

# Considerable growth in transport infrastructure in the Mediterranean partner countries

## Statistics in focus

### TRANSPORT

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Over the period 1997–2005, infrastructure networks for all modes of transport in the Mediterranean partner countries (MPC)<sup>1</sup> grew considerably (principal airports +25%, principal ports +7%, motorways +60%). Compared to the European Union (EU), however, their infrastructure remains less important and less dense.

Air traffic is concentrated in the principal airports (89% of passenger traffic in 2006). The number of movements through these airports remains significantly below that of the European Union (23% of the total of the 20 largest principal airports of the European Union in 2005). At these principal airports, monthly peak traffic is high (between 11% and 19% of annual traffic). The vast majority of these airports are not linked to a railway network (85%).

MPC ports must handle more and more movements (+50% in the period 1995-2005); quay lengths have been adapted accordingly. In 2005, quay lengths in the principal ports in all MPCs represented 53% of quay lengths in the three largest principal European ports. This growth has also been qualitative: The proportion of docks designated for containers in the MPCs was comparable to that of Europe (12% for MPCs, 13% for the three largest European ports).

The decline in railway networks has been halted since 2000 (the network increased by 0.04% in the period 2000-2005). At the same time, the length of roads has increased by 15%; however, motorways continue to represent only a small portion of roads (0.5% in 2006).

### Major infrastructure: limited infrastructure despite a continuous and overall increase in networks

To satisfy an increasing demand for transport services, most Mediterranean countries offer a complete range of infrastructure. In the period 1997-2006, networks grew for all modes of transport.

In the period 2000-2006, the number of principal airports in the region grew from 20 to 27. The Occupied Palestinian territory does not have a major airport, three countries have just one principal airport (Algeria, Israel and Lebanon), the others have two or more (Jordan, Morocco, Syria, Tunisia, Turkey) and Egypt has the greatest number of principal airports (8). The number of major ports grew more slowly, from 45 to 48, in the period 2000-2006. This proportion is more or less the same for airports: no principal port for the Occupied Palestinian territory, two countries with one principal port (Jordan, Lebanon), two or more in the others (Morocco, Algeria, Tunisia, Israel), while Egypt has the greatest number of principal ports (15).



<sup>1</sup> MPC = Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Occupied Palestinian territory, Syria, Tunisia, Turkey

**Table 1: 2000-2006 trends in principal airports and ports**

Country	Airports		Ports	
	2000	2006	2000	2006
Morocco	1	2	8	8
Algeria	1	1	10	10
Tunisia	3	3	6	7
Egypt	6	8	13	15
Jordan	1	2	1	1
Israel	1	1	3	3
Lebanon	1	1	1	1
Occupied Palestinian terr.	-	-	-	-
Syria	2	2	3	3
Turkey	4	7	:	:

**Table 2: 1997-2006 trends in motorways (in kilometres)**

Country	1997	2000	2006
Morocco	212	407	639
Algeria	:	49	107
Tunisia	142	142	261
Egypt	:	:	:
Jordan	-	-	-
Israel	56	56	146
Lebanon	:	170	170
Occupied Palestinian terr.	-	-	-
Syria	-	-	-
Turkey	1 528	1 773	1 987

With respect to motorways, the network distance increased from 2 597 to 3 310 kilometres (excluding Egypt<sup>2</sup>) in the period 2000-2006. The Occupied Palestinian territory, Syria and Jordan do not have motorways. Turkey, Morocco and Tunisia have the most developed networks.

Compared to the European Union, the transport infrastructure of the MPCs remains limited and not very dense. For example, in 2005 passenger traffic in the 27 principal airports of the MPCs represented 17% of the traffic of the 20 largest principal airports of the European Union; in 2004, the freight traffic of the 20 largest principal ports of the MPCs represented 15% of the traffic in the largest principal ports of the European Union and in 2006, the density of the motorway network in the MPCs was 0.37 km/1 000 km<sup>2</sup> compared to nearly 16 km/ 1 000 km<sup>2</sup> in the European Union.

**Table 3: Traffic in the principal airports and ports of the EU and the MPCs; density of the motorway network in the EU and in the MPCs (km/1 000 km<sup>2</sup>)**

European Union	MPCs
Passenger traffic in the 20 largest principal airports (in thousands of passengers for 2005): <b>586 672</b>	Passenger traffic in the 27 largest principal airports (in thousands of passengers for 2005): <b>101 741</b>
Freight traffic in the 20 largest principal ports (in millions of tonnes for 2004): <b>1 509</b>	Freight traffic in the 20 largest principal ports (in millions of tonnes for 2004): <b>228<sup>3</sup></b>
Density of the motorway network (in km/1000 km <sup>2</sup> in 2006): <b>15.53</b>	Density of the motorway network <sup>4</sup> (in km/1000 km <sup>2</sup> in 2006) : <b>0.61</b>

<sup>2</sup> A breakdown of the Egyptian road and motorway network was not possible because available data did not conform to international definitions.

