due to a deeper water level there and to release valuable property adjacent to the growing city center. Some parts of the port are to be located near the southernmost part of the province near the Saudi Arabian border. Capacity will be increased, and the project is expected to cost US$250 million. Figure 2.18 presents the Aqaba Port master plan.




Source: Aqaba Development Corporation

**Figure 2.18 Aqaba Port Master Plan**

There are three phases in the relocation of the port: Phase 1 includes four berths, while two additional berths have been planned for Phase 2 and another two additional berths have been planned for Phase 3, which will bring the total number of berths to eight. In order to ensure the most effective implementation of construction, Aqaba Development Corporation (ADC) divided the works into three specialized packages and one sub-package, enabling ensuring parallel execution of the works by specialized contractors to reduce overall costs. The packages are:

• Package 1: Marine Works (Phase 1) handed over to ADC;
• Package 1A: Earth Works handed over to ADC;
• Package 2: Grain Terminal (under construction, 93% completed); and
• Package 3: Infrastructure, buildings, yards and sheds (under construction, 85% completed).[19]

While the relocation of the port will increase capacity, it will cause some problems for some port users, in particular, for the users of the phosphate terminal. This terminal is now served directly by rail, with about 1.3 million tons of phosphate moved annually from the mine at Al-Shidiya. When this terminal is relocated to the south, there will no longer be rail access. There is an ongoing debate regarding the optimal alignment for the rail to serve the new port; if the port is moved before rail access is provided, all phosphate will be moved by road, at higher costs.

ADC in association with the Ministry of Industry, Trade and Supply as well as Jordan Silos and Supply General Company is expanding the grain terminal by adding new storage silos with a capacity of 100,000 tons, which will increase the overall terminal capacity to 200,000 tons; it is also upgrading the truck loading bays and handling system.

Expansion of the oil terminal in the Southern Industrial Zone will increase annual receiving capacity from 50 million barrels to 150 million barrels. In 2016, a total of 2,534 ships called at Aqaba Port, carrying 16,766,061 tons, composed of 12,218,501 tons of imports and 4,547,460 tons of exports. In addition, 792,841 containers were handled plus 1,333,795 tons of phosphate. Container port expansion plans call for increasing capacity up to 1.1 million TEUs.

Aqaba Container Terminal is situated on the northern shore of the Gulf of Aqaba, at the southern end of Jordan. The terminal has adequate facilities to accommodate large vessels of up to 18 m draft and a maximum length of 540 m. There are three berths 540 m in length with 15 m draft, receiving vessels up to 84,000 dwt. Also, the terminal has three gantry cranes of 40-45 tons and a 500 $m^2$ storage yard. Table 2.10 summarizes the storage capacity of Aqaba Container Terminal.

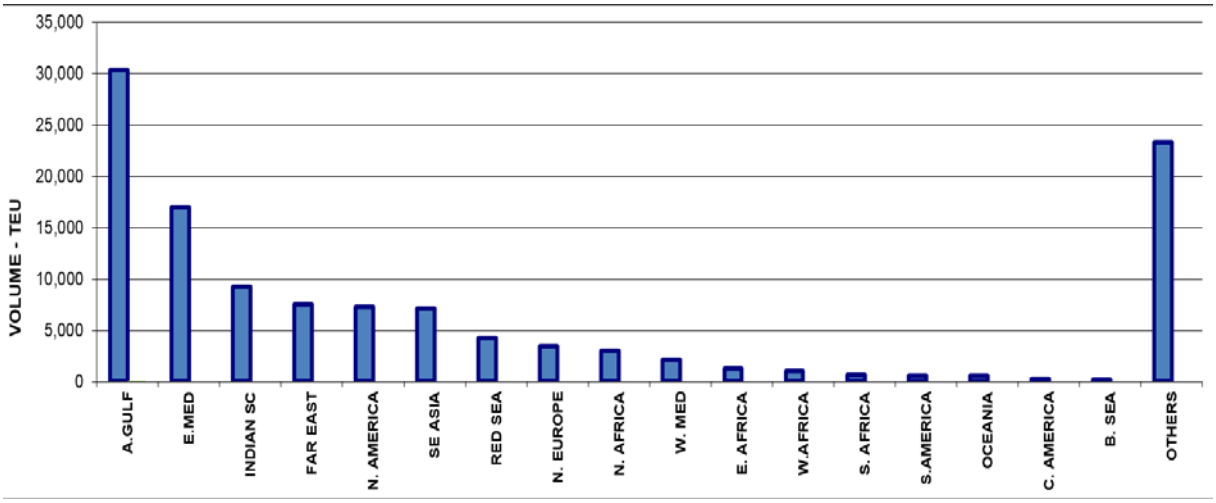
**Table 2.11 Storage Capacity of Aqaba Container Terminal**

| Commodity | Storage | Commodity | Storage |
|---|---|---|---|
| Grain | 15,000 mt | Covered storage | 41,200 mt |
| Rice | 55,000 mt | Refrigerated | 500 mt |
| Closed storage | 62,000 $m^2$ | Cement | 30,000 mt |
| Open storage | 240,000 $m^2$ | Phosphate | 310,000 mt |
| Potash | 150,000 mt | | |

Source: Logistics Capacity Assessment of Jordan Logistics Infrastructure, Jordan Port of Aqaba, downloaded from http://dlca.logcluster.org/display/public/DLCA/2.1+Jordan+Port+of+Aqaba;jsessionid=AB9E02E4032A0A96793B5226AA45F979

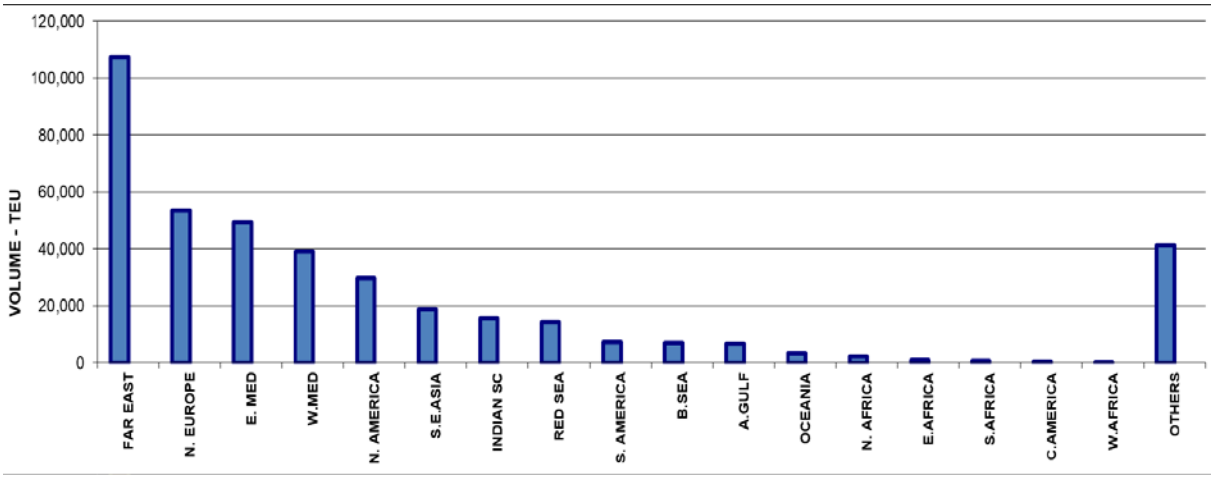
Figure 2.19 and Figure 2.20 show Aqaba export containers by destination and import containers by country of origin for 2016. Table 2.11 presents discharge rates at Aqaba Port.

[19] http://www.adc.jo/Public/English.aspx?Lang=&Site_ID=1&Page_ID=2579&Menu_ID=27&M_ID=&M_Title=&T=1.




Source: Aqaba Container Terminal Export Statistics, 2016

**Figure 2.19 Aqaba Export Containers by Destination, 2016**




Source: Aqaba Container Terminal Import Statistics, 2016

**Figure 2.20 Aqaba Import Containers by Origin, 2016**

**Table 2.12 Discharge Rates at Aqaba Port**

| Commodity | Discharge Rate | Commodity | Discharge Rate |
|---|---|---|---|
| Bagged cargo | 6,000 tons/day | Timber | 2,300 tons/day |
| Paper | 1,500 tons/day | Refrigerated | 300 tons/day |
| Steel billets | 3,500 tons/day | Livestock | 15,000 head/day |
| Phosphate | 50,000 tons/day | Grains | 12,000 tons/day |
| Rice | 6,000 tons/day | Vehicles | 3,000 cars/day |
| Cement | 5,000 tons/day | Oil | 18,000 tons/day |
| General Cargo | 1,000 tons/day | | |

Source: Logistics Capacity Assessment of Jordan Logistics Infrastructure, Jordan Port of Aqaba, downloaded from http://dlca.logcluster.org/display/public/DLCA/2.1+Jordan+Port+of+Aqaba;jsessionid=AB9E02E4032A0A96793B5226AA45F979

### (4) Comparison of Ports

Table 2.12 compares port cargo throughput at Ashdod, Haifa, and Aqaba in 2016.

**Table 2.13 Comparison of Ashdod, Haifa, and Aqaba (2016)**

| Port | Dry Cargo (million tons) | TEUs (million) |
|---|---|---|
| Aqaba | 16.8 | 0.793 |
| Haifa | 25.0 | 1.2 |
| Ashdod | 24.0 | 1.4 |

Sources: (i) JICA Survey Team visit to Ashdod and Haifa, November 2017; (ii) Jordan Shipping Association; and (iii) Aqaba Port Statistics, 1990-2016

While data for all of 2017 was not available for Aqaba, total dry cargo moved through Haifa Port in 2017 was 29.25 million tons plus 1.34 million TEUs, while for Ashdod it was 23.6 million tons of dry cargo plus 1.53 million TEUs.

Of the three ports, Ashdod is the most important for Palestinian imports and exports, since it is closer to most of Palestinian territory than is Haifa. A disadvantage of using either Israeli port for Palestinian cargo is the need for back-to-back transfers (transshipment) at commercial crossings in addition to the long, uncertain waiting times in the port to clear customs and security inspections, which results in increased costs for storage and uncertain delivery schedules.

Aqaba is not now used for Palestinian products, mainly due to the uncertainty of transport times and the requirement of back-to-back transfers of cargo at the Allenby / King Hussein Bridge. Aqaba is also much farther than Ashdod for Palestinian cargo movements; it is about 332 km from the KHB to Aqaba, while Ashdod is only about 75 km from Ramallah.

Aqaba is considered by many Jordanian shippers to be a "high cost port" with higher port charges compared with, for example, Saudi ports.[20] This is primarily due to low energy costs in Saudi Arabia and the fact that Jordan has, in line with World Trade Organization (WTO) requirements, removed subsidies.[21]

### 2.3.5 Airports in Region

There are two major logistics airports in the region: Queen Alia International Airport (QAIA) in Jordan and Ben Gurion Airport in Israel. This subsection gives a brief summary of the state of practice, capacity and operations, and a comparison of these airports.

#### (1) Queen Alia International Airport

Queen Alia International Airport (QAIA) is Jordan's main airport located about 30 km south of Amman. A new terminal was inaugurated in March 2013 to replace the airport's older two passenger terminals and one cargo terminal. The three original terminals were made obsolete once the new terminal officially began operations. During 2018 a total of 7.9 million passengers were handled at this facility. There are two parallel runways, each 3,660 meters in length. As QAIA's annual passenger handling capacity is reported to be about 8 million passengers some air services may be transferred to the smaller Marka Airport, located in the downtown area of Amman.

A total of 55,708 tons of export cargo, 32,372 tons of import and 5,657 tons of transit cargo were handled at QAIA during 2016. Major imports by air consist of food, frozen meats, clothing, medical equipment and appliances. Exports are primarily fruits and vegetables. Royal Jordan

[20] Interview with the Ministry of Industry, Trade and Supply, 11 February 2018.
[21] Many of Jordan's neighbors have subsidies that favor exports from their countries, placing Jordan at a disadvantage regarding trade.

alone serves 41 destinations world-wide with additional points served through other air carriers. Cargo handling capacity is 80,000 tons with available warehouse space of 17,000 $m^2$.

### (2) Ben Gurion Airport

Ben Gurion Airport in Tel Aviv is the main international airport of Israel and the busiest airport in the country, located 19 km to the southeast of Tel Aviv. There are three main runways, 2,772, 4,062 and 3,112 meters in length, respectively. During 2017 a total of 20.78 million passengers were handled through this facility. Security procedures at Ben Gurion are considered to be some of the most strict in the world, for air cargo, passengers and their belongings. One of the restrictions at Ben Gurion is that any cargo originating in Palestine cannot be handled on passenger aircraft; only on all-cargo aircraft.

A total of 17 million passengers were handled at the airport during 2016 along with nearly 300,000 tons of air cargo. Expansion in passenger operations has been the result of the recently – initiated "open skies" policy, where previous restrictions on foreign aircraft have been largely removed, increasing competition. However, statistics show that air cargo has been decreasing, falling from 340,000 tons in 2007 to 281,500 in 2012. Most of this decrease can be attributed to strong competition and low sea freight rates, especially for agricultural products[22].

There are eight all-cargo air companies serving Ben Gurion with mostly North American, European and Far East destinations. Main commodities include pharmaceuticals, technology equipment and perishables. Facilities include four 747 cargo docks, bonded warehouses, air conditioned and freezer storage available as well as facilities for handling dangerous cargo and quarantine.

### (3) Comparison of Airports

Comparing QAIA and Ben Gurion airports, Ben Gurion has an advantage of a wider selection of flights and generally higher quality of air cargo facilities than QAIA. However, for Palestinian cargo, Ben Gurion is somewhat restrictive, in that any Palestinian cargo must be carried on cargo-only aircraft; there is no such restriction at QAIA. Disadvantages of QAIA for Palestine include the longer distance[23] as well as the uncertainty of transit times through KHB. Delays to shipments while crossing the border can result in missed flight connections and costly delays and storage costs. Even with the difficulties crossing the border, QAIA is generally preferred by Palestinian shippers.

### (4) Other

The JICA Survey Team also visited the following airports, primarily serving as civil and military airports.

Marka Airport

Marka airport is located near the center of Amman. While no commercial air services are operated, Marka has limited operations for military aircraft, private flights, humanitarian aid flights and training. Since 2007, Marka Airport (Jordan Airports Company), Queen Alia International Airport (Airport International Group), and King Hussein airport (Aqaba Airports Company) in Aqaba, are managed by private consortia over a 25-year period. Marka has a 3,200-meter runway, 45 meters wide; it is a Category C facility. A category C facility can, in theory, accommodate aircraft up to B 757 200[24]. However, there is a limitation at Marka regarding the separation between the main

[22] https://aircargoworld.com/allposts/israeli-flag-carrier-caught-in-cargo-slump-7006/
[23] Ben Gurion is less than 50 km from Ramallah while QAIA is about 90 km from Ramallah
[24] http://www.airfieldcharts.com/airportcategorisation.htm

runway and taxiway. The space will not accommodate simultaneous operation of larger aircraft on both the runway and taxiway at the same time, due to lack of sufficient wingtip clearance.

The role of Marka Airport may be changing in the near future as the passenger handling at QAIA is projected to reach 8 million passengers by the end of 2017. After that (stage 1), a new terminal will be planned and constructed as annual passengers approach 12 million. By the end of 2018, Marka Airport will be considered to take a larger role in handling domestic and regional air traffic in Jordan. While not confirmed during the study team's interviews, Marka's commercial operations may be limited to low cost carriers, and Royal Jordan's domestic services will remain at QAIA.

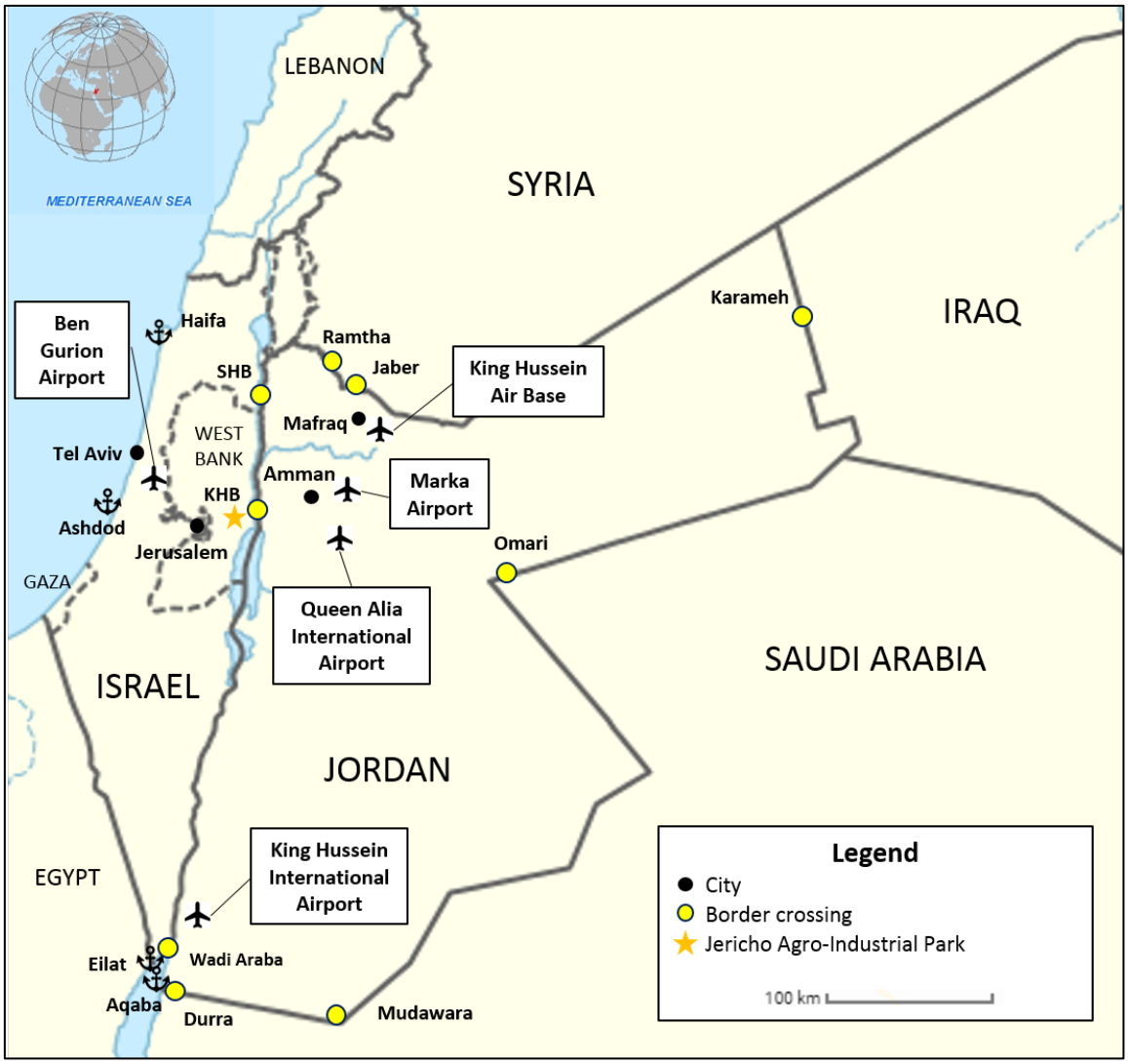
However, before commercial air services commence at Marka, a certification procedure must be undertaken to ensure that certain safety issues are strictly observed. Many of the facilities for scanning of cargo and passengers do not meet international standards and are in need of replacement. In addition, at QAIA, TSA-compliant cargo scanners need to be installed. At the present time, standards of such scanning equipment meet European standards, but not those of USA; hence the need for TSA-compliant equipment

King Hussein International Airport

King Hussein International Airport in Aqaba has a single 28,000 sq ft (2,600 $m^2$) terminal building with one departure gate and one baggage carousel, though the building is being extended. Length of the runway is 3,000 meters and capacity of the terminal at present is 1.5 million passengers a year. Annual passenger handled are just over 100,000. With twice-daily flights to Amman, the airport also handles many international charter flights for tourists to the Red Sea area.

King Hussein Air Base

King Hussein Air Base at Mafraq is one of the country's military airports, with a 3,000-meter runway, it is used primarily for pilot training; and air college is also located on the premises. Current plans are to convert this airport to a dual-use facility, serving the nearby Mafraq Development Zone (see section 3.1.3).




Source: Wikimedia commons, JICA Survey Team

**Figure 2.21 Airports in the Region**

## 2.4 Major Origins and Destination in the Region

### 2.4.1 Phosphate Movements

Jordan's phosphate production has been concentrated in three locations: Al Shidiya, Al-Hasa, and Al-Abyad. However, after 2011 rail transport of phosphate from Al-Abyad ceased. The Aqaba Railway Corporation serves both remaining mines, although rail transport is concentrated at Al Shidya with 1.149 million tons transported in 2015, with about 188,000 tons from Al-Hasa. However, Al Shidiya is not served directly by rail since the railhead is about 20 km from the mine, requiring road haul and transshipment to the rail line. Phosphate moved by road totaled 4.57 million tons in 2015, including 2.0 million tons from Al-Abyad, 0.8 million tons from Al-Hasa, and 1.8 million tons from Al-Shidiya. Jordan Phosphate Mines indicated that production at the Al-Abyad and Al-Hasa mines is expected to be shut down within five years since the reserves are quite small.

Table 2.13 summarizes phosphate transport by mode. As can be seen, only about 20% of phosphate transported was moved by rail in 2015, down slightly from 28% in 2012. In 2016 a

total of 1.33 million tons were moved by rail out of total output from all mines of 7.8 million tons, or about 16% of total output.

**Table 2.14 Phosphate Transport by Mode, 2012-2015 (millions of tons)**

| | 2012 | | 2013 | | 2014 | | 2015 | |
|---|---|---|---|---|---|---|---|---|
| Mine Location | Rail | Road | Rail | Road | Rail | Road | Rail | Road |
| Al-Shidiya | 1.36 | 2.23 | 0.93 | 1.76 | 1.31 | 2.22 | 1.15 | 1.76 |
| Al-Abyad | - | 1.10 | - | 1.01 | - | 1.15 | - | 1.99 |
| Al-Hasa | 0.17 | 0.58 | .061 | 0.67 | 0.05 | 0.91 | 0.19 | 0.81 |
| Total | 1.53 | 3.91 | 0.99 | 3.44 | 1.35 | 4.28 | 1.34 | 4.6 |

Source: Ministry of Transport [Jordan], *Transport Sector Annual Report 2015* [latest available as of this writing]

### 2.4.2 Potash Movements

Used mainly for the production of fertilizer, Jordan's potash production is concentrated at it four plants located at the southern end of the Dead Sea. In 2016 a total of 2.003 million tons were produced, with about 85% destined for overseas markets and the remainder used domestically. Export potash is transported by truck about 150 km to Aqaba, while potash for domestic use is transported to Gawr-as-Safi, located close to the point of production. Primary export markets include China, India, Indonesia, and Malaysia. Due to the lowest potash prices over the past decade, production declined in 2015 from its earlier peak of 2.4 million tons.[25]

Arab Potash is investigating several alternatives to road transport, including a new rail line to Aqaba as well as a conveyer belt to a station on the existing narrow-gauge railway, which carries a portion of Jordan's phosphate production. Chapter 3 provides a more complete description of these options.

### 2.4.3 Oil Movements in Jordan

All crude oil and refined oil products are sourced from Saudi Arabia and shipped to Aqaba Port from Yanbu Port. In 2016, Jordan imported 2.972 million tons of crude oil compared with 3.46 million tons in the previous year. Similarly, imports of petroleum products decreased by 40% from 2015 and production of products at the Zarqa refinery decreased by 13%. Table 2.14 and Table 2.11 present details of each type of petroleum product imported and produced, respectively, from 2014 to 2016.

**Table 2.15 Tonnages of Imported Fuel Products, 2014-2016 (tons)**

| Imported Products | 2014 | 2015 | 2016 |
|---|---|---|---|
| LPG | 283,421 | 322,874 | 339,037 |
| Diesel | 2,328,411 | 1,165,834 | 628,293 |
| Fuel Oil | 1,232,077 | 883,074 | 0 |
| Gasoline | 520,009 | 691,476 | 848,780 |
| Avgas | 870 | 1,086 | 1,103 |
| Jet Fuel | 24,936 | 57,704 | 64,234 |
| MTE | 77,892 | 103,409 | 67,875 |
| Total | 4,467,616 | 3,225,457 | 1,949,322 |

Source: Jordan Petroleum Refinery Company

[25] *Arab Potash Annual Report*, 2016

**Table 2.16 Tonnages of Production of Fuel Products, 2014-2016 (tons)**

| Production | 2014 | 2015 | 2016 |
|---|---|---|---|
| LPG | 90,660 | 80,426 | 81,464 |
| Gasoline | 634,413 | 653,052 | 583,048 |
| Aviation Fuel | 317,688 | 256,685 | 286,969 |
| Kerosene | 62,522 | 90,555 | 96,572 |
| Diesel | 930,475 | 1,058,065 | 908,547 |
| Fuel Oil | 811,738 | 885,189 | 598,600 |
| Asphalt | 159,653 | 183,150 | 232,105 |
| White Spirit | | 2,491 | 1,083 |
| Sulfur | | 2,288 | 4,940 |
| Total | 3,007,149 | 3,211,901 | 2,793,328 |

Source: Jordan Petroleum Refinery Company

There are 50 companies currently contracted to move crude oil to Zarqa and refined products to major centers of the country, Transport costs per truck to Zarqa from Aqaba range are JOD 16-17 per ton. With each truck carrying about 40 tons, the cost for the 350-km trip is about JOD 680 or about US$960, i.e., US$2.74 per km.

### 2.4.4 JAIP Cargo Flows

Stage I of JAIP is nearly complete with Stages II and III to follow during the next five years. A study of the industries already established as well as those that intend to become tenants during the next two stages of JAIP development was conducted by PADECO in March 2017. Table 2.16 presents estimates of annual cargo volumes to be generated from JAIP in the coming years.

**Table 2.17 JAIP Traffic Forecasts**

| Year | Number of trucks (20-ton trucks) | | | | Trucks per day | Annual tons |
|---|---|---|---|---|---|---|
| | Stage I | Stage II | Stage III | Total | | |
| 2017 | 4,500 | - | - | 4,500 | 15 | 90,000 |
| 2018 | 12,000 | - | - | 12,000 | 40 | 240,000 |
| 2019 | 13,200 | 6,600 | - | 19,800 | 66 | 396,000 |
| 2020 | 13,200 | 23,100 | - | 36,300 | 121 | 726,000 |
| 2021 | 13,200 | 46,200 | - | 59,400 | 198 | 1,188,000 |
| 2022 | 13,200 | 59,200 | 6,600 | 79,000 | 263 | 1,580,000 |
| 2023 | 13,200 | 66,000 | 22,100 | 101,300 | 338 | 2,026,000 |
| 2024 | 13,200 | 66,000 | 46,200 | 125,400 | 418 | 2,508,000 |
| 2025 | 13,200 | 66,000 | 59,400 | 138,600 | 462 | 2,772,000 |
| 2026 | 13,200 | 66,000 | 66,000 | 145,200 | 484 | 2,904,000 |

Source: JICA (PADECO) Consultant Team for JAIP

While the timing of the completion of each stage is uncertain, for the purposes of traffic forecasting it was assumed that Stage 1 is now complete, Stage 2 will be completed by 2019, and Stage 3 will be completed by 2022. Distribution of this output cannot be estimated with any certainty at present but based on the JICA Survey Team's interviews with several current tenants, some rough projections were be made. A substantial market for some tenants is the domestic market within Palestine, due to the ease of distribution as well as company restrictions[26] that in some cases restrict distribution to Israel. A few companies now export their products and several others are interested and already investigating procedures for distribution to Jordan. However, there were only eight companies at JAIP during the survey team's interviews. For the purpose of

[26] For example, Nestlé in Ramallah cannot market their products in Israel since there is a Nestlé company in that country.

distributing these projected tonnages by route in the future, the forecasts shown in Table 2.17 were used.

**Table 2.18 JAIP Export/Import Traffic Forecasts per Origin/Destination**

| Year | Total | Projected tonnages by route (% of distribution) | | | |
|---|---|---|---|---|---|
| | | KHB | Palestine | Israel | Ashdod |
| | | 10% | 60% | 10% | 20% |
| 2019 | 396,000 | 39,600 | 237,600 | 39,600 | 79,200 |
| 2022 | 1,580,000 | 158,000 | 948,000 | 158,000 | 316,000 |
| 2025 | 2,772,000 | 277,200 | 1,663,200 | 277,200 | 554,400 |

Source JICA Survey Team

This additional traffic from JAIP was added to the traffic forecast summary for each route.

### 2.4.5 Sand and Aggregates from Jordan

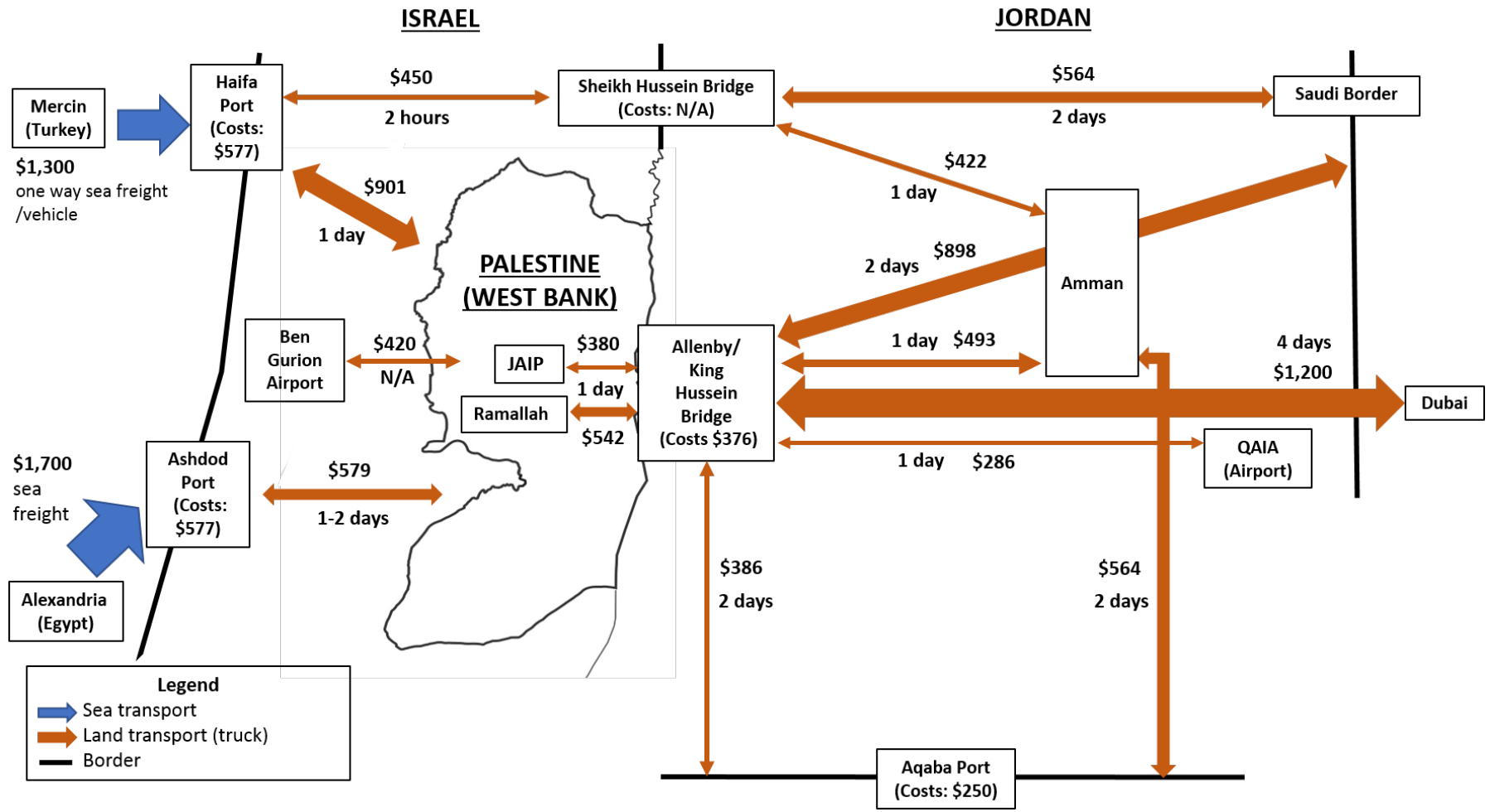
The market for sand and aggregates for the construction industry in Palestine is about 3 million tons annually. About 85% of this demand is sourced from Israel, 13% from Jordan, and the remaining 2% from Palestinian sources. These amounts equate to about 400,000 tons from Jordan; based on the team's estimates of total imports to Palestine across the KHB of 680,000 tons, sand and aggregates account for almost 60% of the total. The local-sourced material (from Palestine) is small mainly because of difficulties in obtaining licenses to mine the material since the sources are in Area C, which as per the Paris Protocol is administered by Israel.

## 2.5 Logistics Costs by Major Route

The JICA Survey Team developed transport and logistics costs for each major transport route based on discussions with logistics companies, transporters, and government agencies. The following diagrams and table (Figure 2.22, Table 2.18, and Table 2.19) summarize the various costs and routes by land and sea carriers.[27]

Based on these costs, comparisons were made for alternative routes for Palestinian cargo flows to overseas destinations, which are shown in Figure 2.20. Routings via Haifa and Ashdod are higher cost to Singapore and Shanghai than via Aqaba; costs for routes to Northern Europe and New York are similar for both routes. Aqaba routes are not used now primarily because of the difficulties in crossing the KHB. In addition, Israeli ports are most often used as working relationships have been established with Israeli transport companies that serve these ports. However, there are many complaints about the long delays at the commercial crossings as well as at the ports of Ashdod and Haifa. But, primarily, it is the unreliability of movement through KHB that makes the route to Aqaba not a reasonable option. Cargo shipments to QAIA, as well as passengers, moving through KHB requires an additional one or two days in Jordan so as to ensure to be at QAIA in time for flights. If these issues with the KHB could be resolved, there is considerable potential for an increase in Palestinian trade via Aqaba.

[27] Land transport costs were from Jordanian and Palestinian forwarders, while sea freight costs were from Jordanian and Israeli freight forwarders except that Haifa sea freight costs were based on information in www.searates.com.




Note: Costs are shown per truck.
Source: Discussions with Israeli and Jordanian forwarders, in addition to Palestinian shippers.

**Figure 2.22 Transport and Logistics Cost by Trade Route**

**Table 2.19 Sea Freight Cost by Trade Route (US$)**

| Origin | Destination | Shipping Duration (days) | Shipping Cost (US$) | Terminal Handling Cost |
|---|---|---|---|---|
| Aqaba Port | North Europe | 17 | 1,133 | US$250 is added to shipping cost |
| | New York | 43 | 2,676 | |
| | Singapore | 30 | 483 | |
| | Shanghai | 42 | 335 | |
| Haifa / Ashdod Port | North Europe | 19 | 1,100 | US$577 is added to shipping cost |
| | New York | 52 | 2,200 | |
| | Singapore | 25 | 1,100 | |
| | Shanghai | 30 | 800 | |

Source: JICA Survey Team

**Table 2.20 Transport Cost Comparisons in Palestine by Trade Route (US$)**

| Trade Route (Origin – Destination) | Route (Via) | Origin location (JAIP or other parts of Ramallah) | Cost 1: Transport cost (to KHB/ Ashdod) | Cost 2: KHB costs | Cost 3: Transport cost (KHB-Aqaba) | Cost 4: Terminal handling cost, customs at Port | Cost 5: Sea freight cost (to the destination) | Total cost |
|---|---|---|---|---|---|---|---|---|
| Palestine - Singapore | KHB | JAIP | 380 | 376 | 282 | 250 | 483 | 1,771 |
| | | Other | 542 | 376 | 282 | 250 | 483 | 1,933 |
| | Ashdod | Other | 579 | - | - | 577 | 1,100 | 2,256 |
| Palestine - Shanghai | KHB | JAIP | 380 | 376 | 282 | 250 | 335 | 1,623 |
| | | Other | 542 | 376 | 282 | 250 | 335 | 1,785 |
| | Ashdod | Other | 579 | - | - | 577 | 800 | 1,956 |
| Palestine – New York | KHB | JAIP | 380 | 376 | 282 | 250 | 2,676 | 3,964 |
| | | Other | 542 | 376 | 282 | 250 | 2,676 | 4,126 |
| | Ashdod | Other | 579 | - | - | 577 | 2,200 | 3,356 |
| Palestine – North Europe | KHB | JAIP | 380 | 376 | 282 | 250 | 1,133 | 2,421 |
| | | Other | 542 | 376 | 282 | 250 | 1,133 | 2,583 |
| | Ashdod | Other | 579 | - | - | 601 | 1,100 | 2,280 |

Source: JICA Survey Team

## 2.6 Costs of Back-to-Back Transfer

The back-to-back transfer of cargo (transshipment) required by Israeli security is costly for transport users and also results in delays and uncertain transit times. Based on discussions with transport users in the region, the JICA Survey Team estimated the cost of this procedure and how it affects regional transport costs.

To estimate the real cost of these inconvenience factors, the team met with several freight forwarders in the region and asked about their perception of the cost of back-to-back transshipment, both direct costs as well as indirect costs in terms of shipment delays, reduced utilization of vehicles, and potential damage to product. One of the companies estimated the additional costs to range between US$300 and US$350 per container, plus 5% of the value of product. Based on discussions with several transporters in the region, since the figure of about 1% of product value is “normal” damage, the net improvement in damage percentage may be considered to be about 4%. Taking the midpoint of the additional costs (US$325) expressed per net ton (assuming 11 tons per TEU) gives about US$30 per ton. The average value of the non-Israeli foreign trade of Palestine was found to be about US$1,100 per ton and using the 4% reduction in damages to an average of 11 tons per TEU results in a savings of US$484 per TEU.

While these are only rough estimates and will vary by customer and route, they indicate the significant cost to users of the back-to-back loading system imposed by Israeli security.[28]

[28] The cost of transshipment was therefore estimated as 44%. A similar result (35%) was reported in Office of the Quartet, *Report on the Activities of the Office, January 2016-June 2017*, 19 July 2017, p. 9 ["Door to door movement of cargo has the potential to reduce Palestinian traders' transportation costs by approximately 35 percent compared to the current costs incurred when moving goods from their factories in the West Bank to locations in Israel or the Israeli international gateways."]

# 3. Review of Current Studies and Proposals for Logistics Development

## 3.1 Current Studies, Master Plans, and Development Plans – Jordan

### 3.1.1 Jordan's Master Plans

#### (1) Jordan Long Term National Transport Strategy and Action Plan (2012)[1]

In the past, Jordan has invested heavily in expanding its road sector, which serves as the backbone of the national transport system, as well as improving urban transport, the logistics industry, and international connections. Transport demand, both of passengers and freight, has been rapidly in line with the growing population and development of the country and region. This growth has been concentrated along key corridors and close to main urban areas. As a result, road transport is affected by delays and unreliability, particularly along the heavily used Amman-Aqaba corridor. Table 3.1 summarizes key points of the Long Term National Transport Strategy.

