







**IMPROVING TRANSNATIONAL TRANSPORT CORRIDORS  
IN OIC MEMBER COUNTRIES  
COUNTRY REPORT**



Republic of Turkey  
Ministry of Transport Maritime Affairs  
and Communications

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This report is prepared for the 33<sup>rd</sup> session of the Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC) under the coordination of Directorate General of Foreign Relations and EU Affairs of the Ministry of Transport, Maritime Affairs and Communications (MoTMC) with valuable contributions of Ministry of Economy, Ministry of Customs and Trade and relevant divisions of the MoTMC.

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## FOREWORD BY THE MINISTER



Constantly increasing trade volume between developing economies of Asia and Europe urgently necessitates the development of an efficient and cost-wise land connectivity. In this sense, there has been a flourishing interest on developing transnational transport corridors globally. Governments and particularly transport policy makers have been keen on enhancing regional integration with the adjoining countries via instituting transport corridors.

Once being an essential part of one of the oldest transport corridors, the Ancient Silk Road, Turkey still stands at the crossroads of prominent transport corridors in North-South and East-West directions. The advantageous geographical location of Turkey which stretches from Asia to Europe and Russia to Africa allows it to be a regional and global hub.

Nevertheless, we know that this geographical asset should be supported with a good infrastructural and operational framework in order to let Turkey reach its full potential. Our transport strategy envisages providing an uninterrupted, high quality, safe and secure transport connection in Eurasia. Along with this aim, we have been making great efforts for developing international transport links; we give utmost importance to modernize our transport network with grand scale investments and projects with a broad perspective on connectivity in our region. In line with this strategy, we have invested 362 billion Turkish Liras in transport and communications sectors between 2003 and 2016 and plan to realize 200 Billion Dollars of transport investment by 2023.

In this regard, Turkey has been implementing mega projects for completion of missing links on major corridors in Eurasia such as Baku-Tbilisi-Kars Railway, Edirne-Kars High Speed Railway, Marmaray, Halkalı-Kapıkule Railway, North Marmara Motorway and Yavuz Sultan Selim Bridge (3<sup>rd</sup> Istanbul Bridge), Eurasia Tunnel Project, Three-storey Great Istanbul Tunnel Project, Gebze-Orhangazi-Izmir Motorway Project and Rehabilitation of Van Lake Crossings.

I hope that this report will serve as a reference document for all who seek to have a deeper understanding of transnational transport corridors in Eurasia and the broad OIC geography. I would like to thank all my colleagues and the contributors for their dedicated work to prepare this report.

**Ahmet ARSLAN**

Minister of Transport, Maritime Affairs and Communications



## FOREWORD BY THE UNDERSECRETARY



The benefits offered by transport corridors to a national economy are incomparable to those of mere transport infrastructure. Well-established transport corridors are among the fundamental driving forces of regional and international economic growth. Development of a transport corridor would reduce costs associated with transportation, logistics and administrative processes, and would lead to a substantial decrease in total travelling time thanks to the simplification of customs processes and facilitation of border crossings. These cost and time reductions would, in turn, enhance the reliability of transport and logistics services on the corridor and lead to a cumulative improvement in trade competitiveness for the enroute countries.

The report presents Turkey's strategies and initiatives for improvement of transport corridors in its region. With its advantageous geopolitical location as well as high-quality transport infrastructure, providing an uninterrupted, safe and secure transport connection between Asia and Europe, Turkey is an indispensable part of significant international land and maritime corridors connecting Asia and Europe.

Turkey adopts a corridor-oriented approach in its infrastructure planning and in its relations with the enroute countries in order to conceive common strategies for sustainable development of the corridors which comprise elimination of physical and non-physical barriers, improvement of multimodal transport operations and logistics.

We reckon that the Organisation of Islamic Cooperation (OIC), as the second largest inter-governmental organization after the United Nations, has an important role to play in regional and international transport issues. The concept of international transport corridors is a vital area of study for transport and regional economics and this theme has been pertinently designated by COMCEC for the 33<sup>rd</sup> Ministerial Session.

As the lead organization for regulation and development of transport and the responsible institution to elaborate this study, Ministry of Transport Maritime Affairs and Communications has finalized this country report on the international transport corridors passing through Turkey with the strong support of relevant stakeholders.

I hope that Turkey's approach to international corridors, presented in this report will serve as a useful source for the OIC family.

**Suat Hayri AKA**

Undersecretary

Ministry of Transport, Maritime Affairs and Communications





## EXECUTIVE SUMMARY

Considering the huge trade volume between emerging economies of Asia and Europe, it is an urgent need to develop safe, secure and efficient land connectivity as well as new intermodal transport opportunities for connecting the two continents. This is why the concept of transport corridor has turned out to be a key agenda item of governments and regional and international organizations in the region.

The benefits and impacts offered by transport corridors are incomparable to those of transport infrastructure, alone. While transport infrastructure is the backbone of a stronger economy, transport corridors encourage the improvement of transport and logistics services and facilitation of trade. In this sense, enhancement of transport corridors ensures a far more competitive trading for enroute countries.

In this regard, this country report aims to present an overview of Turkey's efforts for improvement of transport corridors in the geography of Organization of Islamic Cooperation (OIC). Ranking 17<sup>th</sup> largest economy in 2016, with a high-quality transport infrastructure and advantageous geopolitical location, Turkey has long been located at the crossroads of significant transport corridors connecting Asia to Europe. As a natural bridge between the two continents, it provides access to Central Asia, Russia, the Middle East, and North Africa. This geopolitical position is reflected in the high number of international road and rail corridors passing through the country. Turkey is a part of significant transport corridors identified by leading international organizations such as UNECE, UNESCAP, TRACECA, ECO and BSEC.

Recognizing the role of transport corridors in trade and development, Turkey embraces a corridor-oriented approach and aims to function as a logistics hub in its region. With regard to the elimination of physical barriers, over the last fifteen years, Turkey has intensified its efforts for upgrading transport infrastructure of the country through public investments and public-private-partnership mechanism.

Besides improvement of existing road, rail, maritime and aviation infrastructure, Turkey has been implementing mega projects for completion of missing links on major corridors such as Baku-Tbilisi-Kars Railway, Edirne-Kars High Speed Railway, Marmaray, Halkalı-Kapıkule Railway, North Marmara Motorway and Yavuz Sultan Selim Bridge (3<sup>rd</sup> Istanbul Bridge), Eurasia Tunnel Project, Three-storey Great Istanbul Tunnel Project, Gebze–Orhangazi–Izmir Motorway Project and Rehabilitation of Van Lake Crossings.

In terms of overcoming non-physical barriers to trade, facilitation of transport operations has been a significant element of Turkey's trade facilitation policies. In this sense, Turkey is involved in various bilateral and multilateral initiatives in the region for providing smooth and fast border crossing services.

More importantly, Turkey adopts a "Regional Integrated Transport Corridors" perspective, which aims to develop a comprehensive and complementary approach towards all corridors in the region. This approach is based on making bilateral and multilateral transport agreements with enroute countries, developing coordination mechanisms for finding practical solutions to problems of the corridors, supporting the identification of logistics and transport infrastructure needs of corridor countries, promoting Turkish private sector to improve their operations in the region and developing multimodal transport and sustainable logistics capacity.

## EXECUTIVE SUMMARY

Among all these efforts, Turkey's recent attempts for the development of Trans-Caspian East-West Middle Corridor is worth-emphasizing. The Trans-Caspian East-West Middle Corridor Initiative, which is based on several multilateral and bilateral cooperation mechanisms among Afghanistan, Azerbaijan, China, Georgia, Kazakhstan, Kyrgyzstan, Turkey and Turkmenistan, aims to provide a complementary and multimodal connection between Asia and Europe. By the effective operationalization of the corridor, a railway connection will be provided between Europe and China through Turkey, Georgia, Azerbaijan and Central Asian Countries. Following the completion of Marmaray and Baku-Tbilisi-Kars railway project an uninterrupted railway connection has been established in Turkey to reach Europe.

In this context, this report is composed of four main chapters. The first chapter provides an outlook of Turkish transport sector by focusing on the current situation of road, rail, maritime and air transport sectors. The second chapter presents Turkey's vision for transnational transport corridors. In the third chapter, major transport corridors identified by international and regional organizations are elaborated. Finally, the fourth chapter summarises main strategies, projects and institutional-regulatory framework of Turkey focused on the development of major transport corridors in the Eurasia Region. These efforts of Turkey are evaluated under four main themes as; elimination of physical barriers and non-physical barriers, and improvement of multimodal transport and logistics capacity of the country.

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## ABBREVIATIONS

ADR	European Agreement on the Transport of Dangerous Goods by Road
AETR	European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport
AGC	European Agreement on Main International Railway Lines
AGR	Accord Grand Routes
AGTC	European Agreement on Important International Combined Transport Lines and Related Installations
AH	Asian Highway
ATP	Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage
BCP	Border Crossing Point
BHM	Bituminous Hot-Mixture
BOT	Built-Operate-Transfer
BSEC	Black Sea Economic Cooperation Organization
BSEC-URTA	Union of Road Transport Associations in the Black Sea Economic Cooperation Region
C2B2C	Customs to Business and Business to Customs
CAREC	Central Asia Regional Economic Cooperation
CFCFA	CAREC Federation of Carrier and Forwarder Associations
CIM	Convention Internationale concernant le transport des Marchandises par chemin de fer
CIS	Commonwealth of Independent States
CMR	Convention on the Contract for the International Carriage of Goods by Road
COMCEC	Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation
DGCS	General Directorate of Coastal Safety
DGRR	General Directorate of Railway Regulation
DHMI	State Airports Authority
DWT	Deadweight Long Tons
EATL	Euro-Asian Transport Links
EC	European Commission
ECMT	European Conference of Ministers of Transport
ECO	Economic Cooperation Organization
EU	European Union
GATT	General Agreements of Tariff and Trade
GDCA	General Directorate of Civil Aviation

## ABBREVIATIONS

GDP	Gross Domestic Product
GIS	Geographic Information System
GT	Gross Tonnage
GTI	Customs and Tourism Enterprises
GVA	Gross Value Added
HST	High Speed Lines
IATA	International Air Transport Association
ICT	Information and Communication Technology
IDB	Islamic Development Bank
IFI	International Financial Institution
IGC	Inter-Governmental Conference
IMO	International Maritime Organization
IPA	Instrument for Pre-Accession Assistance
IRU	International Road Transporters Union
ISL	Institute of Shipping Economics and Logistics
ISPAT	Turkey Prime Ministry Investment Support and Promotion Agency
ISPS	International Ship and Port Facility Security
ITC	Inland Transport Committee
ITF	International Transport Forum
ITS	Intelligent Transport Systems
KDGM	General Directorate of Road Regulation
KGM	General Directorate of Highways
LDT	Light displacement tons
LKK	Logistics Coordination Board
LPI	Logistics Performance Index
MENA	Middle East and North Africa
MFA	Ministry of Foreign Affairs
MoTMC	Ministry of Transport, Maritime Affairs and Communications
MoU	Memorandum of Understanding
NATM	New Austrian tunneling method
NCTS	New Computerised Transit System
OIC	Organization of Islamic Cooperation

## ABBREVIATIONS

OSJD	Organisation for Co-operation between Railways
PPP	Public Private Partnership
Ro-Ro	Roll-on/roll-off
SPECA	United Nations Special Programme for the Economies of Central Asia
ST	Surface Treatment
TAR	Trans-Asian Railway
TBM	Tunnel Boring Machine
TCDD	Turkish State Railways
TITR	Trans-Caspian International Transport Route
TDI	Turkish Maritime Organization
TEM	Trans-European North-South Motorway
TEN-T	The Trans-European Transport Network
TER	Trans-European Railway
TEU	Twenty Feet Equivalent Unit
TIMS	Transport Information Management System
TINA	Transport Infrastructure Needs Assessment
TIR/EPD	TIR Electronic Pre-Declaration
TIRCUS	TIR Pre-declaration Program
TL	Turkish Liras
TMKGM	General Directorate of Dangerous Goods and Combined Transport
TOBB	The Union of Chambers and Commodity Exchanges of Turkey
TRACECA	Transport Corridor Europe-Caucasus-Asia
TTFA	Transit Transport Framework Agreement
UIC	International Union of Railways
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNESCAP	Economic and Social Commission for Asia and the Pacific
UTIKAD	Association of International Forwarding and Logistics Service Providers
WTO	World Trade Organization

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# 1. TRANSPORT OUTLOOK

Turkey is the 17<sup>th</sup> largest economy of the world and aims to be one of the top 10 global economies by 2023. The transport sector amounts to around 75 billion Euros and represents 11.6% of Turkish GDP. Every year about 30-35 % of the total government budget is dedicated to transport infrastructure. Public investments in road and railway sector in Turkey has reached 362 billion Turkish Liras in 2017.

In its transport development strategy, Turkey focuses on building a Modern Silk Road, upgrading the existing transportation infrastructure and building new ones and removing the impediments to continental transport and trade. In February 2011, Turkish Ministry of Transport, Maritime Affairs and Communications (MoTMC) adopted “2023 Transport Strategy” which identifies Turkey’s transport vision, strategy and targets for the year 2023. In this regard, this chapter aims to provide an overview of recent developments in Turkish transport sector.

## 1.1. Road

### 1.1.1. Road Network in Turkey

Turkey possesses a road network totaling 67,403 km which is made up of 2,542 km (3,8 %) motorway, 31,073 km (46,2%) state road, and 33,788 km (50%) provincial road as of August 2017 <sup>1</sup>.

On this network, the length of surface treatment (ST) road is 42,088 km, the length of bituminous hot-mixture (BHM) is 21,157 km and other roads is 4,158 km in length.

The institution that is responsible for the roads is the General Directorate of Highways (KGM), an institution structured under the Ministry of Transport, Maritime Affairs and Communications. KGM’s duties encompass the planning, design, construction, maintenance and operation of the motorways, state roads and provincial roads.

### Dual Carriageway Network

During the last fifteen years, the Government has made tremendous efforts to improve the road network with a focus on the development of the dual carriageway network.

In 2003 there were only 6,101 km of dual carriageway network, connecting six provinces. As a result of the investments in the road sector, in 2017 our dual carriageway network reached 25,303 km connecting 76 provinces with each other.

Despite comprising 37.5% of our total road network, the dual carriageways provide service for approximately 80% of the transportation (vehicle–km) in our network.

The primary objectives of dual carriageway road construction are to reduce traffic accident fatalities and serious injuries due to head-on collision, and to improve the level of service affected by inadequate capacity.

The accident data of 2016 reveals that there has been a 30% decrease in the cases of fatality at the place of accident between 2007 and 2016 although there has been a significant increase rate in the number of motor vehicles by 62%.

The length of dual carriageway network is planned to be extended to 30,000 km in 2019, and 36,500 km in 2023.

<sup>1</sup> KGM statistics, 2017. [www.kgm.gov.tr](http://www.kgm.gov.tr)

## Motorways

The total motorway network has reached 2,542 km with the construction of 828 km motorway in the last 14 years. The motorway network constitutes 3.8% of the total road network and 10% of the total dual carriageway network.



Map 1: Existing Motorway Network (Source: KGM, 2017)

## Financing of Road Network

Until recently almost all investments on the road network – including motorways – have been financed by the National Budget without obtaining finance of International Financial Institutions. Until now, 252 km motorways were constructed through the Build–Operate–Transfer (BOT) financing model. Yet, the Government has recently decided that new motorways are to be built under BOT with private financing.

## Continued Efforts to Improve the Main Highway Network

For 2023, the aim of MoTMC is to extend dual carriageway network to 33,250 km. When the construction of 2,744 km motorway (252 km of which was completed) will be realized through Public–Private Sector Partnership (PPP) and BOT financing model, Turkey’s motorway network length will reach 5,034 km in the year 2023.



Map 2: "Target 2023" Motorway Network (KGM)

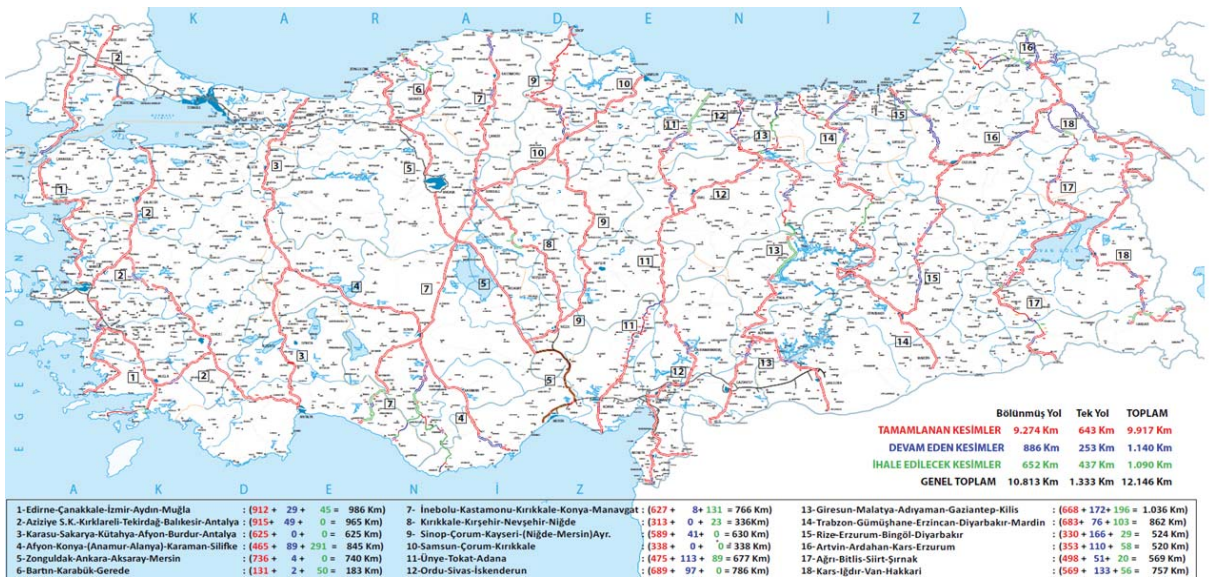
It is planned to reach 8,248 km motorway network length in 2035. It is expected that, in 2035, the construction of 2,290 km motorway (27.8%) out of our future 8,248 km motorway network will have been completed through the National Budget, and the construction of remaining 5,958 km long motorway (72.2%) will have been completed through the BOT Model.



Map 3: "Target 2035" Motorway Network (KGM)

Priority development projects have been planned and executed along 18 north-south corridors (total length 12,146 km) and 5 east-west corridors (total length 8,524 km).

Developments in trade, especially increases at import and export with foreign trade volume necessitates utilizing our ports efficiently and have made the road connection between ports in our country compulsory. Turkey's trade with the Caucasus and the Central Asian countries, Russia and the north-western European countries are being conducted through the Black Sea. In a similar way, Mediterranean ports are vital for Turkey's trade with the Middle East, Africa, the South Europe and overseas trade. Because of the need for transporting goods from these ports, improving the north-south axes became necessary and urgent.



Map 4: North-South Axes (KGM)

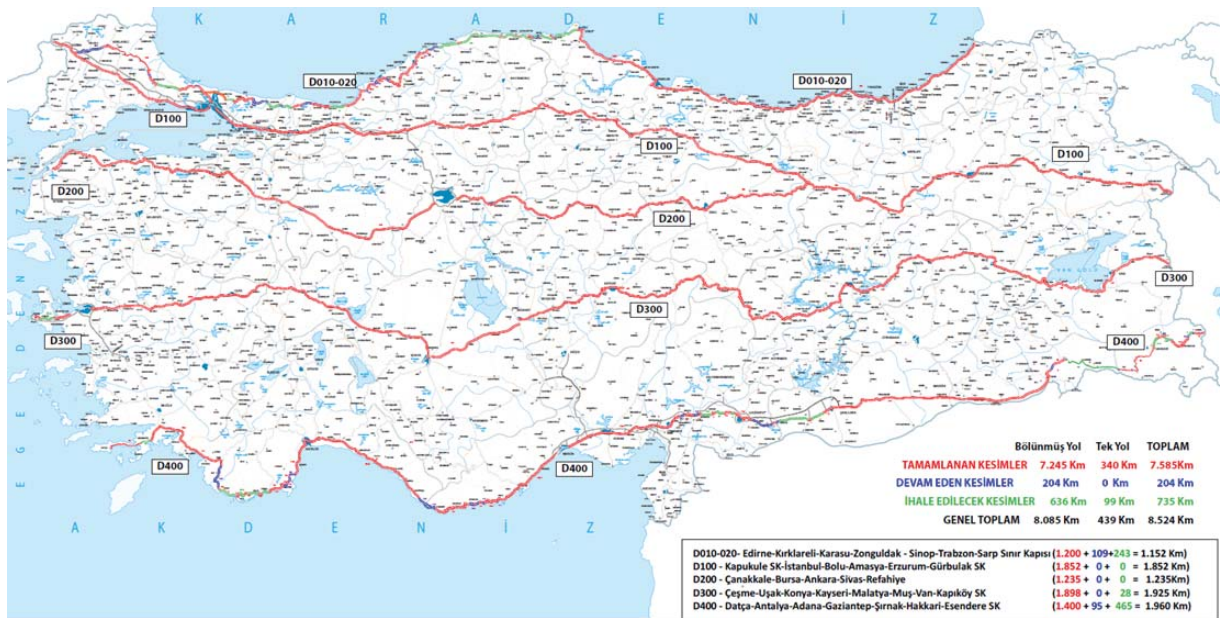
In 18 North-South axes physical and geometric improvements have been completed on the 9,917 km out of total 12,146 km. Improvement works continue on 1,139 km of road and tendering of 1,090 km of road is planned.

Beside North-South corridors, transport corridors in the East–West direction is also vital in Turkey. Therefore, especially D-100 and D-300 axes are of great importance to increase our country's competitive power for passenger and freight transportation among Europe, Asia and the Middle East.

Axis	Total Length	In Operation	Under Construction	Will Be Tendered
D010-D020	1,552	1,200	109	243
D100	1,852	1,852	0	0
D200	1,235	1,235	0	0
D300	1,925	1,898	0	27
D400	1,960	1,400	95	465
TOTAL	8,524 (100%)	7,585 (89%)	204 (2%)	735 (9%)

Table 1: East-West Corridors

Sections with 7,585 km length (7,245 km dual carriageway, 340 km single carriageway) out of 8,524 km long East–West Highway Corridors were opened to traffic and construction works continue for 204 km (204 km dual carriageway). Preparations for the tendering of remaining 735 km road (636 km dual carriageway, 99 km single carriageway) go on.



Map 5 : East- West Axes (KGM)

### 1.1.2. Road Transport in Turkey

#### Institutional and Legal Framework

At the institutional level, the MoTMC is the lead regulation and inspection agency for road and road transports in Turkey. Within the MoTMC, the duties in the road transport sector are mainly entrusted to the General Directorate of Road Transport Regulation (KDGM) and, where relevant, to the General Directorate of Transport of Dangerous Goods and Combined Transport Regulation (TMKGM).

Road transport sector has gone through a significant transformation process, particularly with respect to institutionalization, with Road Transport Law (2003) and the Regulations and other legislation that

entered into force in accordance with the said Law. In Turkey, which is a candidate for European Union (EU) membership, access to road transport market and occupation of road transport operator in the field of road transport sector was determined in accordance with the criteria of financial standing, professional competence, good repute. In this way, road transport legislation has been substantially harmonized with the relevant EU acquis.

In the framework of the new legislation; companies, drivers and vehicles active in the road transport sector have been registered. In this regard, as of July 2017, the number of the licenses granted by our Ministry is approximately 526,000, certificates of professional competency is 4.4 million, certificates of vehicles is 1.3 million. The sector has become stronger and more competitive as a result of the new legislation.

Major priorities of our Ministry include, besides the licensing of the road transport sector; monitoring/inspection of the market, enhancing road traffic safety, reducing the number of road accidents and decreasing the harmful effects of road transport on the environment.

### Inspection and Control of Vehicles

The MoTMC is the organization responsible for the enforcement of the regulations on periodic technical inspection of vehicles.

In the 96 road side inspection stations, built by our Ministry, inspections are performed 7/24 and the number of the vehicles inspected in 2016 is over 37 million. Vehicle technical inspection stations were renewed through BOT model in order to ensure that motor vehicles or vehicles without motor (trailers/semi-trailers etc.) be inspected more efficiently and soundly. Over 10 million vehicles every year are inspected technically in 204 fixed and 77 mobile stations in 81 cities throughout Turkey.

### International Road Transport

International road transport operations between countries are regulated by bilateral intergovernmental agreements establishing the number and nature of the permits required to perform by the operators of each country.

The main policy of Turkey in the field of international road transport is to “ensure an international road freight transport system free of quotas and permits in equal competitive conditions. In line with this policy, Turkey devotes efforts on bilateral and multilateral platforms in order to develop international road transport and to create alternative transport routes and markets.

The Turkish hauliers are engaged in international road transport in three continents and almost 70 countries. Turkey has signed bilateral agreements with 59 countries, 20 of which is OIC members <sup>2</sup>.

The number of international road haulage (imports and exports) realized by Turkish hauliers is about 1.6 million trips. Due to geographical restrictions, Turkish hauliers can realize road transport operations to 28 countries out of total 57 OIC countries.

The number of road transport operations carried out by Turkish hauliers to/from OIC countries in 2006 is 830,000 trips for OIC countries (765,000 export, 65,000 import) which corresponds to 53% of the total transport operations carried out by the Turkish hauliers.

<sup>2</sup> Turkey has signed bilateral agreements with Egypt, Sudan and Yemen, approval process continues. With United Arab Emirates, Algeria, Qatar and Libya, Bilateral Road transport agreements have been proposed.