<sup>3</sup> Excluding Turkey

<sup>4</sup> Excluding Egypt

## Airports – Traffic concentrated in the principal airports

The principal airports handled 89% of passenger traffic in the Mediterranean partner countries in 2006. The other airports are relatively small and capture only a minor part of traffic.

As one would expect, traffic is very concentrated in countries with few principal airports and where domestic air traffic is limited (Israel, Lebanon, Jordan), but also in Egypt, where the flow of tourists represents the greatest proportion of air passenger movements. Conversely, in Algeria, a large proportion of traffic (more than 50%) is handled by mid-size airports.

The total number of movements in MPCs' principal airports has increased continuously since 1980, but

remains lower than in the European Union (22.5% of the total of the 20 largest principal airports in the EU in 2006).

Nonetheless, in the MPCs, peak traffic sometimes represents a significant proportion of annual traffic and, consequently, air traffic congestion can be a serious problem in some airports. For example, in Egypt, the monthly peak represents 19% of annual traffic. Airport managers consider that a monthly peak representing more than 10% of annual air traffic leads to congestion problems, not only in terms of air traffic but also in passenger services. These seasonal peaks also demonstrate the sensitivity of traffic to flows of tourists.

**Table 4: The share of principal airports of passenger traffic in the period 1980-2006**

Country	1980	2000	2006
Morocco	:	50	73
Algeria	59	43	51
Tunisia	95	89	82
Egypt	99	99	97
Jordan	100	93	97
Israel	98	97	99
Lebanon	100	100	100
Occupied Palestinian terr.	-	-	-
Syria	100	98	98
Turkey	:	:	88

**Table 5: Monthly peak passenger traffic at principal airports as percentage of annual total, 2006**

Country	Proportion of monthly peak
Morocco	:
Algeria	:
Tunisia	13 %
Egypt	19 %
Jordan	12 %
Israel	12 %
Lebanon	11 %
Occupied Palestinian terr.	-
Syria	:
Turkey	:

**Table 6: Number of movements per year for principal MPC airports, 1980–2006**

Country	1980	1990	1995	2000	2006
Morocco	:	28 363	31 634	49 580	97 076
Algeria	:	51 990	33 733	33 450	44 014
Tunisia	38 959	47 150	66 652	86 226	90 835
Egypt	35 300	46 790	264 230	208 390	336 280
Jordan	22 597	21 056	20 411	26 799	44 832
Occupied Palestinian terr.	-	-	-	-	-
Israel	21 437	25 359	46 965	65 055	63 137
Lebanon	:	8 048	20 478	29 707	32 980
Syria	11 521	10 781	12 879	15 170	20 361
Turkey	:	155 000	254 000	318 340	440 238

## Satisfactory facilities but limited intermodal transport

Most MPC airports have paved runways. However, in certain countries the proportion of unpaved runways remains significant (Algeria, Egypt).

Investments have been made in several MPC airports in terms of links to ground networks, especially rail, but most of the time the only access to airports is by road (only 15% of principal MPC airports are linked to an urban or inter-urban railway network, compared to 95% of the 20 largest principal airports of the European Union).

*Note: A length of 2 438 metres is considered a significant length in assessing the quality of the national runway network. In fact, runways less than this distance are found at minor airports.*

**Table 7: Proportion of paved runways longer than 2 438 metres, 2006 (in %)**

Country	Proportion of paved runways
Morocco	89
Algeria	67
Tunisia	100
Egypt	70
Jordan	100
Israel	100
Lebanon	100
Occupied Palestinian terr.	-
Syria	100
Turkey	100
European Union	98

## Railway networks: a halt in decline since the beginning of the century

Unlike the European Union, the decline in rail networks in the MPCs has been halted and, if Algeria is excluded, they have even increased. This stabilization, which followed a long period of decline, can be seen for the 2000–2005 period (an increase of 0.04%, while European Union rail networks shrank by 3% over the same period), even if the total length of MPC rail networks is insignificant compared to the European Union network.

**Table 8: Length of railway networks 1985–2005 (kilometres)**

Country	1985	2000	2005
Morocco	1 779	1 907	1 907
Algeria	:	3 973	3 572
Tunisia	2 145	2 153	2 168
Egypt	:	4 893	5 128
Occupied Palestinian terr.	-	-	-
Jordan	622	622	622
Israel	965	858	896
Lebanon	-	-	-
Syria	2 013	2 750	2 833
Turkey	:	10 940 <sup>5</sup>	10 984
<b>Total MPC</b>	:	<b>28 096</b>	<b>28 110</b>
<b>European Union</b>	:	<b>219 951</b>	<b>213 000</b>

<sup>5</sup> 2001 data

## Ports: a key sector in the rapid modernisation of MPC economies

The importance of ports in the region is demonstrable: in 2005, nearly 80% of trade between the EU and the MPCs transited through ports. Consequently, the ports of the MPCs were required to handle more and more movements in the period 1985-2005. This has become increasingly difficult due to the rapid increase in the average size of each ship during the period concerned.