**Table 3.1 Overview of Jordan Long Term National Transport Strategy**

| Priorities | Description |
|---|---|
| Multimodal approach | A multimodal approach is needed, whereby each mode contributes to the achievement of the final goal of a transport system that supports the economy and the people of Jordan. Multimodality requires coordination between/among different modes, and cooperation between the country's different transport authorities. |
| Railway development | The plan calls for development of a railway backbone for the country linking Aqaba with the border with Syria, including an integrated system of interconnections between the port, main logistics centers, and international border crossings. In addition, the completion of a railway and pipeline project, to link the Zarqa refinery with Iraq, will free up capacity on the road network by reducing the number of long-distance trucks and minimize the need to invest in the road sector so that available funds can be allocated to make the best use of the existing road system. |
| Pricing policy | A pricing policy for road users is to be introduced that will increase the funding capacity for roads, which will be attractive to private investors. Also, the road pricing policy will increase the attractiveness of the railway system, by increasing the cost of road use. |
| Modernization of the truck fleet | The aging truck fleet needs to be modernized by purchasing older trucks for re-export or sale for scrap and by imposing registration fees that increase based on vehicle age. |
| Road maintenance | Increased importance will be given to maintenance and safety-enhancing measures for the existing network, rather than investments in new roads or major improvements. |
| International gateways | International gateways are of paramount importance for Jordan to maintain and increase its role as a regional hub. These include Aqaba Port, airports, and their access routes together with border crossing facilities. |

Source: *Jordan Long Term National Transport Strategy*, 2012

#### (2) Aqaba Special Economic Zone Authority Port Development

Aqaba Special Economic Zone (ASEZA) was launched in 2001 as a duty-free, low-tax, multisector development zone. Its comprehensive master plan encompasses development activities in the zone for the promotion of port, urban, tourism, commercial, academic, and other

[1] This plan was originally prepared in 2010 and updated in 2012. Updating of the plan is still ongoing and is expected to be completed by June 2018. The planning horizon for the updated plan is 2032.

investment sectors. As presented in Table 3.2, the plan covers five areas: Aqaba Town, the Port Areas, the Coral Coastal Zone, the Southern Industrial Zone, and the Airport Industrial Zone.2

**Table 3.2 Overview of ASEZA Port Development Plans**

| Area | Plan |
|---|---|
| Aqaba Town | Modern architecture is to complement the traditional elements of the old city, thereby creating a unique cultural environment, with new opportunities for investors especially in tourism, commercial, and residential development. |
| Port Areas | The Aqaba Port Areas include the Main Port, the Container Port, and the Southern Industrial Port. According to the plan, a common location – the Main Port – is to be established to merge the three existing port area activities into one expanded entertainment, residential, hotel, and cruise service center. In addition, APM Terminals (part of the global A.P. Møller–Maersk Group) signed a two-year management contract with the Aqaba Development Corporation for the management and upgrading of the Aqaba Container Terminal operations. The Industrial Port will also be expanded with new facilities. |
| Coral Coastal Zone | Residential, hotel, and entertainment facilities are being constructed in the Coral Coastal Zone for the development of an advanced community resort, including beach and coral reefs protection. |
| Southern Industrial Zone | This zone extends along the Southern Industrial Zone Port and consists of reorganized and expanded current sites. New transport systems, including a railway terminal, will serve the developed area. |
| Airport Industrial Zone | Ideal for industrial facilities, permitted land uses in this zone include logistics and distribution, high-technology industries, warehousing, light manufacturing, showrooms, office complexes, and airport-related business activities. |

Source: Aqaba Special Economic Zone Authority

### (3) Investment Opportunities

In 2017, the Jordan Investment Commission announced a list of potential investment opportunities across various sectors in Jordan. Table 3.3 summarizes relevant investment projects in the transport sector.

**Table 3.3 Investment Opportunities in Jordan**

| Opportunity | Details | Cost |
|---|---|---|
| National Railway Project | The government is seeking a partner to operate and maintain the railway network | US$2.1 billion |
| Aqaba Railway Project | An alignment running along Aqaba's back road with two freight routes | US$325 million |
| Aqaba-Ma'an Land Port | Serving the Industrial Park in Ma'an, it includes yards, administration buildings, and services | US$100 million |
| New Aqaba Dry Dock | A new dry dock for the maintenance and repair of ships, boats, and other watercraft | US$42 million |
| King Hussein International Airport | Development of the airport for regional freight delivery and distribution services, including sea-air movements, as well as commercialization of aviation-related businesses. | US$85 million |
| Marka Airport | New terminal building and airside expansion | US$112.835 million |

Source: Jordan Investment Commission

[2] http://www.adc.jo/Public/English.aspx?Lang=2&Site_ID=1&Page_ID=2301&Menu_ID=28&M_ID=4&M_Title=ASEZ+Master+Plan&T=1.

### 3.1.2 Railway Improvement Plans

As shown in Table 3.4 and Figure 3.1, there are five railway improvement plans in Jordan: (i) the National Railway Project, which envisages a new standard gauge railway network linking Aqaba with Amman and neighboring countries; (ii) rehabilitation of the track structure of the existing Hedjaz [Hejaz] Jordan Railway line (including new sections operated by the Aqaba Railway Corporation, ARC) but with no changes in alignment based on a recent study funded by the French Development Agency (Agence Française de Développement, AFD); (iii) rehabilitation (only) of the existing rail line between Aqaba and Ma'an Dry Port to move phosphate as well as containers from Aqaba to Ma'an; (iv) rehabilitation of the existing Hedjaz lines, including regional connections, possibly as a dual gauge system (a study is to be financed by the Standing Committee for Economic and Commercial Cooperation of the Organization of the Islamic Cooperation, COMCEC); and (v) a new railway development plan for potash delivery from the Dead Sea region to Aqaba Port.

**Table 3.4 Jordan's Railway Improvement Plans**

| | Plan | Details | Cost |
|---|---|---|---|
| 1 | National Railway Project | Government looking for partners to finance project | US$3.51 billion |
| 2 | Rehabilitation of the Existing Hedjaz Line | Study funded by AFD being considered by government; there will be no changes in the alignment | US$600 million |
| 3 | Rehabilitation of the Existing Hedjaz Line plus Connections to Neighboring Countries | The TOR for this study prepared by COMCEC | US$250,000 for the study |
| 4 | Rehabilitation of the Existing Rail Line between Aqaba and Ma'an | Aqaba Development Corporation is promoting this study; there is no TOR yet; the project is to include increases in line capacity | US$200 million (est.) |
| 5 | New Railway Development for Potash Delivery to Aqaba Port | The Potash Company prepared its own prefeasibility study; a group of Japanese companies is interested in proposing an alternative | US$2,000 million (est.) |

Abbreviations: AFD = French Development Agency (Agence Française de Développement), COMCEC = Commercial Cooperation of the Organization of the Islamic Cooperation, TOR = terms of reference
Source: JICA Survey Team

#### (1) National Railway Project

The Government of Jordan proposed a National Railway Project several years ago. This is a plan for the construction of 942 km of new standard gauge (1,435 mm) lines from Aqaba to Amman with branches to Iraq, Syria, and Saudi Arabia. Through the new "north/south" railway line in Saudi Arabia, Gulf Cooperation Council (GCC) countries will be linked with the new rail line. The cost of the infrastructure for the new railway is estimated at US$2.96 billion, plus US$550 million for rolling stock. The government has been looking for financial partners in recent years, but with no success. In the original description of this railway plan, there is no reference to a branch linking with Israel. However, during discussions with the Managing Director of Land Transport Regulatory Commission, the JICA Survey Team was informed that such a branch line to the Sheikh Hussein Bridge is under consideration.

Due to a lack of funding for this ambitious railway plan, the focus is now shifting towards improving the existing narrow-gauge line to handle as much cargo as possible, expanding from phosphate to include containers and other bulk commodities. This move for railway improvement is being spearheaded by the Aqaba Development Corporation (ADC).

### (2) Rehabilitation Existing Hedjaz Line (AFD Study)

The feasibility study for the rehabilitation of the existing Hedjaz Line was recently undertaken by a consultant to AFD and its results are being considered by the Ministry of Transport (MOT). The estimated cost of this option is about US$600 million. It is understood based on discussions with MOT that the same alignment will be used with only renewal of the track structure.

### (3) Rehabilitation of Existing Hedjaz Line (COMCEC Study)

The TOR for the study to rehabilitate the existing Hedjaz Line is being prepared by Hedjaz Railway staff. COMCEC stands ready to fund the study up to US$250,000. The terms of reference (TOR) is vague at the moment but appears to consider connections to neighboring countries, dual gauge operation, and passenger plus freight traffic. Funding for the construction of the project is not specified, although the TOR states that "[t]his project will contribute in making public private partnership by providing its output (feasibility study) to encourage the private sector to implement the project of reviving the Hejaz railway." A Turkish firm, G & G Consulting (based in Ankara), has been awarded this contract and was to begin work at the end of March 2018.

### (4) Rehabilitation of the Existing Railway between Aqaba and Ma'an

ADC considers that the capacity of the existing ARC line should be expanded in order to carry as much traffic as possible to/from Aqaba Port. The existing "rule of thumb" is for the railway to move 30% of the output of Al-Shiydeya mine, since this amount would provide ARC with sufficient cash to pay for fuel and labor costs. In 2015, the ARC moved a total of 1,149,040 tons of phosphate from Al-Shiydeya mine, plus 187,698 tons from Al-Hasa; of the total production at Al-Shiydeya, rail carried about 39%. There were 1,089 loaded trains and the payload per train just over 1,200 tons. The total number of loaded plus empty trains per day is about seven. The problem with the railway serving Al-Shiydeya is that a 20-km road haul is required from the mine to the rail head; the construction of a branch line to the mine has been discussed for years but with no result.

Additional capacity for this rail line is intended to serve other commodities, as well as phosphate, in particular containers. The containers would be moved from Aqaba to the Ma'an logistics zone (which is now being designed), where customs clearance and transfer to road trucks would take place. ADC's thinking is that consideration should be given to the drivers and families of drivers of trucks and not just to lowest transport costs when considering choice of transport modes in Jordan.

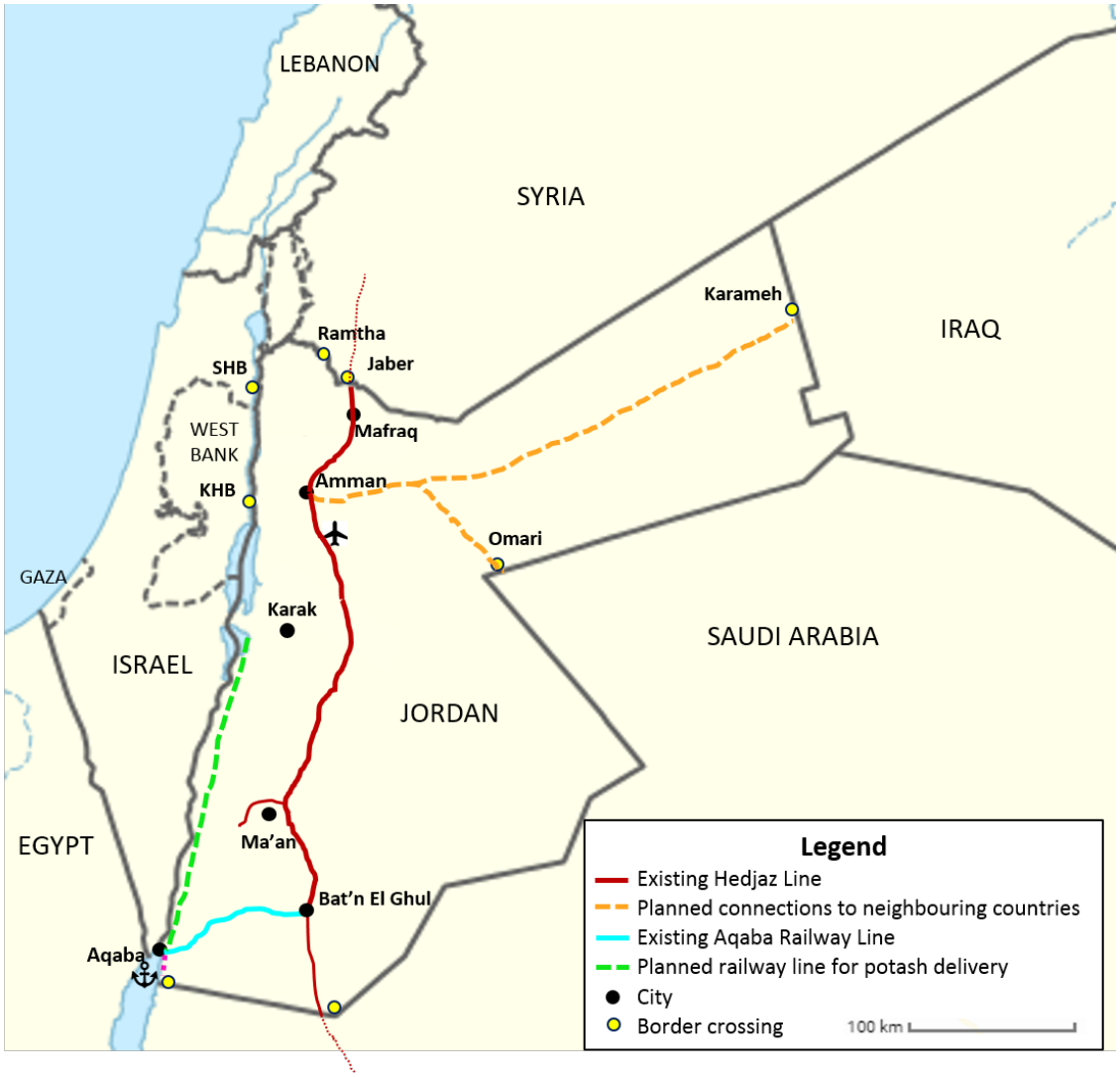
There are four phases in the railway expansion plan. Phase 1 will be upgrading of the line from Aqaba to Ma'an, improving the signaling and providing for maintenance. Interest in this project, which is estimated to cost US$180-200 million, has been expressed by the European Bank for Reconstruction and Development (EBRD) and AFD. Included in this first phase will be construction of a rail branch to the mine at Al Shidiya and a rail/road transfer station at Wadi Ytum. Phosphate will be taken by truck from Wadi Ytum to the new phosphate terminal at Aqaba Port.

There are four components of this first phase: (i) maintenance; (ii) provision of rolling stock; (iii) construction of a new line to serve Aqaba New Port; and (iv) an increase in the number of stations to increase line capacity. Regarding the maintenance phase, costs for materials will be paid by ADC, while labor will be provided by ARC.

### (5) New Railway Development for Potash Delivery to Aqaba Port

Arab Potash Company (APC), the potassium chloride producer in the Dead Sea in Jordan, is considering undertaking a feasibility study for development of a new 150-km railway line from its Dead Sea site to Aqaba Port, at an estimated cost of US$2 billion.

As an alternative, a combination of a conveyor belt and branch of the narrow-gauge railway has been suggested to APC by a private Japanese business group. The conveyor belt from the potash site (about 400 m below sea level) beyond the mountain range of the Rift Valley would reach Karak, and a branch of the railway would connect the main line and the conveyor belt terminal. This plan draws on the practice of potash delivery in Israel. The group also suggests that the integration of freight traffic from potash delivery with the phosphate may improve the feasibility of reconstructing a railway from Aqaba to Ma'an. The group is considering proposing a prefeasibility study of this plan, perhaps with assistance from the Government of Japan.




Source: JICA Survey Team

**Figure 3.1 Railway Development Plans in Jordan**

### 3.1.3 Border Operation/Logistics Hub Development

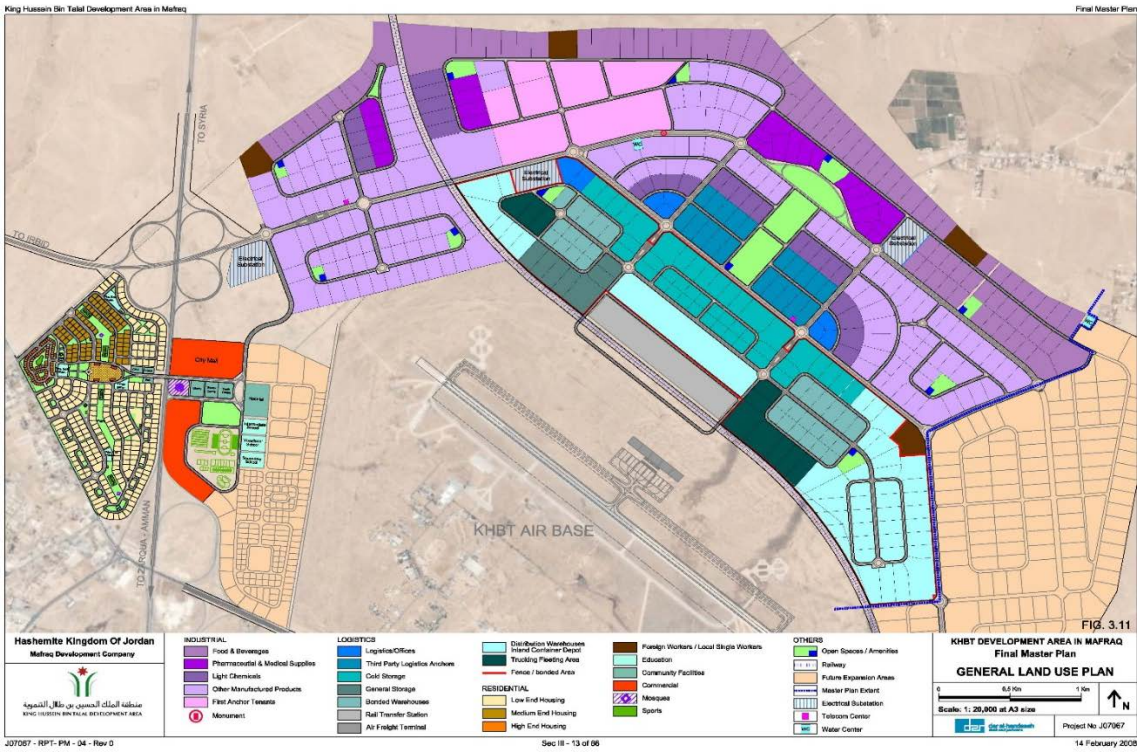
#### (1) King Hussein Bridge Logistics Center

Considerable improvements at the King Hussein Bridge (KHB) are expected in the future – it is the only conduit through which Palestinian goods and people can move to and from neighboring Jordan. A contract has been signed with the International Finance Corporation (IFC) of the World Bank Group for transaction advisory services for the development of new facilities for cargo and passengers. An area of 5 million $m^2$ has been made available for the project. The Governments of Germany and the Netherlands are financing the feasibility study for the master plan, through the Ministry of Public Works and Housing. The first phase (7 months) is to develop a master plan in which demand for cargo and passenger flows through the facility will be forecast. The second phase (about 15 months) will cover a public-private partnership (PPP) transaction in which a transaction advisor will select the concessionaire, an agreement will be signed, and construction will begin. Involvement of JICA would be possible, but it is too early to determine in which capacity.

One of the major issues at the KHB is traffic congestion, mainly caused by trucks moving sand and aggregates from Jordan to Palestine to support the booming Palestinian construction industry. The Israel Airports Authority has proposed a conveyer belt for bulk materials to improve cargo throughput between the Palestinian and Jordanian sides of the border facility; the conveyor belt would be similar to ones at the commercial crossing at Kerem Shalom between Israel and Gaza. Moving these bulk commodities by conveyer would substantially reduce the volume of trucks crossing the border.

#### (2) Mafraq Special Zone and Logistics Airport

Plans to develop a Mafraq Special Zone, about 80 km north of Amman, on 9 $km^2$ of land, along with an adjacent logistics airport, were launched in November 2006 with a speech by King Abdullah at King Hussein Airbase (King Hussein Air College). The conflict in Syria, resulting in a flood of refugees into Jordan and creating the need for reconstruction of Syria when hostilities cease, has prompted new interest and urgency in developing this area into an operational facility with strong managerial oversight. Figure 3.2 presents the master plan for the Mafraq Special Zone.




Source: Mafraq Development Corporation

**Figure 3.2 Master Plan of Mafraq Special Zone**

The Minister of Industry, Trade and Supply announced an agreement with an American company, US Safe Ports, to establish a logistical airport in Mafraq, and take responsibility for promotion, development, and operations of the regional logistics hub in Mafraq. The American company has the rights to develop a 900,000 $m^2$ area adjacent to the existing airport facility. The site, to include a logistics center in Mafraq, would become a major base for regional reconstruction projects. It is understood that the airport will use the facilities of the existing King Hussein Airbase, also known as the King Hussein Air College, located 3 km from the city of Mafraq. This facility currently has a single asphalt runway of 3,000 m, which is primarily used to train Jordanian military pilots.[3] The plan is to construct a second runway, parallel to the existing one, to serve a nearby Mafraq Special Zone, located about 10 km from the Jaber border crossing with Syria. The airport will be then operated as a mixed-use facility, with US Safe Ports as the operator.[4]

The Mafraq Development Corporation is responsible for the management, planning, and development of the King Hussein Bin Talal Development Area just north of Mafraq. This covers 21 $km^2$ area is located about 60 km northeast of Amman. Tenant companies are engaged in food and beverages, pharmaceuticals and medical supplies, light chemicals, and other manufacturing industries. About 60% of the site is now occupied by tenants, since five of the seven phases for

[3] At present, the existing runway can accommodate aircraft as large as a C-17, a large military transport aircraft. Plans are to ensure that the second runway will be capable of handling Boeing 747 cargo aircraft. While a 3,000 m runway would normally be long enough to accommodate a 747, there are other factors that need to be investigated, including pavement strength to support the weight of this aircraft.

[4] The first objective of US Safe Ports is to develop a training program for Syrian refugees to operate earthmoving equipment in anticipation of a large reconstruction effort soon to be needed in Syria. They need to acquire the necessary equipment and establish training facilities and recruit personnel. Training facilities are already in place, and it is planned to utilize the skills of retired Jordanian military personnel to undertake the training; however, the acquisition of the earthmoving equipment has not yet been funded. US Safe Ports intends to commence operations at Mafraq in 2018. A hard copy proposal detailing this training titled *Safe Ports Training Leading to Certificates Program at Safe Ports Regional Gateway* has been prepared and approved by the Jordanian Ministry of Planning.

development of the site have been completed. Distribution of outputs are planned to be about 20% to the domestic market and 80% for export, mainly within the region. Plans are to develop the King Hussein Airbase, adjacent to the Development Area, into a mixed-use facility. There are also rights-of-way for a future rail line, planned to be developed to serve tenants of the Development Area.

The intention is that most of the traffic moving through the US Safe Ports facility will be related to the reconstruction efforts in Syria and Iraq. One of the most important clients is expected to be the United States Department of Defense.[5]

### (3) New City Plan

The Government of Jordan announced a national project to establish a new city outside of Amman, which will serve as one of the key strategic schemes. There are two objectives under this scheme: (i) to accommodate part of the rapid urban expansion of Amman and Zarqa; and (ii) provide an alternative environment for enhancing the quality of life for citizens. The firs phase entails the development of 39-square-kilometer area, expected to be completed by 2030. The whole project is planned to complete in 2050.


Source: http://www.jordantimes.com/news/local/government-announces-details-new-town-plan

**Figure 3.3 New City Plan in Jordan**

[5] One reason for renewed interest by foreign governments is the upcoming reconstruction of Syria. During interviews conducted by the JICA Survey Team in Jordan, optimism was expressed about cessation of hostilities in Syria and beginning the process of reconstruction. The World Bank will soon issue a TOR to develop Jordanian expertise to take the lead in managing the reconstruction of Syria, likely in southern Syria only. The training of Jordanians is designed to give Jordan a competitive edge in participating in the reconstruction process. The natural Syrian hinterland for Jordan is likely the southern part of the country, with the Mafraq Development Zone ideally located, only about 10 km from Jaber on the border with Syria.

## 3.2 Current Studies, Master Plans, and Development Plans – Palestine

### 3.2.1 National Transport Master Plan for Palestine

Funded by European Investment Bank, the National Transport Master Plan (NTMP) for Palestine (West Bank and Gaza) was completed in 2016 by a consortium of European firms including Systematica of Italy. The NTMP had not yet received approval of the Government of Jordan as of February 2018. It consists of a multimodal and integrated transport master plan for the West Bank and Gaza, and includes road, rail, air, maritime, and public transport, with a focus on the key aspects of logistics and border crossing. The NTMP sets out a 30-year development plan with four phases of specific actions, priorities, and projects. Regarding logistics improvement, the NTMP envisages a system of logistics facilities organized at two different levels (district and national) across four phases, as presented in Table 3.5.

**Table 3.5 Logistics Network Facilities Development by Phase in the NTMP**

| Level | Area | Phase 1: 2016-2024 | Phases 2-3: 2025-2037 | Phase 4: 2038-2045 |
|---|---|---|---|---|
| District | Jenin | District warehouse | Advanced district warehouse | District distribution center |
| | Tulkarm | District warehouse | Advanced district warehouse | District distribution center |
| | Jericho | District warehouse | Advanced district warehouse | District distribution center |
| | Bethlehem | District warehouse | Advanced district warehouse | District distribution center |
| | Hebron | District warehouse | Advanced district warehouse | District distribution center |
| | Gaza city | District warehouse | Advanced district warehouse | District distribution center |
| National | Damyeh | National warehouse | Advanced distribution center/ Inland clearance depot | Freight village |
| | Gaza Commercial Port | National warehouse | Advanced distribution center/ Inland clearance depot | Freight village |

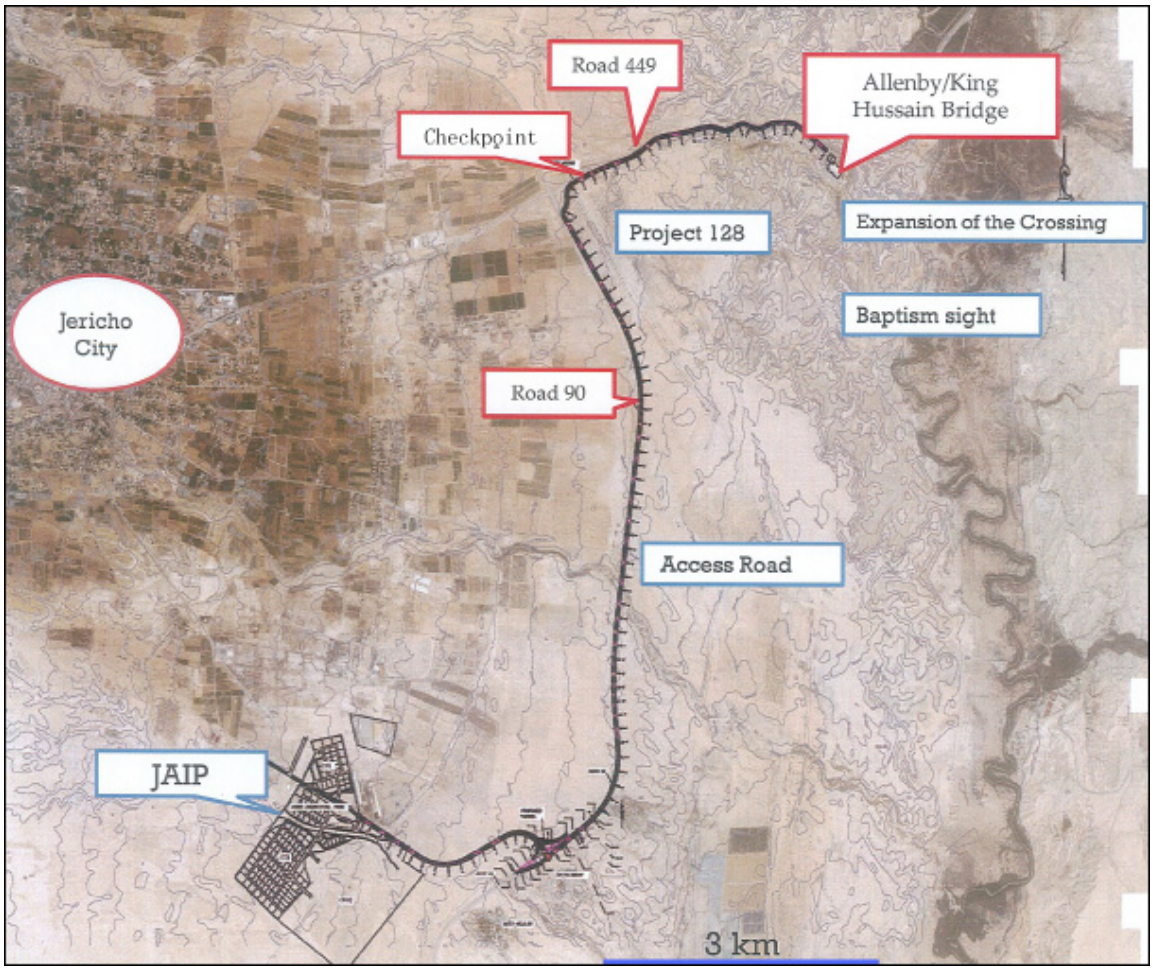
Source: *National Transport Master Plan (NTMP) for Palestine*, 2016

### 3.2.2 JAIP-Dedicated Road to the Allenby / King Hussein Bridge and Logistics Center Function

One of the most important transport improvement projects in Palestine that will have a positive impact on cross-border trade is improvement of access to the Allenby / King Hussein Bridge (A/KHB) from the free zone of the Jericho-Agro Industrial Park (JAIP; see Figure 3.4). Palestine and Israel have planned and agreed on a dedicated road linking JAIP with the A/KHB area. There are two main objectives in constructing this dedicated road: (i) improving access for trucks moving between JAIP and the A/KHB, since these vehicles currently have to move through Jericho City; and (ii) conducting customs and security checks required by Israel at a logistics center located adjacent to JAIP, moving the truck to the border area in a secure road corridor, and requiring only minimal inspection in the West Bank before the truck moves into Jordan.

If the dedicated road meets the first objective, creating a shorter, more direct route from JAIP to the A/KHB, this will benefit JAIP tenants. A critical element of implementing this dedicated road project is to meet the second objective stated above, for Israeli customs and security to inspect all

JAIP outbound cargo destined for Jordan at a special logistics zone adjacent to JAIP. The result would be a much quicker and smoother crossing of the border into Jordan with minimal delay and no need for the onerous back-to-back transfer (transshipment) of cargo between trucks at the border. Implementation of this project, expected to cost about US$20-30 million, will be critical for the facilitation of trade between Palestine and Jordan and will substantially reduce transport costs now being incurred at the A/KHB border crossing. The subject of the dedicated road is being discussed on a regular basis between and among Israel, Jordan, and Palestine. However, due to an incident at the Embassy of Israel in Amman in July 2017, direct talks between Israel and Jordan have not taken place regarding resolution of issues related to this dedicated road.




Sources: (i) Japan International Cooperation Agency Project for Strengthening of Incentive Services and Management Function Jericho Agro-Industrial Park; and (ii) Japan International Cooperation Agency and Palestinian Industrial Estates and Free Zones Authority, *Exclusive Road linking Jericho Agro-Industrial Park (JAIP) To Allenby (King Hussain) Bridge, Junction (128) to Allenby Bridge Section, Final Report*, May 2017

**Figure 3.4 JAIP-Dedicated Road to the Allenby / King Hussein Bridge**

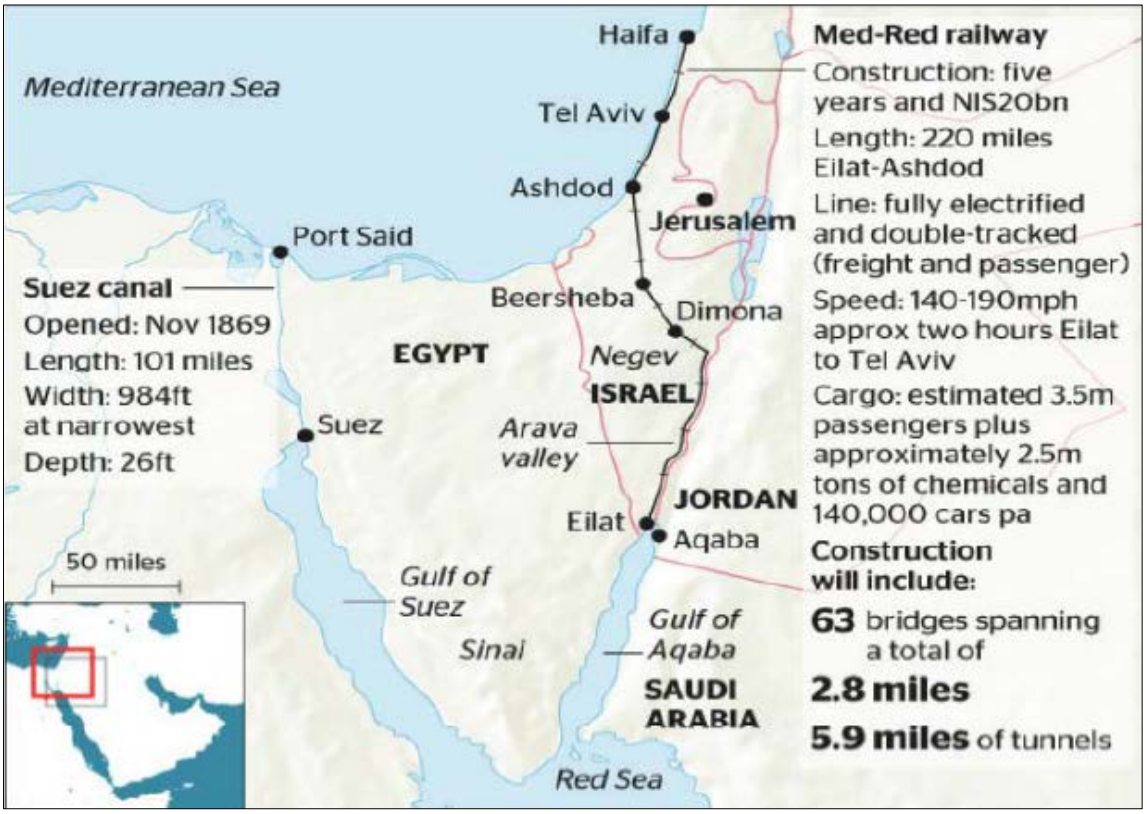
## 3.3 Major Development Plans in the Region

### 3.3.1 Ashdod-Eilat Railway

In October 2013, an Israeli ministerial committee approved the development of a railway between Ashdod and Eilat (see Figure 3.5). Called the "Red-Med" Railway, the main benefit of the project is to create a land bridge between Europe and Asia, enabling goods to be transshipped between the ports of Ashdod and Eilat. The 350-km line would include 63 bridges and 9.5 km of tunnels.

By 2025, the small existing Eilat Port will be completely relocated further inland with the construction of a 5 km-long channel port to the northeast. The new Eilat channel port will include a 1.5 km-long container quay, a 600 m-long bulk goods quay, and a 150 m-long ro-ro quay. Construction of the railway line to Eilat Port is planned for completion in 2019. It is described as a high-speed rail line, with operating speeds of 200-250 kph, moving exports of phosphate and potassium as well as transit goods between Ashdod and Eilat Ports. The cost of the line has been preliminarily estimated at between US$6.5 and US$13 billion.

China has expressed interest in participating in this project since it would provide a route complementary to the Suez Canal for Asia-Europe trade. China's interest lies in realization of its Belt and Road Initiative, through which it sees an enhanced regional infrastructure network in the Middle East as a critical trade route between East and West. There are proposals to extend the line from Eilat to Aqaba, providing access to the extensive port infrastructure there, which is far larger than that of Eilat.




Source: http://www.redalyc.org/html/4495/449552566005/

**Figure 3.5 Planned Red-Med Railway Project**

### 3.3.2 Reconstruction of Syria

The World Bank has made some preliminary analyses of the extent of reconstruction requirements in Syria. Box 3.1 presents an excerpt from its TOR for future detailing of this reconstruction task.

**Box 3.1 Excerpt from World Bank Terms of Reference on the Reconstruction of Syria**

This activity aims to identify the best location-fit and opportunities for catalyzing foreign and domestic investment (including by SMEs) in construction services, materials production, storage and logistics in Jordan. The reconstruction hubs and zones would leverage Jordan's existing industrial infrastructure, engineering strengths, combined with international expertise, to facilitate the 'clustering' of activities in-and-around the construction and logistics sectors, and potentially attract new foreign investors. Effective clustering around specific hubs in Jordan can provide a significant productivity boost to firms within the cluster by lowering input costs and fostering inter-firm synergies; can spur innovation through knowledge spillovers and enhanced competition; and can provide a local growth engine to both attract outside businesses and encourage the formation of new ones. Based on a detailed understanding of the construction materials sector behavior and options to prepare for demand surge, this activity will aim to understand and design the necessary hard and soft ecosystem in and around the respective hubs zone(s) to catalyze FDI, domestic (including SME) investment, as well as facilitating materials storage for rapid response.

The Reconstruction Hubs would aim to generate jobs for both Jordanians and Syrian refugees, including from nearby refugee camps/settlements. For example, the Al-Mafraq Zone is located close to the Zaatari refugee camp and astride a natural "reconstruction corridor" on the junction of the highways to Syria and Iraq. In exploring the feasibility of a Hub such as this, the consulting firm is expected to have a holistic view of the existing SEZ and related infrastructure assets, such as Mafraq Airbase. An investment location close to the border is expected to be attractive to companies that are specifically interested in the future Syrian as well as Iraqi and other regional markets. In this regard, verifying this locational hypothesis will be a core part of the analysis.

In early 2016, satellite-based damage assessments of five Syrian cities commissioned by the World Bank Group were utilized as the basis of generating an estimate of construction materials needed to reconstruct the visibly destroyed and damaged structures using standard building ratios and assumptions for the Syrian market (e.g. at that time, for the five cities examined a need for almost 60 million $m^2$ of 10cm concrete blocks, 71,000 $m^3$ of window glass, and almost 3.5 million $m^2$ of 5cm roof tiles – given these estimates were largely derived from what could actually be seen via satellite, they are likely to be conservative).

Source: World Bank

To assist in this reconstruction task, the Mafraq Special Zone is being developed along with a dual-use logistics airport to place Jordan in a strategic position to lead this reconstruction. Details of this plan for developing the Mafraq Special Zone and airport were described in detail in subsection 3.1.3.