Name of the Country	2014		2015		2016	
	From Turkey	To Turkey	From Turkey	To Turkey	From Turkey	To Turkey
Afghanistan	2,937	28	2,074	47	2,271	40
Albania	3,890	310	3,318	472	3,261	447
Algeria	1	1	1	2	24	0
Azerbaijan	77,464	4,337	69,595	3,377	79,431	4,709
Bahrein	4	17	2	0	0	0
Egypt	10	0	8	0	0	1
Iran	34,463	19,793	40,121	16,940	45,332	8,840
Iraq	555,469	97,564	471,304	101,592	430,292	25,004
Jordan	415	85	73	16	431	173
Kazakhstan	7,205	857	5,646	1,005	4,679	1,150
Kirgizstan	1,463	705	771	504	814	1,013
Kuwait	252	4	326	1	49	0
Lebanon	1,741	172	2,863	144	4,316	230
Libya	0	1	12	0	0	0
Morocco	21	1	69	1	52	0
Oman	81	1	99	2	25	0
Pakistan	19	2	49	8	63	0
Palestine	3		2		0	0
Qatar	112	21	168	7	54	1
S. Arabia	4,705	3,249	4,475	2,879	2,596	1,625
Sudan	2	5	2	0	0	0
Syria	124,792	4720	183,710	1,683	155,204	2,705
Tajikistan	3,611	2,595	2,285	2,189	2,160	1,731
Tunis	210	1	295	0	256	1
Turkmenistan	34,244	10,378	33,815	9,558	25,825	9,189
United Arab Emirates	162	32	117	29	107	43
Uzbekistan	7,826	7,441	6,918	6,411	8,204	8,286
Yemen	226	0	161	0	71	0
<b>TOTAL</b>	<b>861,328</b>	<b>152,320</b>	<b>828,279</b>	<b>146,867</b>	<b>765,517</b>	<b>65,188</b>

Table 2: International road transports carried out by Turkish transporters from/to OIC countries in 2014, 2015 and 2016. (General Directorate of Road Transport Regulation)

## One of the Biggest European Truck Fleet

The domestic freight fleet numbers about 1.13 million vehicles and the international fleet 0.17 million vehicles, making the Turkish fleet one of the biggest in Europe.

	For Domestic Transport	For International and Domestic Transport
Tractors	109,078	67,041
Semi-trailers	119,210	82,807
Trailers	3,084	1,700
Lorries	217,255	9,562
Light Goods Vehicles (LGV)	589,123	4,970
Buses	27,340	3,287
Other	68264	2,648
<b>Total</b>	<b>1,133,354</b>	<b>172,015</b>

Table 3: Turkish Fleet (General Directorate of Road Transport Regulation, 2016)



## 1.2. Railways

### 1.2.1. Railway Network in Turkey

The first railway line in Turkey was put into operation in 1854 during the reign of the Ottoman Empire. The length of rail lines in Turkey (within today's national borders) was 4,136 km in 1923 when the Republic was established. At the end of 1938, the length of railway network was 7,153 km as a result of railway oriented transport policies embraced by the Republic.

As a consequence of this policy that was pursued until 1950s, the share of railways within the transport increased to 42.2 % for passenger and 68.2 % for freight. However, after 1950s the share of railways decreased to 1.1 % in passenger transport and 3.9 % in freight transport resulting from road oriented policies.

After almost 50 years of neglect, the railway network and the rolling stock were in poor condition. Since 2003, Turkish Government has adopted a new transport strategy maintaining that all transportation modes are integral parts of the transportation system.

As a result, railways have become a state policy in Turkey after 2003 and a massive investment program was launched. In order to revitalize the railways with the support of the Government, the following objectives have been identified in the development plans and government programs; to construct and extend the high speed railway lines, to renovate the whole existing network, to complete the electrification and signalization works of the whole network, to develop national and local railway industry, to enhance the number of the logistics centres, to construct branch lines to provide connection to the industrial zones and to complete the liberalization process of the railway sector.

Between 2003 until the end of September 2017 totally 64.3 billion TL was invested in railways (with the prices of 2017).

#### Conventional Lines

The length of total railway network in Turkey is 12,532 km at the end of 2016, 11,319 km of this network is made up of conventional lines and the remaining 1,213 km is high speed lines.

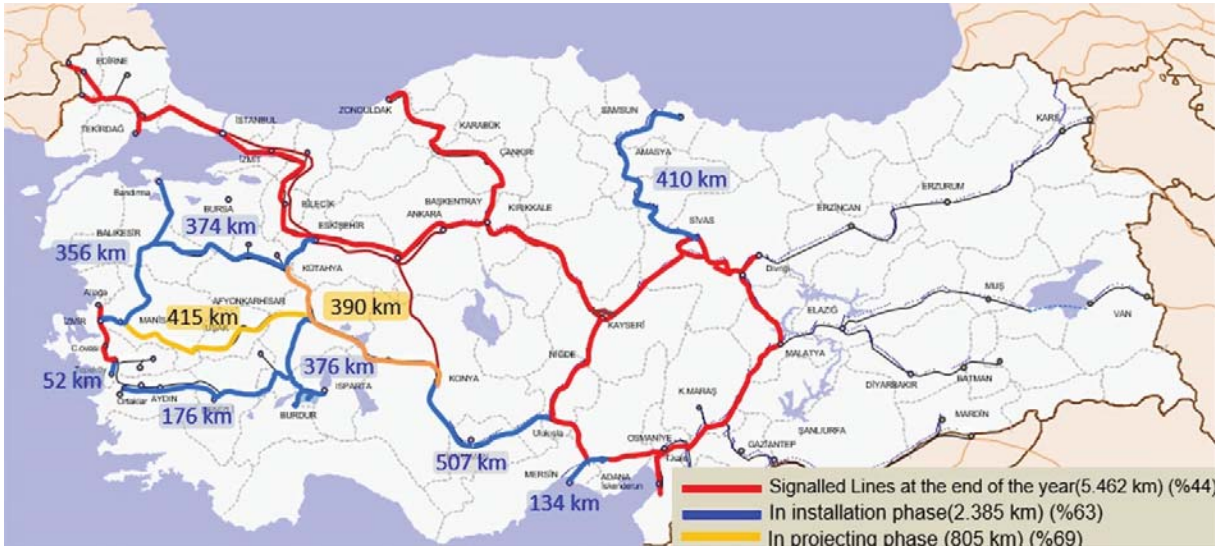
Massive reconstruction works are being realized for track improvement, capacity enhancement, electrification and signalling on the conventional lines.

Current Status of Railway Network	
Total Railway Network	12,532 km
High Speed Lines	1,213 km
Conventional Lines	11,319 km
Signaled Lines	5,462 km
Electrified Lines	4,350 km

Table 4: Current Status of Turkish Railway Network (TCDD Infrastructure)

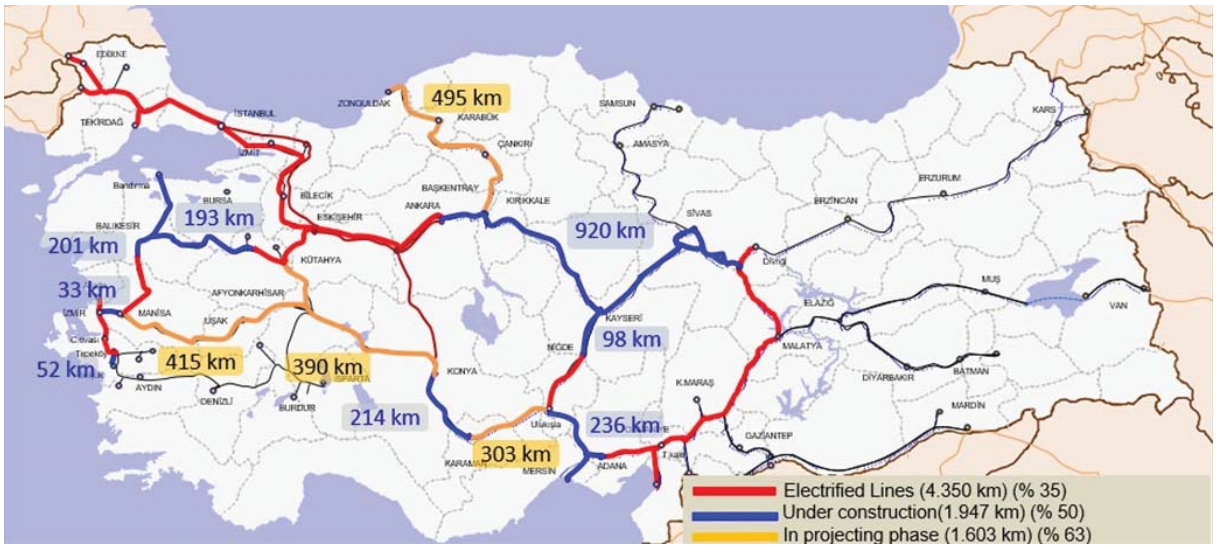
Currently, 5,462 km, constituting 44 % of our railway network is signalled. Signalling, especially on single track lines, improves capacity and travel times as train crossing can be done faster. It reduces cost of dispatching as the work can be done on a central control room instead of on each station.

Signalling works are ongoing on conventional lines, currently, 2,385 km conventional network line is being signalled and network amounting up to 805 km is in projecting phase. When the ongoing and projected works of signalization is finalized, 69 % of total Turkish railway network will be signalized.



Map 6: Signaled Lines and Signalization Works (TCDD Infrastructure)

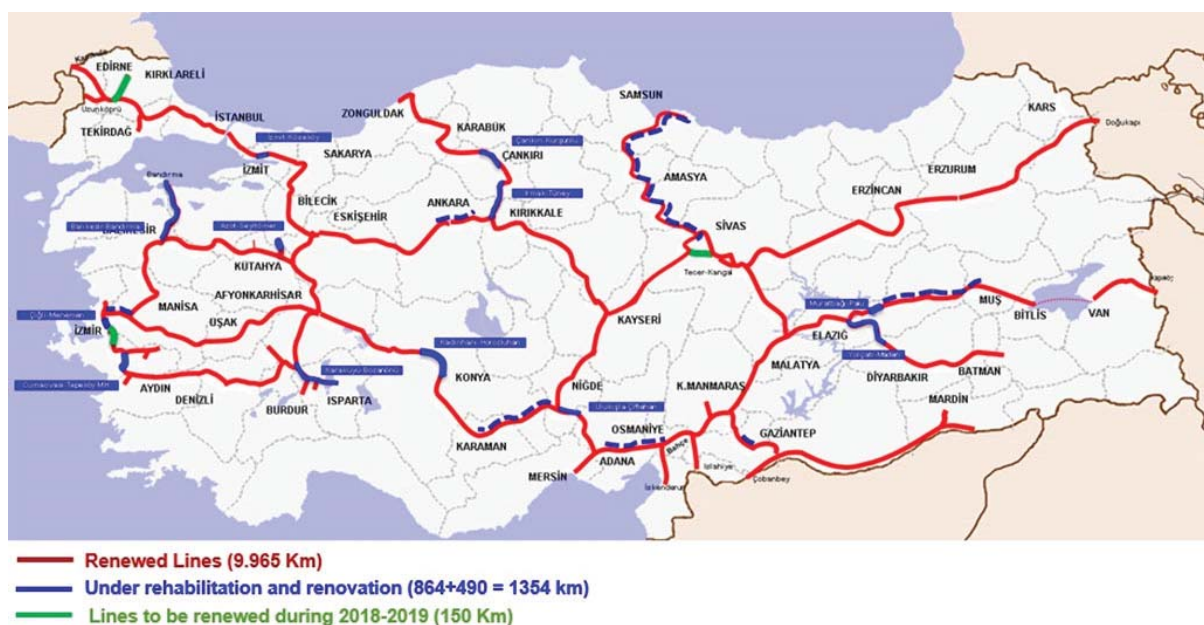
Currently, the share of the electrified lines in our network is 35 % corresponding to 4,350 km. Electrification is vital as it enables use of stronger locomotives and faster electric train sets. For passenger transportation, thanks to electrification faster trains and more attractive traveling times are obtained. As for freight transportation, electrification provides cost reduction (shorter turnaround time of rolling stock) and better competitive position against road transport.



Map 7: Electrified Lines and Electrification Works (TCDD Infrastructure)

Electrification on 1,947 km of our network is ongoing and a further 1,603 km is in projecting phase. Upon the completion of the ongoing and projected works, the share of electrified lines in our network will be 63 % of the total railway network.

Parallel to this investment works a program of track renewal, started in 2008, has progressed well in last years. 9,965 km of the existing conventional network has been renewed and a further 1,354 km of the current network is under rehabilitation and renovation.



Map 8: Renewal of Convention Lines (TCDD Infrastructure)

Before renewal, track condition required imposing speed restrictions resulting in low commercial speed. As a result of this, it was not possible to run a decent passenger service on many lines. By means of track renewal, higher line speed and higher commercial speed, shorter turnaround times and lower costs in operations are secured.

### High Speed Network

Turkey launched a strategy of establishing an intense high speed railway network in the country in 2004. Since then, 1,213 km high speed lines (HST) have been constructed and put into operation.



Map 9: High Speed Railway Lines (TCDD Infrastructure)

The first high speed line between cities of Ankara and Eskişehir was opened in 2009, and the second one from Ankara to Konya was inaugurated in 2011. The line from Ankara to Eskişehir is extended to Istanbul and this section of the line was put in operation in 2014. Also, 1,870 km long HST line is under construction. More HST lines are under construction from Bursa to Ankara- Istanbul line, Ankara-Sivas and Ankara- Izmir.

Turkey ranks 6<sup>th</sup> in Europe and 8<sup>th</sup> in the world in terms of the length of the high-speed line being operated. Also, it is also among the promising countries for future in terms of its investments in high speed railway lines.

### HST and Changing Patterns of Passenger Transport

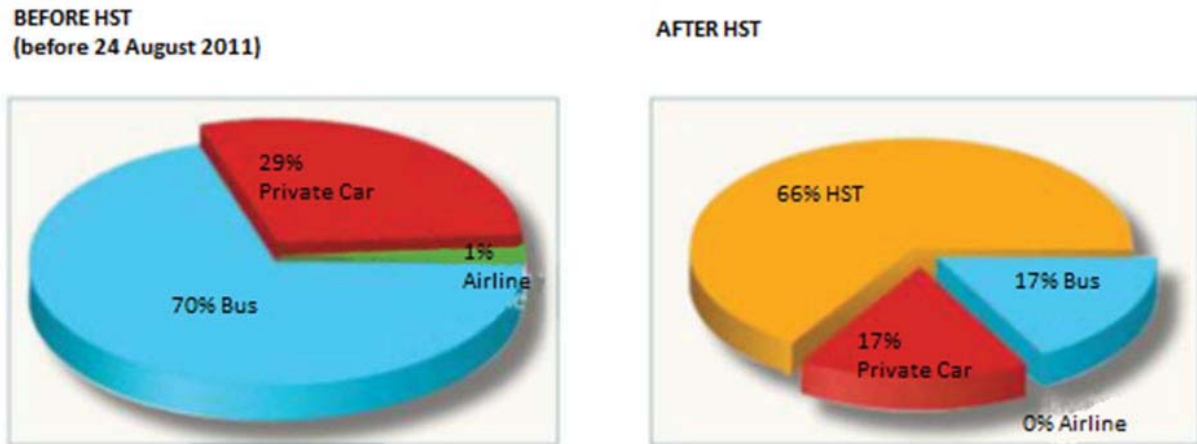
The start of the HST services in Turkey has substantially altered the traveling patterns with bus passengers and car drivers shifted to railway transport in the new HST lines.

33.5 million passengers made journey with HST between 13 March 2009 and 31 July 2017. The HST operation that started with 8 service/day back in 2009, reached a total of 52 service/day as of mid 2017. The breakdown of these services are:

- 10 service/day in Ankara-Eskişehir route,
- 20 service/day in Ankara-Konya route,
- 16 service/day in Ankara-İstanbul route
- 6 service/day in Konya-İstanbul route.

While the number of daily passengers travelling with HST was 3,200 in 2009, it has reached 22,000 passengers average per day as of July 2017.

The modal shift is illustrated below for Ankara-Konya:



Graph 1: Modal Shift for Ankara-Konya

After the launch of HST in Ankara-Konya line, the share of bus passengers decreased from 70% to 17% while the share of car drivers share dropped from 29% to 17%. As a result of this modal shift, the share of the HST services has reached to 66%.

### Freight Transport

Freight transport by rail had almost a continuous uptrend in the 2003-2016 period largely thanks to the block train operations. 25.9 million ton freight transported in 2016, compared with 2003, a 63% increase has been achieved in railway freight transport. Turkish State Railways has increased its freight transportation revenues by 195 %.

Railway transport has still a low share in the domestic freight transport: less than 5%.

### Ambitious Targets for Railway Sector Development

The most important targets for 2023 in the railway sector are presented as follows:

- 1- 10,000 km new high speed lines and 5,000 km new conventional lines;
- 2- 800 km of the existing single track lines to be upgraded to double track lines;
- 3- Signalization of the remaining 8,000 km lines, where signalization is currently not available;
- 4- Electrification of 8,000 km lines depending on the traffic volume;
- 5- Renewal of a minimum of 500 km lines per year,
- 6- 40 new branch lines to industrial zones, ports, and significant industries
- 7- 16 logistic centers with effective road and railway connections;
- 8- Improvement of level crossings.

*Box 1: "Target 2023" in Railway Sector*

### 1.2.2. Liberalization Process and Institutional Framework

The restructuring process of Turkish rail sector was initiated by an EU IPA financed project that lasted from 2011 to 2013 which laid down a restructuring strategy in line with the EU acquis.

In 2012, the Ministry of Transport was restructured with the No. 655 "Statutory Decree on the Duties and Organization of the Ministry of Transportation, Maritime Affairs and Communication" issued by Council of Ministers and published in the Official Gazette No. 28102 dated 1 November 2011. In the new organizational structure General Directorate of Railway regulation (DGRR) was established as the rail regulation authority.

In 2013, the Parliament adopted the law, restructuring and liberalizing the railway sector. The Law No. 6461 on "Liberalization of Turkish Railway Sector" dated 24 April 2013 entered into force. (Official Gazette dated 1 May 2013 and numbered 28634). In the new structure:

- TCDD (TCDD Infrastructure) which will remain a governmental organization was restructured as the infrastructure manager,
- An affiliated company of TCDD was established on 14 June 2016 named "TCDD Taşımacılık A.Ş." through the separation of the units of TCDD responsible for the operations of trains
- DGRR in the Ministry was entrusted with the authorities of market and safety regulation.

New organizational structures based on business units will facilitate the separation and follow-up of accounts. The existing financial resources and the management system are adapted to the new structure. Revenues and expenses will be tracked more effectively through profit and cost centers to be created in the new structure. Central and provincial organizations of TCDD and TCDD Taşımacılık A.Ş. have been approved and put into practice as stipulated in the TCDD Structural Action Plan. In the new situation, when the other railway operator companies enter the sector, the actual liberalization will take place and the private sector will have the opportunity to make freight and passengers transport on their own trains and railways with their own personnel.

### International Railway Connections

The Turkish railways network has seven rail connections with neighbor countries, however only three of them are currently in operation. There are two border crossings that link Turkish railway network to European network on the European side, one with Bulgaria the other one is with Greece. Turkey-Bulgaria railway connection at the border crossing of Kapıkule – Svilengrad is vital for freight transport between Turkey and the EU.

On the Asian side the only operational connection is with Iran as the three connections with the Syrian rail network are currently closed.

Upon the completion of the new line from Kars to Tbilisi as part of the Baku-Tbilisi-Kars Railway Line at the end of 2017, Turkish and Azerbaijani rail networks will be connected via Georgia.

### 1.3. Maritime Transport

#### 1.3.1. Maritime Trade and Turkish Merchant Fleet

Turkey, as a peninsular country located in the central passage between Europe, Central Asia and the Middle East, has a huge potential for maritime transport. Turkey is the focal point of a transport network that stretches from Gibraltar to the Atlantic, and to the Indian Ocean through the Suez Canal and to Eurasia and the Far East through the Turkish straits connecting the Black Sea to the Mediterranean.

Given its 8,483 km-long coastline providing direct sea connections to numerous countries, the maritime transport industry plays a key role in the Turkish economy. Maritime economic activities constitute a strong sector in Turkey offering 270,000 jobs and reaching a total Gross Value Added (GVA) of more than 4.5 billion Euros with four activities (coastal tourism, short-sea shipping, shipbuilding, fisheries) representing 82% of the jobs and 74% of the total GVA generated by the blue economy<sup>3</sup>.

More than 85% of Turkish foreign trade is carried out by maritime sector. Foreign trade volume of our country by sea was 149 million ton in 2003 and it reached to 310 million ton in 2017 with a 107% increase.

In recent years, Turkish maritime fleet has been improved and diversified in terms of ship-type, tonnage and size. In 2002, total tonnage of Turkish-owned merchant fleet (1000 GT and above) was 9.3 million DWT. Today, the total tonnage is today 29.3 million DWT at various ship types and sizes with a total number of 1,547 ships<sup>4</sup>.

World Ranking (DWT)	National Flag	Foreign Flag				Total Fleet Controlled				DWT-% change over prev. Year	Foreign Flag DWT-% Share				
		No	1000 DWT	1000 TEU	Av.Age (Year)	No	1000 DWT	1000 TEU	Av.Age (Year)						
End of 2016	Country	No	1000 DWT	1000 TEU	Av.Age (Year)	No	1000 DWT	1000 TEU	Av.Age (Year)	No	1000 DWT	1000 TEU	Av.Age (Year)		
1	GREECE	733	70.329	52	13,9	3.791	271.964	2.050	10,8	4.524	342.293	2.102	11,3	5,5	79,5
2	JAPON	792	31.085	59	12,3	3.380	210.734	1.244	7,8	4.172	241.820	1.303	8,7	-0,8	87,1
3	CHINA	2.621	73.470	667	11,3	2.352	141.642	1.598	11,4	4.973	215.112	2.265	11,3	5,9	65,8
4	GERMANY	207	10.277	760	14,0	2.966	103.789	4.380	10,5	3.173	114.066	5.140	10,7	-5,6	91,0
5	KOREA REP. of	720	13.483	101	18,3	952	72.376	591	10,2	1.672	85.859	692	13,7	4,7	84,3
6	NORWAY	515	16.755	56	14,6	1.099	49.084	292	13,6	1.614	65.839	348	13,9	3,6	74,6
7	USA	203	4.936	83	22,9	931	52.960	227	13,3	1.134	57.896	311	15,0	1,3	91,5
8	SINGAPORE	700	26.906	387	8,9	676	27.826	254	14,5	1.376	54.732	642	11,7	-1,9	50,8
9	TAIWAN	107	4.312	134	17,6	801	43.679	843	11,5	908	47.991	976	12,2	0,7	91,0
10	ITALY	473	13.900	77	15,9	597	31.257	1.251	10,4	1.070	45.157	1.328	12,8	-2,5	69,2
11	HONG KONG (SAR)	481	26.864	437	8,1	425	12.419	63	17,4	906	39.283	499	12,5	8,0	31,6
12	DENMARK	321	15.604	979	14,2	518	21.302	747	10,7	839	36.906	1.726	12,0	-2,2	57,7
13	CANADA	113	925	7	29,7	387	29.197	800	9,8	500	30.121	807	14,3	-1,2	96,9
14	UK	209	7.055	102	12,1	498	22.797	481	11,0	707	29.852	583	11,3	10,2	76,4
15	<b>TURKEY</b>	<b>525</b>	<b>7.800</b>	<b>108</b>	<b>20,1</b>	<b>1.022</b>	<b>21.465</b>	<b>151</b>	<b>18,2</b>	<b>1.547</b>	<b>29.265</b>	<b>259</b>	<b>18,8</b>	<b>0,4</b>	<b>73,3</b>
16	INDIA	605	15.467	21	12,8	139	7.746	16	13,3	744	23.212	37	12,9	-3,1	33,4
17	RUSSIA	1.069	6.280	81	28,1	383	15.398	39	19,9	1.452	21.679	120	26,0	2,3	71,0
18	BELGIUM	61	7.103	0	11,3	147	14.108	90	9,4	208	21.211	90	9,9	5,7	66,5
19	IRAN	151	5.811	105	17,4	58	12.912	7	12,1	209	18.723	112	15,9	5,4	69,0
20	INDONESIA	1.585	14.965	178	24,1	105	2.033	18	18,6	1.690	16.998	197	23,7	14,0	12,0
TOTAL 20 COUNTRIES		<b>12.191</b>	<b>373.327</b>	<b>4.394</b>		<b>21.227</b>	<b>1.164.688</b>	<b>15.142</b>		<b>33.418</b>	<b>1.538.015</b>	<b>19.537</b>			
OTHERS		4.323	63.587	726		4.229	157.309	1.951		8.552	220.896	2.677			
SUBTOTAL		16.514	436.914	5.120		25.456	1.321.997	17.093		41.970	1.758.911	22.214			
UNKNOWN										516	4.786	102			-
<b>WORLD TOTAL</b>										<b>42.486</b>	<b>1.763.697</b>	<b>22.316</b>	<b>14,3</b>	<b>3,3</b>	

Table 5: World Merchant Fleet (≥1.000 GT)

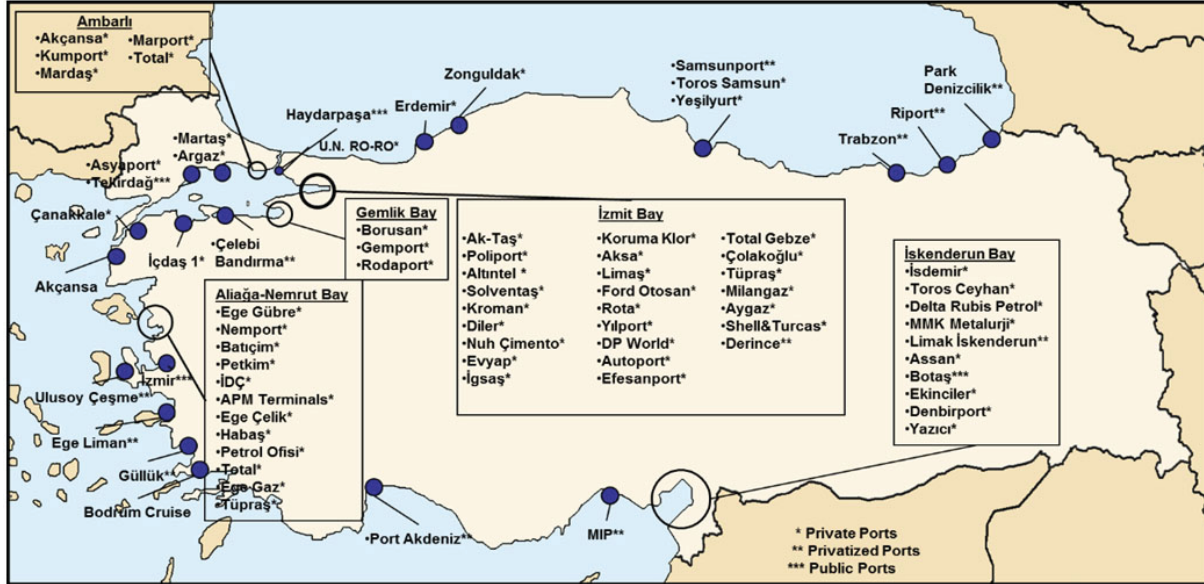
Apart from growing in size, the Turkish fleet also improved in terms of technical and management quality standards and it has been at the Paris MoU White List since 2008.