To satisfy this growing demand from maritime transport, the MPCs have built new docks. Algeria had the longest total length of quays in the region (33 429 metres) in 2005, and the cumulative quay length of the principal ports in the MPCs represented 53% of that of the three largest European ports<sup>6</sup>.

**Table 9: Number of movements in principal MPC ports, 1985–1995–2005 (inbound + outbound)**

Country	1985	1995	2005
Morocco	16 336	23 711	39 485
Algeria	21 163	14 708	20 946
Tunisia	8 979	11 051	12 233
Egypt	4 074	8 799	16 327
Occupied Palestinian terr.	-	-	-
Jordan	2 671	2 382	2 933
Israel	3 176	6 181	5 720
Lebanon	:	:	2 229
Syria	2 576	2 884	4 397
<b>MPC Total<sup>7</sup></b>	<b>58 975</b>	<b>69 716</b>	<b>104 270</b>
<b>Total for the 3 largest ports in the EU</b>	<b>:</b>	<b>500 900<sup>8</sup></b>	<b>599 900</b>

**Table 10: Quay length of the principal MPC ports compared to that of the 3 largest European ports in 2005 (in metres)**

Country	2005
Morocco	22 845 <sup>9</sup>
Algeria	33 429
Tunisia	11 327
Egypt	31 625
Occupied Palestinian terr.	-
Jordan	4 030
Israel	10 428
Lebanon	5 155
Syria	9 497 <sup>10</sup>
<b>MPC Total<sup>7</sup></b>	<b>128 336</b>
<b>Total for the 3 largest ports in the EU</b>	<b>240 000<sup>11</sup></b>

**Table 11: Percentage of docks dedicated to containers in major MPC ports, 1995-2005**

Country	1995	2005
Morocco	:	6
Algeria	:	8
Tunisia	5	6
Egypt	11 <sup>8</sup>	15
Occupied Palestinian terr.	-	-
Jordan	14	14
Israel	:	25
Lebanon	31	43
Syria	:	:
<b>MPC Total<sup>7</sup></b>	<b>:</b>	<b>12</b>
<b>The 3 largest EU ports<sup>12</sup></b>	<b>:</b>	<b>13</b>

These capacities reflect the trends in international maritime commerce and particularly containerisation. Most MPC ports have invested in the construction of docks to specifically handle container traffic. The extent of containerisation of MPC ports is now comparable to that of EU ports. This is largely due to the very high proportion of docks dedicated to containers in Israel and in Lebanon.

<sup>6</sup> Only the freight traffic has been taken into account to select the three first European ports

<sup>7</sup> Excluding Turkey, data not available

<sup>8</sup> 1997 data

<sup>9</sup> Source : Ministry of Transport

<sup>10</sup> 2003 data including only Latakia and Tartous Source : Euro Med Transport Project

<sup>11</sup> Data published by Rotterdam, Antwerp and Hamburg Ports Authorities

<sup>12</sup> 2003 data extracted from UE Project Interreg "The inter-modal ports of the North Sea region" 2005

## Roads: Road networks increased by 15 % in the period 1990 to 2006<sup>13</sup>

Different trends can be seen in the development of road networks. The highest growth was recorded in Syria (54.46%) and the lowest in Tunisia (1.23%).

Although their growth is spectacular (180% in the period 1990-2006), motorways still constitute only a small portion of road networks overall (0.5%). The strongest growth was recorded in Morocco (930% in the period 1990-2006). In 2006, the most extensive motorway network could be found in Turkey (1 987 kilometres).

**Table 12: 1970–2006 Road network length**

Country		1970	1990	2006
<b>Morocco</b>	<i>Motorways</i>	-	62	639
	<i>Other roads</i>	24 755	59 452	56 986 <sup>14</sup>
<b>Algeria</b>	<i>Motorways</i>	-	49	107
	<i>Other roads</i>	37 232	90 031	109 345 <sup>15</sup>
<b>Tunisia</b>	<i>Motorways</i>	:	142	262
	<i>Other roads</i>	16 086	18 856	19 013
<b>Egypt</b>	<i>Road network</i> <sup>16</sup>	:	:	106 854
<b>Jordan</b>	<i>Motorways</i>	-	-	-
	<i>Other roads</i>	3 270	6 780	7 694
<b>Israel</b>	<i>Motorways</i>	-	56	146
	<i>Other roads</i>	9 304	13 143	17 540
<b>Occupied Palestinian terr.</b>	<i>Motorways</i>	:	:	-
	<i>Other roads</i>	:	:	5 147
<b>Lebanon</b>	<i>Motorways</i>	:	:	170
	<i>Other roads</i>	:	:	6 800 <sup>17</sup>
<b>Syria</b>	<i>Motorways</i>	-	-	-
	<i>Other roads</i>	11 687	33 213	51 967
<b>Turkey</b>	<i>Motorways</i>	:	1 528 <sup>18</sup>	1 987
	<i>Other roads</i>	:	320 289	347 503