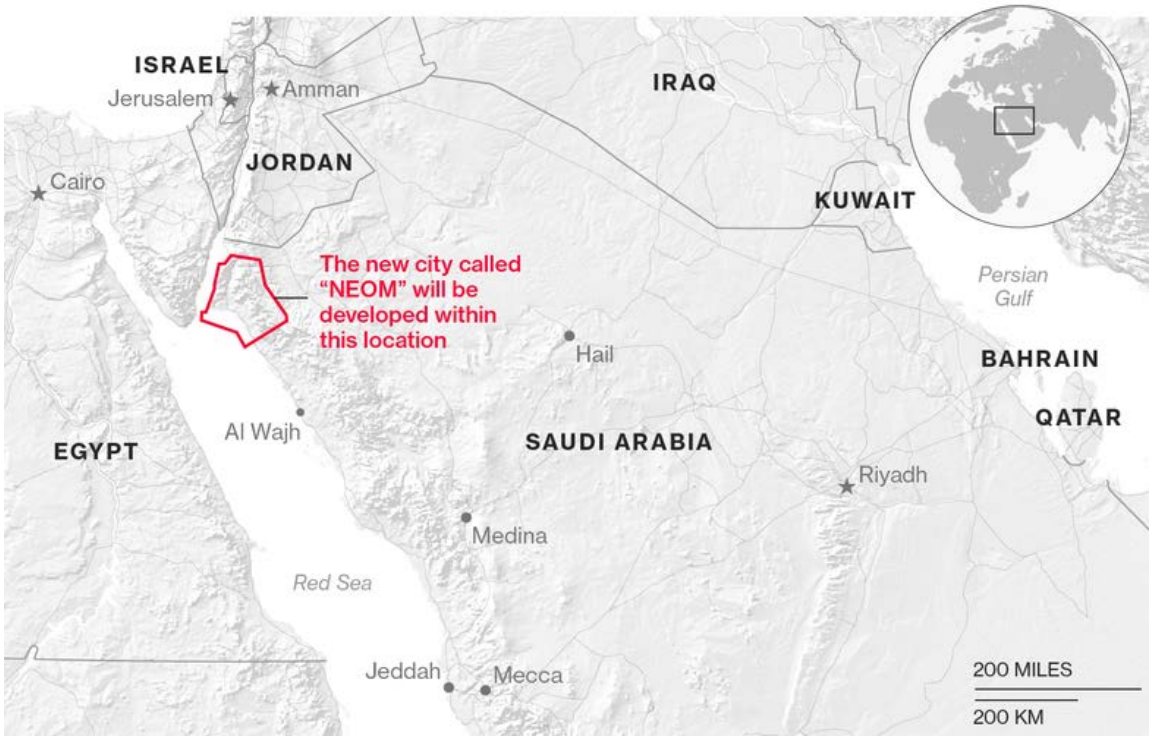
### 3.3.3 NEOM[6]

NEOM is planned as US$500 billion megacity (a "giga-project") that will span 10,000 square miles along the northwestern coast of Saudi Arabia into Jordan and via a bridge into Egypt (see Figure 3.6). In October 2017, Saudi Crown Prince Mohammed bin Salma proposed NEOM as a hub for manufacturing, renewable energy, biotechnology, media, and entertainment, filled with skyscrapers, five-star hotels, and robotic technology. One of the goals of the Saudi government

[6] The term NEOM was constructed from two words. The first three letters form the Greek prefix neo- meaning "new", while the fourth letter is from the abbreviation of *mostaqbal*, an Arabic word (مستقبل) meaning "future."

for this project is to reduce the country's reliance on oil in the long term, consistent with Saudi Arabia's *Vision 2030*.

While details of this massive project are not well known, in discussions with the JICA Survey Team, ADC was positive toward the project. It sees it as an opportunity for Jordan to benefit from traffic generated by the new megacity.




Source: discoverneom.com, Bloomberg.com

**Figure 3.6 Saudi Arabia's New Mega City – NEOM**

## 3.4 Interests of Development Partners

### 3.4.1 The World Bank

The World Bank's recent projects in Jordan have focused on improving the health of the population, education reform and examination of employment opportunities for Jordanians and Syrian refugees. The Bank also focuses on involvement of the private sector in major infrastructure projects, such as the development of new facilities for cargo and passengers at the King Hussein Bridge as well as the development of the Mafraq Development Zone as a vehicle for assisting in the reconstruction of Syria. The IFC is providing transaction advisory services for the development of a public-private partnership for the development of the new KHB facilities.

Total World Bank commitments to Jordan during 2017 amounted to $574 million, including IBRD and IDA.

In Palestine, the Bank's objectives are for improvement of water and sanitation, municipal, education and social protection sectors as well as improving the trade potential of the Palestinian economy. During 2018 the amount of commitments in Palestine were valued at $500 million.

### 3.4.2 United States Agency for International Development (USAID)

USAID is involved primarily in agriculture improvement and issues of food security, human rights, economic growth, good governance, water and sanitation and gender equality. A USAID export facilitation project is expected to commence in 2018, involving Pal Trade, PFI, and PSC, involving market research and business to business development.

Another USAID trade facilitation project, completed in 2013, worked to improve border management efficiency to reduce trade costs for business and increase the capacity of the Palestinian Authority to effectively manage trade and enhance customs revenue, and to support private sector entities in advocating for improved trade facilitation measures with the Israeli border and crossings authorities. Several years ago, USAID also funded the West Bank Logistics Study as part of the Trade Facilitation Project.

During the fiscal year 2016, the US government has spent a total of $479 million in Jordan and $248 million in the West Bank and Gaza.

### 3.4.3 Federal Republic of Germany

The focus of the German Development Agency (GIZ) in Jordan is in the areas of water supply, employment and education. In addition, projects have been implemented to formulate the business strategy of microfinance in Jordan, in support of the government's efforts. An important element of this strategy is in support of consumer protection provisions.

In addition, jointly with the government of the Netherlands, the German government is financing a feasibility study of the improved passenger and cargo facilities at the King Hussein Bridge.

In late 2017 the German government pledged 575 million Euros in aid in response to Jordan's development needs and support of Syrian refugees.

### 3.4.4 Kingdom of The Netherlands

The focus of aid from The Netherlands is on assistance to Syrian refugees in Jordan through programs to humanitarian aid, support safety and security as well as education and job training.

In 2011 the Netherlands government began the process of acquiring scanners for the Palestinians. In order to support the proposed trade corridor linking West Bank and Gaza, a scanner was installed at the Gaza/Israeli border; there are now two scanners at the Gaza border and one at Allenby. The Netherlands and German governments are also funding the preparation of the master plan for improved passenger and cargo facilities at KHB. A TOR is also being prepared for a project at the QAIA cargo terminal to provide refrigeration facilities for movement of agricultural products and other perishables.

Recently the government of The Netherlands announced a contribution of 2 million Euros to the United Nations Relief and Works Agency for Palestine refugee children from Syria.

### 3.4.5 United Nations Conference on Trade and Development (UNCTAD)

The Assistance to the Palestinian People Unit (APPU) was established in 1985, with a specific mandate to monitor and investigate the social and economic impact of policies of the Israeli occupation authorities in the Palestinian territory.

Specific projects include a Trade Facilitation Agreement (TFA, also known as the Agreement on Trade Facilitation, ATF) is being prepared in support of the WTO. A recent study by UNCTAD assessed the applicability of the TFA in the territory of the Palestinian Authority. UNCTAD also supports the Palestinian Customs in their capacity building for customs automation to operate within the ASYCUDA World system.

### 3.4.6 European Investment Bank

With the support of the European Investment Bank under its Facility for Euro Mediterranean Investment and Partnership, the Euro Mediterranean Logistic Network (LOGISMED) was launched. The Union for the Mediterranean (UfM) is an intergovernmental organization of 43 countries from Europe and the Mediterranean Basin, including the 28-member states of the European Union and 15 Mediterranean partner countries including Jordan, Palestine, and Israel. It was created in July 2008 at the Paris Summit for the Mediterranean, with a view to reinforcing the Euro Mediterranean Partnership (Euromed), which had been set up in 1995 and is known as the Barcelona Process. Transport (along with urban development) is one of the six sectors in which UfM works. Against this background,

Since 2013 the EIB has loaned a total of 173,274,000 Euros to Jordan. The EIB recently signed an equity agreement supporting microfinance focused on sustainable development in rural areas; EIB share of this agreement was 1 million Euros. During the past 10 years, a total of 1.2 billion Euros have been committed to Jordan.

### 3.4.7 French Development Agency (AFD)

The French Development Agency (AFD) has the goal of optimizing the use of natural resources and strengthening economic and social development in Jordan. Specific projects aim to improve access to water and sanitation, supporting the transition to wind and solar energy sources; supporting local and urban development (BRT project in Amman) and reducing vulnerabilities, particular with regard to Syrian refugees. In addition, AFD has recently undertaken a pre-feasibility study of improving the existing narrow-gauge rail network in Jordan and to transform this railway to a major freight carrying mode in the country.

In cooperation with bilateral partners such as the European Union and USAID, a total of 180 million Euro was spent in Jordan by the end of 2017.

AFD's involvement in Palestine has focused on public service operators, municipalities, small and medium enterprises and civil society. During the past 17 years, a total of 385 million Euros has been committed to structural and emergency projects in Palestine.

### 3.4.8 European Union (EU)

EU-Jordan technical and financial cooperation supports Jordan's reform and development agenda. Over 40 projects are underway in various sectors of the economy such as water supply, sustainable development and education.

A particularly important transport project was the EU's funding of the Trade Corridors Facilitation project for Palestine as well as assistance for studies in cooperation with Pal trade: Functional Strategies: Trade Logistics and Facilitation and the National Trade Policy for Palestine. The EU and EIB were also prominent in funding the Road and Transportation Master Plan for Palestine.

Between 2014 and 2016 EU's bilateral assistance to Jordan amounted to 278.5 million Euro. Regarding EU aid to Palestine, during 2016 the total amount allocated through the European Neighborhood Initiative amounted to 291.1 million Euro. Of this amount, 170.5 million Euro was for direct budget support, 82 million to UNRWA for Palestinian refugees. The remaining amount was for support of governance, economic enablers and support to East Jerusalem.

# 4. Institutional Aspects Related to Transport and Logistics

## 4.1 Institutional Aspects Related to Transport and Logistics in Jordan

### 4.1.1 Agencies Involved / National Frameworks

#### (1) Public Sector[1]

Public sector agencies involved with transport and logistics in Jordan are described in the following paragraphs:

(i) Established by Transport Law No. (89) 2003, the **Ministry of Transport** is responsible for (a) developing a general policy for transport and overseeing its implementation in coordination and cooperation with all related parties; (b) regulating and monitoring the road freight transport sector and its services, as well as issuing required permits for operating in the sector; (c) regulating and monitoring freight transport by the rail sector, as well as issuing required permits for operating in the sector; (d) setting freight transport fares and tariffs; (e) implementing technical rules, and approved specifications and standards, and (f) implementing bilateral transport agreements as well as international transport treaties.

(ii) Agencies under the Ministry of Transport include (a) the **Land Transport Regulatory Commission** (including a Freight Transport Directorate), established in 2010 to organize land transport services and encourage investment in land transport in a manner that fulfills national economic and social objectives; (b) the **Jordan Maritime Authority**, which organizes the maritime transport sector and grants required licenses; and (c) the **Civil Aviation Regulatory Commission**, which was created in 2007 to regulate the aviation sector.

(iii) Established in 2003 and relaunched in 2011 under an European Union (EU) trade and transport facilitation project, the **National Committee for Trade and Transport Facilitation** (NCTFF) coordinates (at least nominally)[2] concerned public and private sector organizations to facilitate transport and trade and remove trade barriers. It is chaired by the Ministry of Transport and includes representatives of the Ministry Agriculture; the Ministry of Industry, Trade and Supply; the Ministry of Interior; the Ministry of Planning and International Cooperation; the Ministry of Public Works and Housing; Jordan Customs; and the chambers of commerce and industry. A **Trade and Transport Technical Committee** (TTFTC) includes additional public and private sector organizations. A number of activities were included in the National Export Strategy 2014-2019 to strengthen the capacity of the NCTTF and TTFTC. In addition, a Transport and Trade Facilitation Strategy for 2015 to 2017 included measures for (a) improving administrative efficiency in transport operations and border procedures, (b) undertaking studies to increase the competitiveness of Jordan as a transit country, (c) following up the implementation of various customs modernization measures (e.g., pre-arrival procedures, improved risk management, the golden list authorized economic operators program, a national single window), and (d) enhancing regional cooperation between Jordan and

[1] This subsection mainly draws on: (i) Ministry of Industry, Trade and Supply [Jordan], *The Hashemite Kingdom of Jordan, National Export Strategy, 2014-2019*, pp. 255-56; and (ii) interviews with staff (November 2017-February 2018) and/or reviews of the respective websites of the organizations.

[2] The actual work has been done mainly by the TTFTC, but a small, ongoing study with support of the UNDP under the auspices of the project for Strengthening Arab Economic Integration for Sustainable Development is examining restructuring of the NCTTF to facilitate coordination and operations between the NCTFF and TTFTC. In the process, they have been establishing subcommittees on customs, ports and borders, and trade agreements. Interview with the Ministry of Transport, Jordan, 12 February 2018.

neighboring countries to facilitate the movement of goods through the establishment of competitive trade routes.[3]

(iv) Established in 1923 and currently operating under Customs Act (No. 20, 1998), **Jordan Customs, Ministry of Finance,** collects revenues for the treasury, and also seeks to support the national economy, promote investment, facilitate trade, combat smuggling, protect the environment from hazardous materials, and control the movements of passengers, goods, and vehicles crossing national borders.

(v) Pursuant to Law No. 18 of 1998, the **Ministry of Industry, Trade and Supply** (MITS) is responsible for supporting national industries and improving their competitiveness, increasing Jordanian exports and opening new markets, attracting foreign investments, supporting small-to-medium enterprises (SMEs), fostering the enabling environment, integrating Jordan with the global economy, and enhancing economic growth. Under the MITS, the **Jordan Standards and Metrology Association** is the standard setting organization for the country, and it also provides export certificates.

(vi) Under the **Prime Minister's Office**, the **Aqaba Special Economic Zone Authority** was established in 2001 as a financially and administratively autonomous institution responsible for the management, regulation, and the development of the Aqaba Special Economic Zone. The **Aqaba Ports Corporation**, established in 1952, organizes and monitors cargo handling to and from vessels, and the storage of goods in warehouses; it also supervises cargo loading onto trucks.

(vii) Among other things, the **Ministry of Public Works and Housing** is responsible for (a) connecting cities, villages, residential and economic areas, and neighboring countries through a network of high-quality, safe roads; and (b) developing "pioneer" governmental buildings that support national developmental goals, through the use of "best international methods".

(viii) The government-owned **Aqaba Railway Corporation** links phosphate mines and Aqaba Port, and the government-owned **Hedjaz/Hejaz**[4] **Jordan Railway Corporation** operates in the vicinity of Amman.

(ix) **Other relevant public sector organizations** include (a) the Ministry of Interior, Public Security Directorate; (b) the Ministry of Agriculture, (c) the Jordan Food and Drug Administration, (d) the Aqaba Development Corporation, (e) the Aqaba Container Terminal, (f) the General Intelligence Directorate, Jordanian Armed Forces; (g) the Border and Residence Department, Public Security Directorate; (h) the Ministry of Planning and International Cooperation; and (i) the Legislation and Opinion Bureau.

Table 4.1 lists laws and regulations of Jordan related to transport and logistics.

[3] Ministry of Transport [Jordan], *Transport Sector Annual Report 2015* [latest available as of this writing], pp. 30-31.
[4] These are alternative Romanizations.

## Table 4.1 Relevant Laws and Regulations of Jordan

| Laws/Regulations | Content |
|---|---|
| *Laws* | |
| Customs Law, Law No. 20 of 1998 | Primary customs law, covering (among other things) entry and exit of goods (Chapter 4), simplification of customs procedures (Chapter 7), customs clearance agents (Chapter 10); Article 65 allows for the entry of goods for free circulation, transit, warehousing, deposit in free zones, temporary admission, and admission for processing |
| Maritime Trade Law No. 12 of 1972 | Primary law on maritime trade |
| Industry and Trade Law, No. 18 (as amended), 1998 | Primary law on industry and trade |
| Road Freight Transport Law, Temporary Law No. 46 of 2002 | Application to transport in the country, including transit (Article 3) |
| Import and Export Law No. 21 of 2001, amended by Temporary Law 2003 | Primary law on licensing requirements |
| Food Control Law No. 79 of 2001 | Primary law on food control |
| Investment Promotion Law | Provision of exemption from import license requirement |
| National Production Protection Law No. 21 of 2004 | Protection of national production without prejudice to international agreements |
| Competition Law, No. 33, 2004 | Primary law on competition |
| Standards and Metrology Law No. 22 of 2000 | Primary law on standards |
| Law on Ratification of Jordan's Accession to the World Trade Organization, No. 4 of 2000 | Law ratifying accession to the World Trade Organization |
| Food Control Law No. 79 of 2001 | Sanitary-phytosanitary related requirements |
| Drug and Pharmacy Law No. 24 of 2015 | As above |
| Food and Drug Administration Law No. 31 of 2003 | As above |
| Agriculture Law No. 44 of 2002 | As above |
| Food Law No, 30 of 2015 | As above |
| Goods Transport on Roads Law No. 21 of 2006 | Law on road freight transport |
| Investment Law No. 30 of 2014 | Regulation of free zones, development zones, and industrial estates |
| Insurance Regulatory Act No. 33 of 1999 | Provisions on compulsory civil liability motor insurance (Articles 99 and 108) |
| *Regulations* | |
| Notification 49 of the Customs Department, 1991 | Requirement that goods imported in containers be imported through Aqaba Port |
| Circular No. 312 of Jordan Customs, 2016 | Amended the restriction in Notification 49 of the Customs Department to permit containers with products of Palestinian origin to be imported to Jordan or transported in transit, under certain conditions |
| Regulation No. 32 of 2001, Civil Liability Compulsory Motor Insurance | Application to non-Jordanian drivers entering or transiting the Kingdom (Article 4) |
| Regulations for Safe Containers Pursuant to the International Convention for Safe Containers, 1972 | Application to land crossings (Article 3) |
| Notice No. 20 of 2005 of the Ministry of Finance, Customs Department | Notice setting transit fees |
| Regulations of Plant Quarantine, 2003 | Sanitary-phytosanitary regulations |
| Veterinary Quarantine Regulations, 2003 | Animal health regulations |

| Laws/Regulations | Content |
|---|---|
| Regulations on the Safeguard of National Production No. 21 of 2004 | Regulations for implementation of National Production Protection Law |
| Imports and Exports Permits Regulations No. 114 of 2004 | Regulations on imports and export permits |
| Instructions to Export and Re-Export Dual Use Materials No. 1 of 2009 | Instruction on export of dual use goods |
| Council of Ministers Decision No. 6216, 29 January 2018, | Decision setting minimum tariffs on the Aqaba-Amman route |

Sources: Mainly based on (i) https://www.lexadin.nl/wlg/legis/nofr/oeur/lxwejor.htm; (ii) *Import Procedures Guide, Jordan*, 2016; (iii) Ministry of Industry, Trade and Supply, *The Hashemite Kingdom of Jordan, National Export Strategy, 2014-2019*, Annex 6, pp. 355-56; (iv) Palestinian Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, *Legal and Institutional Study of Border Operations*, prepared by PADECO Co., Ltd., December 2017, Table 3, pp. 11-12 ; and (v) World Trade Organization, *Trade Policy Review, Report by the Secretariat, Jordan*, 2008

### (2) Private Sector[5]

Major private sector organizations involved with transport and logistics in Jordan are described in the following paragraphs:

(i) The **Syndicate of Jordanian Trucks Owners** lobbies for the interests of truck drivers**,** provides awareness and training courses for it members, and deals with issues and disputes relating to fees and charges between carriers and their clients. In addition, it issues guidelines showing the operating costs and transport tariffs per ton inside and outside the country. Box 4.1 summarizes the structure of the trucking industry in Jordan.

(ii) **NAFITH** (National Freight Information and Transportation Hub) Logistics offers electronic "matching" of cargo with trucks, which has streamlined the organizing of trucks moving to Aqaba to the extent that now the same number of trucks are used to carry cargo, which has doubled compared to when the service was initiated. A study found that the system has reduced transport costs by about 20%, saving an estimated JOD 40 of the transport costs between Amman and Aqaba. Truck waiting time in Aqaba has been reduced from 3 days to about 2 hours.[6] Box 4.2 summarizes how the NAFITH Truck Control System works.

(iii) Chambers of commerce include the (a) **Jordan Chamber of Commerce**, the umbrella organization for nation's 16 regional chambers of commerce; and (b) the **Amman Chamber of Commerce**, which is the oldest and largest regional chamber. The chambers participate in the formulation of national trade policies, develop strategies that contribute to the facilitation of commercial traffic, and coordinate activities with foreign (including other Arab) chambers of commerce.

(iv) Established in 1985, the **Jordan Shipping Association** promotes the development and growth of maritime shipping via Aqaba Port by partnering with the government to create an attractive business environment for ship owners, operators, and charterers, and assisting members in working to the highest professional standards.

[5] This subsection mainly draws on: (i) Ministry of Industry, Trade and Supply, *The Hashemite Kingdom of Jordan, National Export Strategy, 2014-2019*, p. 256; and (ii) interviews with staff (November 2017-February 2018) and/or reviews of the respective websites of the organizations. Also, material on the National Freight Information and Transportation Hub (NAFITH) was drawn from (i) NAFITH Truck Control System, September 2014; and (ii) Nathan Associates Inc., *Economic Impact Assessment of the NAFITH Truck Control Systems in Jordan, Final Report*, January 2011.

[6] Nathan Associates Inc., *Economic Impact Assessment of the NAFITH Truck Control Systems in Jordan, Final Report*, January 2011.

(v) Established in 2007, the **Jordanian Logistics Association** is a nonprofit organization that seeks to raise standards for the freight forwarding industry by participating in the formulation and implementation of laws and regulations in cooperation with the concerned governmental authorities. It is a voluntary organization (e.g., about 30% of land transport operators and about 60% of maritime transport operators are members) and does not impose minimum standards on its members. It has limited but improving international relationships with the International Federation of Freight Forwarders Associations (Fédération Internationale des Associations de Transitaires et Assimilés, FIATA) and regional associations. It established a training center in 2018 and in 2018 will offer training in the transport of hazardous materials.

(vi) The **Customs Brokers Association**, which is open only to Jordanians, represents the interests of its members to Jordan Customs, investigates complaints against members, and represents members in disputes. It has a presence in Aqaba Port, Queen Alia International Airport, and the larger free trade zones.

(vii) The **Association of Clearing Agents** is a trade association that organizes the work of clearance firms and provides support to improve their performance; it also represents the sector to the government.

(viii) The **Jordanian Exporters Association** assists Jordanian businesses in developing and promoting exports, e.g., by identifying global trade opportunities.

(viii) Various organizations promote bilateral relations, e.g., the **Jordanian Palestinian Business Forum**, the **Jordanian-Iraqi Business Council**, the **Saudi-Jordanian Business Council**.

### Box 4.1 Structure of the Trucking Industry in Jordan

The truck market in Jordan is oversupplied, and was so even before borders were closed, with Syria and until recently with Iraq, due to the ease of entry into the market.

There are about 21,000 (large) trucks at present (February 2018)[a] and a significant proportion are owned by individuals,[b] resulting in rates that are insufficient for owners/drivers to recover costs. The average age of trucks in the country is 10-15 years. Only about 1,000-2,000 trucks are of sufficient quality to travel internationally under TIR carnets. NAFITH – a private concessionaire – allocates work among independent operators to ease the intense competition and decreasing rates.

Trucks and trucking companies are categorized by the products they transport and the form of the vehicle body (e.g., open, closed, tanker). Trucks are regulated by the type of goods they carry and each has to be registered separately. However, if any classification of trucking companies is considered necessary (other than complying with minimum quality standards), it would be best if it were by the size of the company and the range of services it offers.

Issues affecting the sector include a lack of easy access to safety information, high maintenance costs, losses relating to strikes, and limited insurance.

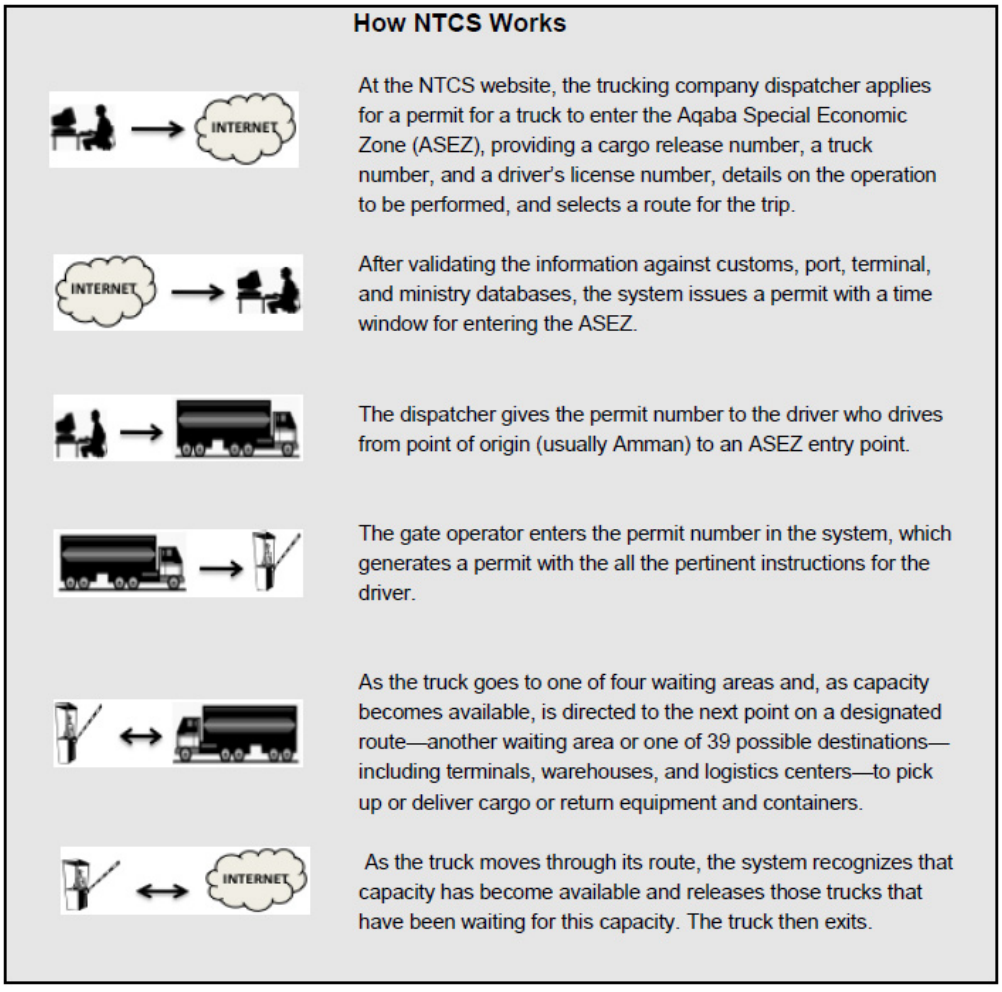
Various barriers to international transport (e.g., security concerns, prohibition on the cross-border movement of vehicles, difficulties in or the high costs of obtaining multiple entry visas) have limited the capacity of Jordanian trucks to operate outside the country.

Notes: [a] This data point is from the Syndicate of Jordanian Trucks Owners. The latest annual report of the Ministry of Transport [Jordan], for 2015, reported 19,459 large trucks and 984 tanker/trucks, or a total of 20,443. Ministry of Transport, *Transport Sector Annual Report 2015* [latest available as of this writing], p. 72. However, this same report

indicates a lower number (16,504) on another page. *Ibid*., p. 86. [b] Reported as 31% in the 2015 Ministry of Transport [Jordan] annual report (p. 86), but as about 86% by the Syndicate of Jordanian Trucks Owners in February 2018

Sources: (i) Interview with the Syndicate of Jordanian Trucks Owners, 7 February 2017; (ii) Ministry of Industry, Trade and Supply, *The Hashemite Kingdom of Jordan, National Export Strategy, 2014-2019*, p. 248; (iii) Ministry of Transport [Jordan], *Transport Sector Annual Report 2015* [latest available as of this writing; and (iv) World Bank, *Regional Cross-Border Trade Facilitation and Infrastructure Study for Mashreq Countries, Final Report*, 2011, pp. 69-70

**Box 4.2 How the NAFITH Truck Control System (NTCS) Works**




Source: *Logistics and Trucking in Jordan: The Benefits of Intelligent Transport Systems*, 2009 [downloaded from http://www.nxintl.com/uploads/5/4/1/7/54179233/6_nafith_aqaba_truck_control_system_case_study_2009.pdf], p. 3

### (3) Major Recent Developments

Major recent developments regarding institutional aspects of transport and logistics in Jordan include the following:

**(i)** ***National Export Strategy 2014-2019***: The strategy includes a trade facilitation and logistics component, which identified a number of institutional and enterprise constraints, as listed in Box 4.3. To address these constraints, five strategic objectives were identified to strengthen Jordan's trade facilitation and logistics systems, along with associated activities: (a) developing trade facilitation and logistics into an effective coordinated system involving all relevant public and private sector organizations to enhance

competitiveness of the system's users; (b) increasing the efficiency of Jordan's border operations in order to position it among the top 25 countries in the Trading Across Borders index in the World Bank's Doing Business Indicators by 2018[7]; (c) strengthening the hard and soft infrastructure underlying Jordan's trade facilitation and logistics systems; (d) improving the capacity of private and public sector organizations involved in logistics; and (e) developing Jordan's trade facilitation and logistics infrastructure in a way to establish Jordan as a regional leader in trade.

**Box 4.3 Institutional and Enterprise Constraints in the Trade Facilitation and Logistics Sector Identified in the National Export Strategy of Jordan, 2014-2019**

*Institutional Constraints*

- There is a need to take a holistic view of trade facilitation and its various components.
- Although improvements have been made, progress in streamlining and strengthening border operations needs to be accelerated.
- Transport infrastructure needs to be strengthened and bottlenecks removed.
- Dialogue between the public and private sector needs to be improved, especially in developing policies.
- The effectiveness of the NCTTF and its related organizations needs to be enhanced.
- The capacity and practices of the trade associations serving logistics operators need to be improved.
- The effectiveness of the special and free economic zones needs to be strengthened.
- Work on positioning Jordan as a regional hub needs to be prioritized.
- The process of securing authorizations for export needs to be streamlined.
- Laws and regulations relating to trade facilitation and logistics need to be integrated under a unified umbrella framework.

*Enterprise Constraints*

- Enterprises need to incorporate exporting as an explicit component of their strategies and familiarize themselves about relevant national and international laws, regulations, and standards.
- The capacity of logistics services, such as clearing agents and freight forwarders, needs to be strengthened and their activities further professionalized.
- The structure and regulation of the trucking industry needs to be made more effective.

Source: Ministry of Industry, Trade and Supply, *The Hashemite Kingdom of Jordan, National Export Strategy, 2014-2019*, pp. 259-61

**(ii) Coordination of Relevant Public and Private Sector Organizations in Enhancing the Competitiveness of the Logistics System:** Pursuant to strategic objective 1 of the National Export Strategy, a number of activities have been undertaken recently to coordinate concerned private organizations in increasing efficiency of the sector. The scope of the TTFTC has been widened, and the processes between governmental agencies involved in trade facilitation are being streamlined. Among other topics, the February 2018 meeting of the TTFTC considered barriers to trade and transport with Iraq, and one-stop inspection within Jordan.[8]

**(iii) Increased Efficiency of Border Operations**: Pursuant to strategic objective 2 of the National Export Strategy, a number of activities have been undertaken to enhance border efficiency, including the official launch of the Jordan National Single Window 2018-

[7] In the Doing Business Indicators for 2018 (based on a June 2017 questionnaire), Jordan ranked 53rd. http://www.doingbusiness.org/data/exploretopics/trading-across-borders.

[8] Interview with the Ministry of Transport, Jordan, 4 February 2018.

2020,[9] accelerated implementation of the golden list authorized economic operator program[10] (with 80 companies participating as of February 2018) and planned implementation of a complementary silver list program, a partnership council between customs and the private sector, long-term training and capacity building of public and private sector staff working at border crossings, time release surveys at the Omari/Umari[11] border crossing with Saudi Arabia and Aqaba Port following the methodology of the World Customs Organization (WCO), and increased investment in logistics and technology, e.g., with plans for updating the electronic transit tracking system implemented by Jordan Customs. While improvements have been and are being made, there is scope for further advances.

**(iv)** **Strengthening of Hard and Soft Infrastructure.** Pursuant to strategic objective 3 of the National Export Strategy, a number of activities have been undertaken to strengthen the hard and soft infrastructure underlying Jordan's trade facilitation and logistics systems, including the development of an effective multimodal transport strategy and plan (a study is ongoing under the Ministry of Transport), the introduction of dry ports, and the development of a strategy to increase the effectiveness of special economic and free zones. More specific activities were outlined in the previous section.

**(v)** **Improving the Capacity of Public and Private Sector Organizations Involved in Logistics**: A number of activities are ongoing, to various extents, pursuant to strategic objective 4 of the National Export Strategy, e.g., strengthening of partnerships between public and private sector organizations, improving the standards and practices of clearance companies and freight forwarders, improving vocational training curriculum in practical logistics areas,[12] and addressing issues related to the structure and capacity of the trucking industry. Recent regulations concerning the trucking industry are set out in Box 4.4.

**(vi)** **Developing Jordan's Potential to Serve as a Regional Logistics Hub**: Pursuant to strategic objective 5 of the National Export Strategy, activities have been undertaken to make Jordan a regional logistics hub, by integrating activities with other countries in the region through established frameworks, as described in subsection 4.3.2, and improving the capacity of Aqaba Port. However, regulations on container imports – designed to protect Aqaba Port – work against achieving this objective (Box 4.5).

[9] The Jordan National Single Window is an integrated electronic platform for all government procedures completed for commercial goods entering the country or transiting it, by which such goods are pre-declared electronically and export procedures are completed in the exporting country. Col. Ahmed Alem, IT Director, Jordan Customs Department, *Presentation of Progress of the Design and Establishment of the New Generation Jordan National Single Window*, Second Regional Workshop on Trade and Transport Facilitation in Strengthening Arab Economic Integration and Connectivity, 6-7 November 2018, slide 10. Agencies participating with the Customs Department in the Jordan Single Window include the Ministry of Agriculture, the Ministry of Environment, the Jordan Food and Drug Administration, the Jordan Institution for Standards and Metrology, the Jordan Nuclear Regulatory Commission, and the Telecommunication Regulatory Commission, although all agencies concerned with the movement of goods are expected to participate in the long term. Jordan Customs, Strategies and Institutional Development Directorate, *Annual Report 2016*, p. 62.

[10] Yehia Al Kayed, Jordan Customs Department, *Presentation of the Progress of Jordan Gold Card Program*, Second Regional Workshop on Trade and Transport Facilitation in Strengthening Arab Economic Integration and Connectivity, 6-7 November 2018.

[11] Alternative Romanized spellings of Arabic-language place names are found in the literature.

[12] E.g., the Jordanian Logistics Association has implemented vocational training for freight forwarders and agreed with the Jordan Maritime Authority on mandatory training for maritime transport. *Jordanian Logistics Association White Paper*, received by the JICA Study Team in February 2018.

### Box 4.4 Road Transport Regulations, 2018

February 2018 regulations on truck transport included the following provisions: (i) setting minimum tariffs for general cargo at JOD 12.75 per ton: (ii) setting minimum fees for transporting containers, e.g., JOD 375 for up to 25 tons, with JOD 15 for each ton above 25 tons inclusive of returning the empty container to Aqaba Port; (ii) setting a maximum of eight trips per month for each truck along the route; and (iii) requiring that each truck can carry only one container, either 20-foot or 40-foot.

Sources: (i) Interview with Ministry of Transport, Jordan, 4 February 2018; and (ii) Council of Ministers Decision 6216, dated 29 January 2018,

### Box 4.5 Regulations on Container Imports, 1991 and 2016

Notification 49 of the Customs Department, dated 25 November 1991, along with previous letters by the Prime Minister and Minister of Industry and Trade, requires that goods imported in containers be imported through Aqaba Port. Circular No. 312 of Jordan Customs, dated 29 March 2016, amended this restriction, but only to permit containers with products of Palestinian origin to be imported to Jordan or transported in transit, to enter Jordan across the King Hussein Bridge, provided that containers from seaports of other countries in the regions are not used.

Sources: (i) Notification 49 of the Customs Department, 25 November 1991; and (ii) Circular No. 312 of Jordan Customs, 29 March 2016

## 4.2 Institutional Aspects Related to Transport and Logistics in Palestine

### 4.2.1 Agencies Involved / National Frameworks

#### (1) Public Sector[13]

Major public sector agencies involved with transport and logistics in Palestine include the following:

(i) Generally responsible for economic policy-making in cooperation with other ministries, agencies, and private sector organizations, the **Ministry of National Economy** carries out various trade facilitation and logistics functions, e.g., relating to import licenses, resolution of border crossing issues, issuance of certificate of origins, and issuance of certified exporter certificates;

(ii) Responsible for cross-sector planning and the formulation of comprehensive development policies with the participation of all relevant Palestinian organizations, the **Ministry of Planning and Development** is responsible for ensuring effective implementation of a realistic and Palestinian-owned development agenda.

(iii) The **Ministry of Finance** manages customs, border authorities, and the collection of taxes on imports and exports. There are plans to transfer customs functions from Israel to the Palestinian Authority.

(iv) The **Ministry of Transport** is responsible for implementation of policies and actions to develop the transport sector.

(v) The **Palestinian Industrial Estates and Free Zones Authority** (PIEFZA) has been establishing advanced industrial zones (e.g., including the strategically located, and Japan-supported Jericho Agro-Industrial Park, JAIP), seeking to attract foreign and domestic investors.

(vi) The **Palestine Standards Institution** serves as the focal point for Palestinian participation in the global system of harmonized standards. Its mission is to facilitate trade and investment in Palestine by meeting the metrology, standards, testing, and quality-related needs of the business community, while ensuring consumer and environmental safety.

(vii) The **Ministry of Agriculture** is responsible for planning, development, and organization of the entire value chain of plant and animal products.

(viii) The **Ministry of Health** maintains quality standards for food and issues health certificates for exports.

It has been observed that effective coordination between/among the Palestinian organizations involved with trade facilitation and logistics has been limited,[14] although steps have been made under the *National Export Strategy 2014-2018*.

[13] This subsection draws on: (i) Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, pp. 15-16; and (ii) interviews with staff (November 2017-February 2018) and/or reviews of the respective websites of the organizations.

[14] Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, p. 19.

Relevant laws of Palestine are derived from a variety of sources and include the Basic Law, which allows for enactment of laws by presidential decree. Laws are published in an official gazette, in Arabic. An issue is that a number of commercial laws have not been enacted, which results in legislative gaps or requires use of Israeli and/or Jordanian laws on a de facto basis.[15] For example, with respect to customs, Palestine still functions under the 1962 Jordan customs law.

Table 4.2 lists relevant Palestinian laws and regulations.

**Table 4.2 Relevant Laws and Regulations of Palestine**

| Laws/Regulations | Content |
|---|---|
| *Laws* | |
| Company Registration Law No. 12, 1998 | Company registration and ownership conditions |
| Agriculture Law No. 2, 1999 | Regulation of plant protection and veterinary services pursuant to the WTO SPS agreement |
| Public Health Law No. 11, 2001 | Regulation of food safety, SPS certification, and registration of pharmaceutical products |
| Customs and Excise Law No. 10, 2004 | Customs and excise operations and regulations regarding tariffs |
| Law No. 1 of 1998 on the Encouragement of Investment in Palestine, as amended since by Presidential Decrees | Regulations on foreign direct investment |
| Law No. 10 of 1998 regarding Industrial Estates and Free Zones, as amended | Primary law on industrial estates and free zones |
| *Regulations* | |
| Presidential Decree Establishing the Border and Crossings Department, 2006 | Establishment of department |
| VAT Regulation (Ministry of Finance) | Unified VAT import procedures |
| Customs Clearance Regulations (Ministry of Finance) | Post-clearance audit and tariff rates |
| Import and Export Licensing Regulations (Ministry of National Economy) | Licensing regulations |
| Regulations on Certificates of Origin (Ministry of National Economy) | Certificates of origins regulations |

Abbreviations: SPS = sanitary-phytosanitary, VAT = value-added tax, WTO = World Trade Organization
Source: Mainly based on (i) *Strengthening the Palestinian Private Sector through Reducing Trade Transaction Costs: A Comprehensive Research and Advocacy Program, Final Report*, funded by the Middle East Partnership Initiative, December 2015, pp. 91-93; and (ii) Palestinian Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, *Legal and Institutional Study of Border Operations*, prepared by PADECO Co., Ltd., December 2017, p. 12

To some extent, certain Israeli authorities regulate transport and logistics in and for Palestine, including e.g., the Israel Airports Authority, which operates Palestine's land border(s); the Coordination [Coordinator] of Government Activities in the Territories (COGAT)[16]; and the Israel Customs Administration. Therefore, for reference, Table 4.3 summarizes relevant Israeli laws and regulations.