3 A Study to support the development of sea basin cooperation in the Mediterranean, Adriatic and Ionian and the Black Sea/Country Fiche Turkey, prepared by Eunetmar for EC, October 2013.

4 Shipping Statistics and Market Review, ISL (Institute of Shipping Economics and Logistics), March 2017.

### 1.3.2. Turkish Ports

Active port and port facilities in Turkey number 210, 172 of which are international ports that serve in compliance with ISPS Code.



Map 10: Ports and Port Facilities in Turkey ( MoTMC)

Turkish ports can be grouped in four main categories: seven railway-connected ports belonging to the National Turkish Railway Company, TCDD (five has been commercialized) and 19 cargo ports owned by the state agency 'Turkish Maritime Organization'-TDI (13 of which have been commercialized), several ports belonging to municipalities and all the rest are entirely private facilities. Private ports, numbering 159 have the biggest share in terms of the total volume handled. Private sector contribution to Turkish container handling capacity is 6 million TEU in the short term. Table 6 illustrates the total handling volume in the major Turkish ports in 2016.

MAIN PORTS	Total Handling in Million Ton (2016)
Aliğa	50,540,449
Ambarlı	33,004,197
Antalya	5,509,325
Bandırma	5,047,496
Botaş(ceyhan)	78,453,904
Çanakkale	4,579,502
Gemlik	13,272,808
Güllük	5,906,643
İskenderun	40,188,126
İstanbul	3,811,641
İzmir	9,692,386
Karabiga	11,076,946
Karadeniz Ereğli	10,167,846
Kocaeli	66,406,649
Mersin	31,683,808
Samsun	10,003,832
Tekirdağ	20,788,187
Trabzon	3,605,564
Tuzla	5,671,949
Zonguldak	8,021,044

Table 6: Total Handling in Main Turkish Ports (2016)

Public sector has port investment plans such as Çandarlı Port (4 million TEU Capacity), Mersin Port Container Terminal (20 million ton/year) and Filyos Port (25 million ton/year).

In parallel to the growth of the Turkish economy and shipping fleet, cargo handling volume in Turkish ports increases as well.

Total amount of cargo handled in Turkish ports increased from 190 million tons to 430.2 million tons in the last 14 years.

The number of containers (including import, export, cabotage and transit) was 1.9 million TEUs in 2002. It is now around 8.7 million TEUs. Transit cargo share has increased in recent years.

## Shipbuilding Industry

There have been important developments in the Turkish shipbuilding sector in recent years and the sector has proved its ability in the international arena in many areas. Turkish shipyards became a trademark throughout the World, especially in the construction of chemical tankers, container ships, tug boats and yachts etc.

There are 79 active shipyards in Turkey, most of which are located in the Sea of Marmara around Tuzla and Yalova Shipyard Region and their total ship production capacity is 4.5 million DWT/year and also Turkish shipbuilding industry has 26 floating docks and 10 dry docks. Ship recycling region of Turkey is located in Aliğa/Izmir(west coast of Turkey) and there are 23 ship recycling facilities, their ship recycling capacity totaling 1 million LDT/year.

## Legal and Institutional Aspects

In the maritime sector, the lead regulation and inspection agency is the Ministry of Transport, Maritime Affairs and Communications (MoTMC) which performs regulatory, supervisory and enforcement functions through three General Directorates (Merchant Marine, Regulation of Maritime and Inland Waters and Shipyards and Coastal Structures).



At provincial level, the MoTMC acts mainly through 81 harbourmaster offices. General Directorate of Coastal Safety (DGCS) that is responsible for assisting and improving the safety of navigation in Turkish waters is also another maritime institution affiliated to the Ministry.

Another key player in the maritime transport is the Turkish Coast Guards Command which is a law enforcement agency having responsibility and authority at sea. It is structured under the Ministry of Internal Affairs.

Turkey is an active player in International Maritime Organization- IMO, being party to majority of the IMO conventions and being “Category C” member of the IMO Council since 1999.

### Maritime Trade with COMCEC Members

Approximately 20% of Turkish international seaborne trade is carried out with COMCEC members and in terms of tonnage the five major maritime partners are Egypt, Iran, Iraq, Algeria and Lebanon as shown below.

COUNTRY	EXPORT	IMPORT	TRANSIT	TOTAL HANDLING
EGYPT	9,037,041	17,067,189	977,238	27,081,468
IRAN	67,202	7,694,128	68	7,761,398
IRAQ	16,147	6,277,257	85,025	6,378,429
ALGERIA	743,378	4,409,088	71,495	5,223,961
LEBANON	1,505,921	2,279,397	193,947	3,979,265
SAUDI ARABIA	1,656,903	1,484,446	20,318	3,161,667
LIBYA	1,466,507	437,001	116,838	2,020,346
TUNISIA	717,526	376,623	660,931	1,755,080
INDONESIA	39,082	180,131	1,484,493	1,703,706
MOROCCO	557,158	1,105,678	13,419	1,676,255
MALAYSIA	396,192	794,546	269,053	1,459,791
YEMEN	1,314,867	0	0	1,314,867
NIGERIA	70,099	1,068,162	0	1,138,261
QATAR	14,260	764,539	0	778,799
SUDAN	543,483	21,609	0	565,092
SYRIA	329,637	207,821	11,004	548,462
OTHERS	2,609,038	777,205	10,237	3,396,480
TOTAL	21,084,441	44,944,820	3,914,066	69,943,327
GRAND TOTAL	94,805,120	215,132,519	66,963,307	376,900,946

Table 7: Maritime Trade with COMCEC Members (MoTMC)

## 1.4. Aviation

Turkey is at the crossroads of north-south and east-west traffic flows between Europe, Asia, the Middle East and Africa. Indeed, the geographical centre of air passenger traffic tends to move to south and east, so it is estimated that Istanbul, Doha, Abu Dhabi and Dubai will outshine in 2020.

Embracing the motto “Every Turkish citizen will fly at least once” “Liberalization Policy in Aviation” was initiated in 2003. The Turkish Civil Aviation sector, then witnessed an enormous and exemplary progress in both volume of passengers / cargo carried and number of flights.

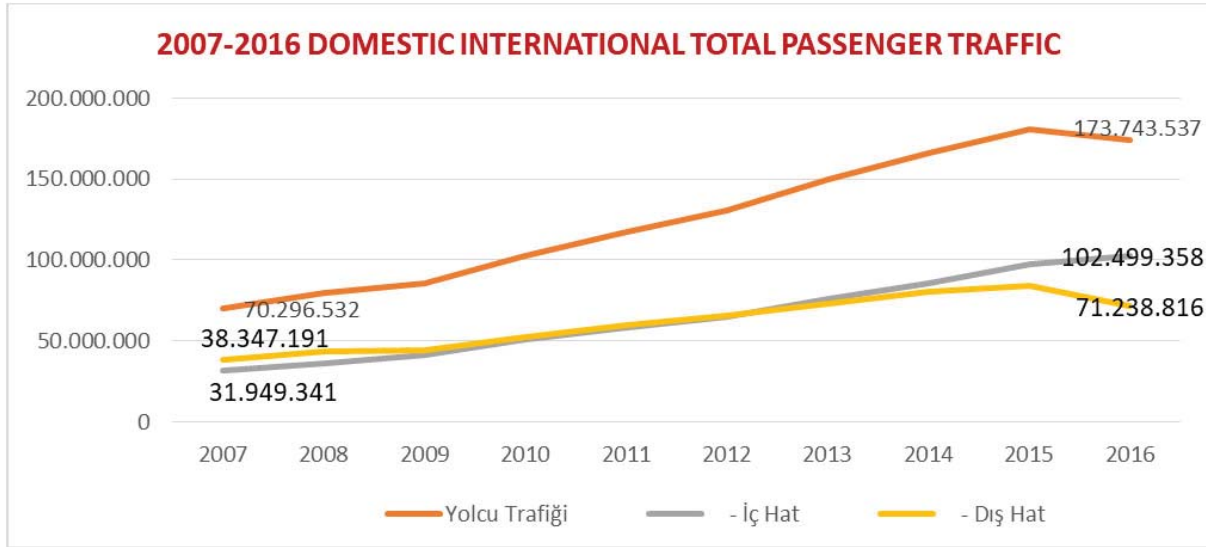
In the last 10 years, (2007-2016) commercial flight numbers have increased by 101%, number of transported passengers has increased by 146 % and amount of transported cargo has increased by %161.

At the end of 2016, more than 174 million passengers and 3 million tons of freight were carried by Turkish carriers serving to 120 countries. This noteworthy progress has been achieved without compromising on safety and security. Table 8 indicates passenger and cargo frequencies with the OIC member states.

OIC Country	From Turkey	To Turkey
BAHREYN	18 Passenger Frequency, 1 Cargo Frequency	9 Passenger Frequency
UNITED ARAB EMIRATES	42 Passenger Frequency	32 Passenger Frequency
IRAQ	102 Passenger Frequency, 11 Cargo Frequency	129 Passenger Frequency
IRAN	87 Passenger Frequency, 2 Cargo Frequency	180 Passenger Frequency
QATAR	19 Passenger Frequency, 4 Cargo Frequency	31 Passenger Frequency, 1 Cargo Frequency
KUWAIT	72 Passenger Frequency, 1 Cargo Frequency	18 Passenger Frequency
LEBANON	18 Passenger Frequency, 4 Cargo Frequency	30 Passenger Frequency
SUUDI ARABIA	132 Passenger Frequency	85 Passenger Frequency
OMAN	7 Passenger Frequency	No flight
JORDAN	24 Passenger Frequency	14 Passenger Frequency
AFGHANISTAN	10 Passenger Frequency	12 Passenger Frequency
YEMEN	No Flight	No Flight
SYRIA	No Flight	No Flight
GUANA	No Flight	No Flight
SURINAM	No Flight	No Flight
BANGLADESH	7 Passenger Frequency, 2 Cargo Frequency	No Flight
BRUNEI	No Flight	No Flight
INDONESIA	7 Passenger Frequency	No Flight
MALDIVES	7 Passenger Frequency	No Flight
MALAYSIA	7 Passenger Frequency	No Flight
ALBANIA	18 Passenger Frequency	No flight
KAZAKHSTAN	43 Passenger Frequency, 5 Cargo Frequency	33 Passenger Frequency
AZERBAIJAN	23 Passenger Frequency	41 Passenger Frequency
UZBEKISTAN	9 Passenger Frequency, 1 Cargo Frequency	9 Passenger Frequency
TAJIKISTAN	3 Passenger Frequency	3 Passenger Frequency
TURKMENISTAN	7 Passenger Frequency, 1 Cargo Frequency	15 Passenger Frequency
PAKISTAN	23 Passenger Frequency	No Flight
BENIN	6 Passenger Frequency	No Flight
BURKINA FASO	4 Passenger Frequency	No Flight
ALGERIA	39 Passenger Frequency	20 Passenger Frequency
CIBUTI	7 Passenger Frequency	No Flight
CHAD	2 Passenger Frequency	No Flight
MOROCCO	7 Passenger Frequency, 1 Cargo Frequency	11 Passenger Frequency
IVORY COAST	6 Passenger Frequency	No Flight
GABON	5 Passenger Frequency	No Flight
GAMBIA	No Flight	No Flight
GUINEA	2 Passenger Frequency	No Flight
GINE BISSAU	No Flight	No Flight
KAMERUN	7 Passenger Frequency	No Flight
COMORES	No Flight	No Flight
LIBYA	No Flight	39 Passenger Frequency, 5 Cargo Frequency
MALI	5 Passenger Frequency	No Flight
EGYPT	47 Passenger Frequency, 3 Cargo Frequency	18 Passenger Frequency, 1 Cargo Frequency
MAURITANIA	7 Passenger Frequency	No Flight
MOZAMBIQUE	3 Passenger Frequency	No Flight
NIGER	5 Passenger Frequency	No Flight
NIGERIA	17 Passenger Frequency	No Flight
SENEGAL	7 Passenger Frequency, 1 Cargo Frequency	No Flight
SIERRA LEONE	No Flight	No Flight
SOMALI	7 Passenger Frequency	No Flight
SUDAN	7 Passenger Frequency, 1 Cargo Frequency	No Flight
TOGO	No Flight	No Flight
TUNISIAN	14 Passenger Frequency, 3 Cargo Frequency	10 Passenger Frequency
UGANDA	7 Passenger Frequency, 2 Cargo Frequency	No Flight

Table 8: Passenger and cargo frequencies with the OIC member states

According to recent International Air Transport Association (IATA) reports on total passengers carried, whilst Turkey ranked as the 16<sup>th</sup> biggest global market in 2015; in 2016, Turkey achieved to be the 13<sup>th</sup> biggest global market. Domestic traffic share of total passengers is realized as 59%.

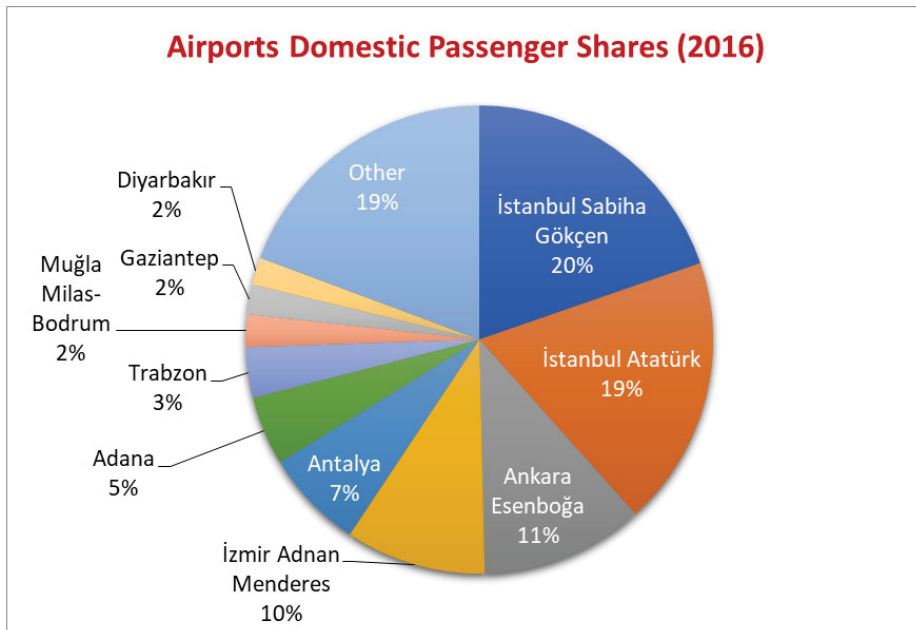


Graph 2: Passenger traffic (2007-2016) (Source; DHMI)

As the result of the successfully implemented policies from 2003 to 2016, the number of aircrafts possessed by Turkish registered air carriers has grown at a rate of 233%, seat capacity has increased by 264%, and freight capacity has recorded a growth of 501%. Moreover, the combined total number of scheduled destinations, domestically and internationally served by Turkish Registered Air Carriers has reached 341.

The growth was accompanied by vital investments in infrastructure, the number of airports open to civil air transport services has increased from 26 in 2003 to 55 in 2017.

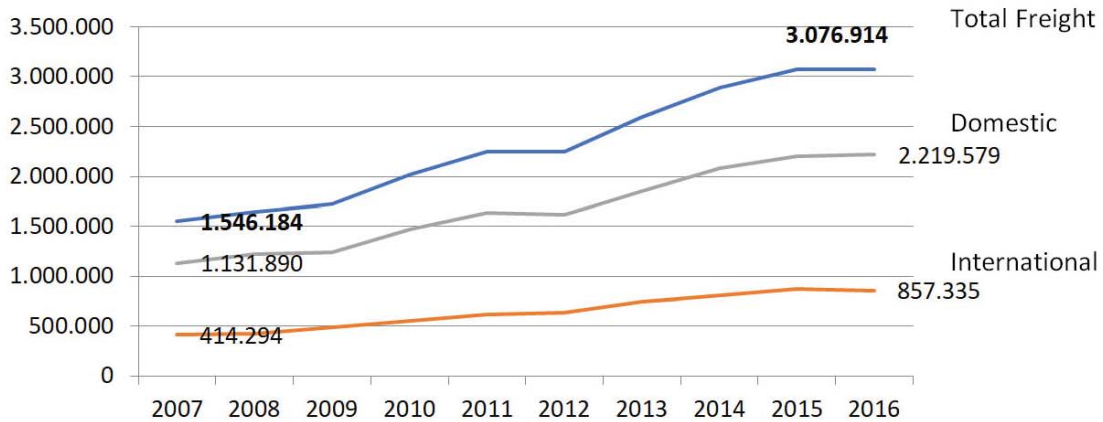
A significant part of domestic passenger traffic occurs in İstanbul Sabiha Gökçen (%20), İstanbul Atatürk (%19), Ankara Esenboğa (%11), İzmir Adnan Menderes (%10) and Antalya (%7) airports.



Graph 3: Airports domestic passenger shares 2016 (Source; DHMI)

The freight traffic is largely dependent on the development of foreign trade and market demand. For the year 2016, total freight load (cargo+mail+baggage) was 3 million ton. Domestic freight traffic in 2016 was realized as 857,335 ton; international freight traffic in 2016 was realized as 2.2 million ton.

### FREIGHT TRAFFIC - 2007-2016



Graph 4: 2007-2016 freight (cargo+mail+baggage) (Source; DHMI)

### Publicly Owned Airports but Significant Role of the Private Sector

Among 55 Turkish airports that are open to civil air traffic; 49 are directly operated by DHMI. Aydın Çıldır, Zafer, Zonguldak Çaycuma and Gazipaşa Alanya airports are managed by private sector companies under the supervision of DHMI, Eskişehir Hasan Polatkan airport operated by Anadolu University and İstanbul Sabiha Gökçen Airport is managed by private sector company under the supervision of Undersecretariat of Defense Industry.

DHMI has substantial experience and recorded success in implementing PPPs in the airport sector. There are two main categories of PPP utilized in airports in Turkey: “Transfer of operation rights scheme” or “rent”, limited to the operation of passenger terminal buildings or comprising also the maintenance of the runways, aprons and taxiways. Until recently, BOT model was utilized rather limitedly for the construction of passenger terminals yet BOT model’s scope then extended to the construction of entire airports.

Among 13 airports serving to 90% of airport passenger traffic nationwide, seven of the passenger terminals are currently being operated by PPP model. ( İstanbul Atatürk Airport, İstanbul Sabiha Gökçen Airport, Antalya Airport, Ankara Esenboğa Airport, İzmir Adnan Menderes Airport, Muğla Milas-Bodrum Airport, Muğla Dalaman Airport). In 2016 the traffic at airports which are operated under PPP accounted for 79% of the total traffic in Turkish airports.

This number is 96% for international traffic and 67% for domestic traffic. These numbers denote the role of private sector in the operation of airports.

### Institutional Framework

MoTMC is the main regulation and inspection agency for aviation in Turkey. MoTMC has regulatory, supervisory and enforcement functions. These tasks are assigned to the General Directorate of Aviation and Space Technologies (GDAST) that is mainly responsible for determining strategies and objectives with the aim at improving aviation industry and space science. The responsibilities of GDAST are not directly connected with aviation as a transportation mode.

There are two institutions affiliated to the Ministry which are involved in air transport and in airports, namely: General Directorate of Civil Aviation (GDCA) and State Airports Authority (DHMI)

GDCA which was a division of the Ministry of Transport, was given its financial autonomy through Law No. 5431 on Organization and Duties of the Directorate General of Civil Aviation in 2005. GDCA is essentially responsible for organising, supervising, controlling and planning air transport and navigation activities.

DHMI which is a State Economic Enterprise with its own legal status and autonomy is the main public entity in charge of airports. DHMI is responsible for managing and developing airports and for providing air navigation services in the Turkish air space.

## Istanbul New Airport Project

Istanbul New Airport is going to be built on the European Side of Istanbul, on an area of 76.5 million square meters. In addition to supporting the development of Turkish aviation, Istanbul New Airport is expected to serve as an important hub between Western Europe and Far East.

Upon completion, the airport will become the largest in the world in terms of annual passenger capacity. Up-to 200 million passenger capacity terminal will be connected to the Third Istanbul Strait Bridge via the North Marmara Highway, and will play a vital role in making Istanbul a global travel hub.

According to the World Bank's Private Participation in Infrastructure Database (PPI Project Database), published on 13 June 2016, Istanbul's New International Airport is the largest single investment commitment ever recorded in the World Bank database, covering investments totaling 35.6 billion dollars (which included 6.5 billion Dollars in investment in physical assets and a concession fee of 29.1 billion Dollars to the Government) <sup>1</sup>.



The tender has been carried out in a different way than with previous projects. Instead of operation life options, rent prices (for a specific duration of operation) competed at the tender. Operation life of this project has been determined as 25 years, which includes the first stage (42 months) for construction works followed by the launch of the airport until the end of 25 years.

Istanbul New Airport project involves four stages in total. Once all stages are completed, the airport will present the following features:

- On a closed area of 1 million 471 thousand 96 square meters, the new airport will compose of 165 passenger bridges, rail connected terminal buildings
- Three technical blocks and an air traffic control tower
- Ramp control towers
- Six independent landing fields available for all kinds of aircraft
- 16 parallel taxiways - an apron as big as 6.5 million square meters designated for 500 aircraft

<sup>1</sup> World Bank, Private Participation in Infrastructure Database, 13 June 2016, <https://ppi.worldbank.org/>

## 2. TURKEY'S VISION FOR TRANSNATIONAL TRANSPORT CORRIDORS

### Overview

The shift of economic gravity towards emerging economies in Asia generates a continuous growth in the transport of goods between Asia and Europe. The trade between the EU and China has reached an enormous level, which has become one of the key driving forces of economic growth in Eurasia. According to EC Trade, from having almost no trade two decades ago, today, the EU and China have become major trading partners.<sup>5</sup> China and Europe now trade over 1 billion Euros a day. For 2016, the total trade in goods between the EU and China reached to 514.5 billion Euros. These figures reveal the increasing importance of transport development in the Eurasia region.

Although maritime transport has been the dominant mode of transport for trade between Asia and Europe, taking into consideration increasing trade volume, it is an urgent need to develop safe, secure and efficient land connectivity as well as new intermodal transport opportunities for connecting two continents. According to “Euro-Asian Transport Links” study conducted by UNECE, railway transport can be more competitive both in terms of time and cost particularly when production areas are situated relatively far from the ports.<sup>6</sup> Moreover, according to the same study, rail transport performed better than maritime transport in terms of travel time. The study also showed that Eurasian rail transport, and its intermodal combination with maritime and road transport can become a feasible and competitive transport option provided that an efficient corridor perspective is developed and governments and private sector are willing to cooperate.<sup>7</sup>

In this sense, outputs of the abovementioned study support the idea that development of transport corridors is more beneficial to a national economy than development of mere transport infrastructure. While transport infrastructure is the backbone of a stronger economy, transport corridors encourage the improvement of transport and logistics services and facilitation of trade. In this sense, enhancement of transport corridors ensures a far more competitive trading for enroute countries. This chapter aims to outline Turkey's perspective on increasing importance of transport corridors and its vision for the development of major corridors in the Eurasia region. The chapter also focuses on Turkey's efforts on the operationalization of Trans-Caspian East-West Middle Corridor for improving land connectivity between Asia and Europe.

### 2.1. Importance of Transport Corridors for Trade and Development

The “transport corridor” concept has always been high on the international transport agenda given its vital contribution to facilitation of trade and economic growth as well as its indispensable role in regional cooperation. However, there is hardly any common agreement on the precise definition of a transport corridor given its various dimensions and functions. Adopting a holistic approach, UNECE Transport Division defines an international transport corridor as “part of a national and international transport system, which maintains considerable international cargo and passenger transportation between certain geographic regions and all technological, organizational and legal conditions for such transportation”<sup>8</sup>.

To be more precise, an international transport corridor connects one or more adjoining countries through one or more routes: rail, road, maritime or inland waterways. Connecting centres of economic activity in the corridor countries, the routes constitute the links on which the transport services occur and also comprise the nodes that provide intermodal interfaces for the transport services. Figure 1, developed by World Bank<sup>9</sup> denotes a sample corridor model below.