*Note: This overall growth should be interpreted with caution: apart from the “motorway” parameter, the term “road” may have several different definitions and in the “local roads” category it often refers to unpaved roads. Accordingly, this table shows MPC data divided into two categories: motorways and other roads.*

<sup>13</sup> Data excludes those countries that did not provide information for 1990: Egypt, the Occupied Palestinian territory and Lebanon

<sup>14</sup> Change in terminology: certain unpaved roads have been excluded since 1997 from the national road network

<sup>15</sup> 2005 data

<sup>16</sup> Cf. Note 1

<sup>17</sup> 2005 data

<sup>18</sup> 1997 data

## ➤ ESSENTIAL INFORMATION – METHODOLOGICAL NOTES

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**Sources:** Data was provided by national statistical institutes with the exception of data related to runways and docks, which were derived from activity reports or port and airport databases. Turkish data on railway networks is provided by: the General Directorate of Turkish State Railways, airports: the General Directorate of State Airports Authority, roads: the General Directorate of Highways. All these agencies are organized under the Ministry of Transportation.

### Partner countries and NSIs:

**Algeria:** Office National des Statistiques,  
**Israel:** Israeli Central Bureau of Statistics,

**Egypt:** Central Agency for Public Mobilization and Statistics,  
**Jordan:** Department of Statistics,

**Lebanon:** Administration Centrale des Statistiques, **Morocco:** Direction de la Statistique,

**Syria:** Central Bureau of Statistics,  
**Tunisia:** Institut National de la Statistique.

**Occupied Palestinian territory:** Palestinian Central Bureau of Statistics,

### Definitions

The definitions used in this document are compliant with international standards (3<sup>rd</sup> Edition, EC-UN, Eurostat, CETM for Transport Statistics and the Eurostat Reference Manual for Air Transport Statistics)

**Airport:** A defined area of land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft and open for commercial air transport operations.

**Principal airport:** A principal airport is an airport recording more than 1 500 000 passenger-equivalents per year (a passenger-equivalent is a passenger or 100 kilograms of freight or mail).

**Runway:** An airport runway is a rectangular area on an airport prepared for the landing and take-off of aircraft which is characterized by a declared available length of runway and suitable for the ground run, landing and take-off of aircraft.

**Paved runway:** A runway having a concrete or asphalt surface

**Unpaved runway:** A runway having a grassy, sandy or gravel surface.

**Port:** A port is a place having facilities for merchant ships to moor and to load or unload cargo or to disembark or embark passengers to or from vessels, unusually directly to a pier or quay.

**Principal port:** A principal port is a port handling more than one million tons of cargo or recording more than 2000 passenger movements per year.

**Container:** A container is a unit of transport equipment:

- a) Of a permanent character and accordingly strong enough to be suitable for repeated use
- b) Specially designed to facilitate the carriage of goods, by one or more modes of transport, without intermediate reloading
- c) Fitted with devices permitting its ready handling, particularly its transfer from one mode of transport to another
- d) So designed as to be easy to fill and empty
- e) Stackable
- f) Having an internal volume of 1m<sup>3</sup> or more

**Road:** A road is a line of communication using a stabilized base other than rails or air strips open to public traffic, primarily for the use of road motor vehicles running on their own wheels.

**Motorway:** A road specially designed and built for motor traffic, which does not serve properties bordering on it, and which:  
a) is provided, except at special points or temporarily, with separate carriageways for the two directions of traffic, separated from each other, either by a dividing strip not intended for traffic, or exceptionally by other means  
b) does not cross at level with any road, railway or tramway track, or footpath  
c) is specially sign-posted as a motorway and is reserved for specific categories of road motor vehicles

The following symbols were used:                   :               **Data not available**  
  -               **Zero**

Useful information (Eurostat-CETM-EC-UN glossary): <http://circa.europa.eu/Public/irc/dsis/transport/home>

## Further information:

### Data:

- Medstat website: <http://ec.europa.eu/eurostat/medstat>;

- Euro-MED Bulletin:

[http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=1073,46587259&\\_dad=portal&\\_schema=PORTAL&p\\_product\\_code=KS-DI-06-001](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1073,46587259&_dad=portal&_schema=PORTAL&p_product_code=KS-DI-06-001)

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