[15] Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, p. 30.
[16] COGAT is a unit in the Israeli Ministry of Defense that engages in coordinating civilian issues between/among the Government of Israel, the Israel Defense Forces, the Palestinian Authority, and international organizations.

## Table 4.3 Relevant Laws and Regulations of Israel

| Laws/Regulations | Content |
|---|---|
| *Laws* | |
| Law on Implementation of the Gaza Jericho Agreement (economic arrangements and other issues), 1994 | Application of Paris Protocol to Israeli laws (e.g., regarding imports, transfer of payments to the PA, third-party motor liability insurance) |
| Law on Implementation of the Agreement of Preparatory Transfer of Powers to the Palestinian Authority, 1995 | Among other things, covering third-party motor liability insurance |
| Defense Export Control Law, 2007 | Limitations on the trade of dual use products; Article 20 excludes defense exports to Palestine from the general framework of the law, and authorizes the formulation of an extended list of "dual use goods" and a separate licensing procedure |
| The Airports Authority Law, 1977 | Law on the Airports Authority, which operates the western side of the Allenby / King Hussein Bridge (and the Sheikh Hussein Bridge) |
| Entry into Israel Law, 1952 | Immigration law |
| *Regulations* | |
| Customs Procedure No. 12: Importing to the PA | Special procedures applied to customs clearance of Palestinian imports |
| Free Export Order, 1978 | Permits the free export of all products, except for certain listed products for which an export permit is required |
| Regulations on the Prevention of Animal Disease (import and export of animal products) (Ministry of Agriculture) | Standardization of import/export requirements |
| Order regarding Control of Military Export (Dual Use Equipment) (Ministry of Defense) | Application of defense regulations to the import of dual use goods to the PA; 56 items that are considered dual use goods when exported to (imported into) Palestine are enumerated, including both specific items (e.g., particular chemicals) and general items (e.g., telecommunications equipment). |
| Defense Export Control Decree (Ministry of Defense) | Extension of the dual use goods list applied to trade with Palestine |
| Decrees on Prevention of Money Laundering (Bank of Israel) | Application of a high level of scrutiny to money transfers to/from the PA |
| Decree 653 on the Control of Certain Materials | List of materials requiring specific permit(s) for import into Palestine |
| Procedures for Entry of Investors and the Relevant Steps | Financial and security conditions for entry permits for foreign investors in the West Bank |
| Entry into Israel Regulations, 1974 | Immigration regulations |

Abbreviation: PA = Palestinian Authority

Sources: Mainly based on: (i) Lex Mundi, *Guide to Doing Business, Israel*, prepared by Lex Mundi member firm S. Horowitz & Co., Tel Aviv, 2011 (downloadable from www.lexmundi.com/Document.asp?DocID=4916)*;* (ii) *Strengthening the Palestinian Private Sector through Reducing Trade Transaction Costs: A Comprehensive Research and Advocacy Program, Final Report*, funded by the Middle East Partnership Initiative, December 2015, pp. 55, 92-96; and (iii) Palestinian Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, *Legal and Institutional Study of Border Operations*, prepared by PADECO Co., Ltd., December 2017, pp. 10-11

### (2) Private Sector (e.g., Trade Services Network, Civil Society)[17]

Major private sector (or quasi private sector) organizations involved with transport and logistics in Palestine are described in the following paragraphs:

(i) The **Palestine Export Council (PEC)**, created in September 2014 by a decision of the Cabinet, is a public-private platform that manages and monitors the implementation of the *National Export Strategy 2014-2018*. Led by the Minister of National Economy and PalTrade, and in close collaboration with development partners, PEC has worked to ensure that activities identified in the National Export Strategy are efficiently implemented.[18]

(ii) The **Palestine Federation of Industries** (PFI) is the organization that represents the Palestinian industrial sector through its federated associations. Regarding trade facilitation and logistics, it guides exporters through the various procedures.

(iii) The **Palestinian Federation of Chambers of Commerce, Industry, and Agriculture** is the umbrella organization for all chambers of commerce in the West Bank (and Gaza). It works to ensure that the private sector operates freely and has an advocacy role in policy formulation. In addition, it seeks to establish strong links to global markets and works with small and medium enterprises to improve their performance, focusing on market access, quality, and costing.

(iv) The **Palestine Trade Center (PalTrade)** is mandated to lead the development of exports as a driving force for sustainable economic growth. Among other things, it seeks to improve trade competitiveness through trade promotion and capacity building. It is one of the authors of the *National Export Strategy 2014-2018* and was rated an institution with high capacity to respond to the needs of the trade facilitation and logistics sector and as having a high level of influence on the sector.[19]

(v) The **Palestinian Investment Promotion Agency** generally promotes Palestine's advantages to investors, but regarding trade facilitation and logistics it can play an advocacy role and mobilize support to modernize infrastructure.

(vi) The **Palestinian Shippers' Council** (PSC) strives to strengthen the capacity of Palestinian shippers through collective negotiations, cooperative agreements, advisory services, and training. It has authored a number of relevant publications,[20] and like PalTrade, was rated as an institution with high capacity to respond to the needs of the trade facilitation and logistics sector and as having a high level of influence on the sector.[21]

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[17] This subsection mainly draws on: (i) Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, pp. 16-19; and (ii) interviews with staff (August 2017-February 2018) and/or reviews of the respective websites of the organizations.

[18] http://www.intracen.org/news/Palestine-unveils-first-National-Export-Strategy/.

[19] Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, p. 21.

[20] E.g., (i) Palestine Trade Center, Palestine Shippers Council, Palestinian National Authority, and European Union, *Facilitating Palestinian Global Trade Through Jordan and Egypt*, Trade Corridors' Facilitation Project, October 2009; (ii) Palestine Trade Center, Palestinian Shippers Council, European Union, and Palestinian National Authority, *Export/Import Guide via King Hussein Bridge*, Trade Corridors' Facilitation Project, January 2010; and (iii) Palestinian Shippers Council, *Capacity Development for Facilitating Palestinian Trade, A Study on the Problems of Palestinian Trade via Israeli Ports (Ashdod and Haifa)*, April 2012.

[21] Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, p. 21.

(vii) The **Palestinian Standards Institution** serves as the focal point for Palestinian participation in the global system of harmonized standards.

(viii) The **Palestine Economic Policy Research Institute** (MAS, from its Arabic-language acronym) promotes knowledge-based policy formulation by conducting economic and social policy research, including studies assessing trade agreements.

One issue for the Palestinian transport and logistics private sector is that the Palestinian trucking industry is fragmented and inefficient. There are no major trucking companies in Palestine and fleet sizes are generally small. The utilization rate of trucks is low, caused by inefficient road networks and transport restrictions, which increase vehicle operating costs per km. It has been reported that 18-wheel trucks in Jordan have utilization rates 2.66 times that of similar trucks in Palestine.[22]

Another issue for the Palestinian private transport and logistics sector is that Palestinian enterprises are not permitted to provide logistics and customs broker services. The prices for the same logistics services charged by Israeli operators to Palestinian customers are significantly higher than those charged by Israeli operators to Israeli customers. Palestinian customs brokers do not have access to the Israeli customs system and therefore they can only act as subagents or intermediaries of Israeli customs brokers, which have direct access to the customs systems. This increases costs for Palestinian users.[23]

### (3) Major Recent Developments

Major recent developments regarding institutional aspects of transport and logistics in Palestine include the following:

**(i)** ***National Export Strategy 2014-2018***: The strategy – which was supported by the Trade Diversification and Competitiveness Enhancement Project of the European Union and formally endorsed by the Cabinet in September 2014 – includes a trade facilitation and logistics component, identifying a large number of institutional and enterprise constraints, selected ones of which as listed in Box 4.6. As a result, export times and costs are unusually high for Palestine, especially when compared with Israel (Figure 4.1). To address these constraints, three strategic objectives were identified to strengthen Palestine's trade facilitation and logistics systems, along with associated activities: (a) building the capacity of national institutions so that they are able to respond better to the trade facilitation and logistics needs of exporters, by strengthening public and private dialogue and streamlining administrative procedures and logistics; (b) ensuring that exporters have the proper information and capacities to export efficiently, by improving information flows on trade facilitation and logistics, ensuring that enterprises have access to the most relevant export routes for their products, and increasing the capacity of export value chain stakeholders to comply with trade facilitation and logistics requirements; and (c) developing the most efficient, cost-effective export processes and routes for operators, e.g., by reducing costs to exporters through the establishment of integrated solutions, encouraging private sector investment for increasing the efficiency of trade flows (by establishing collective bonded areas), and strengthening logistics assistance to exporters at each border crossing. In discussions with the study team, PalTrade indicated that significant progress has been achieved regarding achievement of the first two strategic

[22] Source in previous footnote, pp. 9, 26, and 32 [e.g., comparing annual usage of 100,000 km in Jordan to 37,600 km in Palestine].

[23] Palestinian Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, *Legal and Institutional Study of Border Operations,* December 2017, prepared by PADECO Co., Ltd., p. 20.

objectives (a and b), but that considerably more work remains regarding the third objective (c).[24]

**Box 4.6 (Selected) Institutional and Enterprise Constraints in the Trade Facilitation and Logistics Sector Identified in the *National Export Strategy of Palestine, 2014-2018***

*Institutional Constraints*

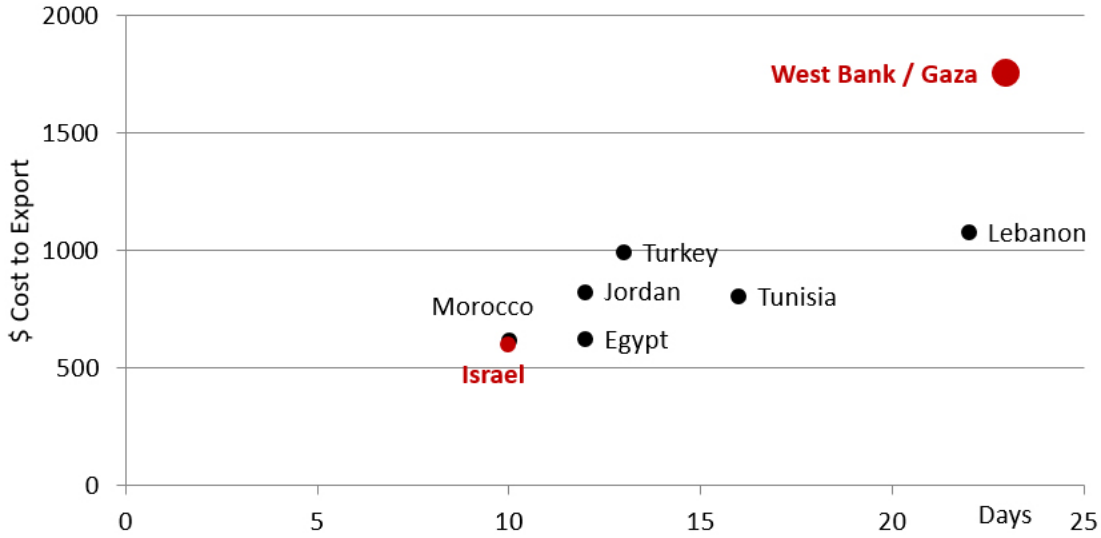
- Movement restrictions within the West Bank constrain the ability of enterprises to effectively meet customer demand(s).
- High demurrage costs are incurred by enterprises.
- High transport costs are incurred by Palestinian traders because of unpredictability at border crossings.
- High storage costs for Palestinian goods held for clearance at Israeli ports add to costs and delays.
- Operating days and hours at the Allenby / King Hussein Bridge do not meet trade requirements.
- The so-called back-to-back system results in transshipment, which significantly burdens exporters and leads to delays and increased costs.
- Pre-shipment inspections are a potential solution to reducing delays on the border with Israel, but are not implemented due to authorization issues.
- The lack of a Palestinian customs presence at all the commercial border crossings is a major trade bottleneck.
- Limited logistics-based and procedural information has resulted in a weak Palestinian negotiating position vis-à-vis Israeli logistics providers.
- The lack of coordination between Palestinian and Israeli officials places a high administrative burden on Palestinian exporters and adds to the information gap.
- There is a need to increase the public-private dialogue related to trade facilitation and logistics, as well as negotiation of trade agreements.
- Non-recognition of trade agreements by Israel hinders trade facilitation.
- There is currently no functioning known trader system to speed up border crossings.

*Enterprise Constraints*

- There is a need to develop trade facilitation and logistics within the organizational structure of Palestinian enterprises that export.
- A proactive approach is necessary to ensure the completeness of required trade documentation.

Source: Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, p. 23-31

[24] Interview with PalTrade, 8 February 2018.




Sources: (i) *Inclusive Growth Diagnostic, What are the binding constraints to economic growth in the West Bank and Gaza? Main Findings*, March 2017, slide 10 [drawing on the World Bank's Doing Business database, 2014]; and (ii) United States Agency for International Development and United States Department of State, *West Bank and Gaza Inclusive Growth Diagnostic*, May 2017

**Figure 4.1 Export Times and Costs for Palestine Relative to Comparators**

### (ii) *Legal and Institutional Study of Border Operations,* December 2017

A *Legal and Institutional Study of Border Operations* was carried out in December 2017 under a JICA technical assistance project for PIEFZA in relation to JAIP. Consistent with the *National Export Strategy 2014-2018*, the study identified various impediments to trade, especially across the Allenby / King Hussein Bridge, including (i) the back-to-back system, resulting in transshipment[25]; (ii) the routine exhaustive physical inspection of all cargo crossing the border, which results in time losses, increased costs, and a risk of damage and loss of the goods; (iii) the unpredictability of border procedures and the lack of transparency; (v) multiple inspections; and (vi) compulsory reliance on intermediaries; and (vi) a lack of authorization of Palestinian logistics service providers and customs brokers. To address the various impediments, the study concluded that it is necessary to propose facilitation measures that offer the same guarantees (e.g., security, fiscal, sanitary) for public authorities, but are less onerous for the private user. While the justification for security checks was considered legitimate and not challenged, the modality of applying these checks could be more user friendly, thereby saving time, cost, and effort, without jeopardizing the goal. Taking this delicate balance into account, the measures listed in Box 4.7 were proposed,[26] and to formalize the proposed measures, a protocol or memorandum of understanding (MOU) was suggested along with a draft outline of its content.[27] In addition, the

[25] Office of the Quartet, *Report on the Activities of the Office, January 2016-June 2017*, 19 July 2017, p. 9 ["Door to door movement of cargo has the potential to reduce Palestinian traders' transportation costs by approximately 35 percent compared to the current costs incurred when moving goods from their factories in the West Bank to locations in Israel or the Israeli international gateways."]

[26] PIEFZA suggested that one scenario for implementing the various measures would be to engage an international firm (or a mutually agreed tripartite joint venture) to serve as operator, at least in the initial period (possibly it would be replaced later). It would handle the cross-border conveyance of cargo, thus replacing the governmental actors, for traffic between Jericho and Shuneh, which would be linked by the planned exclusive road. Implementation of this scenario would need to take into account (i) the costs of engaging an international firm and (ii) the appropriateness of outsourcing functions of sovereign powers that protect national interests (e.g., security, fiscal revenue, immigration) and which may affect the fundamental rights of individuals (e.g., through arrests, confiscation of goods).

[27] Palestinian Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, *Legal and Institutional Study of Border Operations*, prepared by PADECO Co., Ltd., December 2017, p. 30-31, 35-37.

study presented an outline terms of reference for a Four-Party [Israel-Japan-Jordan-Palestine] Coordination Committee, to facilitate discussions or negotiations of these issues in relation to the proposed initiative linking JAIP and Shuneh, Jordan, and which if successful, could continue to oversee operation of the project.

**Box 4.7 Measures Proposed by the *Legal and Institutional Study of Border Operations***

- reducing or eliminating the requirements of the back-to-back system (e.g., by permitting border crossing by the means of transport, i.e., trucks and containers)[a]
- the facilitation of border crossing clearance, e.g., through risk management, a system of authorized economic operators, i.e., trusted, reliable, known, and reputable operators
- one-stop border crossing clearance procedures, adjoining state-wise, and agency-wise
- advance and inland clearance
- modern technology to support trade facilitation measures, e.g., scanning of vehicles/cargo compartments, tracking devices, biometric processing of immigration, license plate and document readers
- suitable transport equipment, e.g., sealed containers
- border post configuration/location
- noncompulsory use of intermediaries
- simplification, harmonization, streamlining, and coordination

Note: [a] From a facilitation point of view, the crossing of the border by loaded trucks is recommended. Between the back-to-back system, totally barring the entry of means of transport in the host country on the one hand, and entry into the host country's entire hinterland by foreign trucks on the other hand, there are a number of intermediate (second-best) approaches conceivable, each with increasing facilitation effect, e.g., movement of loaded containers across the border, onto a different trailer and tractor; movement of loaded trailers across the border, with an exchange of tractor and driver.
Source: Palestinian Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, *Legal and Institutional Study of Border Operations*, prepared by PADECO CO., Ltd., December 2017, p. vii, 24-30

### (iii) Palestine Customs Capacity Building in the Field of Automation

The United Nations Conference on Trade and Development (UNCTAD) has proposed a project to support Palestinian Customs through capacity building for customs automation, to allow it to manage basic customs operations using automation in line with international standards and accepted good and best practices, specifically by enhancing the technical and functional capacity of Palestinian Customs to operate ASYCUDA (Automated System for Customs Data) World, a state-of-the-art computerized customs system provided by UNCTAD. The project is to be implemented because (i) in January 2018 Israel started implementing the *Sha'ar Olami* (Global Gate) automated customs system (see Box 4.8), which requires ASYCUDA World for data exchange between Palestinian and Israeli customs authorities. In addition, it has been proposed to transfer some customs authority for direct Palestinian imports from the Israeli to the Palestinian customs authority,[28] which would require Palestinian Customs to have a significantly updated IT system, and for Palestinian customs officers and customs brokers to be trained to implement the new procedures.[29]

[28] As long ago as 2005, a persuasive case was made for a Palestinian Border Services Agency. World Bank Technical Team, *A Palestinian Border Services Agency: A Concept Note*, October 2005.

[29] Also, with the planned reintegration of Gaza under the Palestinian Authority, it will be necessary to apply the latest version of ASYCUSA at Gaza's crossing points. United Nations Conference on Trade and Development, *Supporting Palestinian Customs: Capacity Building in the Field of Customs Aut*omaton, 2017.

**Box 4.8 The *Sha'ar Olami* (Global Gate) Automated Customs System**

On 14 January 2018, the Israeli Customs Directorate began implementation of the *Sha'ar Olami* (Global Gate) Automated Customs System, which will realize a single window information system for managing Israel's foreign trade. It aims to apply state-of-the-art concepts, technologies, and interfaces between/among members of the trading community as well as new internal procedures and policies, improving and accelerating customs procedures while providing a balance between trade facilitation and law enforcement. Changes in customs procedures include: (i) importers having the ability to grant a power of attorney to others (e.g., customs and clearance agents) to carry out customs procedures; (ii) affidavits and other documents transferred in digital form and digitally signed by the importer; and (iii) importers required to use a smartcard for customs operations, including for the completion and submission of online forms and files.

Source: E.g.,https://isline.co.il/wp-content/uploads/2017/11/Global-Gate-a-letter-to-the-importing-community.pdf

### (iv) Other Developments

Other recent developments include: (i) a USAID export facilitation project, expected to commence in 2018, involving PalTrade, PFI, and PSC, involving market research and business-to-business development); (ii) a USAID trade facilitation project, completed in 2013, which worked to improve border management efficiency to reduce trade costs for business and increase the capacity of the Palestinian Authority to effectively manage trade and enhance customs revenue, and to support private sector entities in advocating for improved trade facilitation measures with the Israeli border and crossings authorities[30]; (iii) *the Trade Transaction Costs* project, funded by the Middle East Partnership Initiative and completed in 2015[31]; and (iv) an October 2017 assessment of trade and transport across the Allenby / King Hussein Bridge, supported by the Office of the Quartet.

[30] USAID, West Bank/Gaza, *Trade Facilitation Project, Final Report*, prepared by Chemonics, 2013. One achievement of this project was the implementation of a pilot known trader program at Tarqumia/Tarqumiyah crossing, which reduced trade and transport costs, but which did not lead to a reduction in security measures and did not achieve its goal of a risk-managed approach to cargo at the crossing. Previous source, pp. 26-28. A 22 May 2017 White House statement called for launching a pilot program for prescreened Palestinian factories to make door-to-door delivery of commercial merchandise, to be expanded after one year, if successful; however, early attempts at implementation of this pilot have not been successful, due to cumbersome registration and inspection processes. Office of the Quartet, *Report for the Meeting of the Ad Hoc Liaison Committee*, 17-18 September 2017, p. 22.

[31] *Strengthening the Palestinian Private Sector through Reducing Trade Transaction Costs: A Comprehensive Research and Advocacy Program, Final Report*, funded by the Middle East Partnership Initiative, 2015.

## 4.3 Institutional Aspects Related to Transport and Logistics in the Region

### 4.3.1 Global Frameworks

Table 4.4 presents relevant global legal and regulatory frameworks and the member/signatory status of Jordan and Palestine, as well as Iraq, Israel, Saudi Arabia, and Syria (with the last-named countries presented in alphabetical order). Some noteworthy points include the following:

(i) Jordan is a contracting party to nine of the listed conventions, while Palestine is a party to one.

(ii) All of the countries are parties to the TIR Convention, except for Iraq and Saudi Arabia.[32] Only 50 TIR carnets were issued for Jordan in 2017, down from the peak of (only) 500 in 2010.[33]

(iii) Palestine is not a member of the World Trade Organization (WTO), which it recognizes puts it at a disadvantage, since it must de facto comply with increasing regulatory obligations of the multilateral trading system, while not enjoying any benefits.[34]

(iv) Jordan, Israel, and Saudi Arabia are parties to the Trade Facilitation Agreement (TFA, also known as the Agreement on Trade Facilitation, ATF) of the WTO. A recent study by UNCTAD assessed the applicability of the TFA in the territory of the Palestinian Authority, regardless of whether or not Palestine, which has been accorded Observer State Membership in the United Nations, is a party to the WTO Agreement. Specifically, the study assessed the applicability of the TFA to Palestinian trade in light of international law, positions of international organizations, and legal scholars. It considered in detail whether Israel, as an occupying power and (a then possible future) party to the TFA, would be obliged to apply the TFA to Palestinian trade, and if so, how the provisions should be applied.[35]

(v) A 2013 assessment found that despite the global coverage of UN trade and road transport facilitation instruments, and their successful contribution to trade development in other regions (e.g., Europe, the Caucasus, Central Asia), most Arab countries seem to have little interest and remain inactive with respect to ratifying and implementing these global UN conventions.[36]

[32] https://www.unece.org/info/media/presscurrent-press-h/transport/2018/accession-of-state-of-palestine-to-un-tir-convention/doc.html.

[33] The other listed countries are not active users of the TIR system either. See http://www.unece.org/fileadmin/DAM/tir/figures/TIRCarnets2001-2017.pdf.

[34] Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, p. 47.

[35] United Nations Conference on Trade and Development, *The 2013 World Trade Organization Agreement on Trade Facilitation: Israel's Obligations towards Palestinian Trade*, 2015, pp. iii-iv ["the application of the ATF to Palestinian trade by Israel, in its capacity as a party to the Agreement, as with all international agreements that the international community demands to be applied to the OPT [occupied Palestinian territory], will result in removing many 'security-related' restrictions placed by Israel on Palestinian trade"].

[36] Jean Acri [Special Advisor to the International Road Transport Union], *Road Transport and Border Crossing Facilitation in the Arab World*, Riyadh, Saudi Arabia, 13 November 2013, slide 8.

## Table 4.4 Global Frameworks Acceded to by Countries in the Region

| Framework | Jordan | Palestine | Iraq | Israel | Saudi Arabia | Syria |
|---|---|---|---|---|---|---|
| General Agreement on Tariffs and Trade (GATT) and General Agreement on Trade and Services (GATS) of the World Trade Organization | O | | | O | O | |
| Trade Facilitation Agreement of the WTO (2013) | O | | | O | O | |
| Agreement on the Application of Sanitary and Phytosanitary Measures (1995) | O | | | O | O | |
| WTO Agreement on Technical Barriers to Trade (TBT Agreement, 1995) | O | | | O | O | |
| Convention on International Transport of Goods Under Cover of TIR Carnets (the TIR Convention, Geneva, 1975) | O | O | | O | | O |
| Convention on Road Traffic (Geneva, 1949) | O | | | | | O |
| Road Traffic Convention (Vienna, 1968) | | | O | O | O | |
| Customs Convention on Containers (Geneva, 1956) | | | | O | O | |
| International Convention on the Harmonization of Frontier Controls of Goods (Geneva, 1982) | O | | | | O | |
| Revised Kyoto Convention of the World Customs Organization (1999) | O | | | | | |
| United Nations Convention on the Law of the Sea (Montego Bay, 1982) | O | | | | | |

Notes: (i) Following general practice, the dates shown are the dates of initial signing. (ii) The GATT 1947 became part of the GATT 1994. The GATT 1994 incorporates the GATT 1947 by reference with a few adjustments. The GATT 1994 itself is a component of the WTO Agreement – Annex 1A of the WTO Agreement contains the GATT 1994. (iii) Article VIII of the GATT provides for cost-based fees and charges for transit traffic and elimination of superfluous documents and procedures. Article X of GATT imposes on member states (a) a transparency obligation to publish all legislation, regulation, jurisprudence, and administrative practice and procedure accessible for advance consultation by users, and (b) an impartial/objective review/redress system for the user against unfair treatment. (iv) Since no particular GATS Annex was developed for road transport (Sector 11F), such services come under the normal schedules of the members' commitments and restrictions; neither Israel nor Jordan has made commitments regarding this sector. (v) The 1995 WTO Agreement on the Application of Sanitary and Phytosanitary Measures, also known as the SPS Agreement, sets

constraints on member states' policies relating to food safety (bacterial contaminants, pesticides, inspection and labelling) as well as animal and plant health with respect to imported pests and diseases. (vi) The WTO Agreement on Technical Barriers to Trade (TBT Agreement) ensures that technical regulations, standards, testing, and certification procedures do not create unnecessary obstacles to trade. (vii) The Palestinian Authority territory is *de facto* a landlocked area that depends on Israeli ports and Israeli-controlled trade terminals. Palestian Trade Center and Palestinian Shippers Council, *Facilitating Palestinian Global Trade Through Jordan and Egypt, Trade Corridors' Facilitation Project*, October 2009, p. 38. The United Nations Convention on the Law of the Sea – which includes provisions related to the rights of landlocked countries – has been signed by UN Observer State Palestine. It has essentially superseded the Convention on Transit Trade of Land-locked States (New York, 8 July 1965). Under a "two-state solution", the West Bank would be part of the Palestinian State and would no longer be landlocked, since it would have direct access to Gaza's seacoast.
Source: This Study

### 4.3.2 Regional and Bilateral Frameworks

Relevant regional and bilateral frameworks include the following:

(i) The **Greater Arab Free Trade Area** (GAFTA), also known as the Pan-Arab Free Trade Area (PAFTA), which has been in force since 1 January 1998, was established by the Arab Economic Union under the framework of the Arab League and is a multilateral trade agreement among Arab League states aiming to fully liberalize the trade of goods between Arab nations. Both Jordan and Palestine are full members of GAFTA, which pursues the elimination of customs and nontariff barriers on goods traded among Arab economies, including Jordan and Palestine.[37] As of 1 January 2005, full trade liberalization of goods was achieved through the full exemption of customs duties and charges with equivalent effect between all GAFTA members. As of this date, all Palestinian exports have enjoyed duty-free, quota-free treatment in all GAFTA member states. This free trade area was a first step towards achieving an Arab Customs Union (2015) on the way to an Arab Common Market (2020).[38] The GAFTA parties intend to remove all tariffs and nontariff barriers, but more work is required. In spite of GAFTA, bilateral agreements can still be relevant to address specific issues between country pairs (e.g., between Jordan and Palestine).

(ii) The **Agreement Setting Up a Free Trade Area among Arab Mediterranean Countries** (the so-called **Agadir Agreement**), which was signed in Rabat, Morocco, on 25 February 2004, and entered into force in March 2007, is a free trade agreement originally involving Egypt, Jordan, Morocco, and Tunisia; Palestine and Lebanon joined the agreement in April 2016. It was envisaged as a potential first step in the formation of a Euro-Mediterranean free trade area as foreseen by the so-called Barcelona Process. It is open to further membership by all Arab countries that are members of the Arab League and GAFTA that are linked to the EU through an association agreement or free trade agreement. Notable trade facilitation initiatives of the Agadir Agreement include information exchange and electronic connectivity between customs authorities, mutual recognition of authorized economic operators, mutual recognition of conformity certificates, and the development of a single window for Agadir member states.[39]

(iii) **Arab Transport Facilitation Agreements** include (a) the Agreement Organizing Transit Transport between Member States of the Arab League, 1977; (b) the Protocol Unifying Rules and Measures for the Crossing of Vehicles of Participating Countries between their Territories and through Them in Transit (Jordan, Lebanon, Saudi Arabia, Syria, and

[37] Articles I,6 and VI.
[38] https://www.paltrade.org/en_US/page/trade-agreements.
[39] Mohammed Tolba, Senior Advisor, Agadir Technical Unit, *Trade Facilitation under the Agadir Agreement*, Second Regional Workshop on Trade and Transport Facilitation in Strengthening Arab Economic Integration and Connectivity, 6-7 November 2018.

Yemen), 2001; (c) the Agreement on the International Roads in the Arab Mashreq[40] (under the auspices of the United Nations Economic Commission for Western Asia, UNECWA), 2001 (entered into force in 2003); (d) the Agreement on International Railways in the Arab Mashreq (under the auspices of the Integrated System in the Arab Mashreq, ITSAM), adopted by UNESCWA, 2003 (entered into force in 2005); and (e) the Agreement on Organizing the Land Transport of Goods among Arab Countries, 2012. Table 4.5 presents a comparison between the TIR and Arab transit systems; efforts to amend the Arab transit systems have been ongoing.[41] However, a World Bank publication found that no business case can be made for regional "TIR lite" transit regimes.[42]

**Table 4.5 Comparison between the TIR and Arab Transit Systems**

| Attribute | TIR System | Arab Transit System |
|---|---|---|
| Geographic scope | 70 signatory countries plus the European Union (operational in all except for 12 of the signatory countries) | 13 Arab countries |
| Guarantee systems | One unique guarantee system for all carnets | Multiple suppliers of guarantees in each country of transit |
| Monetary limits of guarantee | Flat rate guarantee of USD 50,000 per TIR carnet; the limit is independent of the goods in transit | Different flat rate guarantee per country |
| Selection of guarantors | The guarantor is the national TIR association of the country, backed by an international guarantee chain organized by the IRU | Approved commercial transit companies in each country are entitled to provide guarantees |
| Goods covered by the guarantee | All goods (except for alcohol and tobacco) | All goods (except the transport of alcohol is prohibited in many Arab countries) |
| Selection of transport operators | All users of the TIR regime must be authorized by local authorities and approved by the national TIR association | Any transport company without quality selection according to agreed standards |
| Security and risk management | SafeTIR is a computerized control system to monitor each TIR transport operation; load compartments (vehicles of containers) must be approved for transport under customs seal, and approval certificates are mutually recognized by all TIR contracting parties | Some requirements are imposed to ensure the security of trucks, but each contracting party organizes its own security and risk management mechanism; the exchange of data is organized between contracting parties, but no international standards are applied |

Source: Based on Jean Acri [Special Advisor to the International Road Transport Union], *Road Transport and Border Crossing Facilitation in the Arab World*, Riyadh, Saudi Arabia, 13 November 2013 [updated by the JICA Study Team]

(iv) The Beirut-based **Aid for Trade Initiative for Arab States** (AfTIAS, 2013-2017) and its successor project for **Strengthening Arab Economic Integration for Sustainable**

[40] Mashreq refers to the region of the Arab world east of Egypt; it includes Iraq, Jordan, Lebanon. Palestine, and Syria.
[41] See, e.g., Secretariat General, Economic Sector, Arab Economic Integration Department, Technical *Committee Supervising the Implementation of the Transit Agreement between Arab States, Report and Recommendations*, Cairo, 11-14 May 2014.
[42] Jean Francois Arvis, Robin C. Carruthers, Graham Smith, and Christopher Willoughby, *Connecting Landlocked Developing Countries to Markets: Trade Corridors in the 21st Century*, World Bank, 2014, pp. 86-87.

**Development** (commencing in 2017) have been multi-country, multi-donor[43] programs to foster Arab trade. It has proposed projects for (a) addressing non-tariff measures (NTMs) to promote intra-Arab trade, including an NTM survey for Jordan, to help sustainable increase trade among Arab countries; and (b) enhancing performance of border control management at selected border posts of Arab states, including the possible piloting of joint customs control procedures at a pair of border posts between Jordan and Saudi Arabia.[44] Under the auspices of AfTIAS, a Second Workshop on Transport and Trade Facilitation in Strengthening Arab Economic Integration and Connectivity was held in Amman on 6-7 November 2018; Box 4.9 sets out key recommendations of the workshop.

**Box 4.9 Selected Recommendations of the Second Regional Workshop on Transport and Trade Facilitation in Strengthening Arab Economic Integration and Connectivity**

- It is strongly recommended to define the action plans for related stakeholders at the regional and national levels, with a view to translating decisions into concrete actions through specific initiatives aimed at reduction of trade costs and efficiency of international value chains as well as improvement of intra-Arab trade.
- New economic development in the region and evolving roles of economic operators demand design and development of a new governance model for better efficiency and effectiveness of national committees on transport and trade facilitation. The committees should operate with key performance indicators to measure progress as per terms of reference.
- National committees should strengthen collaboration with concerned agencies, such as ministries of trade, to accelerate liberalization in trade in services in the transport sector, aimed at improving the competitiveness of goods and services from the Arab countries individually and from the region.
- Adoption of the digitalization of transport and trade facilitation practices is recommended.
- It is recommended to design and activate initiatives in partnership with the private sector (e.g., Aqaba Development Company, Aqaba Container Terminal, NAFITH) and close collaboration of the Ministry of Transport and Customs.

Source: Second Regional Workshop on Transport and Trade Facilitation in Strengthening Arab Economic Integration and Connectivity, Conclusions and Recommendations, Amman, 6-7 November 2017

(v) The **Union for the Mediterranean (UfM)** is an intergovernmental organization of 43 countries from Europe and the Mediterranean Basin, including the 28 member states of the European Union and 15 Mediterranean partner countries including Jordan, Palestine, and Israel. It was created in July 2008 at the Paris Summit for the Mediterranean, with a view to reinforcing the **Euro-Mediterranean Partnership** (Euromed), which had been set up in 1995 and is known as the Barcelona Process. Transport (along with urban development) is one of the six sectors in which UfM works. Against this background, with the support of the European Investment Bank under its Facility for Euro-Mediterranean Investment and Partnership, it launched the Euro-Mediterranean Logistic Network (LOGISMED).[45]

[43] AfTIAS was supported by the International Islamic Trade Finance Corporation and the United Nations Inter-Agency Cluster on Trade and Productive Capacity (comprised of the United Nations Development Programme, UNCTAD, the International Trade Centre, the United National Industrial Development Organization, and the International Labour Organization); the project for Strengthening Arab Economic Integration for Sustainable Development has been supported by Swedish International Development Cooperation.

[44] More recently, it was considered that this later proposal may be a step too far. Telephone interview with Strengthening Arab Economic Integration for Sustainable Development project, 21 February 2018.

[45] See, e.g., Facility for Euro-Mediterranean Investment and Partnership [European Investment Bank], *A Euro-Mediterranean Network of Logistics Platforms*, 2009.

### 4.3.3 Bilateral Frameworks (Involving or Affecting the Subject Countries of this Study)

(i) Bilateral agreements relating to transport include:

*Jordan-Israel*

(a) Article 13.1 of the **Treaty of Peace between the Hashemite Kingdom of Jordan and the State of Israel**, Wadi Araba, 26 October 1994,[46] under the heading Transportation and Roads, provides that "[e]ach party will permit the free movement of nationals and vehicles of the other into and within its territory according to the general rules applicable to nationals and vehicles of other states. Neither Party will impose discriminatory taxes or restrictions on the free movement of persons and vehicles from its territory to the territory of the other". However, this provision is more of a declaration of intent, subject to subsequent negotiation of the specifics.

(b) The **Agreement on Transportation between the Government of the State of Israel and the Hashemite Kingdom of Jordan**, Tiberias (Israel), 16 January 1996,[47] followed the Peace Treaty. In May 2000 Israel agreed to implement the 1996 Israel-Jordan road transport agreement to allow the direct transport of goods between Jordan and the Palestinian self-rule areas, ending the "back-to-back" system requiring goods to be transferred from Jordanian to Palestinian trucks at border points and vice versa for goods moving in the other direction. This arrangement required trucks traveling to the West Bank and to Gaza to return to Jordan within 14 and 20 hours, respectively. However, when the security situation deteriorated with the second *intifada* commencing in 2000, stringent Israeli controls on the border with Palestinian self-rule areas hindered the flow of exports from Jordan and the agreement lapsed.[48] Box 4.10 presents details of the Israel-Jordan road transport agreement of 1996.

**Box 4.10 Details of the Israel-Jordan Road Transport Agreement, 1996**

- Article II D 1 on freight transportation by road expressly stipulates the back-to-back system as a general rule and the cross-border movement of commercial road cargo vehicles as the exception.
- Appendix 7A, 7a, reiterates that except for fuel and cement, the cross-border conveyance of all goods is to be performed back-to-back.
- Article II D 3 includes a declaration of intent to replace the back-to-back system by the door-to-door system.
- The agreement distinguishes conveyance (i) directly between Jordan and Israel (Article II, D) and (ii) conveyance via Palestinian territory and the Allenby / King Hussein Bridge specifically (Article II, F and G). The latter is covered by Appendix 7A of the Agreement.
- Appendix 7A, 1, authorizes the permanent parking of no more than 150 Jordanian trucks on the western side of the Allenby Bridge, on Palestinian territory.[a]
- The possibility of transportation by Jordanian trucks into Palestinian territory is provided for (Appendix 7A, 3).
- For the conveyance of fuel and cement, the identity of the Jordanian transport operator is defined (Appendix 7A, 6 a and b).[b]
- Police escorts are stipulated (Appendix 7A, 6c).
- With respect to the Jordanian drivers, no advance communication of identity is required by the agreement (Appendix 7A, 6d).

[46] http://www.kinghussein.gov.jo/peacetreaty.html.

[47] (i) United Nations Treaty Series, Cumulative Index, No. 37, Volumes 2001 to 2050, 2002, p. 406 (I35331); and (ii) WTO Secretariat, *List of Bilateral Road Agreements (LIBRA)*, sponsored by the International Transport Forum, the World Bank and the International Road Transport Union. According to the LIBRA database, the agreement is not in force, while according to the website of the Israeli Ministry of Foreign Affairs it is in force.

[48] Lucy Dean, *Regional Surveys of the World, the Middle East and North Africa 2004*, p. 644.

- Article VIII creates a Joint Transportation Committee (JTC) and details some terms of reference. It is understood that this JTC is not operational at present.
- Appendix 4D, 4, formalizes communication and coordination between authorities in the field of security for cargo transportation.
- The requirements for the cross-border movement of motor vehicles include (i) third-party motor liability insurance cover issued by the host country (Appendix 1, B1), unless insurance cover in the context of the green card is issued[c] (Appendix 1, B3b); (ii) exemption from duties for fuel in the vehicle tanks (Appendix 2, A1); (iii) temporary admission (Appendix 2, C3) without guarantee (Appendix 2, C4); and (iv) treatment of hazardous goods according to international standards (Appendix 7A, 6a).
- Regarding requirements for customs transit of goods, the agreement refers to national law (Appendix 2, D2). It does not apply the TIR or a similar system. Consequently, an onerous system involving exhaustive inspection of the goods, guarantees, and escorts is possible.
- Appendix 4D on the security and safety of cargo transportation expressly provides for (i) security checks, (ii) definition of transfer routes by the host country, and (iii) escorted convoys for transit.