5 European Commission, DG Trade, China <http://ec.europa.eu/trade/policy/countries-and-regions/countries/china/>

6 The Euro-Asian Transport Links (EATL), Phase II Final Report, [http://www.unece.org/trans/main/wp5/eatl\\_phase\\_2\\_final\\_report.html](http://www.unece.org/trans/main/wp5/eatl_phase_2_final_report.html)

7 Ibid.

8 UNECE, Inland Transport Committee, Transport Division, [www.unece.org](http://www.unece.org).

9 World Bank Report, Best Practices in Corridor Management, February 2005.

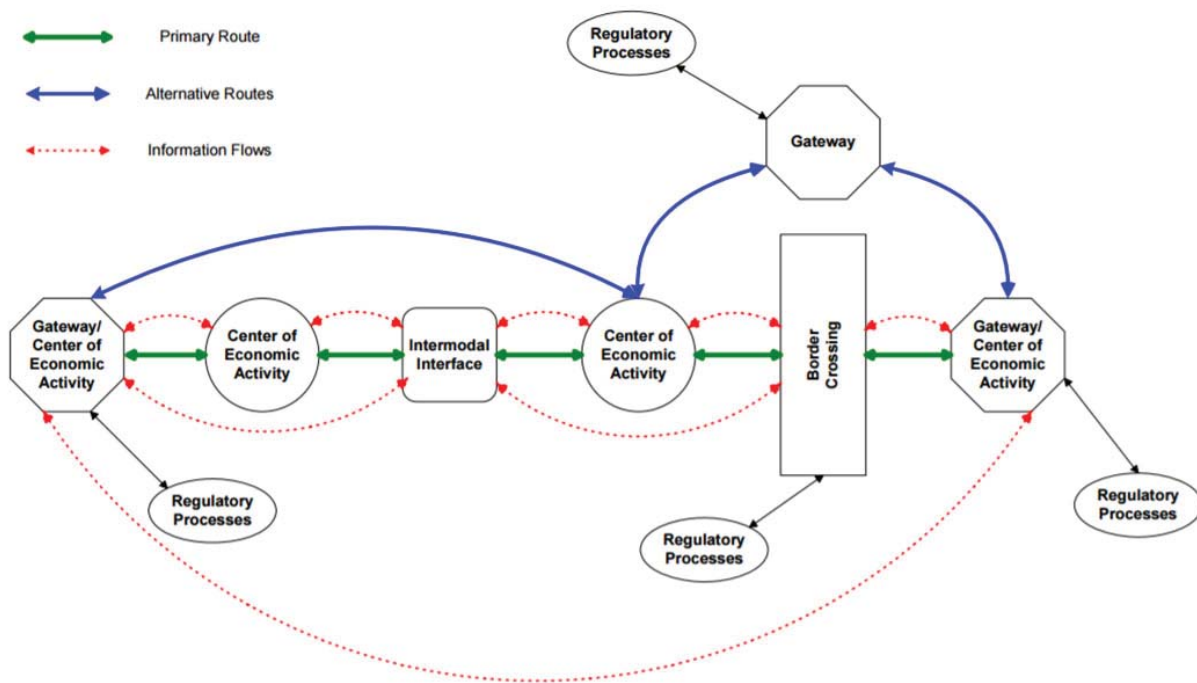


Figure 1: Sample Corridor Model, World Bank, February 2005

As it can be inferred from the Figure, the physical components of the corridor are; centres of economic activity, land or maritime routes connecting them, border crossing points and nodes that interconnect the transport services. As for the regulatory processes, a coordinated legislation on the corridor via bilateral or regional agreements is necessary in order to facilitate transport and ensure smooth transit at the border crossings.

With the abovementioned physical and regulatory aspects, a transport corridor may either serve for connecting neighbouring countries or provide a landlocked country with access to the sea. In both cases the common function of the corridor is to promote trade. To attain this objective, enhancing the standards of the infrastructure and developing the missing links on the corridor is not adequate, rather, the quality of transport and other logistics services also need to be improved on the corridor via facilitation of the transport and removing non-physical barriers before trade.

### Benefits and Impacts of the Transport Corridors

The benefits and impacts offered by transport corridors are incomparable to those of transport infrastructure, alone. While transport infrastructure provides basic connections among regions, transport corridors refine the transport and logistics services and make trading far more competitive as it is by definition aims to linking provinces, countries and regions<sup>10</sup>. The below table elaborated by the World Bank on the Transport Corridors denotes the main strategies and mechanisms, implemented in transport corridors and their effects and impacts on trade.

10 A Study on Transport Corridors in OIC Member Countries, September 2011 <http://www.comcec.org/wp-content/uploads/2015/02/IDB-TransportCorridors-Study.pdf>



Strategy	Mechanism	Areas Affected	Impacts	
			Cost	Time
<b>Increase and Improve Interconnections</b>	<ul style="list-style-type: none"> <li>Establish New Transfer Points</li> <li>Add Facilities</li> <li>Simplify Procedures and Documentation</li> <li>Standardize Documentation</li> <li>Consolidate Inspections CIQS</li> <li>Relocate Inspection Inland or at Marshalling Yards (for rail)</li> <li>Provide New Logistics Services</li> <li>Monitor Performance</li> </ul>	Border Crossings and Gateways	<ul style="list-style-type: none"> <li>Shorten Door-to-Door Routes</li> <li>Reduce Door-to-Door Delays</li> <li>Reduce Administration</li> <li>Reduce Processing Time</li> <li>Increase Transparency</li> <li>Simplify Handling of Vehicles and Cargo</li> <li>Value Added</li> <li>Reduce Delays</li> </ul>	
<b>Establish Interoperability</b>	<ul style="list-style-type: none"> <li>Harmonize Technical Standards and Rules for Operators</li> <li>Simplify Allocation of Liabilities</li> <li>Standardize Certification</li> </ul>	Transport Services	<ul style="list-style-type: none"> <li>Increase Cross-Border Competition and Provide Economies of Scale</li> <li>Reduce Equipment Exchange</li> </ul>	<ul style="list-style-type: none"> <li>Reduce Equipment Exchange</li> </ul>
<b>Increase Market Access</b>	<ul style="list-style-type: none"> <li>Allow Cross-Border Movements</li> <li>Eliminate Cabotage</li> <li>Deregulate Pricing</li> <li>Commercialize Public Services</li> <li>Regulate Anti-Competitive Behavior</li> </ul>	Transport Services  Border Crossings and Gateways	<ul style="list-style-type: none"> <li>Reduce Equipment Exchange and Cargo Handling</li> <li>Improve Variety and Quality of Services</li> <li>Increase Availability of Services</li> <li>Introduce Competitive Pricing and Variety of Services</li> </ul>	

Table 9: The Main Strategies and Mechanisms that are being implemented in Transport Corridors and Their Effects and Impacts on the Trade (Source: World Bank)<sup>11</sup>

The development of a transport corridor, through improvement of infrastructure and soft regulatory measures, is expected to decrease costs of transportation and logistics as well as costs associated with administrative and customs procedures. By means of bilateral or multilateral agreements among the corridor countries that comprise responsibility sharing for infrastructure development and facilitation of transport and border crossings on the corridor, cost and time reductions are expected to be achieved, resulting in economic growth. Besides, transport corridors contribute to equity and poverty alleviation via sustaining inclusive growth, promotes security and safety on its routes and decreases the environmental externalities associated with transport operations<sup>12</sup>.

### Success of Transport Corridors

There are thousands of international transport routes in the world yet successful transport corridors that fulfill the objectives, envisaged for their establishment are much less in number. The success of a transport corridor depends on many factors.

11 Arnold J, *Best Practices in Management of International Trade Corridors*, World bank, December 2006, p.33.

12 *Improving Transnational Transport Corridors in OIC Member States: Concept and Cases*, COMCEC Coordination Office, October 2017.

The most prominent of the success factors is the **management of a corridor**. The institutionalization of the corridor is vital in this regard as international transport routes that are subject to bilateral/multilateral treaties are more likely to succeed. Common technical and operational standards, stipulated by the international agreements governing the corridor is of utmost importance in facilitating transport and border crossings on the corridors. Likewise, shared responsibility for infrastructure development and removal of bottlenecks serving for the performance of corridor could only be ensured via intergovernmental agreements. The presence of a well-established Corridor Secretariat would be an ideal case for corridor management, however it is very rare. Indeed, the most ideal management structure is the one that includes all parties required for the efficient operation of the corridor; customs and transport authorities, freight forwarders and shipper associations. Different versions of such structures could be seen in TRACECA with the newly emerging Trans-Caspian International Transport Route (TITR) and in CAREC with the CAREC Federation of Carrier and Forwarder Associations (CFCFA).

Another decisive factor for the success of any international transport corridor is its **multimodal nature**, rail and maritime need to be integrated into the corridor as these modes provide low cost transport for immense volumes. Yet, any successful corridor also need to bear road transport as it ensures door-to-door transportation.

**Interoperability** needs to be sustained in the transport infrastructure along the corridor to ensure seamless and cost effective transport.

**Financing** of the construction of missing links or improving the transport infrastructure has always been a great challenge given the high cost of transport infrastructure however it is decisive in the success of transport corridors as it is not possible to speak of a corridor that lacks physical connections. The corridor countries need to develop their capacities and cooperate in order to secure financing from the IFIs and fulfill the necessary preconditions of PPP<sup>13</sup> implementation to ensure that private sector partners with the governments on investment in infrastructure.

**ICT** needs to be integrated in the corridor management for travel planning and information and to realize reliable, secure and safe transport on the corridor.

## 2.2. Turkey: A Logistic Hub for the Modern Silk Road

Recognizing the role of transport corridors in economic growth, Turkey embraces a corridor-oriented approach and aims to function as a logistics hub for the freight carried in Eurasia. As a bridge between two continents, it has a unique geographical location which provides access to Central Asia, Russia, the Middle East, and North Africa. Since economies in these regions are becoming increasingly integrated into global and European trade networks, transit flows passing through Turkey are expected to increase.<sup>14</sup> According to a recent estimation, "Turkey has access to multiple markets with a combined population of 1.6 billion people, a combined GDP of 35.7 Trillion US Dollars, and more than 6.8 Trillion US Dollars of foreign trade, which corresponds to around half of the total global trade within a four-hour flight Radius".<sup>15</sup>

As explained in detail in Chapter III, there are important transport routes passing through Turkey identified by the studies of leading international organizations such as UNECE, UNESCAP, TRACECA, ECO and BSEC. Moreover, according to a recent study conducted by UNESCAP which considers economic potential and trade flows of transport routes in Eurasia, there are three main corridors in Euro-Asia region in the east-west direction, namely South, Central and North Corridors.<sup>16</sup> These corridors, which

13 In the Transport and Communications Outlook 2016 (COMCEC, 2016) the preconditions" for a successful PPP implementation are listed as: "(1) political and economic stability, (2) sound legal framework, (3) institutional capacity, (4) political commitment and support, (5) transparent and competitive tender procedures free from corruption, (6) an organized and developed domestic private entrepreneurship (including financial institutions and construction companies), and (7) public acceptance and support."

14 Stefan Iskan and Peter Klaus, *Transport, Logistics and Supply Chain Services in Turkey Market Sizes, Market Players, Infrastructure and latest Trends in the Turkish Logistics Industry*, DVV Media Group GmbH, 2013, p.21.

15 *Transportation and Logistics*, Republic of Turkey Prime Ministry Investment Support and Promotion Agency, <http://www.invest.gov.tr/en-US/sectors/Pages/TransportationAndLogistics.aspx>

16 For more information, <http://www.unescap.org/events/expert-group-meeting-comprehensive-planning-eurasian-transport-corridors>

are composed of several sub-routes, are all crucial and complementary corridors for increasing the share of land transport in Euro-Asia region. In this regard, Turkey is located in the Central Corridor which extends from the western part of China to Central Asia, Caspian Region and Europe. For development of the Central Corridor, Turkey prioritizes;

- completing missing links on the main axes by large-scale infrastructure projects,
- removing bottlenecks especially on border crossings,
- promoting intermodal transport opportunities particularly on Trans-Caspian East-West Middle Corridor,
- enhancing logistics and corridor management capacities.

Furthermore, Turkey embraces a “Regional Integrated Transport Corridors” perspective which aims to develop a comprehensive and complementary approach towards all corridors in the region. This approach is based on;

- making bilateral and multilateral transport agreements with *enroute* countries,
- developing coordination mechanisms for finding practical solutions to problems of the corridor,
- supporting the identification of logistics and transport infrastructure needs of corridor countries,
- promoting Turkish private sector to improve their operations in the region,
- developing multimodal transport and sustainable logistics capacity

### 2.2.1. Operationalization of the Trans-Caspian East-West Middle Corridor

Turkey attaches a particular importance to the development of the Trans-Caspian East-West Middle Corridor as an important component of the Modern Silk Road. (Please see Map 11) This corridor consists of two sections connecting Europe to China. The first section extends from the western part of China to Kazakhstan, reaches up to Azerbaijan by crossing the Caspian Sea and Georgia through the Caucasus, and then reaches Turkey and Europe. The second section is linked to China through Uzbekistan and Kyrgyzstan, then reaches up to Turkmenistan’s Turkmenbashi Port, again uses Caspian crossing to reach Azerbaijan, Georgia and Turkey to extend Europe.

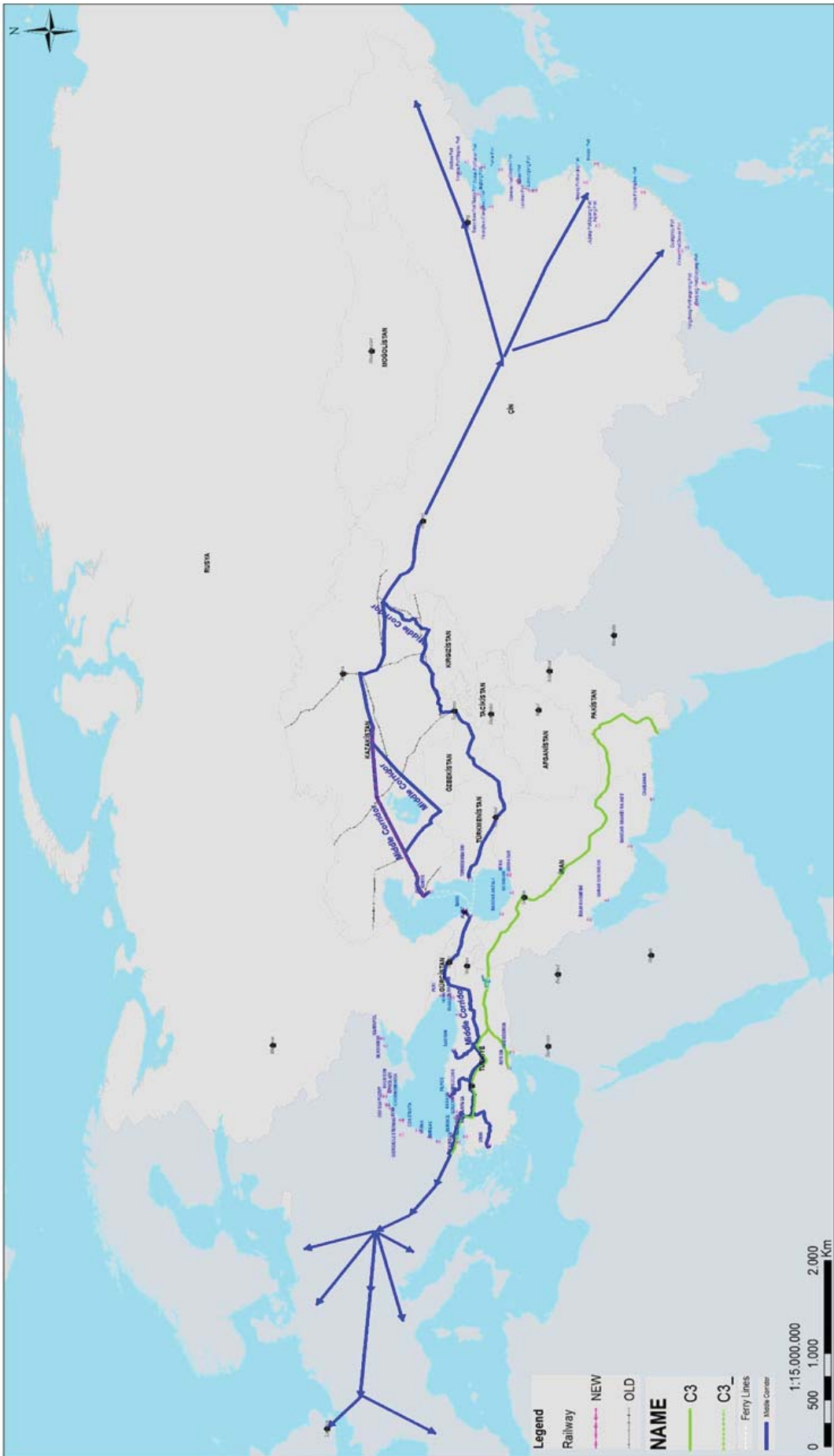
In this regard, Trans-Caspian East-West Middle Corridor Initiative, which is based on several multi-lateral and bilateral cooperation mechanisms among Afghanistan, Azerbaijan, China, Georgia, Kazakhstan, Kyrgyzstan, Turkey and Turkmenistan, aims to provide a complementary and multimodal connection between Asia and Europe. These mechanisms include;

- Baku-Tbilisi-Kars Joint Railway Project of Azerbaijan, Turkey and Georgia,
- Turkic Council<sup>17</sup> Joint Protocol on Development of Transport,
- Memorandum of Understanding on Sister Seaport Among the Ports of Baku, Aktau and Samsun,
- Memorandum of Understanding signed between People’s Republic of China and Republic of Turkey in November 2015 on “Aligning the Belt and Road Initiative and the Middle Corridor Initiative”,
- Memorandum of Understanding on the prospects for development of the Trans-Caspian International Transport Route (TITR),
- Tri-partite Cooperation Committee among Azerbaijan, Turkey and Turkmenistan,
- Lapis Lazuli project<sup>18</sup>,

All these efforts are dedicated to ensure efficient operationalization of Trans-Caspian East-West connection in the Eurasia region.

<sup>17</sup> The Cooperation Council of Turkic Speaking States (Turkic Council) was established in 2009 as an international intergovernmental organization, with the aim of promoting cooperation among Turkic Speaking States. Its four founding member States are Azerbaijan, Kazakhstan, Kyrgyzstan and Turkey.

<sup>18</sup> Lapis Lazuli Corridor Agreement envisions connecting landlocked Afghanistan to Europe through Turkmenistan - Caspian Sea- Azerbaijan-Georgia and Turkey.



Map 11: Trans-Caspian East-West Middle Corridor



Figure 2: Schematic Map of Trans-Caspian East-West Middle Corridor

As a complementary, secure and economic route, Trans-Caspian East-West Middle Corridor provides multimodal transport opportunities for the region by the use of Baku, Aktau and Turkmenbashi ports. Following the completion of Marmaray and Baku-Tbilisi-Kars railway project an uninterrupted railway connection has been established in Turkey to reach Europe. The railway line has a significant potential of freight transportation. Thanks to the project, a railway connection will be provided between Europe and China through Turkey, Georgia, Azerbaijan and Central Asian Countries. Although maritime transport between China and EU Countries (UK, Germany, France etc.) takes 45-62 days, mentioned Trans-Caspian Corridor provides a multi-modal transport connection in 12-15 days. By the end of 2017, the railway line will be ready for diesel operation on a single line. The official opening ceremony of the railway line was held on 30 October 2017 with the first test run starting from Baku.

The mentioned route is also being used as a road corridor by Turkish vehicles to reach Central Asian Countries. In 2016, almost one-third of Turkey's road transport to Central Asia passed through the Caspian Sea by using Baku, Aktau and Turkmenbashi ports.

The Corridor is one of the most competitive, shortest and cheapest routes in Asia. The objective and opportunities presented by the Corridor can be summarized as follows;

#### Objectives:

- To provide environment-friendly intermodal transport opportunities,
- To create a belt of prosperity in the region,
- To encourage people to people dialogue,
- To reinforce the sense of regional ownership,
- To connect Europe and Turkey to the Far East, notably the Caucasus, Central Asia, China and Subcontinent,
- To create connectivity between the East-West corridor and the North-South corridor,
- To expand markets and create large economic scales,
- To provide a concrete contribution to the development of regional cooperation in Eurasia,

- To contribute to the UN Vienna Programme of Action for Landlocked Developing Countries

Opportunities:

- Brings a complementary route to the Northern and Southern Corridor,
- Great potential for the development of rail and multi-modal transport in Euro-Asia
- Big market potential with a sizeable population,
- 1.500 km shorter than the Northern Corridor,
- Favourable climatic conditions during winters,
- Provides connection between the North-South Corridor and East-West Corridor,
- Will gain faster and shorter connection to the West and Northern Europe through Aktau/Turkmenbashi-Baku/Alat-Baku-Tbilisi-Kars-Marmaray link,

**Bilateral Cooperation along the Trans-Caspian East-West Middle Corridor**

For further development of the mentioned Corridor, Turkey has signed three combined transport agreements and eight road transport agreements with countries of the Corridor as seen in Box 3. Thanks to joint efforts of the countries of the region to develop this corridor, there is a 55% increase in the number of Turkish vehicles using the Caspian crossings between the years 2014 and 2016.

Road Transport Agreements:	Combined Transport Agreements Countries
<ul style="list-style-type: none"> <li>• Azerbaijan</li> <li>• China</li> <li>• Georgia</li> <li>• Kazakhstan</li> <li>• Kyrgyzstan</li> <li>• Tajikistan</li> <li>• Turkmenistan</li> <li>• Uzbekistan</li> </ul>	<ul style="list-style-type: none"> <li>• Azerbaijan</li> <li>• Turkmenistan</li> <li>• Georgia</li> </ul>
	Progressing Combined Transport Agreements Countries
	<ul style="list-style-type: none"> <li>• Kazakhstan</li> </ul>

Box 3: Bilateral Cooperation along the Trans-Caspian East-West Middle Corridor (KDGM - TMKGM)

Hereby, Road agreement, recently signed between Turkey and China during the Belt and Road Forum held in Beijing on 13 May 2017, deserves to be highlighted due to its potential impacts. This agreement includes important instruments which will boost freight transport in the Caspian region. Thanks to this agreement, vehicles carrying freight to Kazakhstan and other Central Asia countries will be able to take freight from logistics centres or border trade zones between China and Kazakhstan for their return trips, which will eventually increase competitiveness of the route.

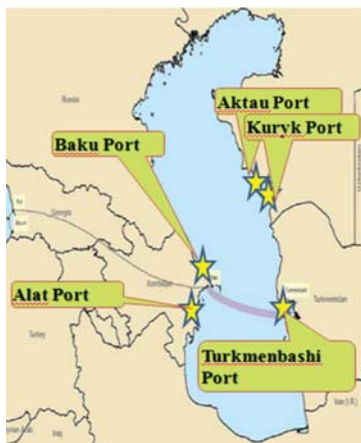
**The Caspian Connection**

Improvement of Caspian crossings is of utmost importance for operationalization of the Middle Corridor. At present, works are underway to increase the capacity of Aktau and Turkmenbashi ports and to construct New Baku International Sea Trade Port. There are currently two Ro-Ro ships and 13 ferryboats of Azerbaijan in the Caspian Sea and Turkmenistan also has two Ro-Ro ships. When the number of ships and the carrying capacity considered, 6300 trailers, 4600 railway cars and 7500 containers can be carried on the Caspian Sea monthly.

In order to increase the competitiveness of Trans-Caspian East-West connection and to attract freight movement to the region, Azerbaijan, Turkmenistan and Kazakhstan have started to make improvements

in costs and regulations. There have been discounts in usage fees of ferry and port for Turkish vehicles by 40% on the Azerbaijan-Turkmenistan line and 37% on the Azerbaijan-Kazakhstan line. Furthermore, Kazakhstan Customs Authority has made some regulations to reduce waiting time in Aktau Port. In this way, the procedures in the port can be completed in the same day.

However, for further development of the multimodal transport in the Caspian Sea, there are still outstanding issues to be addressed such as providing a transparent time table and regular Ro-Ro services, making additional discounts on Ro-Ro fees, starting a driver visa facilitation process and electronic pre-declaration system and providing additional road permits, reduction in transit fees and customs simplification.



Map 12: Major Ports in the Caspian Sea (MFA)

### 3. MAJOR TRANSPORT CORRIDORS IN TURKEY

Due to its unique geopolitical position, Turkey is at the crossroads of essential transport networks connecting Middle Eastern, Caucasian and Central Asian countries with Europe. This advantageous position is reflected in the high number of international road and rail corridors passing through the country. In this regard, Turkey is a part of significant transport routes identified by leading international organizations, which are listed below:

- United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Trans-Asian Railways, Asian Highways and Dry Ports networks,
- United Nations Economic and Social Commission for Europe (UNECE) E-roads, Trans-European North-South Motorway (TEM), Trans-European Railway (TER) Projects and Euro-Asian Transport Links (EATL)
- Trans-European Transport Networks (TEN-T)
- TRACECA Routes
- Economic Cooperation Organization (ECO) Road and Rail Corridors
- Black Sea Cooperation Organization (BSEC) Black Sea Ring Highways and Motorways of the Sea

#### 3.1. UNESCAP

UNESCAP is one of the most comprehensive regional commissions of the United Nations which has major network initiatives such as the Asian Highway (AH) network, the Trans-Asian Railway network (TAR) and the network of Dry Ports. These initiatives were launched with the aim of supporting “the development of an intermodal regional network to enhance the connectivity and the use of existing infrastructure as well as to promote the different transport modes.”<sup>19</sup>

In this regard, the Asian transport networks comprising the AH and TAR networks were formed by the UNESCAP in 1992 within the scope of the Asian Land Transport Infrastructure Development project.

#### Road Networks:

##### The Asian Highway Network

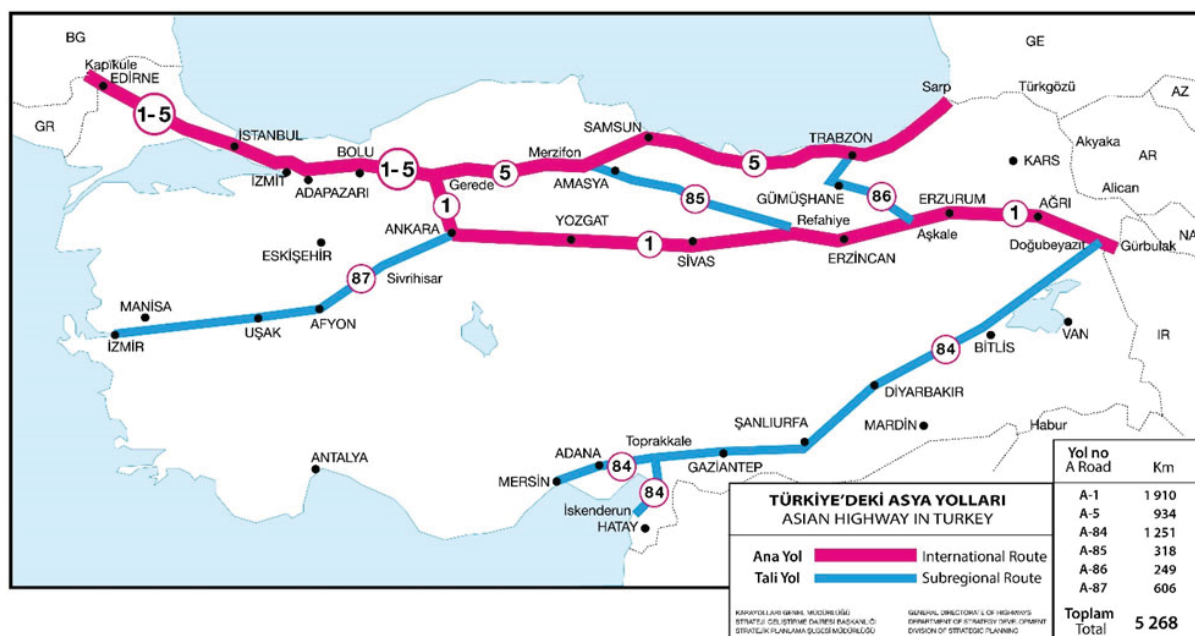
As the first treaty developed under the auspices of the UNESCAP Secretariat, the Intergovernmental Agreement on the Asian Highway Network was adopted on 18 November 2003 entered into force on 4 July 2005. Turkey has signed the Agreement on 26 April 2004.

The length of the Asian Highway Route in Turkey was determined to be 3,200 km in 1998. However, the Black Sea Coastal Road and Ankara-Istanbul Motorway were incorporated to the A-route linkage for providing connection to new member countries of ESCAP such as Georgia and Azerbaijan. Therefore, the length of A-roads of Turkey has reached to 5,268 km approximately. (Please see Map: 13)

In Turkey, all roads in AH route are four lanes and above. The international route of the network stretches from the Kapikule border gate at the border crossing with Bulgaria in north-western Turkey to Sarp border gate at the border crossing with Georgia in north-eastern Turkey and to Gürbulak border gate at the border crossing with Iran in eastern Turkey. The sub-regional route ends at the port of Izmir on the Aegean coast and the ports of Mersin and Iskenderun on the Mediterranean coast. The section from border with Iran at Gurbulak to Ankara is a mix of Classes I and III, asphalt concrete (1,010 km) and other hard surfaces (159 km).

<sup>19</sup> Transport Division, UNESCAP, <http://www.unescap.org/our-work/transport>





Map 13: UNESCAP Asian Highway Network in Turkey (KGM)

### Rail Networks:

#### Trans-Asian Railway Network (TAR)

The Trans-Asian Railway network consists of 117,500 km of railway lines in 28 member countries. Recognizing the need of a greater harmonization of standards and a regional framework to discuss related issues, member countries negotiated an Intergovernmental Agreement on the Trans-Asian Railway Network.<sup>20</sup> The final text of the Agreement was adopted in April 2006 and entered into force on 11 June 2009.

In the last decade, Turkey has initiated important railway projects in order to improve its railway infrastructure along the TAR network. As seen on Map 14, there are 13 projects including construction of new conventional, rapid and high speed railway lines and rehabilitation and signalization of existing lines. Table 10 provides brief information on these projects.



Map 14. Railway projects on the UNESCAP TAR network (TCDD)

20 Trans-Asian Railway, UNESCAP, <http://www.unescap.org/our-work/transport/trans-asian-railway/about>

No:	Project	Scope	Length	Start-Finish Date
1	Halkalı-Kapıkule Railway Project	Construction of a new railway connection between the metropolitan area of Istanbul, at Halkalı station, and the Turkish/ Bulgarian railway border crossing point at Kapıkule/ Svilengrad station.	230 Km	2017-2022
2	Ankara-Eskişehir- Istanbul HST Project	HST Project has put into practice to provide fast, comfortable and safe travel and to reduce the travel time between the two biggest cities Ankara and Istanbul.	513 Km	2003-2018
3	Ankara – Izmir HST Project	The existing 824 km line between Ankara and Izmir will be reduced to 625 km and the travel time will be reduced to 3 hours and 30 minutes.	625 km	2012-2020
4	Ankara-Sivas HST Project	The existing 603 km Ankara-Sivas Railway Line will be reduced to 405 km. The new line will composed of electrical and signalled double line compatible with 250 km/h.	405 km	2007-2018
5	Rehabilitation and Signalisation Works of Samsun- Sivas (Kalın) Line	The station tracks will be extended by renewing the infrastructure and the superstructure of the line and the line will be signalled.	410 km	2015-2018
6	Sivas (Çetinkaya)-Malatya Rapid Railway Project	Malatya will be connected to the high speed train network with electric and signalled double line.	125 km	2018-2022
7	Sivas-Erzincan Rapid Train Project	Construction of a 242.5 km long electric, signalled and double line suitable for 250 km/h speed.	242,5 km	2017-2023
8	Erzincan-Erzurum-Kars Rapid Railway Line Survey Project	Erzincan-Erzurum-Kars Project will consist of 414 km signalled, electrified railway line suitable for 200 km/h speed.	414 km	2017-2019
9	Adana-Mersin Rapid Railway Line (3 <sup>rd</sup> and 4 <sup>th</sup> Line)	The line capacity will be increased and the freight coming from Konya, Karaman, Kayseri and Gaziantep will be transferred to Mersin Port faster.	67 km	2015-2019
10	Adana-İncirlik- Osmaniye (Toprakkale) Rapid Railway Line (2 <sup>nd</sup> Line)	The existing 79 km section between Adana-İncirlik-Toprakkale will be upgraded to a double line which will be electrified, signalled and compatible with 160-200 km/h.	79 km	2016-2019
11	Malatya Elazığ Rapid Railway Survey Project	Construction of an electrified, signalled 121 km double line railway compatible with 200 km/h.	121 km	2017-2019
12	MARMARAY	Composed of 13.6 km Istanbul Strait crossing and a 76 km high-capacity line between Gebze and Halkalı. Construction works are continuing between Pendik and Halkalı and freight transportation will be put into service in 2018.	76 Km	2018
13	Bakü-Tiflis-Kars Railway Project	The total length of BTK Railway project is 829 km and includes; <ul style="list-style-type: none"> <li>•The construction of a 73 km (+6 km Kars Station), electrified and signalled double line compatible with 120 km/h to the Turkish side,</li> <li>•The construction of 29 km new railway line from the interior part of Georgia to Akhalkalaki,</li> <li>•The rehabilitation of existing Akhalkalaki-Tbilisi line.</li> </ul>	829	2008-2017

Table 10: Railway projects on the TAR network (TCDD)

### 3.2 UNECE

UNECE is one of five regional commissions of the United Nations, which aims to promote pan-European economic integration. Transport is one of the most important activity areas of the UNECE. The Commission has been acting in the field of transport since 1947 with the Inland Transport Committee (ITC) and its subsidiary bodies. In this sense, UNECE has provided a pan-European intergovernmental forum, where member countries come together to develop tools for economic cooperation and negotiate and adopt international legal instruments on inland transport.<sup>21</sup> These legal instruments, including significant agreements and conventions on transport infrastructure and regulation, have been crucial tools for developing efficient, harmonized and integrated, safe and sustainable pan-European transport systems.<sup>22</sup>

<sup>21</sup> Inland Transport Committee, UNECE, <https://www.unece.org/trans/main/itc/itc.html>

<sup>22</sup> *Ibid.*

UNECE also coordinates significant projects in order to ensure seamless connections throughout Europe. Under certain projects, UNECE has been contributing in the identification of main transport networks and routes in the Eurasia region. In this respect, Trans-European network for motorways (TEM), Trans-European Railway (TER) Project, E-roads and the Euro-Asian Transport Links (EATL) Project have been significant initiatives for the identification of regional and sub-regional road and rail routes.

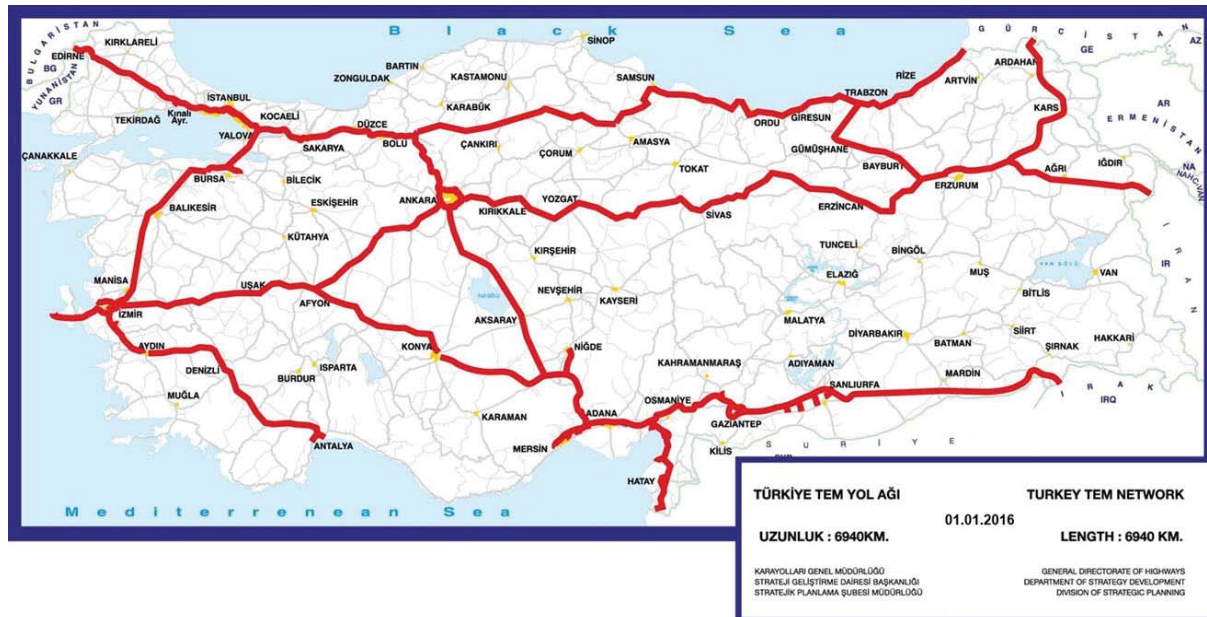
### Road Networks:

#### Trans-European North South Motorway (TEM)

The TEM Project is a sub-regional cooperation among Central, Eastern and South Eastern European countries. The main objectives of the project are “to improve the quality and efficiency of transport operations, to facilitate road traffic in Europe, to balance existing gaps between motorway networks in Western, Eastern, Central and South- Eastern Europe, and to assist the integration process of European transport infrastructure systems.”<sup>23</sup>

The project provides direct connection with the highway systems of the Caucasus and Western Asia in the east and the southeast, while reaching to the Trans-European roads of the European Union in the west. The Trans-European North and South Motorway network considerably overlaps with the Trans-European transport networks of the member states of the European Union.

The total length of the TEM Project was 24,931 km as of 1 January 2011. Out of this total, 6,490 km are within Turkey, which corresponds to approximately 28%.<sup>24</sup> The section of TEM in Turkey starts from Kapikule border gate at the border crossing with Bulgaria in north-western Turkey and stretches to Sarp and Türkgözü border gates in the east (border crossing with Georgia) and Gürbulak and Habur border gates in the south (border crossing with Iran and Iraq). A large portion of the roads included in the TEM Project are also part of the International E-Roads network.<sup>25</sup> Map 15 shows TEM network in Turkey.



Map 15: TEM network in Turkey (KGM)

23 National Transport Draft Master Plan for the Republic of Turkey, p.160.

24 Ibid.

25 Ibid.

## E-Roads (Declaration on the Construction of Main International Traffic Arteries [AGR])

The Declaration on the Construction of Main International Arteries or the European Agreement on Main International Traffic Arteries (AGR [Accord Grand Routes]) was adopted by UNECE in September 1950.

Turkey is situated at the south-eastern European extension of the AGR international E-road network. According to AGR provisions, there are three main arteries from Europe to Turkey. E-roads consists of a numbering system for roads in Europe, which are numbered from E-1 up. Three main corridors enter into Turkey from Europe:

- E-80 that enters Turkey via the border with Bulgaria (Kapikule border gate).
- E-90 that enters Turkey via the border with Greece (İpsala border gate).
- E-70 that goes over the port of Varna in Bulgaria and enters Turkey via the port of Samsun.<sup>26</sup>

These roads provide connection to the international road networks in the Middle East and Asia. The total length of the E-roads in Turkey is 9,353 km as seen on Map 16.



Map 16: E-roads in Turkey (KGM)

## Rail Network:

### Trans-European Railway (TER) Project

Turkey has acceded to the European Agreement on Main International Railway Lines (AGC) in 1993, which constitutes a basis for coordinated governmental actions in enhancing the European rail network and those of neighbouring countries. UNECE TER project has been coordinating the sub-regional cooperation among Central, Eastern and South-Eastern European countries for the planning of AGC and AGTC main lines since 1990.

The main objective of TER Project is “the facilitation and development of coherent and efficient international railway and combined transport system among the Central and Eastern European countries”<sup>27</sup>

<sup>26</sup> National Transport Draft Master Plan for the Republic of Turkey, p. 161.

<sup>27</sup> Description of the needs and objectives of TER Project, <https://www.unece.org/trans/main/ter/terobj.html>

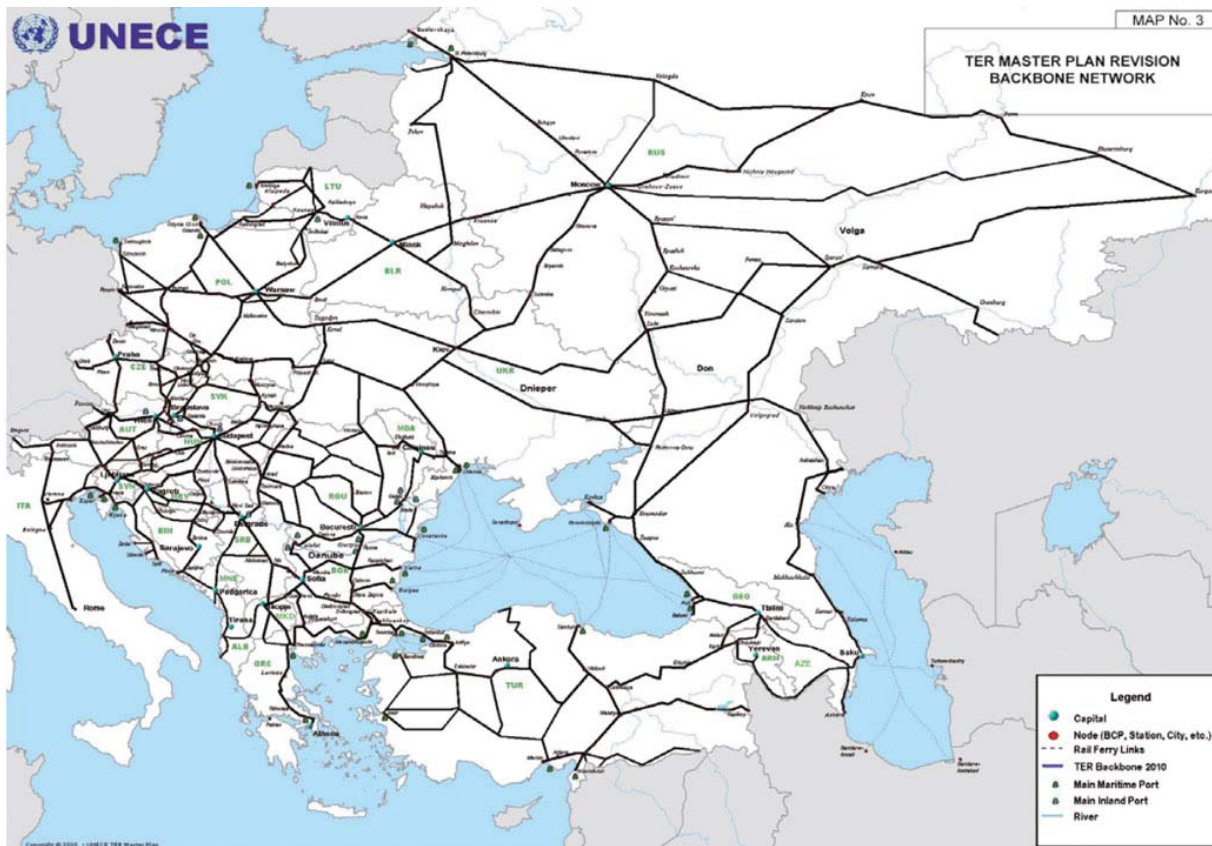
There are 17 member countries including Turkey. Furthermore, a number of observer CIS countries and from former Yugoslavia participate in certain activities of the project. “The TEM and TER Master Plan backbone networks”, consisting of the most important motorway/road and railway links in the participating countries were defined during the preparation of the original Master Plan in 2005 based on proposals made by participating countries.<sup>28</sup> The revised TER Master Plan was published in February 2012.<sup>29</sup>

In this regard, under the revised TEM Master Plan backbone network, the following railway links were identified in Turkey’s rail network;

- Kapikoy (IRN) – Van – Tatvan – Yolcati – Malatya – Cetinkaya
- Cetinkaya – Divrigi – Erzurum– Kars – Dogukapi (ARM) (border closed)
- Kars – Aktas (GEO)
- Cetinkaya – Sivas – Kalin – Bogazkopru – Kirikkale – Irmak – Ankara – Istanbul – Halkali – Mandra – Pehlivankoy – Kapikule (BGR)
- Kalin – Yildizeli – Amasya – Samsun
- Malatya – Narli – Fevzipasa – Toprakkale – Iskenderun
- Toprakkale – Adana – Yenice – Mersin
- Eskisehir – Alayunt – Balikesir – Manisa – Izmir
- Irmak – Zonguldak
- Balikesir – Bandirma
- Alayunt – Afyon – Konya – Ulukisla
- Bogazkopru – Ulukisla – Yenice
- Afyon – Manisa
- Afyon – Karakuyu – Aydin – Izmir
- Fevzipasa – Meydanekbez (SYR)
- Narli – Gaziantep – Karkamis – Nusaybin (SYR)
- Karkamis – Cobanbey (SYR) Tekirdag – Muratli
- Pehlivankoy – Uzunkopru (GRC)
- Polatli – Konya

<sup>28</sup> TEM and TER revised Master Plan, UNECE, 2012, p.21 [http://www.unece.org/fileadmin/DAM/trans/main/temtermpl/docs/TEM\\_and\\_TER\\_Vol\\_I.pdf](http://www.unece.org/fileadmin/DAM/trans/main/temtermpl/docs/TEM_and_TER_Vol_I.pdf)

<sup>29</sup> Ibid.



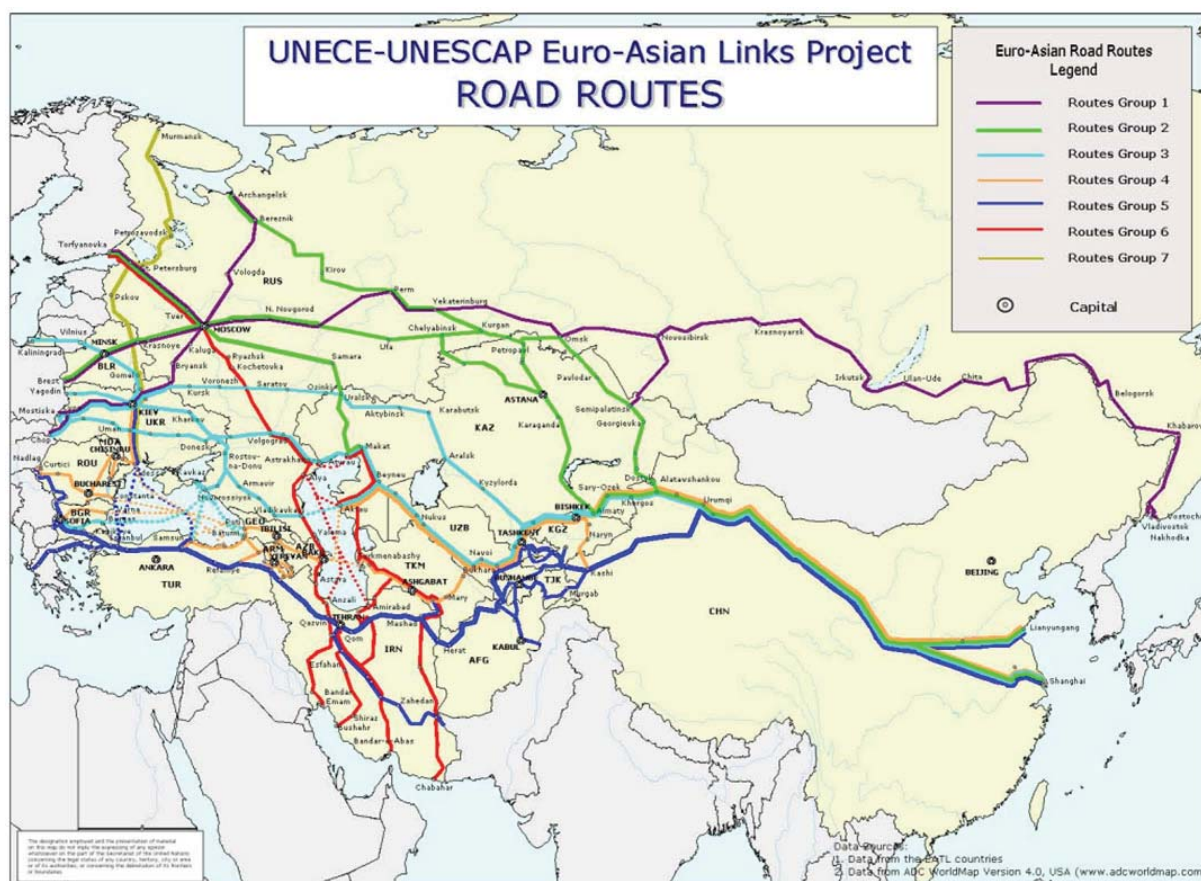
Map 17: TER Master Plan Revision Backbone Network (UNECE TEM Master Plan 2012)

### Euro-Asian Transport Linkages (EATL)

The Euro-Asian Transport Links (EATL) project has been launched as a joint initiative of UNECE and UNESCAP in 2002. This first phase of the project has identified main Euro-Asian road and rail routes for priority development and cooperation in the Eurasia region in coordination with national focal points in participating countries.

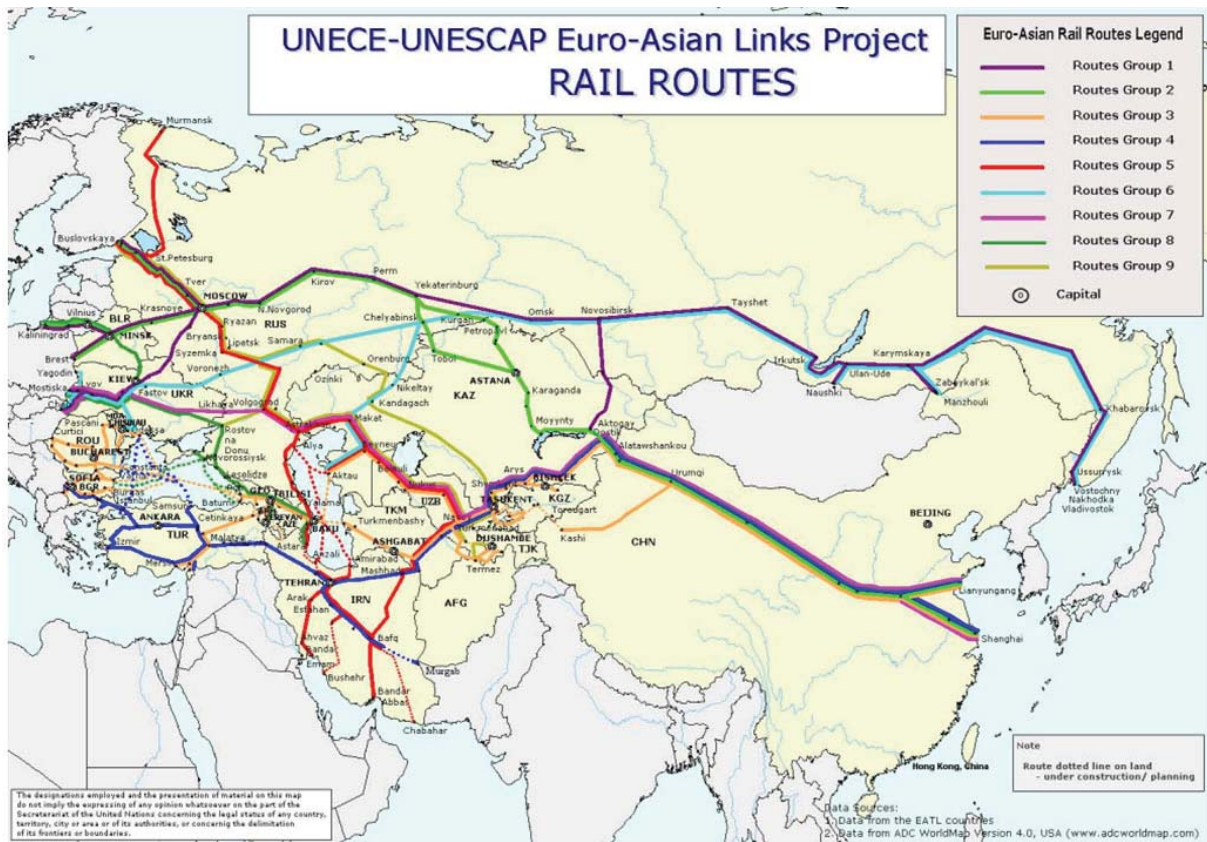
Following the success of the first phase, UNECE coordinated Phase II of the EATL project between the years 2008 and 2013. Within this scope, the Expert Group identified nine rail and nine road corridors that link the two continents and administrative barriers to transport and trade.<sup>30</sup> Two rail and road routes namely “EATL Rail Route 3”, “EATL Rail Route 4”, EATL Road Route 4” and “EATL Road Route 5” which can be seen on Map 18 and Map 19, are connecting Asia and Europe through the road and rail networks of Turkey.

<sup>30</sup> The Euro-Asian Links, UNECE, <https://www.unece.org/trans/main/eatl.html>



Map 18: EATL Road Routes Schematic Map (UNECE EATL)

As seen on the relevant maps, Turkey is at the crossroads of two major transport corridors connecting Asia to Europe. The first corridor (Rail route 4 – Road Route 5) stretches from China to Central Asia, Iran and reaches up Europe via Turkey. The second corridor (Rail Route 3 – Road Route 4) connects China to Central Asia and uses Caspian crossing to reach Azerbaijan, Georgia and Turkey. As highlighted in Chapter II, Turkey has been making great efforts for further development of these two corridors. Especially, in order to ensure effective operationalization of “Rail Route 3 – Road Route 4” which is named as Trans-Caspian East-West Middle Corridor, Turkey has focused on elimination of physical and non-physical barriers to transportation.