Notes: [a] As confirmed during a site inspection on 13 August 2017, all transhipment in both directions takes place on the western side of the border, and not on the Jordanian side. [b] This amounts to a limited authorized economic operator system. [c] This is not the case.
Source: Agreement on Transportation between the Government of the State of Israel and the Hashemite Kingdom of Jordan, Tiberias (Israel), 16 January 1996

*Jordan-Palestine*

(c) The **Jordan-Palestinian Authority Bilateral Transport Agreement**, 1995, is summarized in Box 4.11.[49]

**Box 4.11 Details of the Bilateral Transport Agreement between Israel and the Palestine Authority, 1995**

The following describes how the cross-border movement of motor vehicles was addressed, while indicating that some aspects are not addressed:

- Driver's visa: not addressed;
- Registration: Articles 4a, 4c, 9b, and 9f;
- Insurance: Articles 4b and 9f;
- Driver's license: Articles 4c and 9f;
- Temporary admission for the vehicle (Article 9j);
  - for spare parts (Article 11: subject to national law)
  - for fuel in tanks (Article 12: exemption)
- Itinerary (Article 9i: compulsory) and entry/exit points (Article 14: King Hussein Bridge and Prince Mohammad [Damia] Bridge, but free choice [Article 9g]);
- Traffic rights: exclusion of cabotage[a] (Article 9b) and fifth freedom (Article 9c);
- Frequency/capacity limitation: no restriction; and
- Transport operator's license: not addressed.

Also, institutional aspects are addressed:

- Creation of a Joint Technical Committee (Articles 10 and 18); and
- Full cooperation and coordination (declaration of intent: Article 17).

Note: [a] Cabotage is the transport of goods or passengers between two places in the same country by a transport operator from another country.
Source: This Survey

[49] In addition, reference has been made to minutes of the Joint Palestinian-Jordanian Economic Committee, 4-6 July 2000, on transport issues; for example, agreement was reached on door-to-door transport. Japan International Cooperation Agency and Yachiyo Engineering, *Data Collection Survey on Logistics Improvement in Jordan Valley, Final Report*, July 2014. pp. 6-6 to 6-7. However, the Ministry of Transport of Jordan was unaware of these meeting minutes. Interview with Ministry of Transport [Jordan], 14 August 2017.

*Jordan-Iraq*

(d) The **Agreement on the Road Transport of Passengers and Goods between the Government of the Hashemite Kingdom of Jordan and the Government of the Republic of Iraq**, Baghdad, 4 March 2013, allows cargo transport vehicles registered and licensed in the country of the other contracting party to enter its territory carrying goods (Article 3b). Details of the agreement are set out in Box 4.12.

**Box 4.12 Details of the Agreement on the Road Transport of Passengers and Goods between the Government of the Hashemite Kingdom of Jordan and the Government of the Republic of Iraq, 2013**

- Cabotage[a] is prohibited (Article 10b).
- Transport to a third country transiting the other contracting party is permitted provided that no cargo is loaded or unloaded within the territory of the other contracting party (Article 10d).
- Cargo transport vehicles are required to have temporary entry permits, with a limited duration of stay as specified in the annex, e.g., for transport between the two countries, seven days for trucks; for transit transport through either country, three days for all types of vehicles (Article 10g and Annex).
- Each contracting party is to specify the routes that cargo transport vehicles are allowed to take within its territory (Article 10k).
- Carriers in each contracting party's country must designate an authorized representative to operate its business in the other country and bear, on its behalf, any customs fees, taxes, or penalties levied on the carrier or its vehicles. Individual carriers registered to transport cargo by trucks in the territory of the other party are exempted from the commitment to have an authorized agent, provided that they undertake transport through duly authorized shipping brokers in either contracting party (Article 10l).
- All road transport activities between and through (in transit) the territory of the contracting parties are subject to charges, taxes, and service fees applied by each contracting party, unless the contracting parties agree on mutual exemptions (Article 11).
- The contracting parties are to adopt the conditions, standards, and specifications of weights, dimensions, and standard loads of road transport vehicles as applicable in the respective contracting parties, when such vehicles enter or pass through the territories of the contracting parties (Article 14).

Note: [a] Cabotage is the transport of goods or passengers between two places in the same country by a transport operator from another country.
Source: This Survey

*Jordan-Saudi Arabia*

(e) The Agreement on the Regulation of Road Transport of Passengers and Goods **between the Government of the Hashemite Kingdom of Jordan and the Government of the Kingdom of Saudi Arabia**, Amman, 6 November 2001, allows trucks registered in the country of either party to enter their territory and reach their destinations or the border crossings in the territory of the other party, as long as they adhere to prescribed volumes, dimensions, and weights for driving on the road network of the other country (Article 7). Details of the agreement are set out in Box 4.13. While the agreement requires issuance of multiple entry visas for drivers and crew, Saudi Arabia charges Jordanian nationals JOD 680 (about USD 960) for six-month, multiple entry visas,[50] which is at least arguably against the spirit of the agreement, which in its preamble calls for "reciprocity".

[50] Interview with Syndicate of Jordanian Truck Drivers, 6 February 2018.

**Box 4.13 Details of Agreement on the Regulation of Road Transport of Passengers and Goods between the Government of the Hashemite Kingdom of Jordan and the Government of the Kingdom of Saudi Arabia**

- Carriers must delegate an authorized representative in the country of the other party to operate its business and bear on its behalf any customs charges, taxes, and penalties levied on the carrier or its means of transport (Article 6).
- Transit transport through the territory of each contracting party is governed by the terms and conditions of the Agreement Organizing Transit Transport between Member States of the Arab League, 1977, excluding prohibited goods, which are governed by the applicable regulations of each country (Article 8).
- The contracting parties are to exempt the goods carried by transit transport vehicles of the country of either party from any taxes or charges when crossing the territory of the other party (Article 9).
- The authorities of the contracting parties are to issue six-month, multiple-entry visas for each driver and assistant(s) undertaking external and transit transport under the terms of the agreement (Article 10).
- Cabotage [a] is prohibited (Article 14).

Note: [a] Cabotage is the transport of goods or passengers between two places in the same country by a transport operator from another country.
Source: This Study

*Jordan-Syria*

(f) The Agreement on the Regulation of Road Transport of Passengers and Goods between the Government of the Hashemite Kingdom of Jordan and the Government of the Syrian Arab Republic, Amman, 3 August 1999, allows cargo transport vehicles registered and licensed in the other contracting party to enter its territory carrying goods (Article 3b). The agreement is virtually the same as the Agreement on the Road Transport of Passengers and Goods between the Government of the Hashemite Kingdom of Jordan and the Government of the Republic of Iraq, summarized above, and for which it served as a model or template.

(ii) Other relevant bilateral frameworks involving or affecting the subject countries of this study include:

*Israel-Palestine*

(a) The 1993 Oslo I Accord (Interim Agreement) provided for a five-year transition period towards a comprehensive peace agreement between Israel and the Palestinian Authority.[51] **The 29 April 1994 Protocol on Economic Relations between the Government of the State of Israel and the P.L.O.**, representing the Palestinian people, known as the **Paris Protocol**, was signed as part of the Oslo peace negotiations. It aimed to formalize the economic relations that had previously been unilaterally determined by Israel and to establish a bilateral agreement for the five-year interim period by the end of which a comprehensive peace agreement between the two conflict parties was to be gradually reached. The 4 May 1994 Gaza-Jericho Agreement, to which the Paris Protocol was attached as Annex IV, implemented the Paris Protocol in the areas of Gaza and Jericho over which the Palestinian Self-Government then assumed authority. The

[51] The Paris Protocol was to have expired and be replaced by a permanent status agreement by 1999. *Strengthening the Palestinian Private Sector through Reducing Trade Transaction Costs: A Comprehensive Research and Advocacy Program, Final Report*, funded by the Middle East Partnership Initiative, December 2015, p. 89 ["This fact creates a legal conundrum regarding its validity."]. However, from Article V,3 of the Declaration of Principles on Interim Self-Government Arrangements (Oslo I) ("… these [permanent] status negotiations shall cover remaining issues…" [emphasis added]; it may be inferred that due to lack of permanent status negotiations, the arrangements already agreed for the transition period remain in force.

Oslo II Accords expanded the Paris Protocol's area of application and incorporated the newly defined Areas A and B, which are under full civil control by the Palestinian Authority. It maintained the prevailing de facto customs union, i.e., a free trade area with a common external tariff. The Paris Protocol granted the then newly established Palestinian Authority the right to conduct its own economic policies.[52]

Imports from and exports to third countries are subject to Israeli supervision as well as quantitative restrictions and cannot be independently regulated by the Palestinian Authority. A common external border, encompassing Israel and the West Bank and Gaza, was created for an interim period. The border is controlled and the territory is taxed by Israel. Taxes on imported goods can be unilaterally levied and altered by Israel. An incomplete customs union imposed by Israel in 1967 was therefore bilaterally codified through the provisions of the protocol.

Article IX of the Paris Protocol provides for free movement of industrial goods between Palestine and Israel, without quotas and without import duties. Article III, 15, provides that fiscal levies collected are to be transferred to PA.

The second *intifada* commencing in 2000 undermined the possible positive effects of the customs union, since it led to the establishment of numerous checkpoints and restricted the movement of persons and goods within the West Bank as well as with Israel and the rest of the world.[53]

*Jordan-Palestine*[54]

(b) The **Palestine Liberation Organization-Jordan Free Trade Agreement Jordan**, 1998, provides preferential tariffs for goods traded between Palestine and Jordan. Goods on Lists A1, A2, and B[55] entering the West Bank and/or Gaza Strip (WBGS) and the agreed upon products entering Jordan are duty free, provided that the import volume does not exceed a predetermined quota. Products exported to Jordan must meet the Jordanian Rules of Origin, i.e., that a product should be wholly obtained, grown, produced, or manufactured (if not wholly obtained, the product should have at least 35% of the value added produced locally either in WBGS or Jordan).

[52] In addition, the Palestinian National Authority-Israel Agreement on Movement and Access, 15 November 2005, aimed to establish "safe passage" between Gaza and the West Bank and to reduce to the "obstacles to movement" in the West Bank.

[53] http://www.kas.de/palaestinensische-gebiete/en/pages/11895/.

[54] There is also a draft Agreement on Import/Export across the Allenby Bridge. Also, the Palestinian Ministry of National Economy announced on 6 May 2016 that it had reached an agreement with the Hashemite Kingdom of Jordan on the export of Palestinian products to Jordan in 20-foot containers across the Allenby / King Hussein. http://www.al-monitor.com/pulse/originals/2016/05/palestine-jordan-deal-export-israel-crossings.html. The content of the agreement has been included in Jordanian law. Circular No. 312 of Jordan Customs, 2016.

[55] Goods imported under List A1 must be locally produced in Jordan, Egypt, or in other Arab countries; goods imported under List A2 can be imported from Arab, Islamic, or other countries; and goods imported under List B are not subject to quantitative restrictions but are subject to Israeli standards.

*Various Other Bilateral[56] Trade Agreements of Jordan*

(c) **Bilateral trade agreements of Jordan** include the Jordan-EU Association Agreement / European Communities-Jordan Euro-Mediterranean Agreement, 1997[57]; the Jordan-United States Free Trade Agreement, 2000[58]; the Jordan-EFTA [European Free Trade Association, comprising Iceland, Lichtenstein, Norway, and Switzerland] Free Trade Agreement, 2001; the Jordan-Singapore Free Trade Agreement, 2004; the Jordan-Canada Free Trade Agreement, 2009; and the Jordan-Turkey Free Trade Agreement, 2009.

*Various Other Bilateral[59] Trade Agreements/Arrangements of Palestine*

(d) Bilateral trade agreements/arrangements of Palestine include a free trade arrangement with the United States, 1996; an Interim Association Agreement on Trade and Cooperation with the EU, 1997, which was followed by a duty-free agreement for agricultural products in 2011; an Interim Agreement with EFTA; a Palestinian-Egyptian Trade Agreement, 1994; an Interim Free Trade Agreement with Canada, 1999; an interim agreement on trade with Turkey, 2004; a free trade agreement with Mercosur [including Argentina, Brazil, Paraguay, and Uruguay], 2011; and a free trade arrangement with Canada, 1999. The agreements provide Palestine with formal preferential access to a number of markets, while WTO membership or status remains pending for now.[60]

[56] Each side to a bilateral agreement could be a country or a customs territory.

[57] On 30 August 2016, Jordan's *Official Journal* published Decision No. 1.2-16 of the EU-Jordan Association Committee of 19 July 2016, amending Protocol 3 of the EU-Mediterranean Agreement, to temporarily relax applicable rules of origin to allow for certain goods produced in designated development areas in Jordan to be subject to less stringent rules of origin for determining preferential treatment for imports into the EU than would otherwise apply. The total workforce of each production facility located in the designated areas is required to contain a proportion of Syrian refugees of at least 15% during the first and second years and at least 25% from the beginning of the third year. Baker McKenzie, "EU, Jordan Relax Rules of Origin for Jordanian Exporters Employing Syrian Refugees", *International Trade Compliance Update*, 30 August 2016.

[58] In addition, products manufactured in qualifying industrial zones (QIZs) in Egypt, Israel, Jordan, or the West Bank and Gaza can enter the United States duty free if 35% of their value added comes from the QIZ.

[59] Each side to a bilateral agreement could be a country or a customs territory.

[60] Ministry of National Economy [Palestine], International Trade Centre, European Union, and PalTrade, *The State of Palestine National Export Strategy, 2014-2018*, p. 47.

# 5. Future Trade Flow Projections and Assessment

## 5.1 Existing Flows and Projections for Growth (with Low and High Scenarios)

### 5.1.1 Growth Scenarios

Projections were undertaken with two scenarios: (i) a low growth scenario, which incorporated the JICA Survey Team's projections of GDP growth, projected timings of border reopening, new traffic generation sources, and the restoration of historical bilateral trade patterns; and (ii) a high growth scenario, which assumed that master plans of Jordan and Palestine will be implemented.

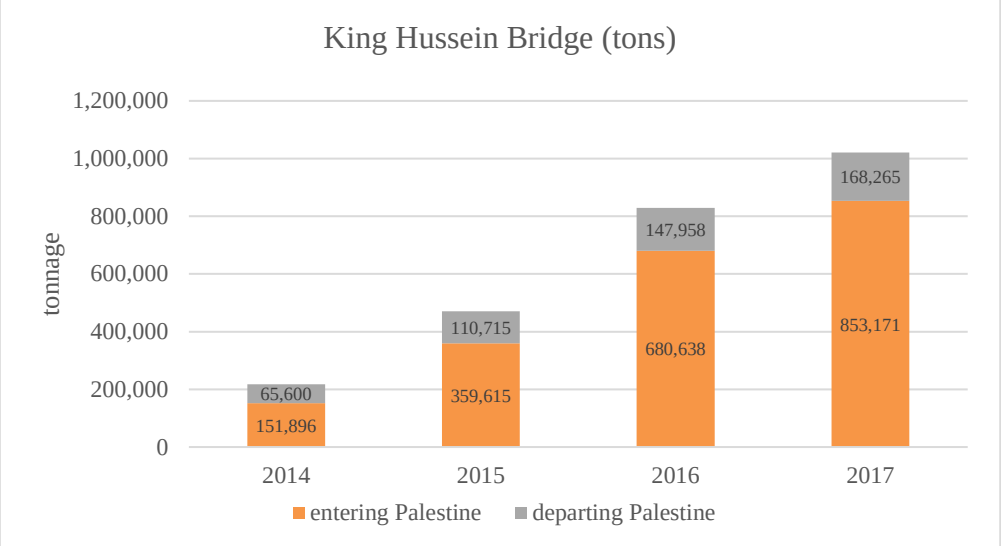
The following subsections describe the historical and existing cargo flows across each border as well as the survey team's assumptions regarding future growth.

#### (1) King Hussein Bridge Cargo Flows

Despite low GDP growth rates, the flow of Palestinian goods over the King Hussein Bridge (KHB) border crossing has increased substantially during recent years. Cargo volumes have increased at an average annual rate of 67% since 2014 and 23% from 2016 to 2017. Much of this growth consisted of sand, gravel, and building materials moving from Jordan to Palestine. It is unlikely that these high historic growth rates will continue far in the future. However, a factor that would likely result in future growth in a range of commodities moving through this crossing would be the easing of the tight security inspections now performed by the Israeli border personnel on the West Bank side of this bridge.

While congestion has been an issue at KHB, on the West Bank side the Israelis have plans to increase capacity, and on the Jordanian side, a master plan for a new truck terminal and cargo handling facility is being formulated.

Figure 5.1 presents cargo flows across the KHB from 2014 to 2017. It is forecast that the recent (2016-2017) rate of growth (23% per year) will continue over the next five years. After that, growth in traffic across the bridge is likely to mirror the GDP growth of Palestine, projected to be about 3% annually.




Source: Israel Airports Authority

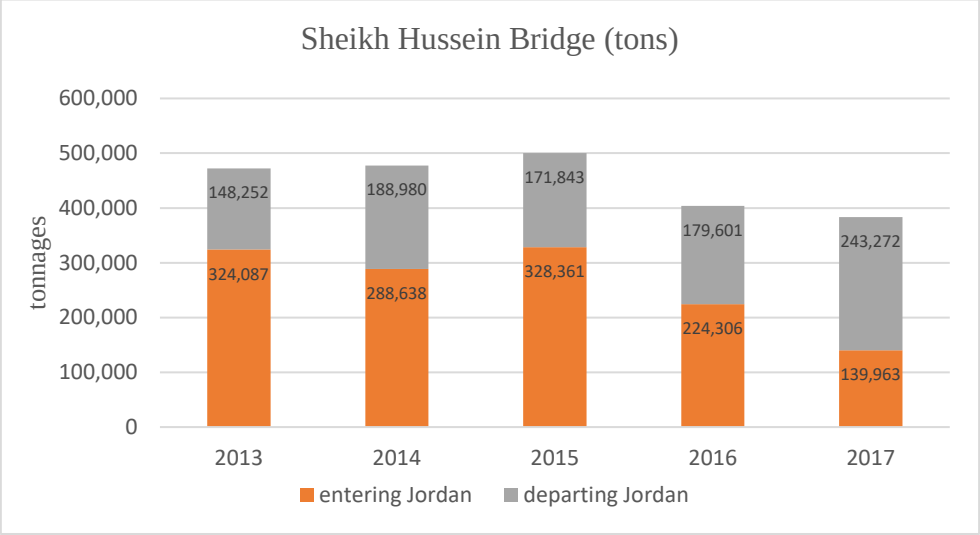
**Figure 5.1 King Hussein Bridge Cargo Flows, 2014-2017**

### (2) Sheikh Hussein Bridge Cargo Flows

Historical patterns of cargo flows across the Sheikh Hussein Bridge (SHB) have decreased at an annual average rate of about 5%. However, cargo entering Jordan has decreased more substantially, by 18% per year, while cargo leaving Jordan has increased at an average annual rate of 13%. One possible reason for this pattern is that due to the closure of the Syrian border with Jordan, exports from Saudi Arabia and the Gulf States to Europe and Turkey now move via Haifa Port, instead of by road through Syria. It is unusual that the reverse direction did not exhibit a similar increase.

Regarding traffic growth projections, it was anticipated that no change from the current pattern will emerge over the next two years. It was assumed that the Mafraq Development Zone will be more fully established after that, with an expected increase in cargo flows related to reconstruction efforts in Syria, some of which will move through the Haifa gateway. There is also strong interest in developing the railway through this corridor, which, if implemented, should result in an associated road traffic increase during the construction phase.

Figure 5.2 presents cargo flows over the SHB from 2014 to 2017. Traffic across this bridge was estimated to continue to decrease at an average annual rate of 5% over the next two years, followed by annual growth rates of 10% over the next ten years, due to traffic related to the Mafraq Development Zone.

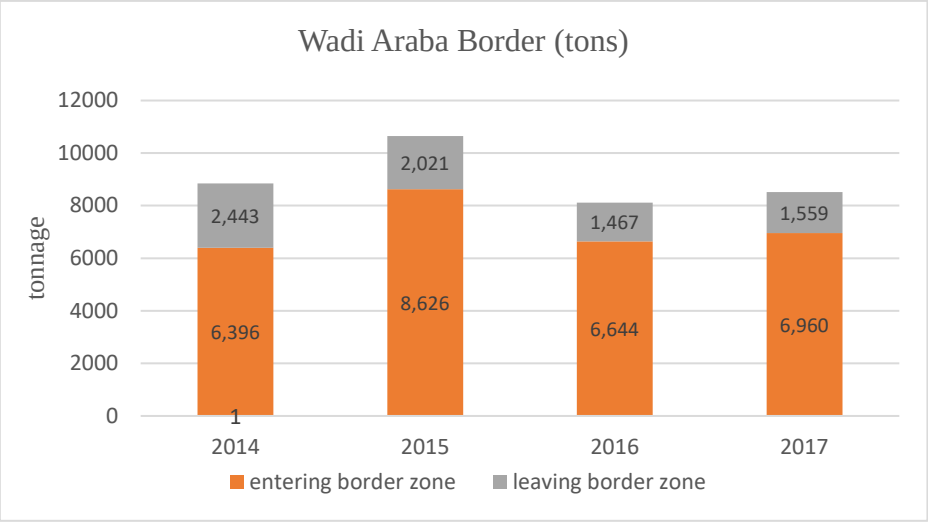



Source: Jordan Customs

**Figure 5.2 Sheikh Hussein Bridge Cargo Flows, 2013-2017**

### (3) Wadi Araba Border Cargo Flows

As shown in Figure 5.3, the growth of tonnage across the Wadi Araba border has been essentially unchanged between 2014 and 2017. For the purpose of projections, the GDP growth rate was applied to the 2016 tonnages. While there has been discussion about opening Aqaba Port to Israeli traffic, there is no concrete indication that this will happen in the near or medium term.

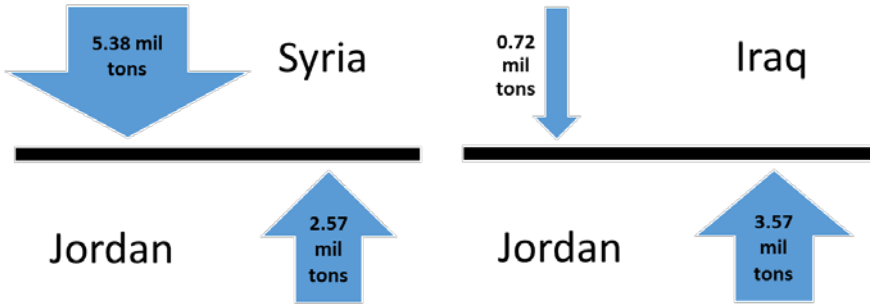



Source: Israel Airports Authority

**Figure 5.3 Wadi Araba Border Cargo Flows, 2014-2017**

### (4) Syria and Iraq Borders

Jordan's border crossings with Syria (Jaber) and Iraq (Karameh/Karama)[1] were closed during most of 2015 and all of 2016; the Iraqi border (only) was reopened in September 2017. Figure 5.4 summarizes cargo flows across these border crossings during 2011, when both were open and cargo volumes were at "normal" levels. Following 2011, tonnages began to decrease at both locations due to insecurity in Syria and Iraq, respectively. Therefore, cargo moved during 2011 can be considered "normal" trade across these borders.




Source: Jordan Customs

**Figure 5.4 Cross-Border Tonnages in 2011, Jordan-Syria and Jordan-Iraq**

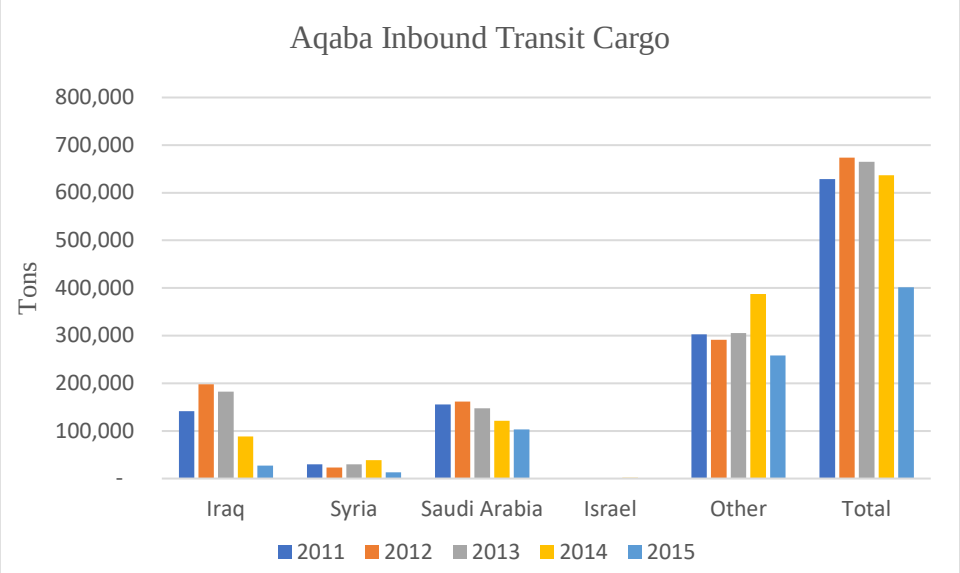
The closure of the border with Iraq at Karameh resulted in the loss of more than 4 million tons of cargo annually to other routes or other markets. The closure of the Syrian border resulted in a reduction of nearly 8 million tons annually. In 2016 and 2017, the Jaber border crossing with Syria remained closed while Karameh was opened in September 2017. During the 1 September-4 February 2018 period, a total of 9,870 loaded trucks moved through Karameh, carrying an estimated 296,000 tons of cargo. However, it will be several years before traffic returns to "normal", if ever. Traffic moving across both of these borders included some element of regional transit traffic as well as Jordanian imports of fuel from Iraq, and exports of fruits, vegetables, and other products to Iraq, while the Jaber border traffic included imports to Jordan from Europe as well as regional transit traffic from Turkey to Gulf Cooperation Council (GCC) countries. When

[1] These are alternative Romanizations.

the border was closed, Iraq found other sources of supply for many consumer goods and Jordan now imports all its oil from Saudi Arabia by sea through Aqaba.

Some of the direct impacts of these border closures can also be seen in the decline in transit cargo through Aqaba, as shown in Figure 5.5. During 2011, when Iraqi imports from Aqaba were at "normal" levels, a total of 198,124 tons of this transit cargo was moved from the port. Until the border was reopened in September 2017, this transit traffic, mostly in Iraqi vehicles, was lost to Jordan.

It should be noted that statistics of imports to Iraq through Aqaba are understated, since much of this traffic is recorded as destined to one of the Jordanian free zones, from which it is then transported to Iraq.




Source: Ministry of Transport [Jordan], *Transport Sector Annual Report 2015* [latest available as of this writing]

**Figure 5.5 Aqaba Inbound Transit Cargo, 2011-2015**

### (5) Jaber Border Cargo Flows

Jordan's trade with Syria has been substantially affected by the civil war in that country and the closure of the Jaber border crossing in 2015. Table 5.1 summarizes Jordan-Syria trade during recent years – the decline is evident.

**Table 5.1 Jordan's Trade with Syria, 2011-2016 (US$ thousands)**

| Year | Imports | Exports | Total Trade |
|---|---|---|---|
| 2011 | $376,059 | $286,800 | $662,859 |
| 2012 | $238,608 | $219,777 | $458,385 |
| 2013 | $259,874 | $152,394 | $412,268 |
| 2014 | $152,204 | $223,679 | $375,883 |
| 2015 | $101,830 | $137,719 | $239,549 |
| 2016 | $89,101 | $67,759 | $156,860 |

Source: www.trademap.org using data from the United Nations International Trade Statistics (Comtrade)

During 2011, the peak year for Jaber traffic before the onset of civil unrest, cargo flows amounted to 7.956 million tons. Of this total an estimated 3.296 million tons was moving between Turkey and Saudi Arabia/Gulf Cooperation Council (GCC) countries, 662,859 tons was Syrian-Jordan trade, 647,063 tons was Turkey-Jordan trade, and an estimated 3,351,000 tons consisted of other flows, mainly between Jordan and Europe.[2] Table 5.2 summarizes these tonnages. It is likely that the Jaber border crossing will open within one year, although the "normal" traffic levels of 2011 are likely to be achieved only after a five-year, "ramp up" period. After 2024,[3] Jaber traffic is expected to increase in line with GDP growth.

**Table 5.2 Jaber Border Tonnages (2011)**

| Traffic | Tons (million) |
|---|---|
| Turkey-Saudi Arabia/GCC | 3.296 |
| Syria-Jordan | 0.662 |
| Turkey-Jordan | 0.647 |
| Jordan-Europe | 3.351 |
| Total | 7.956 |

Abbreviation: GCC = Gulf Cooperation Council
Sources: (i) Comtrade; and (ii) JICA Survey Team estimates

### (6) Karameh Border Cargo Flows

It was estimated that about 10% of Jordan's requirement for crude oil in 2010 was imported from Iraq.[4] During that year, a total of 3.4 million tons of crude oil was imported,[5] including an estimated 340,000 tons from Iraq. This quantity of crude oil is now being sourced from Saudi Arabia and brought to Jordan by sea through Aqaba. Based on discussions with the Jordan Petroleum Refinery Company (Jordan Petroleum), it is considered unlikely that any crude oil will be imported from Iraq in the future. There were also about 1.21 million tons of Jordanian exports to Iraq.[6] However, based on interviews with Jordanian officials, a significant amount of these commodities is now being sourced from Iran and Turkey. While it is reported that the quality of Jordanian petroleum products is superior to others, it is unlikely that the full amount of these exports will again move through this border crossing, even after normalization. However, Iraqi imports from abroad, which were brought to the country through Aqaba, will again move after normalizing of the border.

As shown in Table 5.3, in 2011, 4.29 million tons moved through Karameh, composed of 340,000 tons of crude oil moving from Iraq to Jordan, 1.21 million tons of Jordanian exports to Iraq, and 503,000 tons of exports from Saudi Arabia to Iraq, with the remaining 2.24 million tons composed of Iraqi imports moving through Aqaba and other traffic. Since this border reopened in September 2017, a limited recovery of traffic is likely starting in 2018.

However, since some of the cargo moved across this border previously is now moved along new routes from new sources of supply, it is unlikely that the "normal" tonnage movements of 2011 will be achieved again in the short or medium term. Furthermore, based on interviews with investors and business owners in Jordan,[7] many of whom are Iraqi, there is a trend toward these businesses moving out of the country. Jordan is considered to be a high-cost country for doing

[2] www.trademap.org using data from Comtrade.
[3] This is consistent with the assumptions described in Jordan's *Long Term National Transport Strategy and Action Plan*, described in Section A.2.6 on Political Factors.
[4] CPCS, *Jordan Railway Network Development Project, Traffic Report*, 2010.
[5] Jordan Petroleum Refinery Company Annual Report, 2010.
[6] Comtrade statistics on Jordanian exports to Iraq during 2011.
[7] Interview with the Jordanian-Iraqi Business Council, 7 February 2018.

business, particularly regarding energy prices. For these reasons, the JICA Survey Team assumed that only 50% of the previous level of Jordanian exports to Iraq will return.

**Table 5.3 Karameh Border Tonnages (2011)**

| Traffic | Tons (million) |
|---|---|
| Exports from Jordan | 1.21 |
| Imports to Jordan (crude oil) | 0.340 |
| Saudi exports | 0.503 |
| Imports from Aqaba and others | 2.24 |
| Total | 4.29 |

Sources: (i) Comtrade and (ii) JICA Survey Team estimates

It was therefore assumed that within five years, traffic levels approximating 2011 tonnages will move through Karameh, with the exception that only one-half of the amount of Jordanian exports that previously moved to Iraq will again move through Karameh. In addition, it was assumed that crude oil from Iraq will not be imported in the future, as per the study team's discussions with Jordan Petroleum. After this five-year period, traffic growth is expected to follow GDP growth.

### (7) Jordan Borders with Saudi Arabia

Jordan's non-oil imports from Saudi Arabia and exports to that country have been relatively constant during recent years, as shown in Table 5.4.

**Table 5.4 Jordan's Trade with Saudi Arabia, 2014-2016 (US$ thousands)**

| Year | Total Imports | Oil Imports | Non-Oil Imports | Exports |
|---|---|---|---|---|
| 2014 | $4,453,731 | $3,130,990 | $1,322,740 | $1,039,254 |
| 2015 | $3,061,084 | $1,865,388 | $1,195,696 | $1,162,551 |
| 2016 | $2,325,502 | $1,220,372 | $1,105,130 | $993,367 |

Source: Trademap.org using Comtrade data

Jordan has three border crossings with Saudi Arabia: Omari,[8] Mudawara, and Dera'a.[9] Graphs in the following subsections show recent patterns of cargo movements across these borders. The decrease in cargo through the Omari border was mainly due to the closure of Jordan's borders with Iraq and Syria, affecting transit traffic through Jordan as well as the closure of Saudi borders with Qatar and Yemen, causing a decrease in Jordan transit traffic to those countries. Cargo traffic through the Mudawara border crossing has been relatively stable since 2014. Little cargo moves through the southern border at Dera'a, although the tonnage entering Jordan decreased significantly in 2016.

A large part of the transit trade lost to Jordan is the Turkey-GCC trade, mostly by road, which is estimated to be worth US$4 billion annually,[10] equivalent to about 3.3 million tons. Based on an average of 30 tons/truck, an average of 301 trucks/day were required to move this Turkey-GCC trade. Previously this traffic moved through Syria and Jordan, but now it is presumably moving by sea directly to Saudi or other Gulf ports. It is estimated that about 40-50 trucks/day moved Jordanian exports to Qatar (fresh fruits and vegetables) across the Omari border crossing[11] but with that country's border with Saudi Arabia closed now, Jordan has no access to the Qatari

[8] Alternatively Romanized as Umari.
[9] Alternatively Romanized as Durra.
[10] Based on interviews with Jordan Customs in November 2017 and February 2018.
[11] Discussions with border post staff at Omari in November 2017.

market. When the Yemeni border was open, an average of about 10 trucks/day[12] crossed the border to or from that country.

Based on the reduction in the number of trucks moving through the Jordanian/Saudi borders due to the border closures with Iraq and Syria, and the Saudi border closures with Qatar and Yemen, estimates were made of the likely pattern of future cargo flows when these situations normalize. It was assumed that if the closed routes shown were open, the cargo traffic declines would be reduced accordingly. Table 5.5 summarizes the team's calculations of the impact of border closures on the number of vehicles in Jordan and the annual tons hauled. The closure of the Jordanian/Syrian border has had the greatest impact.

**Table 5.5 Saudi Border Tonnage Losses**

| Closed Route | Trucks/day | Annual Tons |
|---|---|---|
| Saudi/Qatar border (Jordan-Qatar trade) | 45 | 492,750 |
| Saudi/Yemen border (Jordan-Yemen trade) | 10 | 109,500 |
| Jordan/Syria border (Turkey-GCC trade) | 301 | 3,295,950 |
| Total | 356 | 3,898,200 |

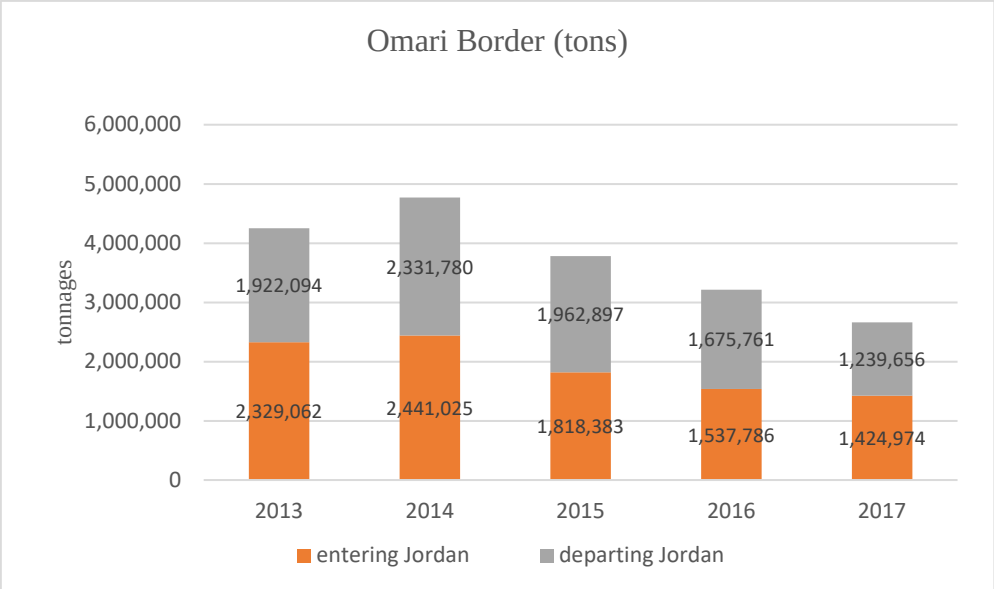
Note: 30 tons/truck
Sources: (i) Jordan Customs and (ii) JICA Survey Team estimates

### (8) Omari Border Cargo Flows

Cargo traffic across all Jordanian and Saudi borders has been decreasing during recent years, mainly due to the closure of Saudi borders with Yemen and Qatar as well as the closure of Jordanian borders with Iraq and Syria. Traffic moving through the Omari border crossing has been decreasing at an average annual rate of 11% since 2013. While the precise composition of Saudi/Jordanian border crossing tonnages attributed to each of these categories is not known, indications of how future border crossing traffic would be affected if these conditions were "normalized" can be assessed.

Projections of traffic through these border crossings depends on assumptions regarding the timing of reopening of the closed borders. The team assumed that the Jaber border crossing with Syria will reopen within one year, although the Saudi/Qatar/Yemen borders are not likely to reopen for another three years. Based on discussions at Jordanian border crossings, it was determined that Jordan-Qatar traffic moved primarily through Omari and Jordan-Yemen cargo moved through Mudawara. The distribution of lost traffic moving through Jaber was made based on the total traffic now moving through the Omari and Mudawara borders, respectively. During 2016, a total of 3,213,547 tons (82%) moved through Omari and 746,210 tons (19%) moved through Mudawara. For both groups of traffic, a ramp-up period of five years was assumed. Following the reopening and normalizing of this transit traffic, it was assumed that future traffic growth across these borders will approximate GDP growth. Figure 5.6 presents Omari border cargo flows from 2013 to 2017.

[12] Discussions with border post staff at Mudawara in November 2017.

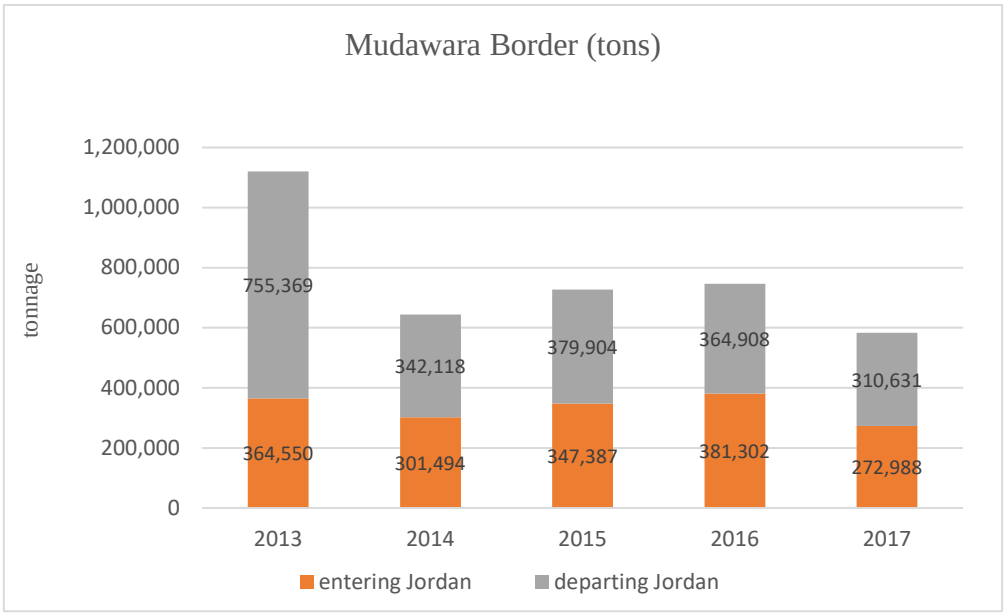



Source: Jordan Customs

**Figure 5.6 Omari Border Cargo Flows, 2013-2017**

### (9) Mudawara Border Cargo Flows

Cargo traffic through the Mudawara border crossing has been decreasing at an average annual rate of 15% since 2013. When the Jaber border crossing reopens, it is likely that a portion of this traffic will again move through Mudawara (19%, as described in the previous subsection). In addition, as most of the Jordan-Yemen traffic moved through Mudawara previously, if the Saudi-Yemen border reopens, this traffic is likely to move through Mudawara. It was assumed that Jaber will open within one year, and the Saudi-Yemen border will open within three years. Figure 5.7 presents Omari border cargo flows from 2013 to 2017.

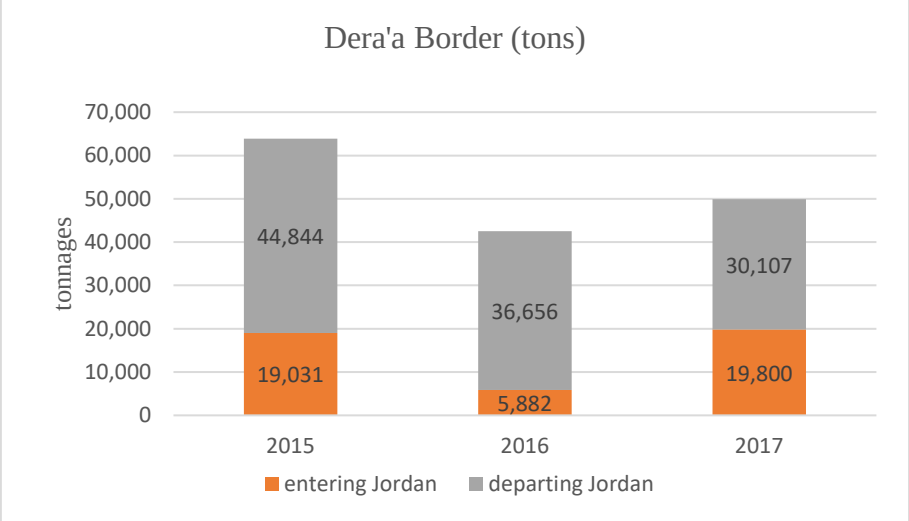



Source: Jordan Customs

**Figure 5.7 Mudawara Border Cargo Flows, 2013-2017**

### (10) Dera'a Border Cargo Flows

As show in Figure 5.8, Cargo flows through Dera'a also decreased from 2015 to 2017, at an average annual rate of about 11%. Future cargo flows through Dera'a could be affected by the new development in Saudi Arabia of the NEOM transnational city development project,[13] although probably not for at least five years as that project develops. Since the pattern of cargo moving across this border decreased from 2015 to 2016, which was followed by a corresponding increase in 2017, the team assumed that cargo over the next five years will be increase in line with GDP growth, followed by an estimated 5% annual growth due to NEOM.




Source: Jordan Customs

**Figure 5.8 Dera'a Border Cargo Flows, 2015-2017**

### (11) Palestine Foreign Trade through Israeli Ports

A significant amount of Palestine's foreign trade moves through Israeli ports (for imports, 891,000 tons through Ashdod and 107,800 tons through Haifa, in 2017). While some improvements to the flow of goods through KHB may result in rerouting of a small amount of imports to Aqaba Port, it is unlikely to significantly change the flow through Israeli ports. Future traffic growth was therefore assumed to be linked to expected GDP growth rates.

## 5.1.2 Impact on Freight Flows and Consequences of Border Reopenings

The major impacts on Jordan of closures of the borders with Syria and Iraq include losses of:

- transit traffic from Turkey to GCC countries;
- Iraqi transit traffic from Aqaba;
- Iraqi imports from Jordan;
- Jordanian exports due to the closure of the Saudi/Qatari border; and
- Jordanian exports due to closure of the Saudi/Yemeni border.

The Jaber border crossing with Syria remains closed to traffic while the Karameh border crossing with Iraq was reopened in September 2017, after having been closed since mid-2015. The Ramtha border crossing with Syria remains open, but only for humanitarian cargo. The impact of the Jaber

[13] The term NEOM was constructed from two words. The first three letters form the Greek prefix neo- meaning "new", while the fourth letter is from the abbreviation of *mostaqbal*, an Arabic word (مستقبل) meaning "future."

border closure has been the rerouting of Jordanian imports from Europe through Aqaba Port, rather than through the more direct route via Syrian ports (mainly Tartous).

Optimism has been expressed within the Jordanian transport industry that the situation in Syria will stabilize in the near future. It is reported that some refugees are now returning and that the country is becoming more stable.

Prior to the closure of the Karameh border with Iraq, Aqaba was that country's main conduit through which imports were moved. Closure of the Karameh border also had more serious impacts on Jordanian-Iraqi trade since Iraq now imports many goods from Turkey and Iran, at much lower prices than Jordanian goods that formerly moved through Karameh. Specifically, the export to Iraq of fresh fruits and vegetables from Jordan has fallen substantially.[14]

Jordan exported more than 5,000 tons of fruits and vegetables to Iraq in the first month since Karameh reopened in September 2017. Before the border closure, there were about 1.21 million tons of exports from Jordan to Iraq. A major portion of these exports were fruits and vegetables. A total of 100 refrigerated trucks carrying 2,000 tons of fruits and vegetables were traveling daily to Iraq, according to agricultural sector representatives.[15] This daily tonnage amounts to about 730,000 tons/year. They also stated that the border closure resulted in a decrease of fruit and vegetable exports by 70%.[16] Iraqi imports consist mainly of tomatoes, eggplants, cucumbers, potatoes, and citrus fruits from Jordan, according to the Jordan Valley Farmers Union.

Even with the border reopening, it is unlikely that many of these new trading relationships will change significantly in the near future. Oil that was imported by Jordan from Iraq now is being imported to Jordan from Saudi Arabia by sea to Aqaba, then by road to Zarqa for refining. In 2009 there was about 363,000 tons of oil moved over this route from Iraq. With the recent opening of the Iraqi border, the Aqaba Development Corporation expects the trade to increase. However, the reality is that Iraq has found new sources of imports to substitute for those formerly routed through Jordan; while the border now open, it is still unlikely that the former cargo movement levels through this border will be realized in the near future.

### (1) Estimating Costs of Traffic Losses

The direct cost of these traffic losses can be estimated by calculating income losses to Jordanian truckers as well as revenue losses to the Government of Jordan in the form of lost transit charges paid by foreign vehicles operating in Jordanian territory. Transit charges are set out in Notice No. 20 of 2005 of the Ministry of Finance, Customs Department, as shown in Table 5.6. The charges are based on distance traveled multiplied by the gross weight of the truck (including contents), at the rates (JOD) shown in the table.

**Table 5.6 Transit Charge Rates for Foreign Trucks**

| Nationality of Truck | Rate (JOD) |
|---|---|
| Arab countries | 0.01 |
| Syrian trucks | 0.015 (minimum of 130 JOD) |
| Non-Arab trucks | 0.03 |
| Israeli trucks | 0.01 |
| Iraqi trucks | 0.002 |

Source: Notice No. 20 of 2005 of the Ministry of Finance, Customs Department, Jordan

[14] Discussions with officials of the Ministry of Industry, Trade and Supply, Jordan, in November 2017 and February 2018.

[15] http://www.jordantimes.com/news/local/3200-tonnes-fruits-exported-iraq-border-reopening%E2%80%99.

[16] http://www.jordantimes.com/news/local/kingdom%E2%80%99s-fruit-and-vegetable-exports-steadily-increase%E2%80%99-iraq.

Table 5.7 shows lump sums payable for transit fees for Jordanian trucks.

**Table 5.7 Transit Charges for Jordanian Trucks**

| Destination | Lump Sum (JOD) |
|---|---|
| Loaded to/from the Kingdom according to export declarations, transit or transfer | 10 |
| Loaded, transit through the Kingdom | 40 |
| Loaded by Jordanian origin exports | 5 |
| Empty | Exempted |

Source: Notice No. 20 of 2005 of the Ministry of Finance, Customs Department, Jordan

Saudi-registered vehicles are exempt from transit fees, as per Notice 29 of 2005. In addition, this notice established a minimum of JOD 130 to be collected from Syrian trucks entering Jordan, including JOD 65 for the entering truck, and a minimum of JOD 65 for the same truck during the return trip after unloading. In addition, transit charges for Arab trucks are not to exceed JOD 40.

Notice No. 20 included a chart of distances for the transit fee calculations, as shown in Figure 5.9.

| Jaber | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 174 | Al-Omri | | | | | | | | | | | | | |
| 300 | 289 | Karamah | | | | | | | | | | | | |
| 428 | 379 | 613 | Mdawarah | | | | | | | | | | | |
| 418 | 386 | 619 | 251 | Aqaba | | | | | | | | | | |
| 52 | 122 | 311 | 375 | 365 | Free Zone/ Zarqa | | | | | | | | | |
| 83 | 242 | 367 | 456 | 447 | 120 | Jordan Valley Crossing | | | | | | | | |
| 146 | 204 | 392 | 386 | 377 | 94 | * | king Hussain Bridge | | | | | | | |
| 134 | 225 | 414 | 408 | 398 | 115 | * | * | Prince Mohammad Bridge | | | | | | |
| 116 | 169 | 358 | 321 | 311 | 63 | 144 | 74 | 95 | Queen Alia Airport | | | | | |
| * | 194 | 319 | * | * | * | * | * | * | * | Ramtha | | | | |
| 92 | 148 | 337 | 336 | 326 | 40 | 128 | 58 | 79 | 23 | * | Amman Customs | | | |
| * | 199 | 324 | 452 | 433 | 77 | 44 | 170 | 95 | 140 | * | * | Al Hasan Industrial City | | |
| * | 139 | 328 | * | * | * | * | * | * | * | * | * | * | Industrial City of Sahab | |
| * | * | 320 | * | * | * | * | * | * | * | * | * | * | * | Petroleum Refinery |

Source: Notice No. 20 of 2005 of the Ministry of Finance, Customs Department, Jordan

**Figure 5.9 Distances between Border Crossings and Customs Centers (km)**

The cost of trucking between Aqaba and northern Jordan was based on typical transport costs of US$564 for the 352 km distance between Amman and Aqaba or about US$1.60/vehicle km. This figure was used to calculate losses to Jordanian truckers from lost transit traffic.

### 5.1.3 Losses due to Border Closures

Other border closures that have affected Jordanian traffic have been the closures of the border between Saudi Arabia and Qatar and the border between Saudi Arabia and Yemen. The closure of the Saudi Arabia/Yemen border has also affected Jordanian traffic. For example, at the Mudawara border crossing, when the Yemeni border was open, an average of about 10 trucks per day crossed the border to or from that country.[17] Now, with the border closed, no vehicles enter Yemen. It is estimated that about 40-50 trucks per day moved Jordanian exports to Qatar (fresh fruits and

[17] Interviews with border post staff at Mudawara in November 2017.

vegetables) through the Omari border[18] but with that country's border closed with Saudi Arabia, Jordan has no access to the Qatar market. Table 5.8 summarizes estimated losses due to regional border closures, which total US$35.2 million.

**Table 5.8 Losses due to Border Closures**

| Route | Traffic Impacts | Calculation of Loss | Magnitude of Loss |
|---|---|---|---|
| Turkey transit to GCC Countries<br>- Jordanian trucks<br>- Arab trucks | 3.3 million tons lost in total<br>1.65 million tons<br>1.65 million tons | Jaber to Omari 174 km, lost transit charges for Jordanian trucks @JOD 40 plus JOD 0.01/gross ton-km for Arab trucks | Reduction in transit charges income: US$6.2 million for Arab trucks and US$2.2 million for Jordanian trucks for a total of US$8.41 million |
| Iraqi transit traffic from Aqaba | 198,124 tons moved during 2012 | 619 km, Iraqi trucks, transit rate of JOD 0.002/ gross ton-km; loss of Aqaba port charges $107/40-foot box | Loss of transit fees US$0.530 million; loss of Aqaba port charges US$0.848 million |
| Iraqi imports from Jordan | 1,210,000 tons imported before border closure | 311 km, 30 tons/truck, income at $1.60/vehicle km income loss to Jordanian truckers | Loss of income to Jordanian truckers: US$20.1 million |
| Closure of Saudi/Qatar border | 45 trucks/day Jordan to Qatar | 148 km to Omari border, US$1.60/truck km truck earning rate | Loss of income to Jordanian truckers: US$3.9 million |
| Closure of Saudi/Yemen border | 10 trucks/day Jordan to Yemen | 366 km to Mudawara border, US$1.60/truck km earning rate | Loss of income to Jordanian truckers: US$1.962 million |
| Total | | | US$35.8 million |

Source: JICA Survey Team interviews and estimates

Other products are still moving, but over different routes:

- Fuel imports are moving from Saudi Arabia by sea and road from Aqaba to Zarqa, instead of by road from Iraq. The financial impact on Jordanian truckers is probably neutral, since the distance from Karameh to Zarqa is similar to that from Aqaba to Zarqa.
- During 2010, about 1.6 million tons of machinery were imported by Jordan from Ukraine, routed by road through Syria. Since Syrian routes have not been available in recent years, this cargo has been entering Jordan by sea through Aqaba. The impact on Jordanian transporters is therefore likely not to be significant;
- The number of tons arriving by truck in the Zarqa Free Zone has decreased from 693,864 in 2014 to 500,388 in 2017, a loss of 193,476 tons; tonnages departing by truck from the Free Zone decreased by an even greater amount, from 648,493 tons in 2014 to 417,587 tons in 2017, or 230,906 tons. Since these losses in tonnages may likely be already captured in the loss calculations shown previously, no additional loss estimates were made for this traffic.

While the Jaber border crossing has been closed since 2015, the Government of Jordan has plans for a reopening of this facility as soon as assurances are received from Syria that security along

[18] Interviews with border post staff at Omari in November 2017.

the border will be secure. Karameh reopened in September 2017 – although traffic at this border crossing has thus far remained small, the government is hopeful that pre-2001 traffic levels through this facility will eventually be realized; however, it is doubtful that this will happen.

Losses to Jordan due to the border closures with Iraq and Syria include a loss of revenue at Aqaba Port, a loss of revenue to the trucking industry, and a loss of transit fees payable to the Government of Jordan for these transit vehicles. The situation also contributes to an oversupply of trucks in Jordan compared with the number of trucks needed to move the cargo offered.

The reduction in tonnages moving by truck in Jordan has exacerbated the oversupply of vehicles. There are a total of about 21,000 trucks, while current traffic requires only about 16,000 or 17,000. The relatively low volume of trucks needed is, in part, due to decreases in transit traffic using Aqaba Port. However, there has been an oversupply of trucks in Jordan for many years, not only because of border closures, and this situation has had the effect of depressing truck haulage rates in the country.

## 5.2 GDP Growth Rates

The Palestinian economy increased by 3.4% in 2015 and 4.0% in 2016, with 3% an estimate of the medium-term economic growth rate.[19] Similarly, projections of economic growth for Palestine's most important trading partner, Israel, are in a similar range, estimated at 3.25% for 2018 and 2019 by the Organization for Economic Cooperation and Development (OECD).[20] Jordan's GDP increased by 2.4% in 2015 but decreased by 2% in 2016. Projections called for a moderate recovery of 2.6 annually during 2017-2019 period.[21] GDP growth rates for Saudi Arabia have been quite low, e.g., 1.7% in 2016, with some projections for future growth to be negative due to decreasing oil prices.[22] However, due to recent increases in world oil demand and some recent increases in prices,[23] it is likely that future Saudi GDP growth will stay above zero. This survey assumed a 1% annual average GDP growth rate for Saudi Arabia.

These growth rates were used to project regional cargo flows, in addition to other specific changing conditions that affect flows across each border (e.g., the opening of the Jaber border, likely future traffic flows to/from Iraq, and Saudi border closures with Yemen/Qatar). GDP growth rates were used for projections when traffic conditions "normalize" at each border, considering other border closures.

[19] World Bank, Palestine's Economic Outlook; April 2017 and October 2017 http://www.worldbank.org/en/country/westbankandgaza/publication/palestine-s-economic-outlook--october-2017.
[20] http://www.oecd.org/economy/israel-economic-forecast-summary.htm.
[21] http://www.worldbank.org/en/country/jordan/overview.
[22] https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?locations=SA.
[23] https://www.cnbc.com/2017/09/13/oil-holds-gains-buoyed-by-hopes-for-robust-demand.html.

## 5.3 Traffic Projections (Low Growth)

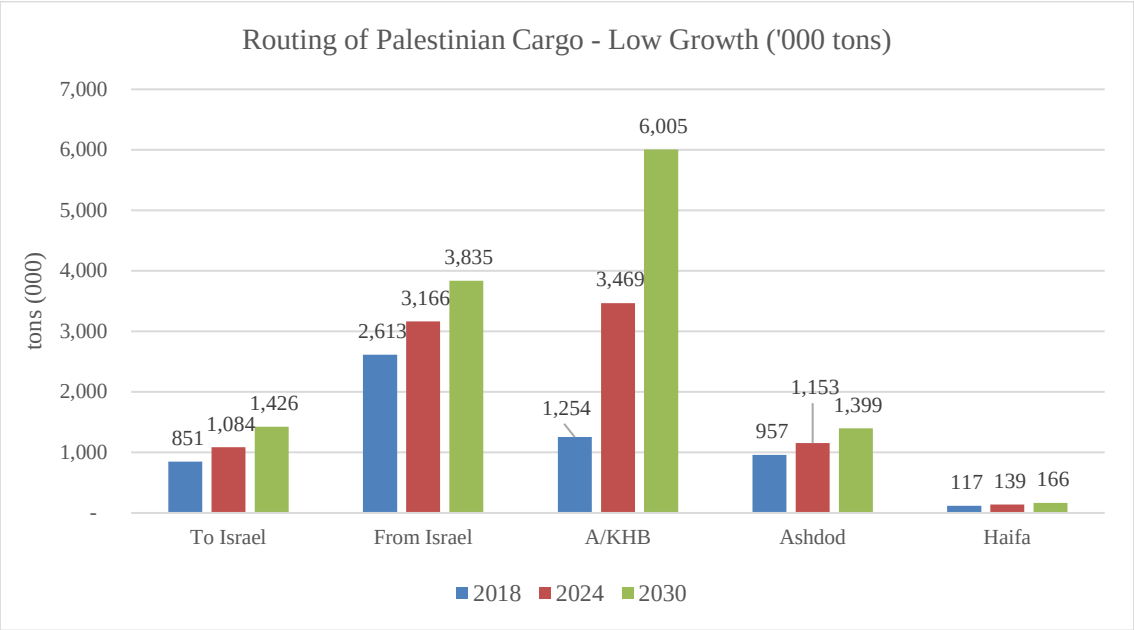
Table 5.9 summarizes the assumptions described in previous sections of this chapter for each border post. These were the basis for the low growth traffic projections for the region.

**Table 5.9 Cargo Flows across Borders**

| Border Crossing | Status | 2016 Cargo Flows (1,000 tons) | Historic Growth | Assumptions | External Influences |
|---|---|---|---|---|---|
| King Hussein Bridge | Open | 828.6 | 23%/year | 5 years at historic growth; then as per GDP plus projected JAIP cargo flows | Strong construction growth in Palestine |
| Sheikh Hussein Bridge | Open | 403.9 | -5%/year | 2 years at historic declining rate; 10 years at 10%/year; then as per GDP | Mafraq logistics development; Haifa Hub traffic |
| Wadi Araba | Open | 8.1 | Unchanged | Growth as per GDP | Possible increase if Aqaba Port becomes available to Israel |
| Jaber | Closed | 7,596 (2011) | - | Open within one year; 2011 traffic levels attained in 5 years | Syrian security situation |
| Karameh | Open (Sept 2017) | 4,290 (2011) | - | 2011 traffic levels attained within 5 years minus: 50% Jordanian exports to Iraq; Iraqi crude oil to Jordan; then as per GDP growth | Stability in Iraq |
| Omari | Open | 3,214 | -11%/year | Jaber to open after 1 year; Saudi-Qatar border open after 3 years; then growth as per Saudi GDP growth | Reopening of Jaber border with Syria and Saudi-Qatar border |
| Mudawara | Open | 746 | -15%/year | Jaber to open after 1 year; Saudi-Yemen border open after 3 years; then growth as per Saudi GDP growth | Reopening of Jaber border with Syria and Saudi-Yemen border |
| Dera'a | Open | 42.5 | -11%/year | Growth as per GDP for 5 years; then 5%/year due to NEOM | NEOM developing in Saudi Arabia |
| Aqaba | Open | 16,800 | - | Growth as per GDP (2.6% until 2020; 3.1% from 2020 onwards) | Transit traffic from surrounding countries |
| Palestine Traffic:<br>- Haifa<br>- Ashdod<br>- Imports from Israel<br>- Exports to Israel | Open | 110<br>902<br>2,451<br>797.9 | - | Growth as per GDP | Possible further changes if Palestine modifies trade policies and KHB procedures are streamlined |

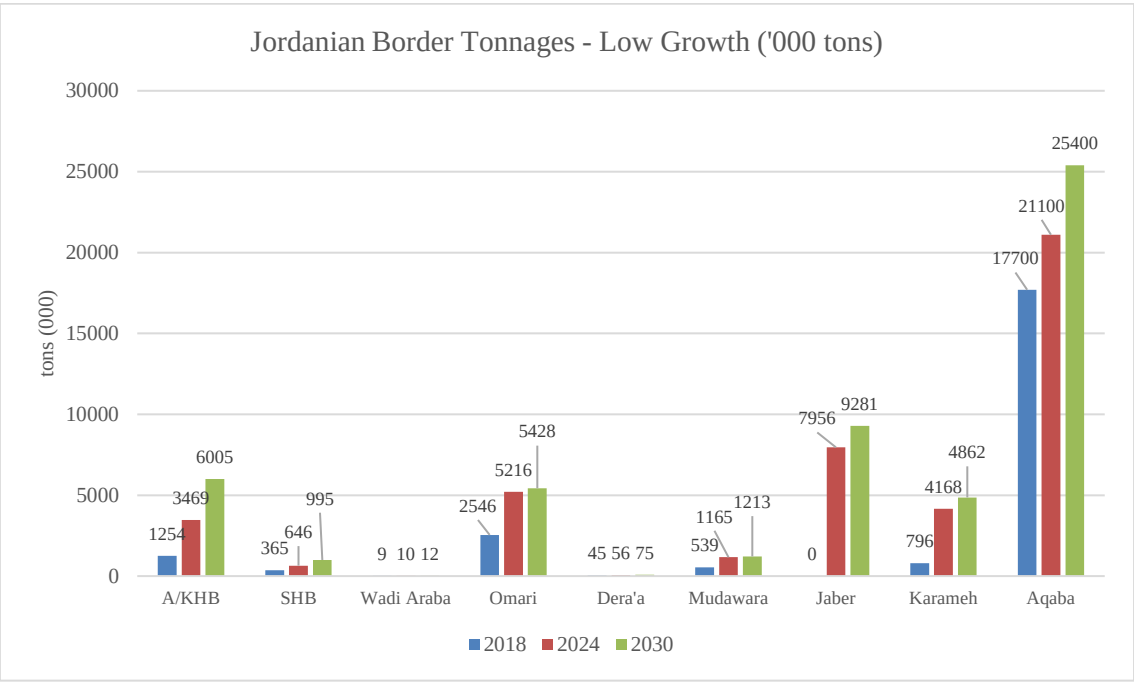
Source: JICA Survey Team interviews and estimates

The graphs in Figure 5.10 and Figure 5.11 and the results in Table 5.10 show the application of the low growth assumptions presented in Table 5.9 to tonnages moving across the borders in the region, as well as routing of Palestinian cargo through Israeli ports and cargo originated and terminated in Israel.



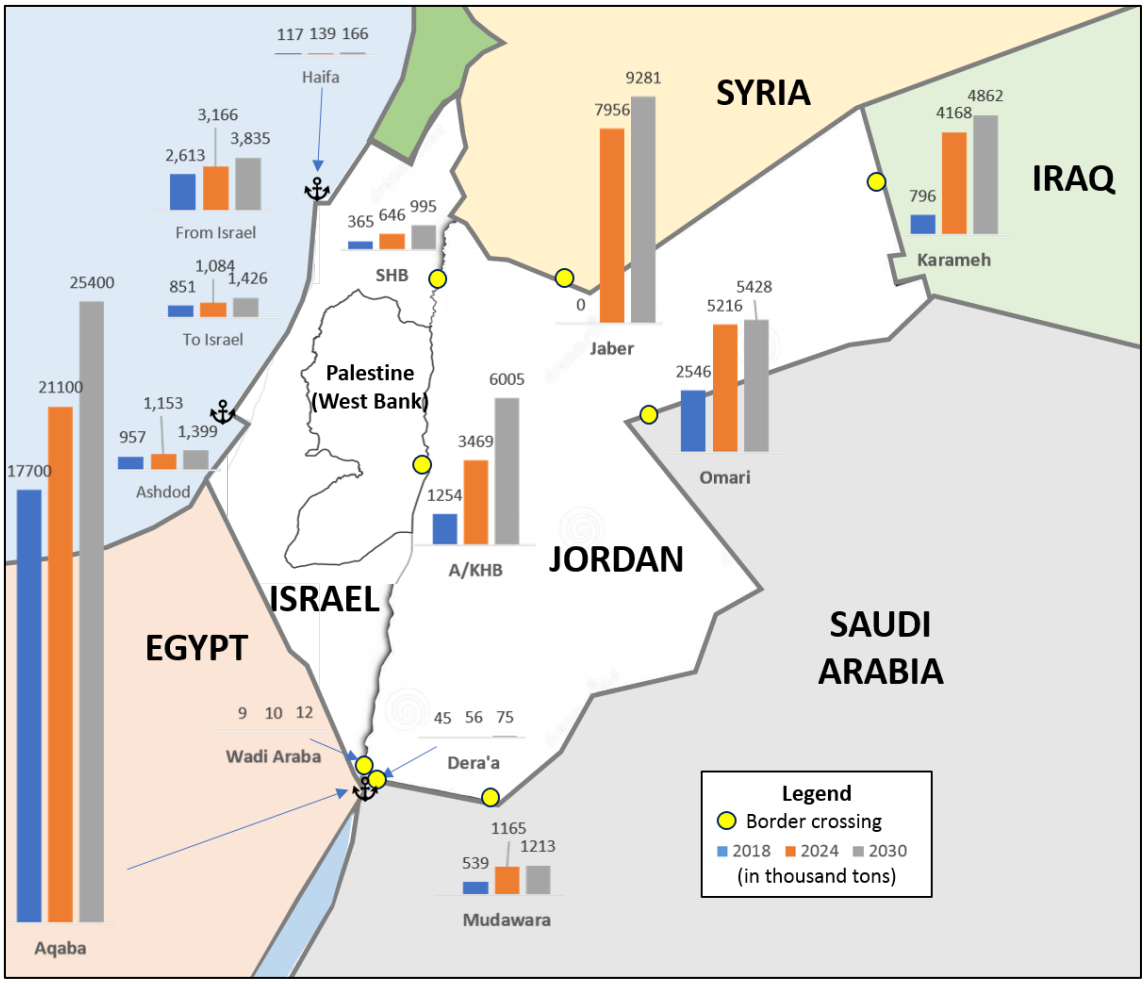

Source: JICA Survey Team

**Figure 5.10 Routing of Palestinian Cargo (Low Growth)**




Source: JICA Survey Team

**Figure 5.11 Jordanian Border Tonnages (Low Growth)**




Source: JICA Survey Team

**Figure 5.12 Conceptual Diagram of Low Growth Scenario**

**Table 5.10 Low Growth Projections (tons)**

| Border/Route | 2018 | 2024 | 2030 |
|---|---|---|---|
| Sheikh Hussein Bridge | 364,520 | 645,769 | 995,274 |
| King Hussein Bridge | 1,253,589 | 3,469,033 | 6,005,331 |
| Wadi Araba | 8,527 | 9,946 | 11,602 |
| Dera'a | 44,770 | 55,976 | 75,013 |
| Mudawara | 538,985 | 1,165,291 | 1,212,652 |
| Omari | 2,545,809 | 5,215,865 | 5,427,855 |
| Karameh | 795,879 | 4,167,960 | 4,861,919 |
| Jaber | N/A | 7,956,000 | 9,280,662 |
| Aqaba | 17,700,000 | 21,100,000 | 25,400,000 |
| Israel | 3,463,510 | 4,249,496 | 5,260,951 |
| Israeli ports | 1,073,631 | 1,292,586 | 1,565,772 |

Source: JICA Survey Team

## 5.4 Traffic Projections (High Growth)

The high growth traffic forecast scenarios generally incorporated the projections in the *Jordan Long Term National Transport Strategy and Action Plan* (2012) and in Palestine's *Road and*

*Transport Master Plan West Bank and Gaza Strip* (2016). However, modifications were made to some of the projections for Jordan since it was determined that some of the forecasts prepared in 2012 were too low (e.g., some have already been exceeded by existing tonnages, as at SHB and Mudawara), while others substantially exceeded reasonable projections of future traffic, such as those for the relatively minor border crossing at Dera'a. In addition, the plan for Jordan showed decreasing traffic at Jaber over the forecast period. The JICA Survey Team addressed these anomalies in the final high growth traffic scenario, as described below.

Jordanian plans were used to forecast cargo moving through the border crossings at Omari, Jaber, and Karameh. The JICA Survey Team examined the Jordanian plans for the SHB, Mudawara, and Dera'a border crossings and determined that they were not realistic. The projections for SHB and Mudawara for 2030 were already less than existing traffic across these border crossings. Projected flows at Dera'a were high with 40,000 vehicles shown for 2018, while there were only about 6,700 vehicles crossing the border in 2017. Accordingly, these forecasts for Dera'a were determined to be unrealistic, even for the high growth scenario. Projections from the Palestinian plan were used to forecast tonnages moving across the KHB, foreign trade with Israel, and Palestinian cargo flows through Israeli ports.

The JICA Survey Team's forecasts were used to forecast high growth traffic across the SHB, Mudawara, and Dera'a border crossings, although the low growth assumptions for SHB and Mudawara were modified in order to project for the high growth scenario. The modifications were as follows: (i) for SHB, the low growth assumption was for 10% growth per year, while the high growth scenario incorporated 20% annual growth; (ii) for Mudawara, the low growth assumption incorporated a negative traffic growth rate of -15% for 2017 and 2018, while no decline was assumed during this period in the high growth scenario.

An additional modification was made to the high growth scenario. The Jordan Transport Plan indicated a decrease in Jaber traffic from 2018 to 2024 and 2030, but the JICA Survey Team considered that the high growth scenario for Jaber should include constant traffic flows in 2018, 2024, and 2030.

Table 5.11 summarizes the sources of information for the high growth traffic projections. Table 5.12 along with Figure 5.13 and Figure 5.14 presents the high growth projections showing tonnages moving across the borders in the region, as well as the routing of Palestinian cargo through Israeli ports plus cargo originated/terminated in Israel.

**Table 5.11 Data Sources for the High Growth Projections**

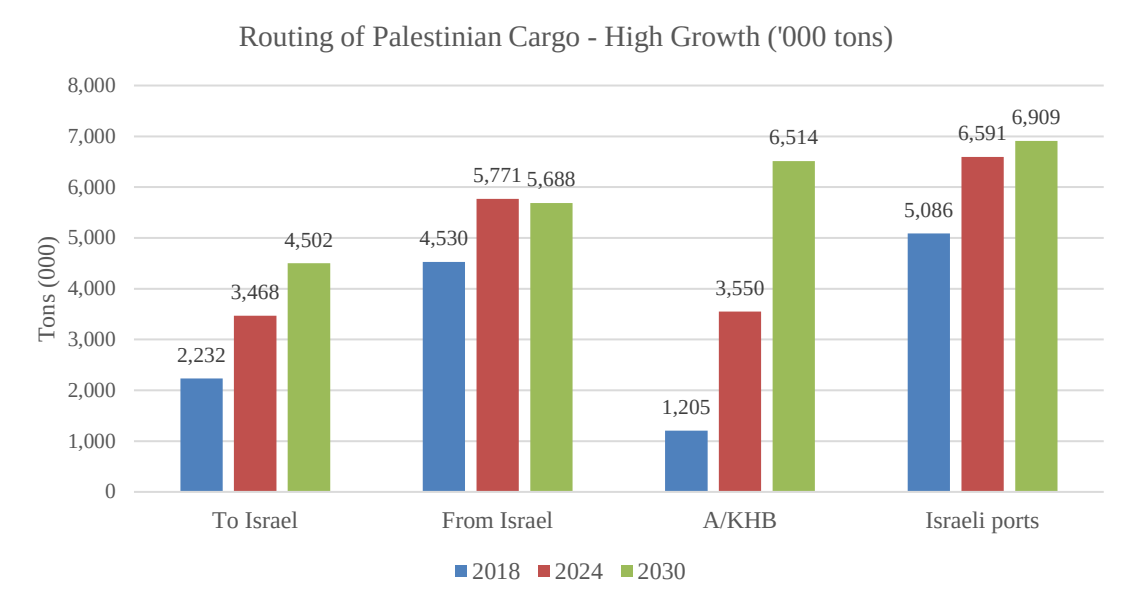
| Border Crossing | Data Source |
|---|---|
| Sheikh Hussein Bridge | Low growth scenario (modified) |
| King Hussein Bridge | Palestinian Transport Plan |
| Wadi Araba | Jordan Transport Strategy |
| Dera'a | Low growth scenario |
| Mudawara | Low growth scenario (modified) |
| Omari | Jordan Transport Strategy |
| Karameh | Jordan Transport Strategy |
| Jaber | Jordan Transport Strategy (modified) |
| Aqaba | Jordan Transport Strategy |
| Israel | Palestinian Transport Plan |
| Israeli Ports | Palestinian Transport Plan |

Source: JICA Survey Team

**Table 5.12 High Growth Projections (tons)**

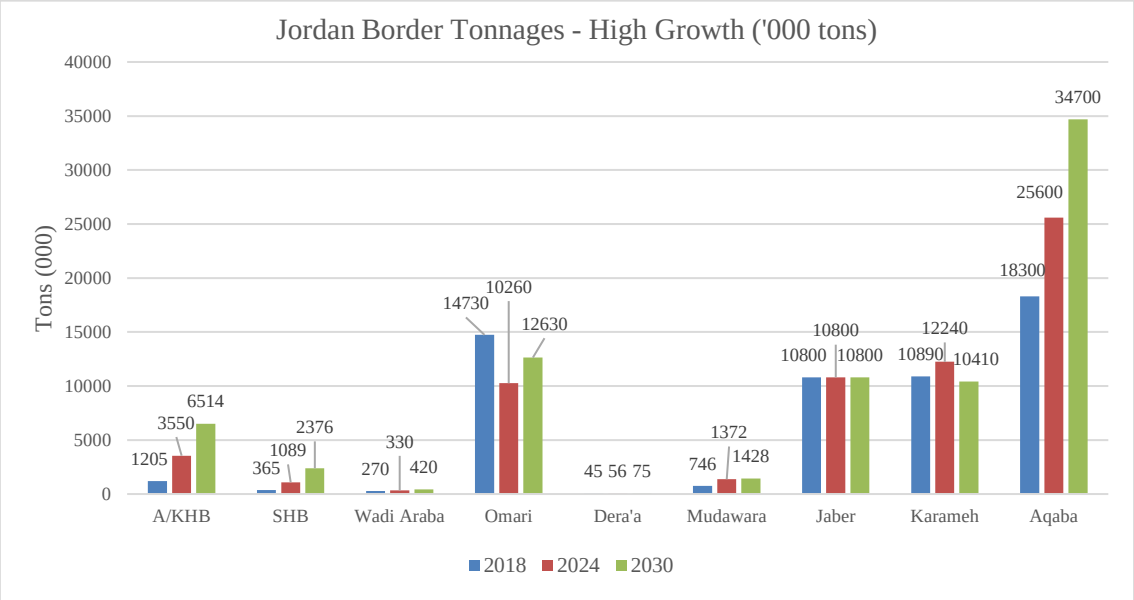
| Border/Route | 2018 | 2024 | 2030 |
|---|---|---|---|
| Sheikh Hussein Bridge | 365,000 | 1,088,000 | 2,376,000 |
| King Hussein Bridge | 1,204,501 | 3,549,927 | 6,514,207 |
| Wadi Araba | 270,000 | 330,000 | 420,000 |
| Dera'a | 44,770 | 55,976 | 75,013 |
| Mudawara | 746,600 | 1,372,300 | 1,428,100 |
| Omari | 14,730,000 | 10,260,000 | 12,630,000 |
| Karameh | 10,890,000 | 12,240,000 | 10,410,000 |
| Aqaba | 18,300,000 | 25,600,000 | 34,700,000 |
| Jaber | 10,800,000 | 10,800,000 | 10,800,000 |
| Israel | 6,761,684 | 9,238,175 | 10,189,835 |
| Israeli ports | 5,085,620 | 6,591,421 | 6,908,559 |

Source: JICA Survey Team



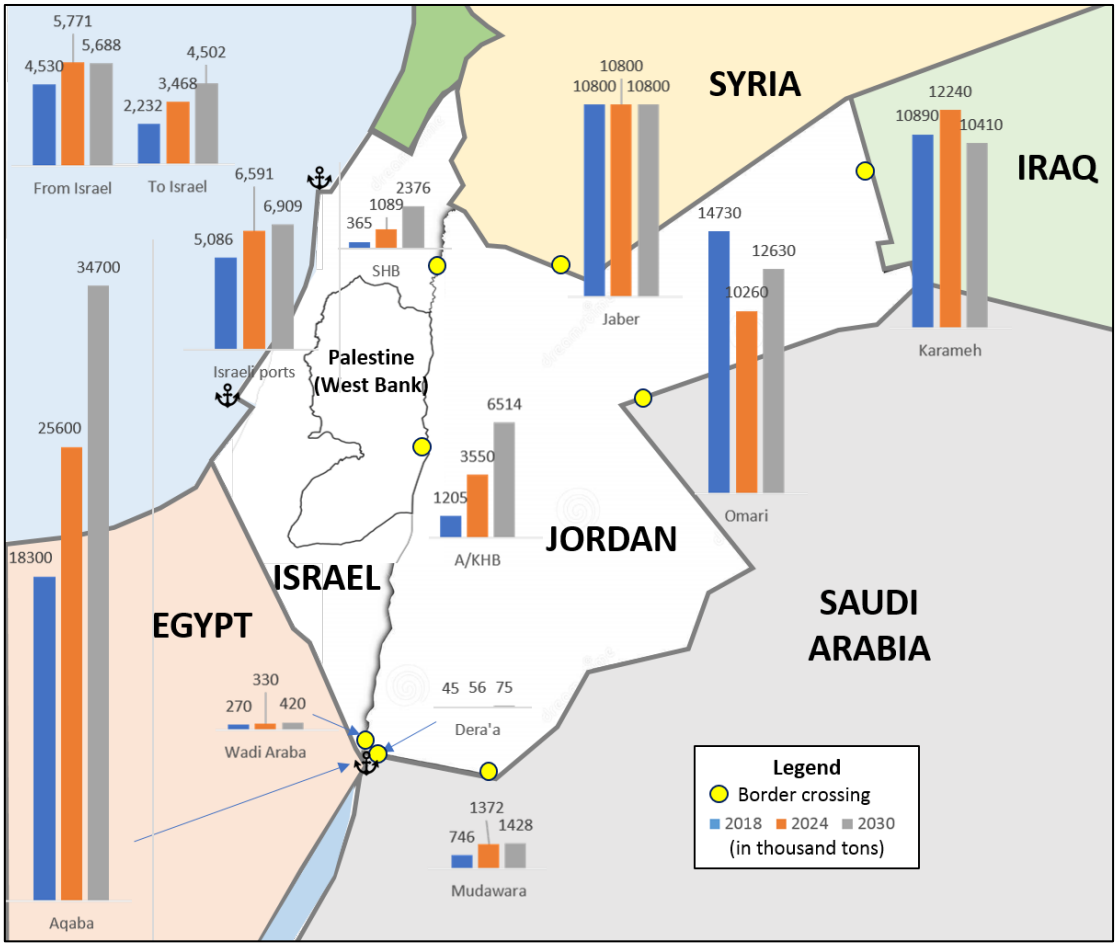

Source: JICA Survey Team

**Figure 5.13 Routing of Palestinian Cargo (High Growth)**




Source: JICA Survey Team

**Figure 5.14 Jordan Border Tonnages (High Growth)**




Source: JICA Survey Team

**Figure 5.15 Conceptual Diagram of Low Growth Scenario**

## 5.5 Assessment of Network Capacity

While traditional measures of volume/capacity were not available for Jordanian or Palestinian roads, the JICA Survey Team traveled extensively over the road network of both countries and found no serious issues with congestion, indicating that there are no serious capacity issues on main roads. Palestine's road network is mainly two-lane and there is some congestion outside of major metropolitan areas, although usually this is due to security checkpoints set up by Israeli security personnel. Major roads in Jordan have experienced significant deterioration due to heavy traffic over the years and this issue is being addressed through grants from the Government of Saudi Arabia. For example, contracts have been awarded for the reconstruction of the 220 km section of road between Queen Alia International Airport and Ma'an (in southern Jordan), to be commenced in early 2018. Funding for this work is from the Saudi Fund for Development based on an agreement signed in November 2015, in the amount of US$170 million.[24] In addition, sections of the road linking Amman with the Saudi border at Omari are being rehabilitated with financing from Saudi Arabia.