Map 19: EATL Rail Routes Schematic Map (UNECE EATL)

Furthermore, the UNECE has initiated Phase III of the EATL project for the years 2013-17, with the aim of making the EATL overland links operational. Participating countries include Afghanistan, Armenia, Azerbaijan, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, China, Croatia, Finland, France, Georgia, Germany, Greece, Greek Populated Southern Cyprus<sup>31</sup>, Iran, Italy, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Luxembourg, Malta, Mongolia, Pakistan, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Serbia, Spain, Tajikistan, Macedonia, Turkey, Turkmenistan, Ukraine, and Uzbekistan.

31 Turkey's participation in the context of phase III of the Euro-Asian Transport Links (EATL) project is in no way to be construed as the recognition by Turkey of the Greek Cypriot Administration as the legitimate government of Cyprus. It does not bring any change to Turkey's position that the Greek Cypriot side does not possess the right or authority to act or to speak on behalf of Cyprus as a whole nor does it imply any obligation on the part of Turkey to agree to or enter into any common arrangements with the Greek Cypriot Administration within the framework of phase III of EATL Project. Therefore, Turkey's participation in this EATL phase III project cannot and should not be interpreted as a deviation from or change of Turkey's position on Cyprus.





Map 20: Rail and Road networks of Turkey on the EATL Routes (UNECE EATL)

### 3.3. TEN-T

The Trans-European Transport Network (TEN-T) is a European Commission policy, which focused on “the implementation and development of a Europe-wide network of roads, railway lines, inland waterways, maritime shipping routes, ports, airports and rail-road terminals”.<sup>32</sup> In order to strengthen the social and economic cohesion of the EU and to facilitate the functioning of the European Single Market, the EU aims to close gaps, remove bottlenecks and eliminate non-physical barriers between the transport networks of its member states. For these purposes, TEN-T policy adopts the following principles;

- Network approach for all infrastructure investments,
- Interconnection of the different transport modes and establishment of intermodal nodes to improve intermodality,
- Implementation of common technical standards for existing and planned investments,
- Maximum use of ITS in order to ensure the efficiency and effectiveness of the new infrastructure.

TEN-T includes two planning layers:

- The Comprehensive Network: Covering all European regions
- The Core Network: Most important connections within the Comprehensive Network linking the most important nodes

As a candidate member of the European Union, Turkey has started the TINA Turkey Project in 2004 in order to determine the multi-modal routes and connections for the TEN-T routes.

#### TINA-Turkey Study

Transport Information Needs Assessment (TINA) Study constitutes the basis for the Chapter 21 negotiations on TEN-T policy in the EU accession process of Turkey. The objective of this study was to develop a multi-modal transport network (Core Network) within the Republic of Turkey and to extend the EU’s TEN-T into Turkey according to the requirements of the EC Decision 1692/96. TINA’s final report was released in April 2007 and identified the relevant TEN-T network in Turkey for a multi-modal network

<sup>32</sup> European Commission, About TEN-T, [https://ec.europa.eu/transport/themes/infrastructure/about-ten-t\\_en](https://ec.europa.eu/transport/themes/infrastructure/about-ten-t_en)

comprising roads, railways, airports and seaports. The study project was divided into three main activities: a) development of a traffic-forecasting model and the projection of traffic flows for 2020; b) defining and analysing the multimodal network and prioritizing network improvement projects by means of a multi-criteria analysis; c) development and establishment of a common transport database using GIS technologies. The European Commission and High Planning Council approved final Report of the TINA-Turkey Study on 13 March 2008 and 10 July 2008 respectively.

Negotiations between Turkey and EU on Chapter 21 started on 19 December 2007 at the Inter-Governmental Conference (IGC) with the approval of the Negotiation Position Document and have led to a significant progress. The technical closing benchmarks in the Negotiation Position Document were accepted without any amendment.

The technical closing benchmarks of the Chapter 21 are as follows:

- Mutual agreement between Turkey and EU on the future TEN-T of Turkey in compliance with related Acquis,
- Realization of a “European Interest” project.

### Preparation of TEN-T (Turkey) Document (The Future Trans-European Transport Network (TEN-T) in Turkey and Priority Projects of European Interest in the Framework of TEN-T)

In order to meet the technical benchmarks, preparation of TEN-T Document was initiated in 2008. The main objectives of the document were to develop a multi-modal, sustainable, safe, coherent and environment-friendly TEN-T in Turkey and to extend the European Union’s TEN-T into Turkey as well as the realization of a “European Interest” Project which was defined as the Halkalı-Kars Railway Axis. This railway axis consists of four major railway projects; Halkalı-Kapıkule Railway Line Project, Istanbul-Ankara Railway Line Project, Ankara-Sivas Railway Line Project and Sivas-Kars Railway Line Project. (Please see Map 20)



Map 21: East-West High Speed Railway Axis of Turkey (TEN-T Turkey Document)

The Halkalı-Kapıkule Railway Line Project is one of the most significant projects of this axis. (Please see Map 22). The TEN-T (Turkey) Document defined the Halkalı-Kapıkule Railway Line Project as a 250 km/h design speed high-speed railway, double-tracks, electrified and signalled according to the high-speed railway standards (UIC). It would be constructed along a separate corridor with a total length of approximately 232 km.

Besides, the Halkalı-Kapıkule Railway Line Project is an essential element of the extension of Corridor IV from the border with Bulgaria to the Marmaray Tunnel, which has a connection to the Ankara-Istanbul High Speed Railway Line.



Map 22: Halkali-Kapikule Railway Line Project Source: TEN-T (Turkey) Document

The TEN-T comprehensive network of Turkey was included in the regulation of Union guidelines on TEN-T of 11 December 2013 (1315/2013/EU). The TEN-T comprehensive network of Turkey was based on the network agreed between Turkey and the Commission in the context of Chapter 21 negotiations. Turkey is an important partner on transport due to the above-mentioned strategic location and plays a key role in the future extension of the TEN-T to neighbouring countries.<sup>33</sup>

EC is working on having a similar approach as in the TEN-T methodology for the future Core Network definition in the Republic of Turkey basing the plans on the existing Comprehensive network as part of the EU TEN-T guidelines and on the bilateral discussions. This will extend the European Core Network to Turkey and allow speeding up policy and regulatory reforms and concentrate investments on key corridors and interconnectors.

### Update of the Comprehensive Network and Definition of Turkey's Core Network

After the finalization of the technical negotiations, studies regarding update of Turkey's Comprehensive TEN-T in line with the new TEN-T Guidelines and definition of Turkey's TEN-T Core Network were initiated.

Turkey's updated Comprehensive Network maps and the new Core Network maps were submitted to the European Commission in May 2016. These maps were approved during the Ministerial Meeting under the "TEN-T Days 2016" event in Rotterdam on 21 June 2016. Moreover, studies regarding the integration of Turkey to the EU's TEN-T Core network were finalized and Turkey's new TEN-T Core network maps were approved in the same meeting. Now, Turkey is waiting for the completion of EU's internal procedure regarding the publishing of the mentioned maps as annex of the relevant legislation.

Turkey's updated Comprehensive Network and the Core Network comprises of the following transport infrastructures:

- Comprehensive Network: 36 airports, 27 seaports, 31 rail-road terminals, approximately 17,000 km of roads, approximately 16,000 km. of railways.
- Core Network: 11 airports, 12 seaports, 13 rail-road terminals, approx. 9,000 km of roads, approximately 7,500 km of railways.

Lastly, as a part of Chapter 21 negotiations, Transport Information Management System (TIMS) project which aims to submit Turkey's TEN-T data to the European Commission initiated on 16 June 2016. The duration of the project is 18 months and the general purposes of the TIMS project are as follows:

- Gathering data compatible with EU in all transport modes,
- Installation of a GIS based system that allows evaluation, mapping, analysing and reporting.

<sup>33</sup> "Neighbouring country" means a country falling within the scope of the European Neighbourhood Policy including the Strategic Partnership, the Enlargement Policy, and the European Economic Area or the European Free Trade Association (REGULATION (EU) No 1315/2013)



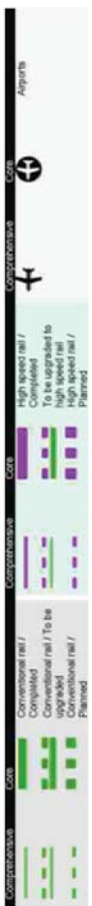
Map 24: Comprehensive Network: TEN-T Railways in Turkey



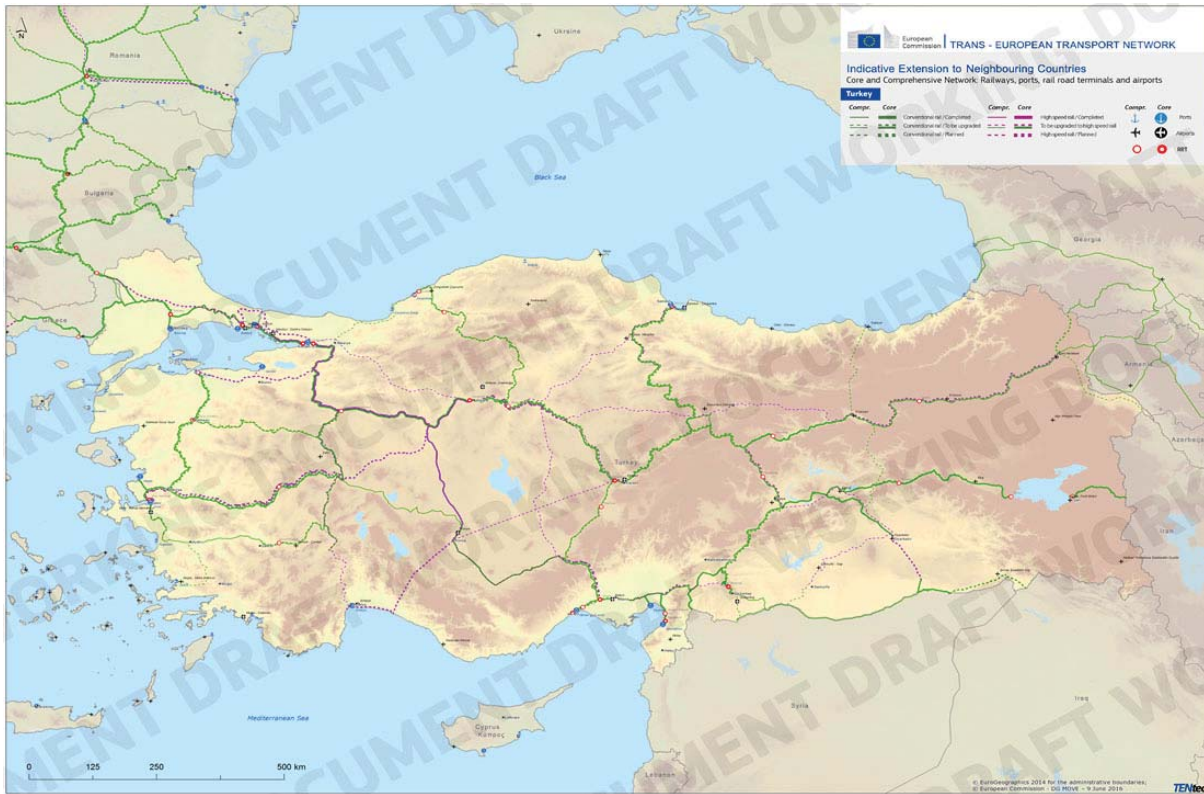
Map 26: Comprehensive Network: TEN-T Roads in Turkey



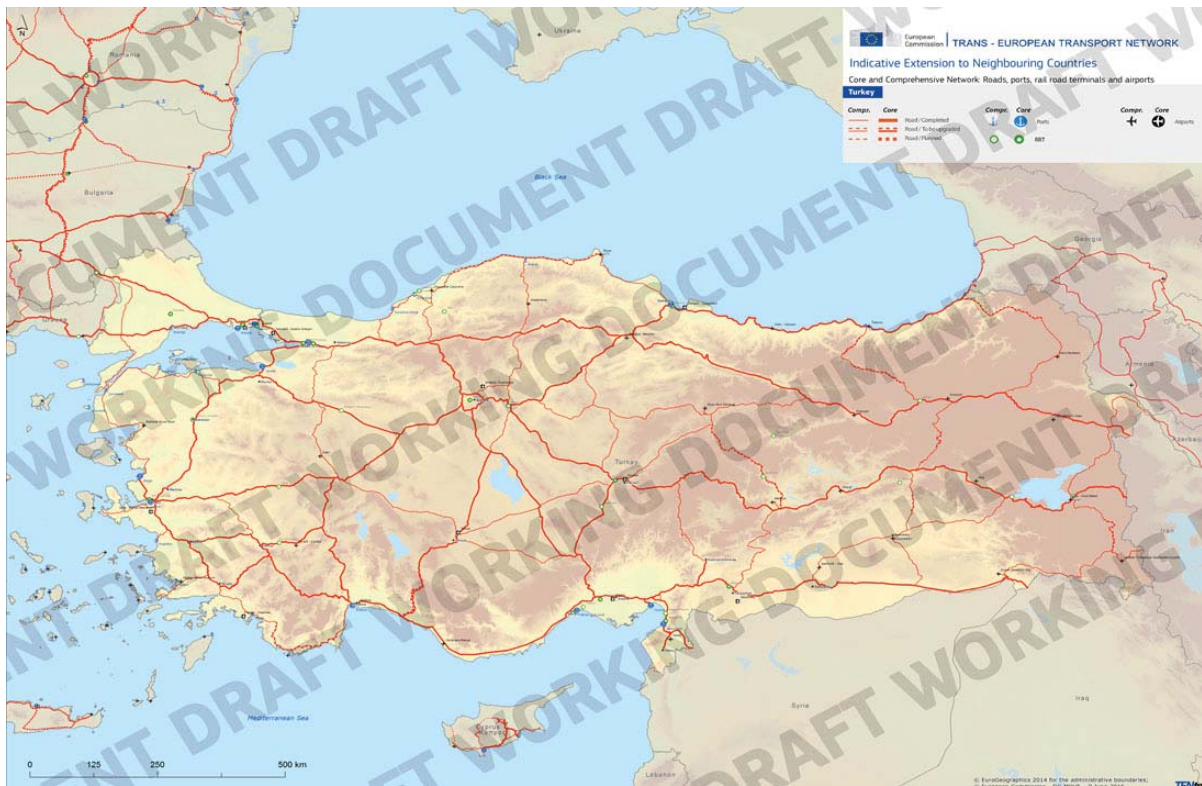
Map 23: Comprehensive Network: TEN-T Ports in Turkey



Map 25: Comprehensive Network: TEN-T Airports in Turkey



Map 27: Turkish Ports, Railways, Airports and Rail-Road Terminal in TEN-T Core and Comprehensive Network



Map 28: Turkish Road, Ports, Airports and Rail-Road Terminal in TEN-T Core and Comprehensive Network

### 3.4. TRACECA

Transport Corridor Europe - Caucasus - Asia - TRACECA was initiated by the European Union in 1993 with the aim of strengthening economic relations, trade and transport in the regions of the Black Sea basin, South Caucasus and Central Asia. There are 13 Parties to the Basic Multilateral Agreement on International Transport for Development of the Europe-the Caucasus-Asia corridor (1998), which acts as the Constitution of TRACECA.

Countries Involved in TRACECA	OIC Countries Involved in TRACECA
Armenia, Azerbaijan, Bulgaria, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Romania, Turkey, Ukraine, Uzbekistan, Tajikistan, Turkmenistan <sup>1</sup>	Azerbaijan, Kazakhstan, Kyrgyzstan, Turkey, Uzbekistan, Tajikistan, Turkmenistan

1 Turkmenistan is a participating country in the Tacis TRACECA programme, but not member of the MLA (Basic Multilateral Agreement)

Table 11: TRACECA Countries (Source: TRACECA IGC)

The initial aim of the EU in launching the TRACECA Program was to connect TEN-T eastward to promote the revival of the Ancient Silk Road<sup>34</sup>. Hence, TRACECA multi-modal regional transport network aims at promoting development of regional transport dialogue as well as ensuring efficient and reliable Euro-Asian transport links by providing access of CIS countries to European and global markets through road, rail and sea.

Concerning the integration of the multi-modal transport corridor of TRACECA into the Trans-European Transport Networks, the role of Turkey is indispensable.

#### TRACECA Networks Passing Through Turkey

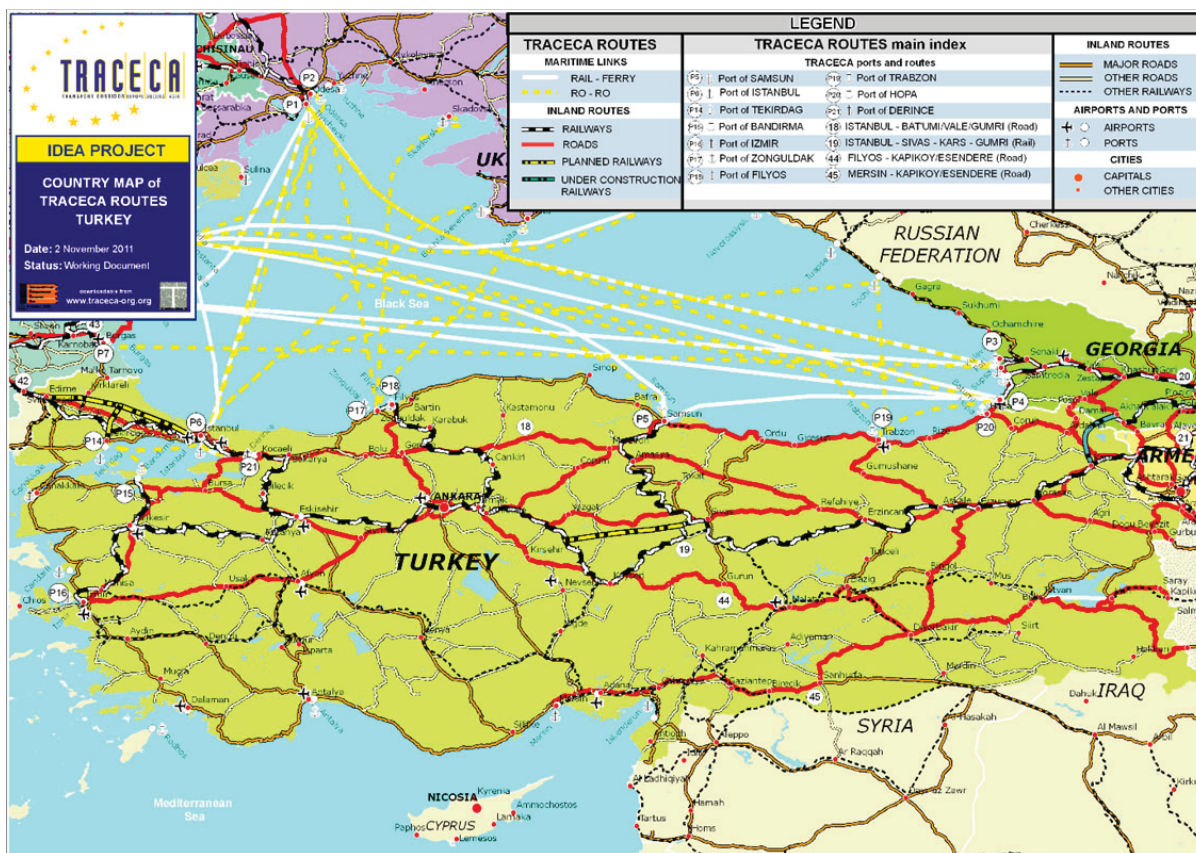
##### Road Network:

The section of the TRACECA road network in Turkey has a total length of 8,365 km. As illustrated in Map 29, this network stretches from the Kapıkule border gate in Europe (Turkish-Bulgarian border) to Sarp and Türkgözü (Turkish-Georgian border), Gürbulak Kapıköy and Esendere border gates (Turkish-Iranian border) in eastern Turkey and to the ports of İzmir, Bandırma, Mersin, and Filyos.

Road Routes of TRACECA in Turkey	
T12	Istanbul-Tabriz-Doqaroun
T18	Istanbul-Batum/Vale/Gumri
T44	Filyos-Kapıköy/Esendere
T45	Mersin-Kapıköy/Esendere

Table 12: Road Routes of TRACECA in Turkey (Source: TRACECA IGC)

34 Acar, A.Z., Gürol, P, "An Innovative Solution for Transportation among Caspian Region, *Procedia Social and Behavioral Sciences*, 229, pp. 78-87, 2016. <http://www.sciencedirect.com/science/article/pii/S1877042816310515>



Map 29: TRACECA Rail and Road Networks in Turkey (Source: TRACECA IGC)

### Rail Network:

As illustrated in the Map 29, there are two sections of the TRACECA rail network, passing through Turkey. T12 rail route reaches Turkey over Tabriz (Iran), crosses Van Lake and goes to Malatya. In Malatya it separates into branches, one goes to Mersin Port, the other branch reaches to Sivas and extends to Istanbul, overlapping with TRACECA Route T19. T12 branch of TRACECA overlaps with EATL Route 4, mentioned in Section 3.2.

Rail Routes of TRACECA in Turkey	
T12	Istanbul-Tabriz-Doqaroun
T19	Istanbul-Sivas-Kars-Gumri

Table 13: Rail Routes of TRACECA in Turkey (TRACECA)

T19 rail route is one of the central parts of TRACECA network, comprising a 1700 km rail link connecting Istanbul with Gumri in Armenia. Although the land border between Turkey and Armenia is closed, this route is very significant as it connects Turkey with Georgia through a new link, sustained by the Baku-Tbilisi-Kars railway line. Mentioned several times in this report, Baku-Tbilisi-Kars railway line constitutes an indispensable element of T19 as it provides uninterrupted Eurasian connection. Via the multimodal transport route that connects maritime and rail (Baku-Turkmenbashi, Baku-Aktau rail ferries), Turkey-Georgia-Azerbaijan will be connected with Turkmenistan, Kazakhstan and the rest of Central Asia and China. T19 branch of TRACECA overlaps also with EATL Route 3.

### 3.5. BSEC

The Black Sea Economic Cooperation (BSEC) was formed as a regional multilateral initiative on 25 June 1992 upon the signing of the Istanbul Summit Declaration by Albania, Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Moldova, Romania, Russia, Serbia, Turkey and Ukraine. Following the entry into force of its Charter, it has gained international legal identity and transformed into a regional economic organization on 1 May 1999.

Development of cooperation in the field of transport has been a top priority of BSEC since its establishment, which focuses on the utilization of intra-region capacity and growing transit potential of the Black Sea region.<sup>35</sup> There are three important studies of BSEC aiming to foster road transport in the Black Sea Region:

- “Memorandum of Understanding on Facilitation of Road Transport of Goods in the BSEC Region”

Cooperation on the gradual liberalization of transportation is coordinated within the framework of this MoU. BSEC has been in a close cooperation with International Road Transport Union (IRU) and the Union of the Road Transport Association in the BSEC region (BSEC-URTA) for effective implementation of the MoU. In this respect, gradual liberalization of transport, Permit system, monitoring of border waiting times, introduction of the International Vehicle Weight Certificate, harmonization of charging policies have been key issues of the cooperation in road transport.

- “Memorandum of Understanding for the Coordinated Development of the Black Sea Ring Highway”

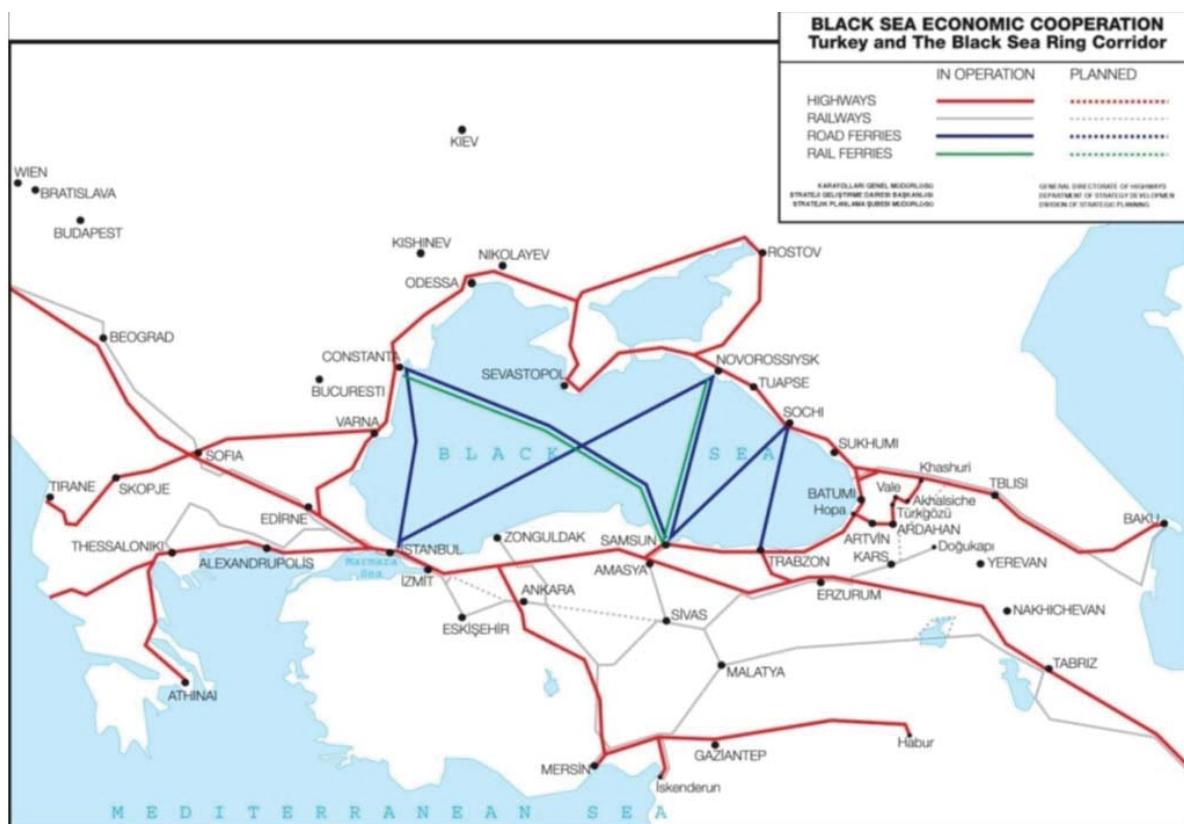
The MoU, which was signed in Belgrade on 19 April 2007, seeks to develop cooperation on road infrastructure. (Please see Map 30.) Turkey aims at forming a new link between east and west through the Black Sea ring highway. For this reason, two-lane highway sections were planned to be upgraded. The Black Sea Ring Highway passing over Turkey was complemented by the main road axis of 1,683 km and two connecting roads totalling 1,182 km which provide port connections to the Mediterranean and the Aegean. Furthermore, this corridor connects Turkey’s arterial road network to the Black Sea countries and the Caucasus and via the Caspian Sea to Central Asia and the Far East. The length of the Black Sea ring highway in our country is 4,472 km.



Map 30: Black Sea Ring Highway (KGM)

<sup>35</sup> Black Sea Economic Cooperation Organization, <http://www.bsec-organization.org/Information/Pages/bsec.aspx>





Map 31: The Black Sea Inter-Modal Corridor (KGM)

- Memorandum of Understanding on the Development of the Motorways of the Sea at the BSEC Region

The main objective of the MoU is to support development of maritime infrastructure and links in the BSEC Region. An Ad-Hoc Working Group was established in order to contribute to the effective implementation of the MoU. The Ad-Hoc Working Group considers proposals, elaborates and approves a Master Plan for the Motorways of the Sea at the BSEC Region. On 2-3 September 2009, the Ad Hoc Working Group agreed the Plan-Concept of the Master Plan on the Development of the Motorways of the Sea at the BSEC Region Master Plan.

The final situation of the national plans nominated for the Master Plan is as follows:

Member State	National Port Nominations
Bulgaria	"Port complex of Lom", solely joint company; Ferryboat Varna – Varna Rail Ferry Complex; Varna-East, Varna-West, "Port Balchik" Plc, Port Complex Ruse JSC, "Port Lesport" S.A., Base Oil Terminal-PCHMV, Port PCHMV, Port of Burgas JSC: Bulk Cargoes Terminal/Terminal 2A, Base Oil Terminal-PCHMV, Passenger Terminal Nessebar, Terminal East, Terminal West, Port – Vidin Ltd, International Port Svishtov; Port of Bourgas – Terminal Rosenetz; Thermal Power Plant
Georgia	Poti, Batumi, Kulevi
Greece	Alexandroupolis; Corfu; Elefsina; Heraklion; Igoumenitsa; Kavala; Lavrion; Patras; Piraeus; Rafina; Thessaloniki; Volos
Romania	Constanta
Russia	Novorossiysk, Sochi, Taman, Port Kavkaz
Turkey	Port of Derince; Port of Samsun; Port of Giresun; Mersin International Port; Trabzon Port Management Corporation; Hopa Port; Rize Port; Port of Izmir
Ukraine	State Enterprise (SE) "Berdyansk Commercial Port", SE "Sea Commercial Port of Illichivsk", Izmail Sea Commercial Port, Kerch Merchant Sea Port, SE "Kherson Commercial Sea Port", Belgorod-Dnistrovskiy, SE "Mariupol Sea Commercial Port", SE "Mykolaiv Sea Commercial Port", Odessa "Sea Commercial Port", Commercial Sea Port of Reni, SE "Sea Trade Port of Yuzhny"

Table 14: BSEC National Port Nominations (BSEC)

### 3.6. ECO

The Economic Cooperation Organisation (ECO) is an inter-governmental regional organization encompassing countries from Europe, Caucasus and Central Asia, Middle East and South Asia. Member countries are Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkey, Turkmenistan, and Uzbekistan.

Transit Transport Framework Agreement (TTFA) constitutes the basis for cooperation in the transport sector since its adoption by member countries in 2006. The agreement aims to contribute to the acceleration of the transport services in the region through harmonization and modernization of transit transport. The main objectives of the TTFA are<sup>36</sup>;

- Facilitation of movement of goods and passengers
- Ensuring the safety of goods and passengers and avoiding unnecessary delays during the transit traffic
- Cooperation and coordination of the efforts to avoid the incidence of customs frauds and tax evasion
- Harmonizing necessary administrative affairs dealing with transit traffic

Map 32 and 33 shows transit road and rail networks in the ECO region. Within the scope of the “ECO Priority Road and Rail Routes and Infrastructure Projects” Study, the ECO also identified seven priority Road and five priority Rail Routes in the region.



Map 32: ECO Transit Roads (ECO)

36 ECO Transit Transport Framework Agreement (TTFA) <https://www.unecce.org/fileadmin/DAM/trans/doc/2009/wp5/GE2-wkshp1-ECO1.pdf>



Map 33: ECO Transit Railways (ECO)

### Road Network:

The highway network of Turkey in the ECO region has a length of 9,987 km, which connects Greece and Bulgaria in the west with Georgia and Iran in the east. Over the last few years, most part of the ECO routes in Turkey have been upgraded to the asphalt-coated dual carriageway.



Map 34. ECO Road Network in Turkey (ECO)

Priority Road Routes passing through Turkey, which are identified by the ECO Road Network Development Plan in 2012<sup>37</sup>, are as follows;

Priority Road Routes	
The ECO Road Route 1A	The Route serves the connection of the ECO Member States Turkey, Iran and Pakistan, with extensions towards India and Iraq. The route has three branches in the Turkish territory that connect the route with the main ports of Turkey, namely Samsun, Mersin, Izmir / Cesme and Candarli, and two branches in Iran connecting to Irani Ports Bandar Abbas and Chabahar.
The ECO Road Route 1B	The route provides the connection of the ECO Member States Turkey, Iran, Afghanistan and Tajikistan with extensions towards China and Iraq. The constitutes an alternative of ECO Road Route 1A, where, in the Iranian territory, has an eastern direction towards the Afghani borders, crossing the Afghani territory with a north-eastern direction and then passing onto the territory of Tajikistan through the city of Dushanbe, continuing towards the border with China.
The ECO Road Route 2	The route serves the connection of the ECO Member States Turkey, Iran, Turkmenistan, Kazakhstan and Kyrgyzstan with extensions towards China. The route is similar to Road Route 1A, starting from Bulgaria and Greece and continuing across the northern part of the Turkish territory towards the Iranian borders and onto the city of Tehran in Iran. Then, it follows a north-eastern direction towards the borders with Turkmenistan at the Serakhs border point. It continues north, passes through Tashkent in Uzbekistan and Bishkek in Kyrgyzstan, to Kazakhstan and towards the Chinese borders.

Table 15: ECO Priority Road Routes in Turkey (ECO Road Network Development Plan)

### Rail Network:

As seen on Map 33, ECO has also identified a transit railway network as well as Priority Railway Routes for the ECO Region. According to the ECO Railway Network Development Plan prepared for the ECO Secretariat in 2012, there are five priority Rail Routes identified in the region. Among these routes, Priority Route 1, Priority Route 2A and Priority Route 2B are passing over Turkish territory. Moreover, following the completion of Baku-Tbilisi-Kars Railway Project, Turkey is now also connected to the Route 4 which provides a connection between Azerbaijan and Central Asian Countries via Iran or a Trans-Caspian Connection. The mentioned routes are described by the ECO Railway Network Development Plan as follows<sup>38</sup>;

Priority Rail Routes	
ECO Rail Route 1	The ECO Rail Route 1 starts at the western borders of Turkey with Bulgaria and Greece, crosses Turkey through Istanbul, Ankara, as well as through the Lake Van by rail-ferry. It continues through the border crossing of Kapikoy onto Iran, crossing the Iranian territory through Aprin (near Tehran) and ending up at the border crossing with Pakistan (Mirjaveh). Finally, it follows a north-eastern direction through the Pakistani territory ending up in Islamabad.
ECO Rail Route 2A	The ECO Rail Route 2A represents the first initiative of the ECO in the development of block train services and was initiated in 2002. The ECO rail route 2A is similar to Rail Route 1 starts Turkey, reaches up Iran through the border crossing of Kapikoy. It then extends to the city of Aprin (near Tehran, Iran), following then a north eastern direction through Turkmenistan (Mary), Uzbekistan (Navoi, Tashkent) 9 and ending up at the borders of Kazakhstan with China, after having passed the city of Almaty.
ECO Rail Route 2B	The ECO Rail Route 2B is also similar to Rail Route 2A. It starts at the western border of Turkey, continues to Iran, and reaches up Afghanistan through Herat. Then it follows on the missing link Heart-Mazar e Sharif- Nijniy Pyanj (border with Tajikistan), followed by the missing link Nijniy Pyanj -Kurgan Tube in Tajikistan. Finally, the route ends with the missing link Karamyk-Irkhestam through Kyrgyzstan towards China.

Table 16: ECO Priority Rail Routes in Turkey (ECO Rail Network Development Plan)

37 ECO Road Network Development Plan, Final Draft, December 2012 [http://www.eco.int/parameters/eco/modules/cdk/upload/content/general\\_content/3512/1500291306332k6uqkccfcocgv3qpqr8b2rjem6.pdf](http://www.eco.int/parameters/eco/modules/cdk/upload/content/general_content/3512/1500291306332k6uqkccfcocgv3qpqr8b2rjem6.pdf)

38 ECO Rail Network Development Plan, June 2012, [http://www.eco.int/parameters/eco/modules/cdk/upload/content/general\\_content/3512/1500291290659k6uqkccfcocgv3qpqr8b2rjem6.pdf](http://www.eco.int/parameters/eco/modules/cdk/upload/content/general_content/3512/1500291290659k6uqkccfcocgv3qpqr8b2rjem6.pdf)

### 3.7. Transport Corridors in the OIC Region

With 57 Member States, the OIC region accounts for more than 23% of world population and extends to three different regions as Asia, the Middle East and North Africa (MENA), and Sub-Saharan Africa. Given their high growing potential, improvement of transport infrastructure and operations in OIC member states is essential for fostering trade and development.

In recent years, OIC and COMCEC have made efforts for supporting member countries in their endeavours to enhance transport corridors. In this regard, two important studies, *The Study on Transport Corridors in OIC Member Countries* and *Improving Transnational Transport Corridors In the OIC Member Countries: Concepts and Cases* were prepared. With a view to identify a policy framework among the 57 OIC member countries, the reports have provided an assessment of the role and importance of transport corridors in contributing to economic growth and cooperation, trade and regional integration.

In this regard, *The Study on Transport Corridors in OIC Member Countries* subdivide OIC region into three regional groups namely Sub-Saharan African countries, Asian countries and MENA countries. The study also successfully provides an inventory of transport corridors and route initiatives in these regions and makes a prioritization among these corridors.

According to the study, in Asia, there are nine initiatives by two international organizations (UNECE, UNESCAP), four special development programs (SPECA, TRACECA, EURASEC, CAREC), two international institutions (IRU, OSJD) and one regional organization (ECO).<sup>39</sup> In Asia, 46 transport corridor were identified by these initiatives as seen on Map 35. As mentioned above, Turkey has involved in most of these studies as a natural bridge between Asia and Europe. The report also presents a prioritisation study on these 46 corridors and identifies six corridors that have the highest weights. In this sense, Turkey is a part of four of these six high-scored corridors in the study;

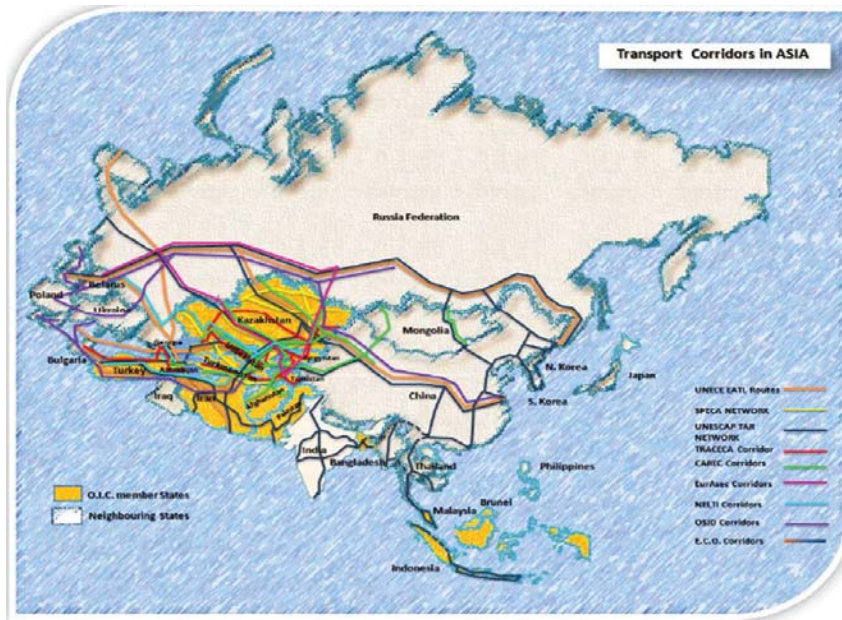
- Corridor 3 of CAREC, which crosses Kazakhstan, Kyrgyzstan, Uzbekistan, Tajikistan, Afghanistan, and Turkmenistan;
- Corridor Rail Route 2 of ECO, which crosses Turkey, Iran, Turkmenistan, Uzbekistan, and Kazakhstan;
- Corridor 6 of CAREC, which crosses Kazakhstan, Uzbekistan, Tajikistan, and Afghanistan;
- Corridor Road /Rail IV of UNECE, which crosses China, Kazakhstan, Uzbekistan, Turkmenistan, Iran, Turkey, Bulgaria;
- Corridor Rail Route 1 of ECO, which crosses Turkey, Iran, and Pakistan;
- Corridor Rail Route 3 of ECO, which crosses Turkey, Georgia, Azerbaijan, Turkmenistan, Uzbekistan, and Kazakhstan.

As for MENA region, there are also various initiatives seeking to promote integrated land transport networks such as UNESCWA and League of Arab States. In this context, 35 road or rail transport corridors have been identified in this study.<sup>40</sup> With regard to the Sub-Saharan African region, the report underlines that the region is suffering from its significant infrastructure deficit. It is also noted that the Sub-Saharan African countries have been actively promoting regional transport corridors in recent years.<sup>41</sup>

<sup>39</sup> *The Study on Transport Corridors in OIC Member Countries*, September 2011 <http://www.comcec.org/wp-content/uploads/2015/02/IDB-TransportCorridors-Study.pdf>

<sup>40</sup> *Ibid.*

<sup>41</sup> *Ibid.*



Map 35: Transport Corridors in Asia<sup>42</sup>

On the other hand, a recent study conducted by COMCEC on *Improving Transnational Transport Corridors in the OIC Member Countries: Concepts and Cases* sets out key action areas for further development of transport corridors in the OIC region. The following table summarises key recommendations:

Framework area	Key actions
Political and institutional factors	<ul style="list-style-type: none"> <li>Transforming transport routes to transport corridors with a corridor secretariat</li> <li>Develop a Corridor Treaty template for members to use or benchmark with.</li> <li>Corridor secretariat to disseminate the positive impacts of successful corridors in order to promote political integration</li> </ul>
Economic factors	<ul style="list-style-type: none"> <li>Promoting simplification of business processes among member states</li> </ul>
Trade Facilitation	<ul style="list-style-type: none"> <li>Reviewing the existing trade agreements to determine the incorporation of relevant elements to remove non-physical barriers to trade</li> <li>Stimulate intra-trade along corridors</li> <li>Increasing the efficiency of customs inspection by improving risk management techniques, green channeling, encouraging an advance manifest, etc.</li> <li>Developing an efficient trade statistic collection system</li> <li>Promoting electronic single window facilities</li> </ul>
Social factors	<ul style="list-style-type: none"> <li>Facilitating common passport</li> </ul>
Safety, security and legal liability	<ul style="list-style-type: none"> <li>Developing a data collection system related to fatalities along the corridors</li> </ul>
Technical and operational factors	<ul style="list-style-type: none"> <li>Improving road conditions</li> <li>Improving rail interoperability</li> </ul>
Environmental and energy factors	<ul style="list-style-type: none"> <li>Promoting intermodal transport</li> <li>Improving logistics organization, coordination, and corridor route planning</li> </ul>

Table 17: Key Recommendations for Improving the Transport Corridors in the OIC Geography<sup>43</sup>

42 Ibid.

43 *Improving Transnational Transport Corridors In the OIC Member States: Concepts and Cases*, COMCEC Coordination Office, <http://www.kalkinma.gov.tr/Lists/Yayinlar/Attachments/773/Improving%20Transnational%20Transport%20Corridors%20in%20the%20OIC%20Member%20Countries%20Concepts%20and%20Cases.pdf>

## 4. TURKEY'S EFFORTS FOR THE DEVELOPMENT OF MAJOR TRANSPORT CORRIDORS

Impediments to international trade along transport corridors are generally categorized in two main groups as physical barriers and non-physical barriers.

Physical barriers include issues regarding infrastructure problems, missing links and roads, railroads, bridges, logistics centers in national and regional networks. However, trade can also be impeded by bureaucratic procedures, documentation requirements and other non-physical barriers to trade. These barriers may have negative impacts on international trade even more than physical barriers. In this sense, overcoming physical and non-physical barriers is of utmost importance for the development of transport corridors.

With regard to the elimination of physical barriers, Turkey has focused on completing missing links on the main corridors, improving its road, rail and ports infrastructure and modernizing the infrastructure of border crossing points. In terms of overcoming non-physical barriers to trade, facilitation of transport operations has been a significant element of Turkey's trade facilitation policies which can be defined as "the simplification and harmonization of international transport procedures and the information flow associated with them."<sup>44</sup> In this sense, Turkey is involved in various bilateral and multilateral initiatives in the region for providing smooth and fast border crossing services.

Moreover, improvement of multimodal transport and logistics capacity are two indispensable components of a successful transport corridor. For this reason, Turkey has been making dedicated efforts for enhancement of multimodality and logistics. This chapter aims to outline main strategies, projects and institutional-regulatory framework of Turkey focused on the development of major transport corridors in the Eurasia Region.

### 4.1. Elimination of Physical Barriers

#### 4.1.1. Upgrading of Physical Infrastructure

Development of transport infrastructure still plays a crucial role in ensuring connectivity and accessing to gateways for developing countries. Moreover, public investment has a catalyst impact on private sector by increasing economic activity. As a significant part of the Ancient Silk Road, Turkey focuses on building an uninterrupted, high quality, safe and secure connection between Asia and Europe.

Besides improvement of road, rail, maritime and aviation infrastructure and operations mentioned in Chapter I, Turkey has been implementing mega projects for completion of missing links on major corridors which can be exemplified with the following projects explained below;

- a) Baku-Tbilisi-Kars Railway Project
- b) Edirne-Kars High Speed Railway Project
- c) Marmaray Project
- d) Halkalı-Kapıkule Railway Project
- e) North Marmara Motorway and Yavuz Sultan Selim Bridge (3<sup>rd</sup> Istanbul Bridge) Project
- f) Eurasia Tunnel Project
- g) Three-storey Great Istanbul Tunnel Project
- h) Gebze–Orhangazi–İzmir Motorway Project
- i) Rehabilitation of Van Lake Crossings

<sup>44</sup> *Transport Facilitation and Security*, UNECE, [http://www.unece.org/trans/theme\\_facilitation.html](http://www.unece.org/trans/theme_facilitation.html)

### a) Baku-Tbilisi-Kars Railway Project

The project aims to provide an uninterrupted railway connection between Turkey, Azerbaijan and Georgia and to reach Central Asian Countries via the Caspian Sea. The railway line is of utmost importance for revitalization of the Ancient Silk Road and development of economic and cultural cooperation between enroute countries.

Railway route consists of two lines from Kars to Aktalkalaki, single line from Aktalkalaki to Tbilisi and two lines from Tbilisi to Baku. The railway line is expected to have 1 million passengers and 6.5 million ton freight transportation capacity for the beginning. It is estimated that passenger capacity will increase to 3 million and load capacity will increase to 17 million ton by the end of 2034. The Baku-Tbilisi-Kars Railway Project was officially inaugurated on 30 October 2017.

Project Information	
Line Length	79 km
Line Structure	Dual Line in Infrastructure and Superstructure
Line Characteristics	With electrification and signalling
The Number and Names of Stations	3 Stations (Canbaz, Güvercin, Taşbaşı)
Transportation Capacity (Design)	1 million Passenger and 6.5 million tons of freight

Table 18: Baku-Tbilisi-Kars Railway Project (AYGM)



Map 36: Baku-Tbilisi-Kars Railway Project (AYGM)

### b) Edirne-Kars High-Speed Railway Project

Edirne-Kars High-Speed Railway Project aims to connect the country in the east-west direction via high speed train. There are fifteen sections of the project which extends from Edirne to Kars. Ankara-Istanbul, Ankara-Sivas and Ankara-Izmir High Speed Railway projects are three of the important sections of the project. Ankara-Istanbul High-Speed Train project was completed in July 2014. Ankara-Sivas and Ankara-Izmir Railway Projects are planned to be completed in 2018.



## TURKEY HIGH SPEED RAILWAY PROJECTION

### PROJECTS



Map 37: High Speed Railway Projection (TCDD)

### c) Marmaray Project - Istanbul Strait Rail Crossing Construction

The Project was completed on 29 October 2013. It provides an uninterrupted railway connection between Asia and Europe with a 13.6 km Istanbul Strait crossing and a 76 km high-capacity line between Gebze and Halkalı. Marmaray is already being used for passenger transportation and cargo transportation will be operational following the completion of integration works of Marmaray by 31 December 2018.



#### d) Halkalı Kapıkule Railway Project

The project is one of the major projects in Turkey which will improve the railway traffic between Turkey and Europe. It consists of the construction of a **new railway connection between** the metropolitan area of Istanbul, at Halkalı station, and the Turkish/ Bulgarian railway border crossing point at Kapıkule/ Svilengrad station. The construction of Çerkezköy - Kapıkule section of the project will be co-financed by EU under IPA component III.

Within the scope of project following structures will be constructed:

- 230 km double electric line with 200 km/h design speed.
- 6 Viaducts
- 24 Railway Bridges
- 2 Tunnels
- 7 Cut & Cover Tunnels
- 5 Train Stations and 2 Sidings

#### e) The North Marmara Motorway and Yavuz Sultan Selim Bridge (3<sup>rd</sup> Istanbul Bridge)



The North Marmara Motorway/Odayeri–Kurtköy Section (including Istanbul Third Strait Bridge) is 148 km in length. The project comprises Istanbul Third Strait Bridge (Yavuz Sultan Selim Bridge) which has 2x4 lane motorway and 2x1 railway pass on the same deck. The Yavuz Sultan Selim Bridge was opened to traffic on 26 August 2016. The Yavuz Sultan Selim Bridge is the world's longest bridge with railway system with 1,408 m main span, the highest tower in the world with 320 m height and the widest bridge in the world with 59 m deck wide.

f) Istanbul Strait Road Tube Crossing Project – Eurasia Tunnel

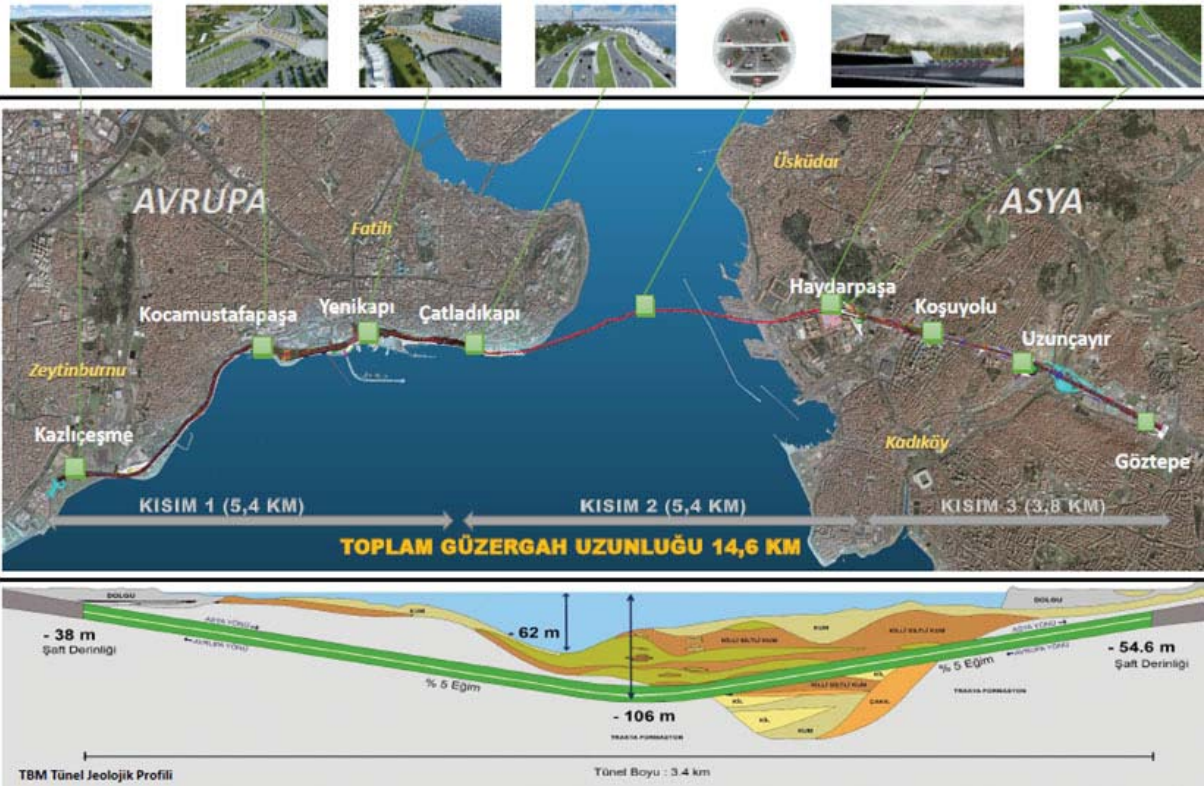


Figure 3: Istanbul Strait Road Tube Crossing Project – Eurasia Tunnel (AYGM)

Project Information	
Line Length	14.6 km (Total length between Göztepe-Kazlıçeşme) Section 1 (Europe): 5.4 km Section 2 (Tunnel): 5.4 km Section 3 (Asia): 3.8 km
Line Structure	3.34 km 2 Floor TBM Tunnel 1 km NATM Bored Tunnel 1 km Cut-Cover Transition Structures 9.2 km At-grade Road Extension
Line Characteristics	2x2 highway tunnel for light vehicles
Design Speed (Maximum)	80 km/hr

Table 19: Istanbul Strait Road Tube Crossing Project – Eurasia Tunnel (AYGM)

The Eurasia Tunnel Project (Istanbul Strait Road Tube Crossing Project) connects the Asian and European sides of Istanbul via a highway tunnel which goes underneath the seabed. The two floored highway tunnel is 5.4 km long. The Eurasia Tunnel Project substantially reduces the period of local transport in an area of intensive traffic. Travel time between the Asian and European side decreases from 100 minutes to 15 minutes. 24 hour continuous operation was commenced on 31 January 2017.