The primary capacity issues are at international border crossings in the region, mainly at the KHB, and to a lesser extent at the SHB. Constraints at these facilities have been fully described elsewhere in this report, along with suggested actions to ease the congestion.

[24] http://invest-export.brussels/documents/16349/1140680/Jordan+-+Infrastructure+pojects+2016/a7035624-6c98-410f-98b6-a08a5b6588f9

# 6. Issues and Potential Projects Related to Trade and Logistics Facilitation

## 6.1 Physical Issues

### 6.1.1 Jordan

#### (1) Security-related Vehicle Congestion at the King Hussein Bridge

One of the major issues at the [Allenby-]/King Hussein Bridge (KHB) is traffic congestion, most of which is due to trucks moving sand and other aggregates[1] from Jordan to Palestine to support a booming construction industry. To improve cargo throughput, the Israeli Airports Authority has proposed installation of a conveyer belt for bulk materials, between the two sides of the border, similar to installations at the Israeli commercial crossing with Gaza at Kerem Shalom. Moving these bulk commodities by conveyer would significantly reduce the volume of trucks crossing the border.

#### (2) Lack of a Logistics Center near the Syrian Border (Mafraq)

While the lack of logistics center near the Syrian border is not a constraint at present, since Jordan's border with Syria is now closed, eventually when the border reopens and reconstruction commences in Syria, Jordan will be well-placed to lead the reconstruction efforts. This process has already begun with the establishment of the Mafraq Development Corporation (MDC) and the establishment of several industries in the logistics zone, about 10 km from the Jaber crossing on the border with Syria. The International Finance Corporation (IFC) of the World Bank Group is currently planning to play a strategic role at Mafraq to facilitate the reconstruction process and a private American company has reportedly signed agreements with MDC and the Royal Jordanian Air Force to operate and manage the logistics zone and to develop future dual use of the adjacent airbase, which is currently used for pilot training. With JICA participation in this project (focusing on non-military aspects), the international nature of this facility would be strengthened. There are several possible roles for JICA, including leading of a training program for Syrian refugees to operate earthmoving equipment that would be used in the reconstruction of Syria. Another possible role for JICA would be to assist in the identification of needed improvements of the existing airport to convert it to a dual-use facility, to serve reconstruction requirements in Syria, and the adjacent logistics zone.

#### (3) Jordan's Inefficient Railway Network

Jordan's existing narrow-gauge railway network extends from the Syrian border to Aqaba. However, only the southern portion of this line, operated by the Aqaba Railway Corporation, carries significant volumes of traffic, mainly phosphate rock from Shidiya mine to Aqaba, primarily for export. Of the remaining portions of the railway, only short sections of line in the vicinity of Amman are occasionally operated for tourists.

Due to operational inefficiencies (e.g., rolling stock, alignment), 1.33 million tons was transported by rail during 2016, amounting to only about 16% of the 7.8 million tons of total mine production. The remainder of the mine production, 6.47 million tons, was moved to Aqaba by road.

While the existing rolling stock and alignment of the railway cannot support the movement of large volumes of traffic, improvements could be made to transform this lightly built rail line into a major freight carrier for Jordan. Such improvements have already been assessed by the French Development Agency (Agence Française de Développement, AFD) in a recent prefeasibility study presenting an *Optimized Jordan National Railway Plan*; in addition, in March 2018, the

[1] Coarse to medium-grained particulate material used in construction.

Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC) was to commence a *Feasibility Study [of] Reconstructing the Old Ottoman Hejaz Railway Line and Adding New Lines to Connect the Region Countries In Order to Operate the Transportation of the Goods and Passengers*.

A greater share of phosphates as well as containers could potentially be moved more efficiently by rail than road, removing significant amounts of heavy tonnages from the road network, resulting in savings in road rehabilitation and maintenance costs. Unless railway capacity is increased, millions of tons of cargo will continue to be moved by road, incurring higher transport costs than by rail, and damaging the country's already deteriorated primary road network. Therefore, it is important that development partners support Jordan in its efforts to revitalize its railway network.

Regarding rail access to new port facilities at Aqaba, a key feature of any new railway construction or rehabilitation project will be to determine the most appropriate alignment in order to serve the newly relocated port facilities. At present, the existing rail line terminates at the location of the phosphate terminal, which will soon be relocated several kilometers to the south. In order to provide rail access to the new phosphate terminal, a new alignment of the tracks will have to be undertaken. There are two options being considered: (i) along the beachfront, close to the existing road serving the new port; or (ii) a new line behind the hills approaching Aqaba Port from the northeast. This second option is considered preferable, although it is more costly. However, if a new line is not constructed, 100% of the phosphate will have to be moved to Aqaba by road, at high cost to the phosphate company, as well as to the country as a result of increased road damage.

Since neither of the two studies identified above (i.e., the AFD and COMCEC studies) have addressed or will address the issue of port access, there may be an opportunity for JICA to investigate this issue in detail, and offer recommendations to the Government of Jordan.

### (4) Lack of Cold Storage Facilities at the KHB, the SHB, and Aqaba Port

At present, there are no cold storage facilities at the KHB, restricting the movement of fresh fruits and vegetables from Palestine to Jordan. This issue was identified by many shippers in Palestine as one reason the KHB route is not used to access markets in Jordan, Saudi Arabia, and other Gulf Cooperation Council (GCC) countries. In addition, exporting Jordanian fruits and vegetables through Haifa Port is complicated by the lack of refrigeration at the Sheikh Hussein Bridge (SHB, or the Northern Bridge). Israel insists on the back-to-back transfer (transshipment) of cargo at both locations, which often exposes cargo to high temperatures for long periods during inspection, loading, and unloading.

One example of where technical assistance, as well as some investment, could assist Jordanian exporters was highlighted by the Amman Chamber of Industry. There is good potential for a new market for Jordan for the export of processed meat to the European Union (EU) and the United States (US). However, cold storage facilities are needed at Aqaba in order to meet strict EU and US regulations. Raw meat imported from overseas (e.g., from New Zealand) to Jordan for processing would be suitable for export if these refrigeration facilities were available. The export potential is estimated at about US$150 million. JICA could consider providing suitable cold storage facilities at Aqaba to enable Jordan to further its efforts to export processed meat.

### (5) Air Cargo Limitations at Queen Alia International Airport

The lack of proper facilities at the cargo terminal of Queen Alia International Airport (QAIA) in Amman constrains the export of perishable products by air. These products include fruits, vegetables, cut flowers, and pharmaceuticals. However, there are three main constraints:

(i) There are no effective cooling facilities. Currently, perishable goods are treated and stored as normal goods, which reduces their value and export potential.
(ii) Logistical processes are inefficient. There are complex clearance procedures from different entities, which are time-consuming. All cargo is handled based on the first available flights, whereas perishable products should have priority.
(iii) Capacity is limited. The offloading area is too small, the ramps are unsafe, the X-ray scanners are too small (there is no bulk treatment), the storage area is too small, and several of the handling machines are outdated.

During the fieldwork, the JICA Survey Team visited the cargo facility at QAIA and observed disorganization and duplication of processes in the facility.

To overcome these issues, the Government of the Netherlands – which supports the feasibility phase of public infrastructure projects in developing and transitioning partner countries – is currently working with the Ministry of Transport of Jordan to prepare a terms of reference for a feasibility study to improve the cargo facility and address other logistical issues at QAIA. The primary objective is to improve the facilities and logistics in the air cargo area of QAIA and assist Jordan in realizing its potential for exporting agricultural and floricultural products to regional and European markets, which would have a positive impact on Jordan's economy, private sector development, and job creation. Depending on the outcome of the feasibility study, the Government of the Netherlands will consider grant financial support for the investment phase (up to 20%); other development partners, such as JICA, could assist with the remainder of the funding.

### (6) Border Facilities

The facilities at certain border crossings require improvements to accommodate likely future traffic. Measures to separate trucks according to condition (e.g., loaded, transit, or empty), or control flows according to customs channels (i.e., green, yellow, and red) would facilitate crossing. It is recommended that proposals to improve border crossings be based on simplified and expedited clearance procedures and therefore focus on improvements in traffic flow rather than reinforce current procedures by increasing parking areas and introducing warehousing.[2] Border infrastructure and facilities at Karameh/Karama[3] (opposite Iraq) and Jaber (opposite Syria) in particular require improvement, not only regarding buildings but also power and water infrastructure; photovoltaic systems may address power shortages.

Cargo (X-ray) scanners are a particular requirement. Jordan Customs has an old scanner at Omari/Umari,[4] one of the border crossings with Saudi Arabia; a new one is required. In addition, new scanning equipment is also required at the SHB to increase throughput efficiency and thereby improve supply chains.[5] Also, associated training is required in assessing the scanned images and for scanner maintenance. Such scanners are particularly useful in protecting against the smuggling of dangerous goods, especially dual use[6] materials.

Further, Jordan Customs has requested development of the Zarqa Free Zone Customs Center, including (i) establishment of a joint control room between the Customs Department, Zarqa Free Zone, and security forces, with communication devices, and state-of-the-art closed-circuit

[2] World Bank, *Regional Cross-Border Trade Facilitation and Infrastructure Study for Mashreq Countries, Final Report*, 2011, p. 4.
[3] These are alternative Romanizations.
[4] See previous footnote.
[5] At the Karameh/Karama border crossing, opposite Turaibil, Iraq, JICA provided a scanner in 2013, but it is not (yet) in operation because the United States supplier (L3 Security and Detection Systems, http://www.sds.l-3com.com/) left the site due to security concerns; the work was 95% complete, but training and handover was not completed.
[6] I.e., goods that in addition to their civilian use(s) may have a potential military/combat application, thus causing a security concern.

television (CCTV) with cameras in sensitive areas; (ii) installation of special road bumps to prevent trucks from reversing during the entry and exit process; (iii) installation of X-ray scanners to inspect trucks at entry and exit gates, to increase the efficiency and speed of inspection; and (iv) supply of computers to be used by employees during the inspection process.

### 6.1.2 Palestine

While most of the difficulties faced by Palestinian importers and exporters are institutional in nature, there are some physical issues that act as barriers to transport and logistics facilitation.

#### (1) Vehicle Congestion at Allenby / King Hussein Bridge

The physical constraint of vehicle congestion at the Allenby / King Hussein Bridge was mentioned in the previous subsection on Jordan, but it also applies to the West Bank side of this border, currently under control of Israeli security and customs personnel.

#### (2) Lack of Rail Access to Palestine

There has been discussion by Israel of constructing a branch line from their newly built line from Haifa to Beit She'an (at the junction of the Jordan River Valley and the Jezreel Valley) to Jenin in the northern part of Palestine (West Bank). Israel has also proposed extending the Haifa line to the Jordanian border at the SHB, to connect with a new line to the northern regions of Jordan and on to the Saudi border close to the existing crossing at Omari. This proposed rail line would establish a key link along the East-West Corridor.

While Jordan has not endorsed this concept, officials have indicated that a rail line from Haifa to Jordan, through Palestine, could be worth supporting. There are unconfirmed indications that China and Saudi Arabia might support such a transit line.

Since prefeasibility/feasibility studies of this proposed transit line from Haifa through Palestine and Jordan to Saudi Arabia have not yet been undertaken, there could be an opportunity for a development partner (e.g., JICA) to fund such studies.

Completion of this line would benefit Palestine by providing rail access to Haifa Port as well as to Jordan and GCC countries, Israel would benefit through additional traffic generated at Haifa Port, and Jordan would benefit through gaining a low-cost transit route from a Mediterranean port. The line would directly benefit the new Logistics Zone being developed at Mafraq as well as the northern Jordanian city of Irbid and possibly Amman, through connection with the proposed Jordanian north-south rail link.

#### (3) Lack of Refrigeration at the Allenby / King Hussein Bridge

The lack of refrigeration at the Allenby / King Hussein Bridge is an issue on both sides – it is detrimental to Palestinian shippers since it precludes the exports of fruits, vegetables, and other perishable goods from Palestine to Jordan or through Jordan to third countries. As all cargo transiting the bridge must be transferred back-to-back to another vehicle, the product is subject to spoilage from high temperatures while inspection proceeds. Even with the back-to-back transfer, if refrigeration facilities were available, exports of Palestinian perishables would be facilitated through the Jordanian export gateway.

#### (4) Congestion on Palestinian Roads

Most of Palestine's road network consists of two-lane facilities. However, near large urban centers, there is significant congestion resulting in travel delays of one hour or longer, particularly in the vicinity of Ramallah. While some of this congestion is caused by security checks by Israeli

military personnel, there is certainly scope for a program of road widening in the vicinity of urban areas to alleviate this congestion. While the Israeli checkpoints are likely to continue, road improvement projects could result in time savings.

The eight-year program of the Palestine National Transport Plan includes the following projects: (i) rehabilitation (and upgrading where required) of the existing West Bank Backbone (Hebron-Jenin); (ii) feasibility studies of strategic internal connections, mainly Ramallah-Tulkarm and the radial roads system linking various cities; (iii) implementation of new roads around major cities to bypass congested links within the West Bank; and (iv) partial completion of the Nabi Musa-Hebron-Bethlehem road network.

#### (5) Need for a JAIP-Dedicated Road to the Allenby / King Hussein Bridge

The construction of a dedicated road is being discussed between/among Palestine, Israel and Jordan, to provide a link between the Jericho-Agro Industrial Park (JAIP) and Shuneh, the planned site for a logistics center in Jordan. While this project is relevant to two development plans (the Government of Japan's Corridor for Peace and Prosperity Initiative and the National Transport Master Plan for Palestine), implementation of this project will only be possible when a consensus is reached by the parties, and to date there have been some political difficulties in achieving this result.

A clear demarcation of responsibilities between/among the parties, as well as operation of the planned Shuneh logistics center, the border facility terminal at the bridge on the West Bank side, and the development of a JAIP logistics center are at present unresolved issues.

## 6.2 Institutional Issues

### 6.2.1 Jordan

#### (1) Need for Follow-up on Implementation of the Trade Facilitation and Logistics Component of the National Export Strategy, 2014-2019

The *Hashemite Kingdom of Jordan National Export Strategy 2014-2019* included a number of trade facilitation and logistics strategies and activities, but full implementation has not yet been achieved or is not likely to be achieved by the end of the strategy period (i.e., 2019).[7] Accordingly, incomplete activities might be considered as part of an integrated project, to work toward increasing the efficiency of Jordan's border operations to position it among the top 25 countries in the Trading Across Borders index in the World Bank's Doing Business indicators (as mentioned, it is 53rd in the 2018 rankings, based on June 2017 data), e.g., by strengthening the hard and soft infrastructure underlying Jordan's trade facilitation and logistics systems, improving the capacity of public and private organizations involved in trade facilitation and logistics, and developing Jordan's transport and logistics infrastructure in a way to establish the country as a regional leader in the field. Specific activities to follow up may include (i) removing inconsistences and conflicts in laws and regulations and harmonizing them regionally and internationally; (ii) improving electronic connectivity; (iii) improving operations of special economic and free zones; (iii) improving the dissemination of information on bilateral and international trade agreements; (iv) improving and rationalizing the trucking industry; (v) implementing an integrated border management system; and (vi) improving port capacity.

[7] The lack of a systematic approach to monitoring implementation of the *National Export Strategy* to some extent hinders an assessment of progress with strategy implementation. Interview with the Ministry of Trade, Industry, and Supply, 11 February 2017.

### (2) Need to Improve Border Efficiency

While Jordan Customs has been a regional leader in modernization, e.g., with the launch of the National Single Window, the golden list program facilitating customs procedures for trusted traders, and a partnership council between customs and the private sector, there is considerable scope for Jordan Customs and its partner agencies (e.g., immigration, quarantine) to further improve their operations, to facilitate logistics and transport, e.g., through the following as part of a "next-generation" border modernization initiative:

(i) **Time Release Studies**: The time for release is slow, mainly because of delays in non-customs departments (as is the case in many countries). It would be productive in the short term to update and expand the time release studies undertaken so far. Based on the results, it will be possible to increase coordination between/among border agencies to reduce overall release time, by encouraging the agencies to work more in parallel than in sequence and by reducing the time taken by each**.** Time release studies following WCO-prescribed methodology at QAIA and at the Omari border crossing with Saudi Arabia are near completion and a time release study for Aqaba port has recently commenced. Other such studies would be beneficial.

(ii) **Support to Upgrade Electronic Transit Tracking**: Jordan Customs is interested in development partner (e.g., JICA) support to upgrade electronic transit traffic tracking to facilitate transit and control vehicles traversing Jordan.[8] If the Syrian border is opened, they will need to track vehicles not only from Syria, but from GCC countries, and from Europe.[9] In so doing, it will be necessary to ensure continued compatibility between the systems of Jordan Customs and NAFITH, e.g., including on-board tags, sensors, classifications, statistical routines.

(iii) **State-of-the-Art Training**: Innovative training requested by Jordan Customs includes training in Total Quality Management, the *kaizen*[10] methodology for continuous development, and training for certified innovation leaders.[11] Staff of other border administrations could productively be included in such training.

### (3) Need to Improve the Efficiency of the Trucking Sector

Although improvements have been made, the trucking industry in Jordan remains fragmented and uncompetitive (see Box 4.1). Low profitability or losses are a barrier to scaling up, and regulation of the trucking industry needs to be rationalized. Accordingly, the *National Export Strategy 2014-2019* called for actions to improve the structure and competitiveness of the trucking industry, and provide incentives to attract investment in the sector and the upgrading of technology.[12] Over the longer term, measures may be considered to retrain truck drivers to work in other industries to

[8] See, e.g., Arif A. Alfitiani, "Jordan's Electronic Transit Monitoring and Facilitation System," *World Customs Journal*, pp. 79-88, Vol. 4, No. 2, 2010, pp. 79-88.

[9] In view of Jordan's strategic location of Jordan in the Middle East, it has been proposed that Jordan serve as a regional and international hub for monitoring transit traffic, through expanded infrastructure, development of the required legal framework, and the adoption of applying harmonized procedures. Moh'd A. Al-Shboul, "Enhancing Transit Trade, Facilitation System and Supply Chain Security for Local, Regional and International Corridor," *International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, Vol. 10, 2016 [downloadable from https://pdfs.semanticscholar.org/ed0c/01aaba132815297261be38065f90f752eb7b.pdf].

[10] The concept of kaizen (改善) or "good change" refers to activities that continually improve all functions and procedures.

[11] I.e., certification of professionals who are driven to lead or participate in innovation efforts to gain and/or maintain competitive advantage.

[12] Ministry of Industry, Trade and Supply, *The Hashemite Kingdom of Jordan, National Export Strategy, 2014-2019*, pp. 247-74.

reduce oversupply in the sector.[13] However, political issues may present a challenge in pursuing such an initiative.

#### (4) Need to Upgrade Cross-Border Logistics and Transport Facilitation Services

The *National Export Strategy 2014-2019* called for complementing the improvement of systems and processes in the public sector by improving the capacity of relevant private sector entities (e.g., clearance companies, freight forwarders).[14] Activities might include (i) providing training, improving standards, and gradually introducing the licensing of clearance agents; (ii) increasing the professionalization of the freight forwarding industry; (iii) strengthening trade associations for support services; and (iv) providing training on trade and logistics facilitation subjects.

#### (5) Need for Institutional Strengthening of the Railway Sector[15]

If Jordan is to extend its railway network beyond its current 620 km, institutional strengthening of the (sub)sector will be required. The two existing railway companies – the Hedjaz [Hejaz] Jordan Railway Corporation, which operates chartered tourist services (steam trains) and freight services on demand along a narrow gauge network of about 217 km, and the Aqaba Railway Corporation, which operates a 293 km narrow gauge industrial line mainly to transport phosphates from inland mines to Aqaba Port – operate with limited control or monitoring from the Jordanian Ministry of Transport. Safety rules are still based a railway law dating back to 1934. To manage the planned large-scale extension of the railway network, it will be important to improve regulations and increase private sector participation and competition in the extended railway. In this regard, the AFD-financed prefeasibility study of an *Optimized Jordan National Railway Plan*, found a financial rate of return of 11%, with "realistic values" for revenues, costs, loan characteristics, competition factors, and investments costs; accordingly, it called for a concessionaire selection process with assistance from a transaction advisor.

### 6.2.2 Palestine

#### (1) Need for Follow-up on Implementation of the Trade Facilitation and Logistics Component of the National Export Strategy, 2014-2019

The *State of Palestine National Export Strategy 2014-2018*, formally endorsed by the Cabinet in September 2014, included a trade facilitation and logistics component, with three strategic objectives, the last of which, i.e., developing the most efficient, cost-effective export processes and routes for operators, requires considerably more work. Specific activities may include, e.g., reducing costs to exporters through the establishment of integrated solutions (possibly through developing a demand matching site for shippers and truckers, using web-based software[16]; and ensuring an effective competitiveness policy for transporters to achieve advantageous prices for exporters), encouraging private sector investment for increasing the efficiency of trade flows (e.g., by establishing collective bonded areas), strengthening logistics assistance to exporters at each

[13] The World Bank has supported such initiatives in the railway sector in certain countries, e.g., in Malawi after railway privatization.

[14] Ministry of Industry, Trade and Supply, *The Hashemite Kingdom of Jordan, National Export Strategy, 2014-2019,* pp. 247-74.

[15] This section draws on: (i) European Bank for Reconstruction and Development, *Jordan's Request for Country of Operation's Status: Technical Assessment,* 17 November 2011, pp. 48-49; (ii) European Bank for Reconstruction and Development, *Strategy for Jordan*, 1 October 2014, Annex 3; and (iii) *The Optimized JNRP [Jordan National Railway Plan) Findings in a Nutshell*, 2017 [provided by AFD].

[16] "Inspiration" may be drawn from the case of the NAFITH (National Freight Information and Transportation Hub) Truck Control System in Jordan (see Box 4.2).

border crossing (e.g., establishing logistics hubs, providing cold storage facilities for perishable goods).[17]

### (2) Trade Diversification

In 2015 the *Trade Transaction Costs* project recommended increasing Palestinian autonomy to promote trade with countries in the Greater Arab Free Trade Area (GAFTA) region.[18] Measures may include promoting Palestinian trade with GAFTA countries, and implementation of facilitation measures for the Allenby / King Hussein Bridge crossing (see below). Consider, for example, that recognizing that 88% of Palestinian products are destined for a single market (Israel), the Office of the Quartet has supported Palestinian exporters in identifying new markets for their products (e.g., by facilitating trade missions to GAFTA countries, recently to Oman).[19]

### (3) Facilitation at the Allenby / King Hussein Bridge and Commercial Crossings

Facilitation of cross-border logistics and transport services is required at crossings with Jordan to the west and with Israel to the east. Trade in both directions is hindered by the "back-to-back" system, requiring transshipment or transloading, i.e., offloading from the vehicle of the country of exit and reloading in the vehicle of the country of entry ("double handling"), due to a prohibition on border crossing of motor vehicles (which would enable the "door-to-door system"). Box 6.1 presents insights on the back-to-back system from the non-profit Economic Cooperation Foundation of Israel.

Facilitation of transport across the Allenby / King Hussein Bridge, the only crossing[20] permitted for Palestinian goods to/from Jordan, may be considered by a proposed four-party (i.e., Israel, Palestine, and Jordan, plus Japan) coordination committee to seek a "win-win-win" solution), when the parties are ready.[21] The measures listed in Box 4.7 may be considered (e.g., eliminating or reducing the need for transhipment by allowing border crossing by the means of transport; the facilitation of border crossing clearance, e.g., through risk management, a system of authorized economic operators, i.e., trusted, reliable, known, and reputable operators; one-stop border crossing clearance procedures and/or coordinated border management, adjoining state-wise and/or agency-wise; modern technology to support trade facilitation measures, such as scanning of vehicles/cargo compartments, and simplification, harmonization, streamlining, and coordination.[22]

Facilitation of transport at commercial crossings with Israel may also be considered. As reported by the Office of the Quartet, installation of new and improved technology (e.g., new scanners, new biometrically enabled processing of persons entering Israel) at the crossings has the potential to expedite the movement of cargo (and pedestrians) between the West Bank and Israel.[23]

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[17] (i) Ministry of National Economy, International Trade Centre, and Palestine Trade Center, *The State of Palestine National Export Strategy, Functional Strategies, Trade Logistics and Facilitation*, 2014-2018; and (ii) interview with PalTrade, 8 February 2018.

[18] *Strengthening the Palestinian Private Sector through Reducing Trade Transaction Costs: A Comprehensive Research and Advocacy Program, Final Report*, funded by the Middle East Partnership Initiative, December 2015, pp. 28-34, 64.

[19] Office of the Quartet, *Report for the Meeting of the Ad Hoc Liaison Committee*, 17-18 September 2017, p. 23.

[20] Opening the Damia / Prince Muhammad Bridge, north of Allenby / King Hussein Bridge (and about 15 km north of Jericho) could be considered – this would require renovating the existing facilities and possibly replacing the bridge.

[21] Due to certain external factors, the time is not ripe to proceed with this proposal at present.

[22] A proposal by the PIEFZA calls for an exclusive road and cross-border logistics system; perhaps different variants of this proposal may be formulated, with differing levels of facilitation and acceptability to Israeli authorities, who control bridge operations at present. Palestine Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, *Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, Legal and Institutional Study of Border Operations*, prepared by PADECO, November 2015, pp. 38-39.

[23] Office of the Quartet, *Report for the Meeting of the Ad Hoc Liaison Committee*, 17-18 September 2017, p. 23

For both cases – facilitation of transport across the Allenby / King Hussein Bridge and across the commercial crossings – a users' group may be formed,[24] for the discussion of issues and presentation to the appropriate authorities. International development partners – such as Japan and the Netherlands – could productively participate in the group.

**Box 6.1 The Back-to-Back Requirement – An Israeli Viewpoint**

The Economic Cooperation Foundation, an Israeli policy planning think tank dedicated to achieving a two-state, Israeli-Palestinian solution, understands that any reduction or elimination of the back-to-back requirement at the Allenby / King Hussein Bridge is contingent upon a directive of the Prime Minister of Israel or through agreement between the Jordanian and Israeli Ministries of Foreign Affairs. A directive of the Prime Minister would most likely depend on political considerations rather than technical or security ones. It is not only infrastructure/technology improvements that will dictate the decision to eliminate back-to-back cargo transfers; strong political will is required to resolve this issue.

Israeli government agencies have opposed eliminating the back-to-back requirement. Security concerns are considered by Israel to be the most crucial problem at the bridge. While the back-to-back requirement could possibly be reduced or eliminated, it is considered that other security procedures (e.g., use of pit holes to check the underbellies of trucks) may then be implemented, with similar or worse impacts.

Source: Economic Cooperation Foundation, *Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park*, a special report for the JICA Survey Team, 28 February 2018.

#### (4) Cooperation between the Palestinian and Israeli Standards

The *Trade Transaction Costs Project* recommended increased cooperation between the Palestinian Standards Institution (PSI) and the Standards Institute of Israel (SII) to promote mutual recognition of standards for certain products. Measures include building the infrastructure and human capacity of the PSI in agricultural trade and standards in cooperation with the SII, in order to build Israeli trust in capacity of PSI to regulate and enforce its own standards and empower the Palestinian Authority to take ownership, build autonomy, and eliminate the transaction costs associated with Israeli-set standards on Palestinian imports. Specific recommendations included, e.g., establishing agricultural testing labs at crossings to save the traders time and money and provide better supervision of quality and quantity to the Israeli authorities, and improving transparency and access to information of Israeli standardization requirements and procedures.[25] Similar cooperation could be sought between the PSI and the Jordan Standards and Metrology Association under the Ministry of Trade, Industry of Supply of Jordan**.**

### 6.2.3 Region

#### (1) Integrated / Coordinated Border Management

As part of its original program for enhanced performance of border control management at selected border posts of Arab states, the Aid for Trade Initiative for Arab States (AfTIAS) put forward a proposal for the development and piloting of joint customs control procedures at two pairs of border posts, including the Omari border crossing involving Jordan and Saudi Arabia (and

[24] "Inspiration" may be sought from the experience of corridor development groups in Africa, such as the Maputo Corridor Logistics Initiative working in Mozambique, South Africa, and Swaziland. See http://www.mcli.co.za/.

[25] *Strengthening the Palestinian Private Sector through Reducing Trade Transaction Costs: A Comprehensive Research and Advocacy Program, Final Report,* funded by the Middle East Partnership Initiative, December 2015, pp. 28-34.

the other involving Egypt and Sudan).[26] While this measure turned out to be a "step too far", moves toward coordinated border management have begun on the Jordanian (although not on the Saudi Arabian) side. JICA has considerable experience in supporting such initiatives[27] and could productively support such a measure, perhaps including not only customs, but also other government agencies, to maximize benefits.

### (2) Harmonization of International Road Haulage Requirements

Under the auspices of United Nations Economic and Social Commission for Western Asia (UNESCWA) and the Arab League, there have been initiatives for the harmonization of road haulage requirements in the region, i.e., including Jordan, Palestine, and neighboring countries. Possible issues to address include (i) harmonization of truck design and operating standards, including axle load limits, roadworthiness inspections, and limitations on vehicle age; (ii) the licensing of trucks engaged in international trade; and (iii) temporary visas for drivers.[28]

[26] Aid for Trade Initiative for Arab States, *Enhanced Performance of Border Control Management at Selected Border Posts of Arab States* [downloaded from http://aftias.org/project/enhanced-performance-of-border-control-management-at-selected-border-posts-of-arab-states/ on 5 December 2017]. See also Palestine Industrial Estates and Free Zones Authority and Japan International Cooperation Agency, *Project for Strengthening of Incentive Services and Management Function of Jericho Agro-Industrial Park, Legal and Institutional Study of Border Operations*, prepared by PADECO CO., Ltd., December 20175, p 23 ["Also important would be the goal of achieving the one-stop border crossing control procedure; this may also be a 'step too far' at present, although in principle a strong case can be made for this procedure."]

[27] See *One-Stop Border Post Sourcebook, 2nd Edition*, May 2016, funded by the Japan International Cooperation Agency, subsection 5.2.6
[downloadable from https://www.jica.go.jp/english/publications/brochures/c8h0vm0000avs7w2-att/osbp_en.pdf].

[28] See, e.g., World Bank, *Regional Cross-Border Trade Facilitation and Infrastructure Study for Mashreq Countries, Final Report*, 2011, p. 55.

## 6.3 Classification of Issues by Importance

Table 6.1 presents a list of issues related to trade and logistics facilitation, along with an indicative ranking of the issues by importance.

**Table 6.1 Classification of Issues by Importance**

| Country | Sector | Issue | Importance<br>1 = high<br>2 = medium<br>3 = low |
|---|---|---|---|
| Jordan | Physical | Vehicle congestion at the KHB | 1 |
| | | Lack of a logistics center near the Syrian Border (Mafraq) | 1 |
| | | Jordan's inefficient railway network (North-South Corridor near Aqaba Port) | 1 |
| | | Lack of cold storage facilities at the KHB, the SHB, and Aqaba Port | 3 |
| | | Air cargo limitations at QAIA | 3 |
| | | Border facilities limitations | 2 |
| | Institutional | Need for follow-up on implementation of the National Export Strategy | 1/2 |
| | | Need to improve border efficiency | 1/2 |
| | | Need to improve efficiency of the trucking sector | 1 |
| | | Need to upgrade cross-border logistics and transport facilitation services | 3 |
| | | Need for institutional strengthening of the railway sector | 3 |
| Palestine | Physical | Vehicle congestion at the A/KHB | 1 |
| | | Lack of rail access to Palestine (East-West Corridor) | 2 |
| | | Lack of refrigeration at the A/KHB | 2 |
| | | Congestion on Palestinian Roads | 3 |
| | | Need for a JAIP-dedicated road to the A/KHB | 1 |
| | Institutional | Need for follow-up on implementation of the National Export Strategy | 1/2 |
| | | Trade diversification | 2 |
| | | Facilitation at the A/KHB and commercial crossings | 1 |
| | | Cooperation between the Palestinian and Israeli standards agencies | 2 |
| Region | Institutional | Integrated/coordinated border management | 2 |
| | | Harmonization of international road haulage Requirements | 3 |

Abbreviations: A/KHB = Allenby / King Hussein Bridge, JAIP = Jericho Agro-Industrial Park, KHB = King Hussein Bridge, NES = National Export Strategy, QAIA = Queen Alia International Airport, SHB = Sheik Hussein Bridge
Source: JICA Survey Team

## 6.4 Longlist of Potential Projects

Table 6.2 presents a longlist of potential projects to address the issues identified in the previous section.

## Table 6.2 Longlist of Potential Projects

| Country | Sector | Issue (Importance: 1 = high, 2 = medium, 3 = low) | | Project | Project Type | Action Timeframe | Project No |
|---|---|---|---|---|---|---|---|
| Jordan | Physical | Vehicle congestion at the KHB | 1 | Installation of a conveyer belt | Construction | Long | J-1 |
| | | Lack of a logistics center near the Syrian Border (Mafraq) | 1 | Training program for Syrian refugees to operate earthmoving equipment for reconstruction | Training | Short | J-2 |
| | | | | Identification of needed improvements to convert the existing Mafraq Airport to a dual-use facility to serve reconstruction requirements in Syria, and the adjacent logistics zone | Data collection/ construction | Short | J-3 |
| | | Jordan's inefficient railway network | 1 | Development of rail access to new ports at Aqaba along the North-South Corridor | Feasibility study | Medium | J-4 |
| | | Lack of cold storage facilities at the KHB, SHB, and Aqaba Port | 3 | Provision of cold storage facilities at Aqaba | Construction | Medium to Long | J-5 |
| | | Air cargo limitations at QAIA | 3 | Modernization of cargo facilities at QAIA | Feasibility study | Medium to Long | J-6 |
| | | Need to improve border facilities | 2 | Development of border infrastructure and facilities | Construction | Medium | J-7 |
| | Institutional | Need for follow-up on implementation of the NES | 1/2 | Removal of inconsistencies and conflicts in laws and regulations | Technical cooperation | Medium | J-8 |
| | | | | Improvement of operations of special economic and free zones | Feasibility study | Medium to Long | J-9 |
| | | | | Dissemination of information on bilateral and international trade agreements | Technical cooperation | Short | J-10 |
| | | | | Next-generation border modernization initiative (Improvement of electronic connectivity between border administrations) | Construction | Medium | J-11 |

| Country | Sector | Issue (Importance: 1 = high, 2 = medium, 3 = low) | | Project | Project Type | Action Timeframe | Project No |
|---|---|---|---|---|---|---|---|
| | | | | Next-generation border modernization initiative (Improvement of an integrated / coordinated border management system) | Technical cooperation | Medium | J-11 |
| | | | | Enhancement of port capacity | Feasibility study | Medium | J-12 |
| | | Need to improve border efficiency | 1/2 | Next-generation border modernization initiative (time release studies, support to upgrade electronic transit tracking, state-of-the-art training) | Feasibility study, Technical cooperation, Training | Short to Medium | J-11 |
| | | Need to improve the efficiency of the trucking sector | 1 | Improvement and rationalization of the trucking industry | Feasibility Study/Training | Short | J-13 |
| | | Need to upgrade improve cross-border logistics and transport facilitation services | 3 | Capacity development and training of relevant private sector entities | Training | Short | J-14 |
| | | Need for railway institutional strengthening | 3 | Capacity development of railway institutions | Technical cooperation | Medium to Long | J-15 |
| Palestine | Physical | Vehicle congestion at the A/KHB | 1 | Installation of a conveyer belt | Construction | Long | P-1 |
| | | Lack of rail access to Palestine | 2 | Development of the East-West Railway Corridor from Haifa to Jordan through Palestine | Pre-feasibility study | Medium | P-2 |
| | | Lack of refrigeration at Allenby Bridge | 2 | Provision of cold storage facilities | Construction | Medium | P-3 |
| | | Congestion on Palestinian roads | 3 | Road development in the vicinity of Ramallah | Construction | Medium | P-4 |
| | | Need for a JAIP-dedicated road | 1 | Construction of a JAIP-dedicated road to A/KHB | Technical cooperation and construction | Short to Medium | P-5 |
| | | | | Establishment of 4-party meeting | - | - | - |
| | Institutional | Need for follow-up on implementation of the NES | 1/2 | Implementation of demand matching services for shippers and truckers (web-based software) | Technical cooperation | Medium | P-6 |
| | | | | Establishment of collective bonded areas | Technical cooperation | Medium | P-7 |

| Country | Sector | Issue (Importance: 1 = high, 2 = medium, 3 = low) | | Project | Project Type | Action Timeframe | Project No |
|---|---|---|---|---|---|---|---|
| | | | | Establishment of logistics hubs and provide cold storage facilities | Construction | Medium | P-8 |
| | | Trade diversification | 2 | Facilitation of trade missions to GAFTA countries | Technical cooperation | Short | P-9 |
| | | Facilitation at the A/KHB and commercial crossings | 1 | Establishment of 4-party meeting | - | - | - |
| | | | | Implementation of risk management and trusted trader systems to reduce the need for back-to-back transshipment at the A/KHB | Technical cooperation | Medium | P-10 |
| | | | | Establishment of risk management techniques and improved scanning equipment at commercial crossings | Technical cooperation | Medium | P-11 |
| | | | | Creation of an A/KHB users' group to resolve transport facilitation issues | Technical cooperation | Medium | P-12 |
| | | | | Use of modern technology to support trade facilitation measures (e.g., tracking devices, license plate and document readers) | Grant / technical cooperation | Medium | P-13 |
| | | Cooperation between the Palestinian and Israeli Standards Agencies | 2 | Establishment of agricultural testing labs at crossings | Construction and technical cooperation | Medium | P-14 |
| | | | | Improvement of transparency and access to information on Israeli standardization requirements and procedures | Technical cooperation | Medium | P-15 |

Abbreviations: A/KHB – Allenby / King Hussein Bridge, GAFTA = Greater Arab Free Trade Area, JAIP = Jericho-Agro Industrial Park, KHB = King Hussein Bridge, NES = National Export Strategy, QAIA = Queen Alia International Airport
Note: Action timeframes are short (2018-2019), medium (2020-2022), and long (2023-25 and beyond).
Source: JICA Survey Team

# 7. Policy for Trade and Logistics Facilitation and Potential JICA Assistance

## 7.1 Policy Direction and Project Prioritization – Palestine

### 7.1.1 SWOT Analysis

Table 7.1 presents a strengths, weaknesses, opportunities, and threats (SWOT) analysis of trade and logistics facilitation for Palestine. As for Jordan, application of this strategic planning technique helps to identify internal and external factors that are favorable and unfavorable for achieving the objective of trade and logistics facilitation.

**Table 7.1 SWOT Analysis – Palestine**

| **Strengths** | **Weaknesses** |
|---|---|
| ・ Growing economy (slow but steady)<br>・ Three-stage development plan for JAIP (Stage I nearly complete) and associated logistics operations center linked to the A/KHB<br>・ Increased construction activity arising from various industrial park developments in Palestine (West Bank)<br>・ Preferential tariff regimes provided by various countries (particularly Arab countries)<br>・ Proximity to Ashdod and Haifa Ports<br>・ Strong growth in the ICT sector<br>・ High quality of agricultural products | ・ Large trade deficit due to overreliance on Israel<br>・ Restrictions on the free movement of goods and services<br>・ High transport costs incurred by Palestinian traders because of unpredictability at border crossings<br>・ High storage costs for Palestinian goods held pending clearance at Israeli ports<br>・ Infrastructure gaps in transport services and storage facilities<br>・ Congestion at the A/KHB due to high-volume traffic carrying construction materials<br>・ Complex and redundant administrative requirements<br>・ Lack of a Palestinian customs presence at the A/KHB<br>・ Hilly terrain requiring high-capital investment in transport network development<br>・ Few partnerships between/among logistics operators<br>・ Requirement for back-to-back transhipment leading to costly and time-consuming transport and causing damage to the goods<br>・ No cold storage facilities at the border<br>・ Lack of a known trader system<br>・ An inefficient and fragmented trucking industry |
| **Opportunities** | **Threats** |
| ・ Installation of a new cargo scanner at the A/KHB to facilitate commercial activities<br>・ Planning and ongoing negotiations to build a JAIP-dedicated road to the A/KHB<br>・ Development plan for dry ports (logistics hubs)<br>・ Updating of ASYCUDA system with European Union funding<br>・ Implementation of the Global Gate (advanced) customs system) at Ashdod and Haifa Ports<br>・ Growth of the Islamic market in Asia and East African<br>・ Formulation of a transport master plan in 2016 (although it has not yet been authorized)<br>・ Strong interest from international development partners (including Japan's Corridor for Peace and Prosperity, formulated according the "Kono Four Principles"<br>・ A/KHB improvement master plan | ・ Growing terror attacks and security risks (after United States recognition of Jerusalem as Israel's capital)<br>・ Strict and unpredictable border controls by Israeli security and customs officers<br>・ Limited operating hours of the A/KHB<br>・ Non-recognition of Palestinian trade agreements by Israel<br>・ Unsettled territorial disputes with Israel<br>・ Lack of coordination between Palestinian and Israeli officials as well as with the private sector |

Abbreviations: A/KHB = Allenby / King Hussein Bridge, ASYCUDA = Automated System for Customs Data, ICT = information and communications technology, JAIP = Jericho-Agro-Industrial Park
Source: JICA Survey Team

### (1) Opportunity-Strength Analysis (Use of Strengths to Open Up Opportunities)

The role of the Jericho-Agro Industrial Park (JAIP), supported by JICA, is changing. Discussions and planning processes are ongoing to enhance the logistics network of Palestine to accommodate increasing trade volumes resulting from growing markets, e.g., in Asia and East Africa. JAIP now has the potential to become a central hub zone for the region's changing trade patterns. As a key logistics center, JAIP will be an integral part of the future logistics system of Palestine as envisaged in the National Transport Master Plan for Palestine. Taking advantage of its proximity to the Allenby / King Hussein Bridge (A/KHB), the JAIP logistics center will house a dry port directly connected to the bridge via an exclusive (dedicated) road. There is also a plan to build another logistics center in the south at Tarqumiyah (12 km northwest of Hebron), which is expected to commence operations within a year. When these logistics hubs are interconnected, the physical aspect of logistics in Palestine will be strengthened, allowing Palestinian exporters to benefit from enhanced logistics value chains. In addition, the implementation of the Global Gate automated customs system in Israeli ports (see Box 4.8) will be a catalyst for the digital transformation of logistics operations in Palestine, if the system is interconnected (or compatible) with that of Palestine.

To realize the envisaged development plans, the key will be coordinated implementation that efficiently directs resources and monitors results at both the micro and macro levels. The capacity of national institutions needs to be built and enhanced in order to better respond to the trade facilitation and logistics needs of Palestinian traders (e.g., through strengthening and formalizing the public-private dialogue on trade facilitation and logistics).

The following strategies were formulated from the analysis of opportunities and strengths:

*Enhance Regional Interconnectivity through Improved Logistics (Strategy 1)*

and

*Build the Capacity of National Institutions (Strategy 2)*

### (2) Opportunity-Weakness Analysis (Overcoming of Weaknesses by Unlocking Opportunities)

Checkpoints impose a considerable burden on Palestinian exporters, which face a number of constraints including high transport and logistics costs, complex and redundant administrative procedures in doing business, and uncertainty and unpredictability in moving through these Israeli-controlled crossings. In such a complex environment, the development of logistics hubs (e.g., the planned logistics center at JAIP) will centralize information related to logistics and trade facilitation and strengthen logistics assistance to exporters at each crossing. In effect, this will minimize the expenditure of time, money, and effort by exporters. These benefits can be further enhanced through the establishment of integrated solutions (possibly through developing a demand matching site for shippers and truckers, using web-based software; and ensuring an effective competitiveness policy for transporters for achieving advantageous prices for exporters).

Another burden is the requirement for back-to-back transshipment of cargo. A plan and ongoing negotiations for building a dedicated road from JAIP to the A/KHB will unlock the potential of providing door-to-door services from the logistics center in JAIP to Aqaba Port, while minimizing security issues at the bridge. The time is ripe for reaching a consensus to implement this plan since many countries are strongly interested in supporting development of this area. For example, preparation of a master plan to improve facilities at and near the KHB on the Jordanian side is already underway, with international development partner support (e.g., from the International

Finance Corporation of the World Bank Group, and the Governments of Germany and the Netherlands), which will have significant implications for transforming logistics processes and operations in the region. Moreover, inspiration may be sought from the international experience of corridor development groups (i.e., users' groups). Such groups are organized to discuss and present issues to the appropriate authorities and facilitate the exchange of views between users and border operators in order to enhance border facility operation.

The following strategies were formulated from analysis of opportunities and strengths:

*Develop the Most Efficient, Cost-Effective Logistics Processes and Routes for Operators (Strategy 3)*

and

*Develop Information Collection, Dissemination, and Coordination Capabilities (Improve Data Flow) (Strategy 4)*

### (3) Threat-Strength Analysis (Use of Strengths to Avoid Threats)

The only way to develop the Palestinian market is through exports to foreign markets. Yet political disputes and economic constraints undermine the development potential of Palestinian exporters. Without concerted efforts to mitigate identified threats, development of Palestine's export sector will continue to be constrained. JAIP can play a crucial role responding to this challenge. It will promote a sustainable and resilient Palestinian economy by increasing the volume of exports and by diversifying the types of products exported; it will also play an important role in formalizing and facilitating effective coordination and communication between Israeli and Palestinian officers, which will engender a better relationship between Israelis and Palestinians, with the possibility of reducing the threats that impede trade and logistics facilitation (and which, of course, have even more severe adverse impacts).

### (4) Threat-Weakness Analysis (Minimization of Weaknesses and Avoidance of Worst Case Scenarios)

It is likely that the requirement for the back-to-back transshipment of cargo for security purposes will remain for the foreseeable future. Thus, logistics operations in Palestine will need to be designed considering the back-to-back requirement at the A/KHB. However, the application of ICT in logistics management can simplify procedures and reduce transaction (transport) costs.

Direct talks between Israel and Jordan concerning facilitation of traffic across the bridge have not taken place since July 2017. As long as this situation prevails, there will be no progress along the road to peace and prosperity in the region.

## 7.1.2 Project Selection and Prioritization by Strategy

Table 7.2 presents project selection and prioritization by strategy for Palestine.

## Table 7.2 Project Selection and Prioritization by Strategy – Palestine

| Code | Project | Strategy | | | | Priority<br>1 = high<br>2 = medium<br>3 = low |
|---|---|---|---|---|---|---|
| | | ***Enhance Regional Interconnectivity through Improved Logistics*** | ***Build the Capacity of National Institutions*** | ***Develop the Most Efficient, Cost-Effective Logistics Processes and Routes for Operators*** | ***Develop Information Collection, Dissemination, and Coordination Capabilities (Improve Data Flow)*** | |
| P-1 | Installation of a conveyer belt | ✓ | | ✓ | | 2 |
| P-2 | Development of an East-West Railway Corridor from Haifa to Jordan through Palestine | ✓ | | | | 1 |
| P-3 | Provision of cold storage facilities | ✓ | | | | 1 |
| P-4 | Road development in the vicinity of Ramallah | ✓ | | ✓ | | 2 |
| P-5 | **Construction of a JAIP-dedicated road to the A/KHB** | ✓ | ✓ | ✓ | ✓ | 1 |
| P-6 | **Implementation of demand matching services for shippers and truckers (web-based software)** | ✓ | ✓ | ✓ | ✓ | 1 |
| P-7 | Establishment of collective bonded areas | ✓ | | ✓ | | 2 |
| P-8 | Establishment of logistics hubs and cold storage facilities | ✓ | | ✓ | | 2 |
| P-9 | Facilitation of trade missions to GAFTA countries | | ✓ | | ✓ | 2 |
| P-10 | **Implementation of risk management and trusted trader systems to reduce the need for back-to-back transshipment at the A/KHB** | ✓ | | ✓ | ✓ | 1 |
| P-11 | **Implementation of risk management techniques and provision of improved scanning equipment at commercial crossings** | | ✓ | ✓ | ✓ | 1 |
| P-12 | **Creation of an A/KHB users' group to address transport facilitation issues** | | ✓ | ✓ | ✓ | 1 |
| P-13 | **Use of modern technology to support trade facilitation measures (e.g., tracking devices, license plate and document readers)** | ✓ | ✓ | ✓ | | 1 |
| P-14 | Establishment of agricultural testing labs at border crossings | | | | ✓ | 3 |
| P-15 | Improvement of transparency and access to information of Israeli standardization requirements and procedures | ✓ | | | ✓ | 2 |

Abbreviations: A/KHB = Allenby / King Hussein Bridge, GAFTA = Greater Araba Free Trade Area, JAIP = Jericho-Agro-Industrial Park
Note: Priorities are ranked based on the following criteria (number of checks): over 3 = high, 2 = med, and 1 = low.
Source: JICA Survey Team

### 7.1.3 Evaluation of Selected Projects

As shown in Table 7.3, the projects identified in Table 7.2 as having a high priority for Palestine were selected for further evaluation based on implementability, risks, and political issues.

Since this study aims to explore potential projects for the benefit of both Jordan and Palestine, the JICA Survey Team carefully analyzed each project to avoid selecting ones that may bring adverse effects and significant disadvantages on one side only. Table 7.4 presents a distribution of benefits between Jordan and Palestine

**Table 7.3 Implementability, Risks, and Political Issues – Palestine**

| Code | Project | Implementability:<br>1 = easy<br>2 = medium<br>3 = hard | Risks:<br>1 = low<br>2 = medium<br>3 = high | Political Issues:<br>Yes/No |
|---|---|---|---|---|
| P-5 | Construction of JAIP-dedicated road to A/KHB | 3 | 3 | Yes |
| P-6 | Implementation of demand matching services for shippers and truckers (web-based software) | 2 | 2 | No |
| P-10 | Implementation of risk management and trusted trader systems to reduce the need for back-to-back transshipment at the A/KHB | 3 | 2 | Yes |
| P-11 | Implementation of risk management techniques and provision of improved scanning equipment at commercial crossings | 3 | 2 | Yes |
| P-12 | Creation of an A/KHB users' group to resolve transport facilitation issues | 1 | 1 | No |
| P-13 | Use of modern technology to support trade facilitation measures (e.g., tracking devices, license plate and document readers) | 2 | 1 | No |

Abbreviations: A/KHB = Allenby / King Hussein Bridge, JAIP = Jericho-Agro-Industrial Park
Note: Implementability is evaluated as per the following conditions: hard (or 3) requires large-scale interventions that need to be implemented under complex regulations; easy (or 1) is given to small-scale projects with clear project concepts; and medium (or 2) comes as a midpoint of these circumstances. Risk concerns political and economic determinants and circumstances of changes.
Source: JICA Survey Team

**Table 7.4 Distribution of Benefits among Jordan and Palestine**

| Code | Project | Benefits to Jordan | Benefits to Palestine |
|---|---|---|---|
| P-5 | Construction of JAIP-dedicated road to A/KHB | Substantial benefits, particularly to Palestine, of unlocking the potential of providing door-to-door services from the logistics center in JAIP to Aqaba Port, while minimizing security issues at the bridge. | |
| P-6 | Implementation of demand matching services for shippers and truckers (web-based software) | There will be little benefit to Jordan, but no adverse effect is expected. | The project will increase the productivity of Palestinian truckers and reduce product prices due to lower shipping costs. |

| Code | Project | Benefits to Jordan | Benefits to Palestine |
|---|---|---|---|
| P-10 | Implementation of risk management and trusted trader systems to reduce the need for back-to-back transshipment at the A/KHB | The project will bring significant benefits to both Jordan and Palestine, including reduced transaction (i.e., transport costs) for both shippers and transporters, increased revenue, and enhanced security. | |
| P-11 | Implementation of risk management techniques and provision of improved scanning equipment at commercial crossings | Same as above. | |
| P-12 | Creation of an A/KHB users' group to resolve transport facilitation issues | Same as above. | |
| P-13 | Use of modern technology to support trade facilitation measures (e.g., tracking devices, license plate and document readers) | Same as above. | |

Abbreviations: A/KHB = Allenby / King Hussein Bridge, JAIP = Jericho-Agro-Industrial Park
Source: JICA Survey Team

## 7.2 Proposed Projects for JICA Assistance – Shortlist

The following profiles describe higher-priority projects shortlisted for potential JICA (development partner) assistance.

| **Project Code:** | **P-5** | | | |
|---|---|---|---|---|
| Project Name: | **Construction of a JAIP-Dedicated Road to the Allenby/King Hussein Bridge** | | | |
| Project Description: | Background:<br>Phase I operations of Jericho Agro-Industrial Park (JAIP) commenced in 2017, following the concept for creating a Corridor for Peace and Prosperity, which was announced in July 2006 by the Government of Japan. The project also will include (i) a distribution center on the Jordanian side (in Shuneh), and (ii) facilitation for the transport of goods across the border.<br><br>Concept:<br>The concept is to connect the JAIP logistics facility with a new Jordanian truck terminal through a fully access-controlled, exclusive, two-lane highway for heavy freight use. The length of the highway will be 10 km on the West Bank side, and 5 km in Jordan. The dedicated road will permit door-to-door road transport services rather than the onerous back-to-back system that currently constrains growth of cross-border trade in the region and limits the potential scope for Palestinian exports. | | | |
| Anticipated Task(s): | • Consulting services for the implementation scheme, basic design, procurement, and supervision of the construction, including<br>➢ arrangement of security concerns, and<br>➢ design supervision to integrate the road transport flow with border clearance and logistics procedures at the logistics center of JAIP, with Jordanian logistics procedures; and<br>• Construction of the road in the West Bank territory and on Jordanian territory. | | | |
| Anticipated Timeframe: | The road should begin operations in 2022, when Phase III of JAIP will open, thereby ensuring that the road is connected with the international logistics zone to developed in this phase. | | | |
| Linked Projects: | • Implementation of demand matching services for shippers and truckers (web-based software) (P-6)<br>• Establishment of collective bonded areas (P-7)<br>• Facilitation at the Allenby / King Hussein Bridge and Commercial Crossings (P-10-13)<br>• Installation of a conveyer belt (J-1/P-1)<br>• Capacity development and training of relevant private sector entities in cross-border logistics and transport facilitation (J-14) | | | |
| Benefits: | • Enabling of door-to-door road transport services rather than the onerous back-to-back system, not only for JAIP tenants, but also for exports from Palestine to the Arab market via the Jordan road network and Aqaba Port.<br>• Possibly providing Israel the opportunity to include its exports along with JAIP export goods in order to access markets in Gulf Cooperation Council countries | | | |
| Impacts: | Social Impacts: | Medium | Environmental Impacts: | Medium to large |
| Construction Impacts: | Medium to large | | | |
| Implementation Risks: | Challenge of developing mutual understanding in planned Four-Party [Palestine, Jordan, Israel and Japan] Coordination Meetings to address the rigorous security concerns and requirements of Israel | | | |
| Implementing Agency: | Palestinian Industrial Estates and Free Zones Authority (PIEZA) | | | |
| Anticipated Cost: | US$20-30 Million for direct construction; the costs may vary depending on the cost of underpass construction | | | |

| **Project Code:** | **P-6** | | | |
|---|---|---|---|---|
| Project Name: | **Development of a Shippers-Truckers' Matching Site and Associated Institutional Consulting Services** | | | |
| Project Description: | Background:<br>The background to this project includes: (i) the low productivity of domestic (Palestinian) truckers due to strict regulation of deliveries; and (ii) the Palestinian Ministry of Transport plans to develop logistics hubs (dry ports) in southern, central, and northern parts of the West Bank (e.g., at Tarqumiyah in the south, 12 km northwest of Hebron). Shipping demand will be concentrated in those logistics hubs, and consignments will be made in the hubs.<br><br>Concept:<br>This project will develop a demand matching site for shippers and truckers, with use of a web-based database. Reference may be made to the case of NAFITH (National Freight Information and Transportation Hub) Logistics in Jordan, which implements a similar service that enhances the productivity of small-scale truckers and the connectivity of logistics hubs. | | | |
| Anticipated Task(s): | • Development of a web-based matching site<br>• Consulting services (e.g., for marketing, membership expansion, maintenance of members) | | | |
| Anticipated Timeframe: | 2 years, 1st year for development with test operation, 2nd year for full operation with business development programs, consulting services, and dissemination activities | | | |
| Linked Projects: | • JAIP and its associated logistics center, and the development of other industrial parks<br>• Dry port development projects<br>• Facilitation at the Allenby / King Hussein Bridge [and Commercial Crossings] (P-10 to P-13) | | | |
| Benefits: | • Increased productivity of Palestinian truckers<br>• Reduced product prices due to lower shipping costs | | | |
| Impacts: | Social Impacts: | None | Environmental Impacts: | None |
| Construction Impacts: | None | | | |
| Implementation Risks: | • Institutional weaknesses<br>• Inability to develop access roads to the logistics centers | | | |
| Implementing Agency: | Palestinian Shippers' Council (PSC) | | | |
| Anticipated Cost: | Not yet estimated | | | |

| **Project Code:** | **P-10 to P-13** | | | |
|---|---|---|---|---|
| Project Name: | **Facilitation at the Allenby / King Hussein Bridge and Commercial Crossings** | | | |
| Project Description: | Background:<br>A *Legal and Institutional Study of Border Operations* was carried out in December 2017 under a JICA technical assistance project for the Palestinian Industrial Estates and Free Zones Authority (PIEFZA) in relation to JAIP. Consistent with the *National Export Strategy*, the study identified various impediments to trade, especially across the Allenby / King Hussein Bridge (A/KHB), including (i) the back-to-back system, resulting in transshipment; (ii) the routine exhaustive physical inspection of all cargo crossing the border, which results in time losses, increased costs, and a risk of damage and loss of the goods; (iii) the unpredictability of border procedures and the lack of transparency; (v) multiple inspections; and (vi) compulsory reliance on intermediaries; and (vi) a lack of authorization of Palestinian logistics service providers and customs brokers.<br>Similar issues exist at the "commercial crossings" between the West Bank and Israel.<br><br>Concept:<br>The project entails the identification, discussion/negotiation, and implementation of measures to facilitate the movement of traffic at the A/KHB between the West Bank and Jordan, and commercial crossings between the West Bank and Israel. | | | |
| Anticipated Tasks: | • Identification of implementable measures that offer the same guarantees (e.g., security, fiscal, sanitary) for public authorities, but are less onerous for the private user; while the justification for security checks may be considered legitimate, the modality of applying these checks could be more user-friendly, thereby saving time, cost, and effort, without jeopardizing the goal.<br>• Discussion/negotiation of the measures between/among the parties, perhaps through a Four-Party [Israel-Japan-Jordan-Palestine] Coordination Committee, when the time is ripe.<br>• Implementation of selected measures approved by the parties.<br>* * *<br>The measures may include (i) implementation of risk management and trusted trader systems to reduce the need for back-to-back transshipment (P-10), (ii) implementation of risk management techniques and provision of improved scanning equipment at the commercial crossings (P-11), (iii) creation of an A/KHB users' group to address transport facilitation issues (P-12), and (iv) use of modern technology to support trade facilitation measures (e.g., tracking devices, license plate and document readers) (P-13). | | | |
| Anticipated Timeframe: | Two years, with 6-12 months of the identification and discussion/negotiation of measures, and 12-18 months for pilot implementation of the selected measures. | | | |
| Linked Projects: | • Construction of a JAIP-dedicated road to the A/KHB (P-5)<br>• Implementation of demand matching services for shippers and truckers (web-based software) (P-6)<br>• Establishment of collective bonded areas (P-7) | | | |
| Benefits: | • Reduced "transaction" (i.e., transport costs) for Palestinian (and Jordanian) shippers and transporters<br>• Increased revenue and enhanced security | | | |
| Impacts: | Social Impacts: | Some negative impact on vested interests | Environmental Impacts: | None |
| Construction Impacts: | None | | | |
| Implementation Risks: | Implementation of any of the proposed measures will present challenges in the current political environment, but offer the potential for substantial benefits. | | | |
| Implementing Agencies: | PIEZA or Palestinian Customs / Israel Airports Authority / Jordan Customs | | | |
| Anticipated Cost: | US$1-2 million | | | |

# Appendices

# Appendix 1:

# Traffic volume of JAIP-related trucks (projected on March 3, 2017)

**Traffic volume of JAIP-related trucks (projected on March 3, 2017)**

- The number of tenants expected to start operating at JAIP in Stage 1 is identified as below:
    - 15 tenants in 2017
    - 40 tenants in 2018
    - 44 tenants in 2019

- Annual traffic volume in Stage 1 is projected as follows, given that a 20-ton truck operates once a day, for 300 days per year:
    - 4,500 trucks in 2017 (15*300)
    - 12,000 trucks in 2018 (40*300)
    - 13,200 trucks in 2019 (44*300)

- Stage II will have five times more area, with the same number of trucks presumably needed for its operation. Annual traffic volume in Stage II is projected as follows:
    - 6,600 trucks in 2019 (13,200*5*10%)
    - 23,100 trucks in 2020 (13,200*5*35%)
    - 46,200 trucks in 2021 (13,200*5*70%)
    - 59,400 trucks in 2022 (13,200*5*90%)
    - 66,000 trucks in 2023 (13,200*5*100%)

- Non-JAIP traffic projections stem from different sources, including: the previous JICA study in 2014; Paltrade data regarding truck numbers crossing the KHB; and the National Export Strategy regarding export growth rates (16.7% over the next ten years).

- Development of Stage III is expected to start in 2021; the volume of annual traffic is projected as below:
    - 6,600 trucks in 2022 (13,200*5*10%)
    - 23,100 trucks in 2023 (13,200*5*35%)
    - 46,200 trucks in 2024 (13,200*5*70%)
    - 59,400 trucks in 2025 (13,200*5*90%)
    - 66,000 trucks in 2026 (13,200*5*100%)

**Forecast of Trucks out/in at Allenby Bridge**

| Year | No. of Trucks (Export) | | No. of Trucks (Import) | | Total |
|---|---|---|---|---|---|
| | No. | Increase | No. | Increase | (E + I) |
| 2013 | 7,570 | | 15,518 | | 23,088 |
| 2014 | 8,644 | | 19,156 | | 27,800 |
| 2015 | 15,312 | | 35,631 | | 50,943 |
| 2016 | 8,580 | | 40,098 | | 48,678 |
| 2017 | 10,013 | 16.7 | 44,332 | 10.6 | 54,345 |
| 2018 | 11,685 | 16.7 | 48,566 | 9.6 | 60,251 |
| 2019 | 13,636 | 16.7 | 52,800 | 8.7 | 66,437 |
| 2020 | 15,914 | 16.7 | 57,034 | 8.0 | 72,948 |
| 2021 | 18,571 | 16.7 | 61,268 | 7.4 | 79,839 |
| 2022 | 21,673 | 16.7 | 65,502 | 6.9 | 87,175 |
| 2023 | 25,292 | 16.7 | 69,736 | 6.5 | 95,028 |
| 2024 | 29,516 | 16.7 | 73,970 | 6.1 | 103,486 |
| 2025 | 34,445 | 16.7 | 78,204 | 5.7 | 112,649 |
| 2026 | 40,197 | 16.7 | 82,115 | 5.0 | 122,312 |
| 2027 | 42,207 | 5.0 | 86,220 | 5.0 | 128,427 |
| 2028 | 44,317 | 5.0 | 90,531 | 5.0 | 134,849 |
| 2029 | 46,533 | 5.0 | 95,058 | 5.0 | 141,591 |
| 2030 | 48,860 | 5.0 | 99,811 | 5.0 | 148,671 |

# Appendix 2:

# Study schedule

# Study schedule

1st field schedule:

| 1st field schedule (2017) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Date | | PM/Logistics and Trade policy | Logistics planner (road/port) | Regulation, CBT, Trade system | Logistics planner (rail, trade, private) | Regulation, CBT, Trade system | Place |
| | | **Yuichiro Motomura** | **Yoshiya Nakagawa** | **Makito Shirahige** | **Thomas Kennedy** | **Bruce Winston** | |
| 04-Nov | s | Move to Jordan | | | | | Amman |
| 05-Nov | s | 9-10 (Mitsubishi), 10-11 (JICA Jordan Office), 1330- (GIZ) | | | | | Amman |
| 06-Nov | m | 11-12 (MOT-port development), 13-14 (MoITS) | | | | | Amman |
| 07-Nov | t | 11- (Civil aviation authority), 13- (MoPIC), 1530- (MoPWH) | | | | | Amman |
| 08-Nov | w | 1130- (Customs), 14- (LTRC) move to Palestine via KHB/Allenby Bridge | | | | | Amman |
| | | Move to Rammalh through Allenby Bridge | | | | | Ramallah |
| 09-Nov | t | 930-1130 (JICA Palestine), 1200- (PIEFZA CEO), 14- (Palolea), 16- (Wassel) | | | | Move to Ramallah | Ramallah |
| 10-Nov | f | | | | | | Ramallah |
| 11-Nov | s | Team meeting, JAIP tenants visit | | | | | Ramallah |
| 12-Nov | s | Organize reports | | | | | Ramallah |
| | | Move to Tel Aviv | | | | | Tel Aviv |
| 13-Nov | m | 830- (Beng Gurion AP), unable to meet COGAT due to schedule conflict | | | | | Tel Aviv |
| 14-Nov | t | Leave Israel | Organize reports | | | | Tel Aviv |
| 15-Nov | w | | 9- (Mitsui. Co), 12- (Haifa Port), 16- (TIRAN) | | | | Tel Aviv |
| 16-Nov | t | | 13- (Ashdod port) | | | 1030-12 (OQ Forum) in Jerusalem | Tel Aviv |
| 17-Nov | f | | | | | | Haifa |
| 18-Nov | s | | Organize reports | | | | Haifa |
| 19-Nov | s | | 830- (Haifa -> SHB border) | | | | Haifa |
| | | | Meeting with IAA (Zoar Agmon) at SHB, SHB -> Amman (PM: visit Hedjaz railway) | | | | Amman |
| 20-Nov | m | | Amman -> Saudi Arabia Border (1) Transport survey to Al Omari | | | 10- (Customs), 13- (MOT) | Amman |
| 21-Nov | t | | Amman -> Saudi Arabia Border (2) Transport survey to Al Mudawara | | | Leave Jordan | Aqaba |
| 22-Nov | w | | (3) Transport survey to Al Durra / 1430- (ASEZA), 1530- (ADC) | | | | Aqaba |
| 23-Nov | t | | 10- (ALV), 1130- (APC), 13- (NJFC), 15- (Aqaba port) | | | | Aqaba |
| 24-Nov | f | | Off | | | | Aqaba |
| 25-Nov | s | | Organize reports | | | | Aqaba |
| 26-Nov | s | | Aqaba -> Eilat | | | | Aqaba |
| | | | Eilat area, Go to North along Rd 90 (Israel) | | | | Ramallah |
| 27-Nov | m | | 10- (Palestinian Shippers Council) | | | | Ramallah |
| | | | Move to Amman | | | | Amman |
| 28-Nov | t | | 11-12 (EBRD), 1330- (Chamber of Commerce), 15- (Kawar Grp) | | | | Amman |
| 29-Nov | w | | 11- (JLA) | | | | Amman |
| 30-Nov | t | | Organize reports | | | | Amman |
| 01-Dec | f | | Leave Jordan | Off | | | Amman |
| 02-Dec | s | | | Organize reports | | | Amman |
| 03-Dec | s | | | 13- (JIC), 15- (HR) | | | Amman |
| 04-Dec | m | | | 10- (GAM), 12- (JPRC), 14- (MOT) | | | Amman |
| 05-Dec | t | | | 1130- (MOITS), 18- (WB) | | | Amman |
| 06-Dec | w | | | 10- (Mafraq Development Co) | | | Amman |
| 07-Dec | t | | | 9- (QAIA) | | | Amman |
| 08-Dec | f | | | Organize reports | | | Amman |
| 09-Dec | s | Move to Jordan | | Off | | | Amman |
| 10-Dec | s | same | | 930- (Nafith), 16- (GIZ), | | | Amman |
| 11-Dec | m | same | | 10- (AFD), 13-15 (JICA) | | | Amman |
| 12-Dec | t | same | | 815: To Ramallah via KHB | | | Amman |
| | | same | | 1130- (Nestle), 1330- (JICA) | | | Ramallah |
| 13-Dec | w | same | | 930- (PIF), 1330- (Pharmacare) | | | Ramallah |
| | | same | | Move to Tel Aviv | | | Tel Aviv |
| 14-Dec | t | same | | 9-10 (MOT), To Amman via KHB | | | Tel Aviv |
| | | same | | 15- (Consolidated Consulting), | | | Amman |
| 15-Dec | f | Off | | Leave Jordan | Organize reports | | Amman |
| 16-Dec | s | Leave Jordan | | | Off | | Amman |
| 17-Dec | s | | | | Leave Jordan | | |
| Note: | | **Jordan** | **Palestine** | **Israel** | | | |

2nd field schedule:

| 2nd field schedule (2018) | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | PM/Logistics and Trade policy | Logistics planner (road/port) | Regulation, CBT, Trade system | Logistics planner (rail, trade, private) | Regulation, CBT, Trade system | Place |
| | | Yuichiro Motomura | Yoshiya Nakagawa | Makito Shirahige | Thomas Kennedy | Bruce Winston | |
| 27-Jan | s | Move to Jordan | | | | | Amman |
| 28-Jan | s | AM: To Ramallah via KHB + site visit at KHB (Israeli side) 2-3 hours | | | | | Amman |
| | | JICA Office 1630-, | | | | | Ramallah |
| 29-Jan | m | FPCCIA 9-, MOT 12-, PFI 1330-, PSC 16- | | | | | Ramallah |
| 30-Jan | t | PITA 9-, Customs (MoFP) 1030-, MoNE 12-, Core Associates 1330-, Freightos 15- | | | | | Ramallah |
| 31-Jan | w | PIPA 830-, Palestinian Agent for Clearace 12-, | | | | | Ramallah |
| 01-Feb | t | ECF in Tel Aviv 10-, Dutch in Jerusalem 13- | | | | | Tel Aviv |
| | | Customs 15-, To Amman | | | | | Amman |
| 02-Feb | f | Off | | | | | Amman |
| 03-Feb | s | Team meeting, Organize reports | | | | Move to Jordan | Amman |
| 04-Feb | s | MOT 9-, MOT (TTF) 10-, JICA Office 14-, | | | | | Amman |
| 05-Feb | m | Leave Jordan | Customs 10-, JLA 12-, US Safe Ports 15- (hotel) | | | | Amman |
| 06-Feb | t | | Amman Chamber 9-, JTOA 1430- | | | | Amman |
| 07-Feb | w | | To Ramallah | Mafraq visit 8-, Iraq BC 14-, | | | Amman |
| 08-Feb | t | | Another JICA Project | Leave Jordan | Follow up, meetings | | Amman |
| 09-Feb | f | | | | Off | | Amman |
| 10-Feb | s | | | | Organize reports | | Amman |
| 11-Feb | s | | | | Palestinian-Jordan Business Forum 9-, Dutch Embassy 12-, Chamber Commerce 1430- | | Amman |
| 12-Feb | m | | | | Leave Jordan | Leave Jordan | Amman |
| 13-Feb | t | | | | | | |
| 14-Feb | w | | | | | | |
| 15-Feb | t | | | | | | |
| 16-Feb | f | | | | | | |
| 17-Feb | s | | | | | | |
| 18-Feb | s | | | | | | |
| 19-Feb | w | | | | | | |
| 20-Feb | t | | | | | | |
| 21-Feb | f | | | | | | |
| 22-Feb | s | | | | | | Amman |
| 23-Feb | s | | Leave Jordan | | | | |
| Note: | | **Jordan** | **Palestine** | **Israel** | | | |

# Appendix 3:

# Pictures

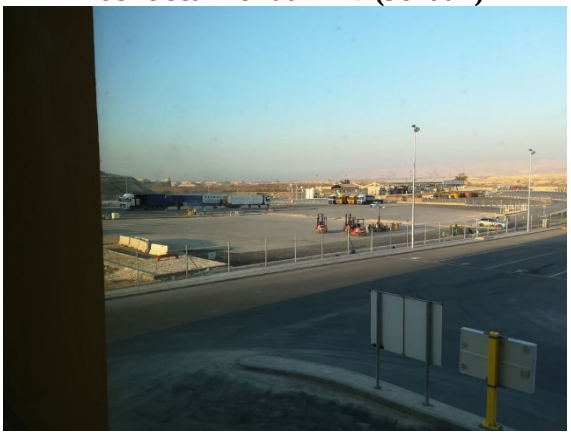
**JAIP entrance**

**JAIP development plan**

**Cargo terminal at KHB (Jordan)**

**Mobile scanner at KHB (Jordan)**

**New scanner facilites at KHB (Israel)**



**New cargo terminal at KHB (Israel)**

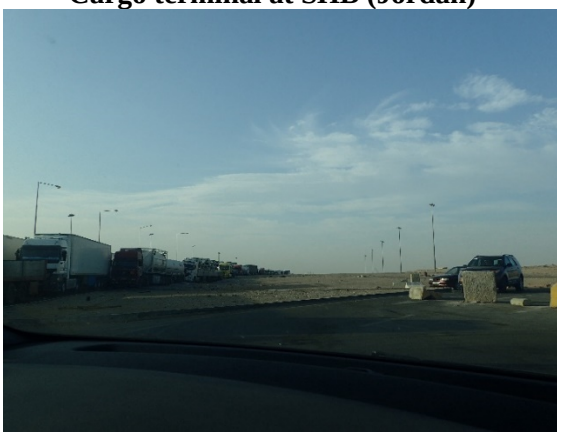
**Cargo terminal at SHB (Israel)**

**Scanning at SHB (Israel)**

**Bridge over the Jordan river (SHB)**

**Cargo terminal at SHB (Jordan)**

**Omari Border**

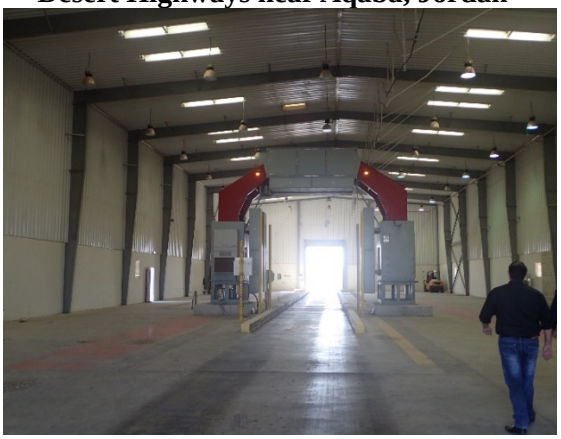


**Congestion at Omari Border**

**Desert Highways near Amman, Jordan**

**Desert Highways near Aqaba, Jordan**

**Mudawara Border**



**Scanning facilities at Mudawara Border**

**New container terminal at Aqaba Port**

**Fertilizer process plants at Aqaba**

**Eilat Port**


**Highway 90 (Israel)**

**Haifa Port**


**Haifa Port**

**Ashdod Port**

**Mafraq Development Site**

# Appendix 4:

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# Appendix 5:

# Terms of reference
# for the collection of logistics costs
# of Palestine shippers

# TERMS OF REFERENCE

**Title:**
Logistics Costs of Palestine Shippers

**Objective:**
To identify all costs of transport, storage, transshipment, time, etc., for various routes to and from Palestine.

Task 1

1.1 Meet with at least ten importers and exporters in Palestine to develop costs and time required to move cargo over the following routes:

- Through Haifa port
- Through Ashdod port
- Through King Hussein Bridge to Jordan
- Through King Hussein Bridge to GCC countries
- Any other route used; i.e., Aqaba, Eilat, etc.

1.2 Identify separately items such as transport costs, storage, loading/unloading, and documentation costs.

1.3 For those goods shipped through King Hussein Bridge, identify separately the costs of back-to-back transshipment of cargo, including direct costs of this handling, cost of waiting time for the vehicle being off loaded as well as waiting time for the vehicle to be loaded.

1.4 For each route, specify which elements are being shipped: inputs to the production process or outputs.

Task 2

Summarize the above information in a report not exceeding 20 pages and submit to PADECO Co., Ltd. by 31st of December 2017.