### g) The Gebze–Orhangazi–Izmir Motorway

The Gebze–Orhangazi–Izmir Motorway (Including Osmangazi Bridge and the Connecting Roads) which is constructed through BOT financing model is 433 km in length.

Osmangazi Bridge was completed as part of this motorway project and opened to traffic on 30 June 2016. Osmangazi Bridge is the 4<sup>th</sup> largest main span suspension bridge in the world with 252 m tower height, 35.93 m deck wide, 1,550 m main span and a 2,682 m total length. It is estimated that the travel time between Istanbul and Izmir which takes 8–9 hours will reduce to 3–3.5 hours and the traffic load of the axis of Istanbul–Bursa–Izmir will decrease at a rate of 30% when the project finishes.



### h) Three-Storey Great Istanbul Tunnel Project



Map 38: Three-Storey Great Istanbul Tunnel Project (AYGM)

Project Information	
Line Length	31 km dual line high-speed metro; 16,15 km. 2x2 highway
Line Structure	Underground (TBM Tunnel)+Viaduct highway
Line Characteristics	1.500 V DC Rigid Catenary + CBTC (with GoA 4 signalling)
Design Speed (Maximum)	120 km/hour high-speed metro; 70 km/hour Highway

Table 20: Three-Storey Great Istanbul Tunnel Project (AYGM)

The Project will comprise a 16.15 km long 2x2 lane Highway Connection between European and Asian Sides of Istanbul and a 31 km long High-Speed Metro Connection with 14 stations. Design of a 3 storey tunnel in a single tube, which aims to provide a more economic and practical solution for traffic problems in Istanbul, is its first example in the world. The project is planned to be contracted under BOT Model and will cost approximately 3.5 billion US Dollars.

## i) Van Lake Crossings



Van Lake Crossing has been a geographical challenge in Turkey's rail transport towards Iran and the Central Asia. In order to rehabilitate Van Lake Crossing which plays a significant role in the trade between our country, Iran and Central Asia countries, two fast and high-capacity ferries are planned to be operated in a short period of time. The planned ferries (each with 50 wagon-capacities) will reduce the travel time on Lake Van to 1 hour and increase the carrying capacity sevenfold. Realization of works of the first ferry is 96.5%. This ferry will be operational by the end of 2017. The second ferry will be operational in 2018.

### 4.1.2. Modernization of Border Crossing Points

In order to enhance and facilitate international trade, Turkey has been making efforts for the modernization of border crossing points. In this regard, Ministry of Customs and Trade of the Republic of Turkey implements projects on building new border crossing points and modernization of existing border crossing points to eliminate physical barriers on transport corridors. In doing so, BOT model is largely utilized.

#### BOT Model

BOT model is a form of project financing which is used for the projects that require intensive capital and high technology. The rationale behind using this alternative off-budget finance model is restoring reliable infrastructure in a short period of time and facilitating border crossings.

**Opportunities offered by the Modernization of Border Crossing Points (BCP) with the BOT model:**

- Shortening the construction time of buildings,
- Facilitating customs services with the designed operational flow,
- Better technical infrastructure and support,
- Legitimate trade,
- Robust infrastructure for officials and end users.

**Border Crossing Points (Road) constructed under the BOT model and operated by the private sector:**

- Gürbulak BCP(2002)
- İpsala BCP (2003)
- Habur BCP (2006)
- Cilvegözü BCP (2007)
- Kapıkule BCP (2008)
- Sarp BCP (2009)
- Hamzabeyli BCP (2009)
- Nusaybin BCP (2010) (The operation of border crossing point has been suspended due to the conflict in Syria.)
- Çıldır/Aktaş BCP (2015)
- Dilucu BCP (2015)
- Halkalı Customs Office Facilities (2016)
- Esendere BCP (2017)

**One Border Crossing Point Agreement signed and investment process has been started within the scope of the BOT Model in the following BCP:**

- Kapıköy BCP

**Also, eight Border Crossing Points and one Internal Customs Administration received the official approval of the High Planning Council within the scope of BOT model:**

- Akçakale BCP
- Karkamış BCP
- Öncüpınar BCP
- Yayladağı BCP
- Ali Rıza Efendi (Ovaköy)
- Posof/Türkgözü
- Erenköy Logistics Centre and Customs Facilities

**New Border Crossing Points**

**Turkey – Georgia New Railway Border Crossing Points:**

- Demir İpekyolu/Canbaz – Kartsakhi Railway Border Crossing Point
- Muratlı – Maradidi Border Crossing Point

**Turkey- Iraq New Border Crossing Points:**

- Üzümlü-Serzeare Border Crossing Point
- Derecik-Mergesur Border Crossing Point
- Aktepe-Bacuka Border Crossing Point
- Ovaköy-Karavala Border Crossing Point
- Gülyazı-Zaho Border Crossing Point

## 4.2. Facilitation of Border Crossings and Removal of Non-Physical Barriers

According to 2016 Logistics Performance Index Report of the World Bank, trade and transport facilitation remains a priority for most of the developing countries, international forums and the support provided by international agencies.<sup>45</sup> In this regard, ensuring the effectiveness of procedures at border crossings is crucial for eliminating delays and improving supply chains predictability. Furthermore, harmonization, standardization and liberalization of procedures for transport and border crossings are of utmost importance for the elimination of non-physical barriers.

Turkey has eight neighbouring countries and serves with 160 border gates across the country. Simplification of transits is a crucial component of Turkey's trade facilitation policy. Since time is the essence of transportation, transport operators from diverse regions choose Turkey route for moving to their final destinations. In this regard, Turkey attributes great importance to improvement of the transit applications.

In road transport, besides cooperation mechanisms in international arena, Turkey effectively uses bilateral road transport agreements which are one of the most important means of establishing a legal basis for international transactions. As explained below, these agreements facilitate the solution of problems experienced on the bilateral basis through "joint committee" mechanisms.

### 4.2.1. Facilitation of Border Crossings

#### e-TIR Pilot Projects

Due to its geographical location, Turkey is a transit country. In Turkey, there are two important transit systems that the hauliers benefit from. These are the TIR and the Common Transit Systems. These transit regimes are complementary to each other. TIR System is a global transit regime, functioning under the auspices of the UNECE, for a long period of time, consisting of 71 Contracting Parties. Turkey is one of the major users of this system, %18-20 of TIR Carnets issued annually, are issued by Turkey.

Taking into account the pioneering position in TIR transactions worldwide, Turkey launched e-TIR Pilot Projects with Islamic Republic of Iran and Georgia, respectively. By doing so, Turkey aims to ensure secure exchange of data amongst national customs systems for the international transit of goods, vehicles or containers according to the provisions of the TIR Convention and to allow customs to manage the data on guarantees, issued by guarantee chains to authorized users of the TIR System. Thus, by eliminating the paper-based TIR transactions, this model will play a leading role for the universal customs transit regime.

In this context, the first e-TIR Pilot Project was developed by UNECE-IRU and implemented by the Turkish and Iranian Customs Administrations. This project envisages Customs to Business and Business to Customs (C2B2C) electronic data exchange on the basis of TIR-EPD (electronic pre-declaration) and SAFE-TIR Applications. The first pilot transport test run between Izmir to Tehran and Tehran to Izmir have been completed with a great success during November 2015 - August 2016 term, respectively. Thereby, 31 accomplished transport operations were carried out by using e-guarantees.

After the successful completion of the first step, both sides were much eager to expand the pilot project with a more comprehensive manner by including more transport companies and more customs administrations for the multiple loading and unloading transactions. Therefore, the second phase covered a period from September 2016 to February 2017 (The Terms of Reference foresees a one-year implementation) with 64 pilot transport operations in total.

<sup>45</sup> *Connecting to Compete 2016 Trade Logistics in the Global Economy, The Logistics Performance Index and Its Indicators*, World Bank, 2016, p.27. <https://openknowledge.worldbank.org/bitstream/handle/10986/24598/Connecting0to00n0the0global0economy.pdf?sequence=1&isAllowed=y>



## TIR Pre-Declaration

TIR Pre-Declaration is used to expedite the TIR Carnet operations to reduce delays/costs at the borders for the transit operators since it allows customs administrations to make their risk assessment prior to the goods arriving in their customs territory. For this purpose, TIR/EPD, an application developed by the International Road Transporters Union (IRU), have been used in the transit/import operations in Turkey since 2 April 2012. Also, a national electronic TIR pre-declaration program (TIRCUS) was developed and introduced in all customs offices of entry in Turkey on 25 April 2017. Submission of electronic TIR Pre-declaration to the customs offices of entry by using either TIR/EPD or TIRCUS became obligatory starting from this date regarding the TIR Carnets operations.

## NCTS

As of January 2012, all customs offices in Turkey started to use the New Computerised Transit System (NCTS), which is a system of electronic declarations and processing that enables traders to submit their national and common transit declarations electronically. The system reduces the costs incurred with the paper-based system of declaring goods. NCTS also reduces time spent at customs by sending declarations electronically in advance of shipments. The system significantly contributes to the increased efficiency of transit operations, prevention and detection of fraud and acceleration of transit transactions.

## CIM Consignment Note

Within the scope of the simplification and acceleration of border crossings and reduction of procedures in railway cargoes, as of 26 April 2016, the Republic of Turkey State Railways has been authorized to transport in common and national transit regimes in a simplified manner by railway in accordance with the Common Transit Convention and the Turkish Customs Code. With this authorization, the CIM Consignment Note can be used as a transit declaration in railway transportation.

## Electronic Data Exchange

In order to eliminate non-physical barriers and enhance the efficiency of customs control of goods and vehicles travelling among the states, Turkey implements significant projects on electronic data exchange. Within the framework of transit data exchange, Turkish Ministry of Customs and Trade has projects with Georgia, Iran and Azerbaijan.

### **Main Goals of the Electronic Data Exchange at Border Crossing Points:**

- compliance with major international conventions for facilitating trade
- enhanced efficiency of customs control of goods and vehicles moved between the States
- risk analysis based controls
- reduced border crossing times
- accelerated customs procedures
- facilitation of legitimate trade
- active and effective cooperation among the customs administrations
- supporting anti-smuggling activities and fight against corruption
- promotion and improvement cross-border communications

Within the frame of export data exchange, Turkey has projects with Russia, Belarus and Kazakhstan.

Box 5: Main Goals of the Electronic Data Exchange at Border Crossing Points

## Simplified Customs Corridor

The Project is implemented by the Turkish and Russian Customs based on a Protocol signed on 18 September 2008. The aim of the “Simplified Customs Corridor Project” is to provide simplified customs procedures to exporters providing the preliminary information of the goods, including their classification and value. The preliminary information is being sent electronically. This system is applied to the Turkish and Russian companies on a voluntary basis.

## One Stop Shop

Application of “One-Stop-Shop” approach at Turkey’s land border gates has been one of the most significant projects in Turkey that is being implemented since 2011. One-Stop-Shop Project refers to the combined performance of customs controls and other authorities’ controls so that the goods are controlled by related authorities at the same time and at the same point in order to optimize time and personnel costs.

Once the project is accomplished, customs clearance at land border gates is expected to be completed faster and more efficiently. One-Stop-Shop Project’s pilot scheme has begun to be implemented on 14 January 2014 at Kapikule Customs Office and feedback evaluation process is currently in progress.

The purpose of the project is to complete all customs procedures for customs, drivers and other controls relating to other competent government bodies’;

- At the same time,
- At the same place,
- By few staff as possible.

Expected outcomes of the project are the completion of procedure at one stage and simultaneously which are currently completed by six personnel at six different steps, increasing the speed and efficiency of customs operations and preventing long waiting time at border gates caused by the excess workflow process. To achieve the objectives of the project, prerequisites need to be ensured;

- 1- Registration of all kind of vehicles at the entrance point of the border posts:** This procedure is expected to be done by the Plate Recognition System which is currently at the set-up stage.
- 2- Customs authorities will be able to collect customs duties** and other fiscal payments previously collected the officials of the Ministry of Finance.
- 3- Registration procedures of the passports of drivers by Police officers:** Commercial trucks and vehicles will no longer need to stop at the entrance of the customs post.
- 4- Weight controls of commercial vehicles at the Customs Posts:** This process which is currently being done right after the registration of the vehicles and passports of the drivers, will also be realized simultaneously with the previous procedures.
- 5- Tablet PC Project:** The target of Tablet PC Project is to shorten the time of customs procedures held in customs areas by the utilization of tablet computers by mobile officers.

The following are the procedures conducted via tablet computers;

- 1- Measurement of exemption for fuel contained in standard tanks,
- 2- Cabin control of trucks conducted by enforcement officers,
- 3- Checking the seals and ropes of the trucks against illegal activity.

Thanks to utilization of tablet computers, information is shared between different program modules used in customs procedures.

## ECO-IDB Joint Project on Customs Component of the TTFA

The facilitation of transit transport in the ECO region is highly important since seven out of ten ECO Member States are landlocked countries.<sup>46</sup>

For this purpose, the “Feasibility Study on Implementation of the Customs Transit Related Provisions of the TTFA and Modernization of Border Crossing Points in the Region” was launched within the collaboration of ECO and Islamic Development Bank (IDB). In this sense, Kapıkule BCP is determined as the role model for the ECO-IDB Joint Project for Modernization of BCPs in the entire region while the construction and management of a border facility through BOT approach by the TOBB /GTI is acknowledged an ideal way to build such a huge facility. Moreover, a report/book was prepared to indicate the measures taken in line with the implementation of recommendations provided in the Study and the requirements of the Action Plan.

### 4.2.2. Removal of Non-Physical Barriers

Turkey has international road transport operations to more than 70 countries in three continents. Standards and practices varying among different regions and countries such as transitional quotas, high tolls and driver visas are major non-physical barriers to the development of international road transport.

In this sense, main policies of Turkey on road transport are based on facilitation and liberalization of the road transport system under equal competition conditions. Bilateral road transport agreements have been effectively used to solve problems experienced on the bilateral basis and “joint land transport committee” mechanisms have been established with related countries. Turkey has liberalized its bilateral and/or transit cargoes with 24 out of 59 countries with which bilateral road transport agreements have been signed. In this regard, nearly 1.2 million transfer documents are exchanged within the framework of the bilateral transport agreements per year.

For the implementation of common standards and practices in international transport, multilateral agreements and conventions are also very important legal instruments. In this context, Turkey attaches great importance to multilateral agreements and mechanisms that facilitate road transport. Turkey has acceded to 25 of 57 agreements and conventions most of which are adopted under the auspices of United Nations Economic Commission for Europe (UNECE) in order to facilitate intergovernmental cooperation.

These agreements include the Convention on the Contract for the International Carriage of Goods by Road (CMR), the TIR Convention, the Agreement on the International Carriage of Perishable Foodstuffs and on the Special Equipment to be used for such Carriage (ATP), the European Agreement on the Transport of Dangerous Goods by Road (ADR), European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport (AETR).

Turkey also actively participates in the road transport meetings of the multilateral platforms such as;

- European Union (EU),
- European Conference of Ministers of Transport (ECMT) / International Transport Forum (ITF),
- United Nations Economic Commission for Europe (UN/ECE),
- Economic and Social Commission for Asia and the Pacific (UNESCAP),
- Transport Corridor Europe-Caucasus-Asia (TRACECA),

<sup>46</sup> ECO Islamabad-Tehran-Istanbul (ITI) Road Transport Corridor can also be mentioned as one of the important projects implemented by the ECO. The main objective of this project is to contribute to sustainable development and poverty reduction through enhancement of transit trade among the enroute Member States.

- Black Sea Economic Cooperation (BSEC),
- Economic Cooperation Organization (ECO)
- Turkic Council

and closely follows the decisions taken at these platforms. Cooperation mechanisms on international platforms contribute not only to the development of road transport between countries but also help to strengthen the Turkish transport sector.

In this sense, Turkey is the most important user of multilateral transit systems implemented under ECMT, TRACECA and BSEC. Turkey is a beneficiary of ECMT Multilateral Quota System with the highest number of quota, which allows 43 countries to transport with a single transit document under the system throughout the year. Turkey also supports “freedom of transit” regulated in accordance with Article V of General Agreements of Tariff and Trade (GATT) of World Trade Organization (WTO) and Trade Facilitation Agreement which came into force in 2017 under WTO.

Visa for professional drivers is another issue that Turkey attaches importance. Turkey advocates visa exemption for professional drivers such as airline crew members and seaman, if not possible, provision of a multi entry visa for one year to facilitate visa procedures and reduce visa costs.

Turkey does not oppose to wages which are charged for the use of infrastructure such as highways, bridges and tunnels, but strongly opposes the issue of transit fees that cause discrimination. In this regard, Turkey has been making efforts for removal of such fees from bilateral and multilateral platforms. In case of fees which are charged for the use of infrastructure, Turkey advocates implementation of non-discrimination principle and equal treatment.

### 4.3. Development of Multimodal Transport

Freight transport has become a global challenge as a grand source of environmental and social costs due to increasing international trade and imbalance in the use of different modes of transport. In this sense, development of intermodality has turned out to be one of the key priorities of transport policies on both international and national scales. UNECE defines multimodal transport as the “carriage of goods by two or more modes of transport” and intermodal transport as “the movement of goods in one and the same loading unit or road vehicle, which uses successively two or more modes of transport without handling the goods themselves in changing modes.”<sup>47</sup>

In recent years, Turkey has been making dedicated efforts for the development of multimodal transport and ensuring a balance among different modes of transport. This chapter aims to summarize current situation of the multimodal transport in Turkey and key policies and strategies adopted to improve intermodality in Turkey.

#### Current Situation

In domestic freight and passenger transport, road transport is the dominant sector in Turkey. Although 55% of total cargo in the country (in terms of ton-km) was carried by railway and 37% by road in 1950, coming to 2013, the share of road transport in domestic freight transport increased to %88,7.<sup>48</sup>

On the other hand, maritime transport is the most preferred mode of transport in Turkey’s exports and imports. In terms of tonnage, more than 85% of Turkish foreign trade is carried by maritime sector. In this sense, Turkey has been successfully operating maritime routes in the Mediterranean and the Black Sea

47 *Terminology On Combined Transport*, Prepared by the UNECE, the European Conference of Ministers of Transport (ECMT) and the European Commission (EC) United Nations New York and Geneva, 2001, p.16-18. <http://www.unece.org/fileadmin/DAM/trans/wp24/documents/term.pdf>

48 *Türkiye Kombine Taşımacılık Strateji Belgesi Yönetici Özeti*, UDHB, Ankara, [http://www.ubak.gov.tr/BLSM\\_WIYS/TMKDG/tr/doc/20150106\\_125235\\_64574\\_1\\_64896.pdf](http://www.ubak.gov.tr/BLSM_WIYS/TMKDG/tr/doc/20150106_125235_64574_1_64896.pdf)

regions. Following the implementation of privatization policies, contribution of ports to the economy has gradually increased. 80-85% of container transport is operated by private and privatised ports. Ambarlı, Mersin, Derince and Izmir are the main ports in which the handling of containers is performed in high volumes.

There are 15 scheduled Ro-Ro lines from Turkey to Italy, France, Russia, Romania, Ukraine and Georgia. The total number of vehicles transported by Ro-Ro vessels has recorded almost one-third increase from 2011 to 2016. There is also a rail-ferry line from Samsun to Kavkaz. Combined transport is also performed through maritime-railway connections in Haydarpaşa, Derince, Bandırma, Izmir, Samsun, Iskenderun and Mersin Ports; and international combined freight transport is being carried out through railway-road connections in Halkalı, Köseköy, Derince, Eskişehir, Kayseri, Mersin.

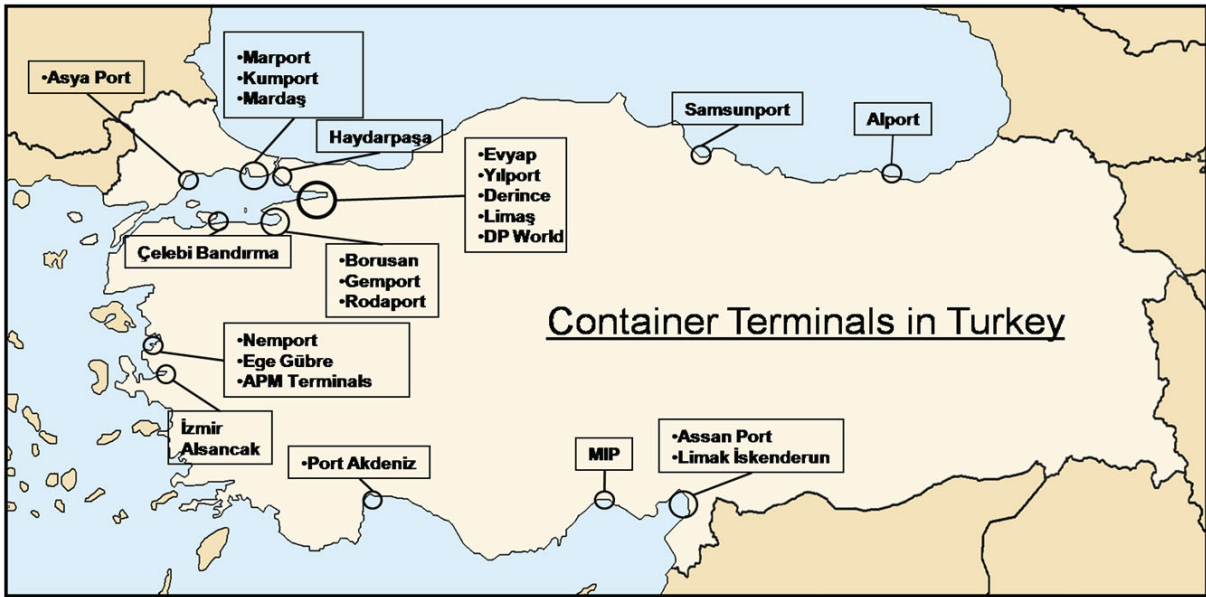
The freight handling capacity in Turkey's ports has been steadily increasing over the years. Turkish port system has two competitive advantages; first, its location on international shipping routes and second, its recognised know-how in Ro-Ro lines. In order to put these advantages to good use, Turkey focuses on strengthening connections between ports and the hinterland. Map 39 shows Turkish ports with railway connection.



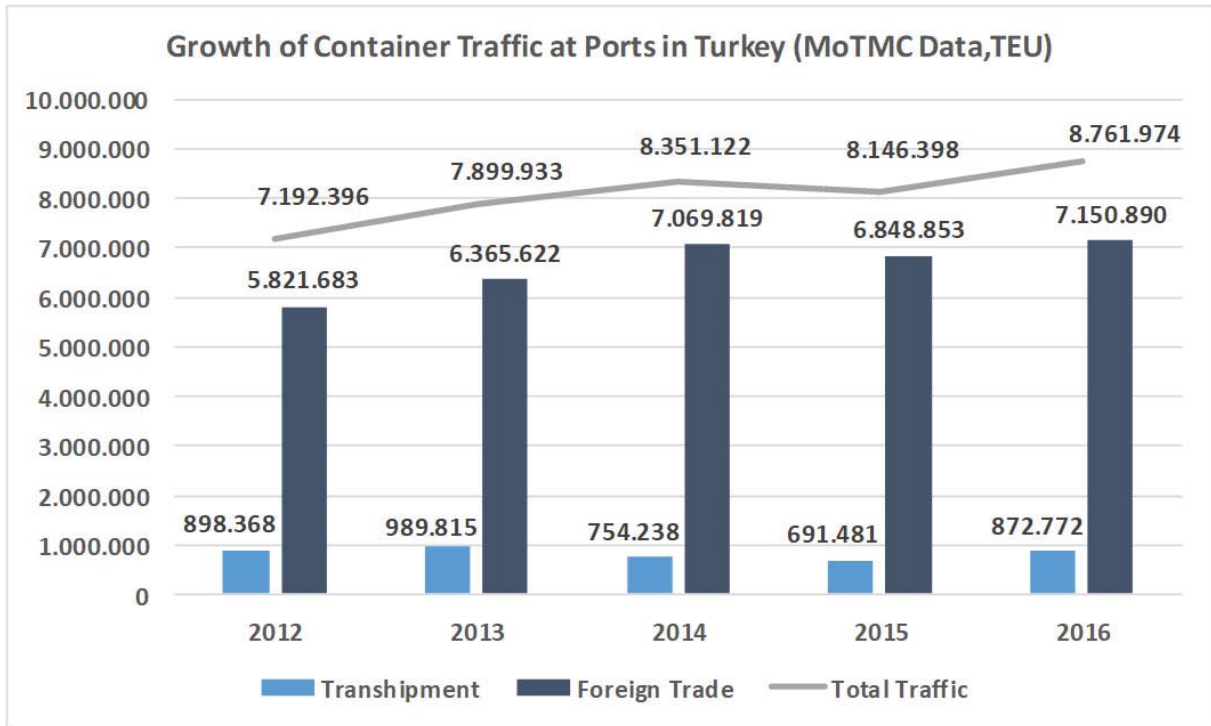
Map 39: Turkish Ports with Railway Connection (UTIKAD)

	2010	2016	INCREASE
<b>Total Cargo Handling (million tons)</b>	348,6	430,2	%23
<b>Total Container Handling (million TEUs)</b>	5,7	8,76	%54
<b>Cabotage Cargo (million tons)</b>	38	53,3	%40

Table 21: Seaborne Trade of Turkey from 2010 to 2016 (DTGM)



Map 40: Container Terminals in Turkey (MoTMC)

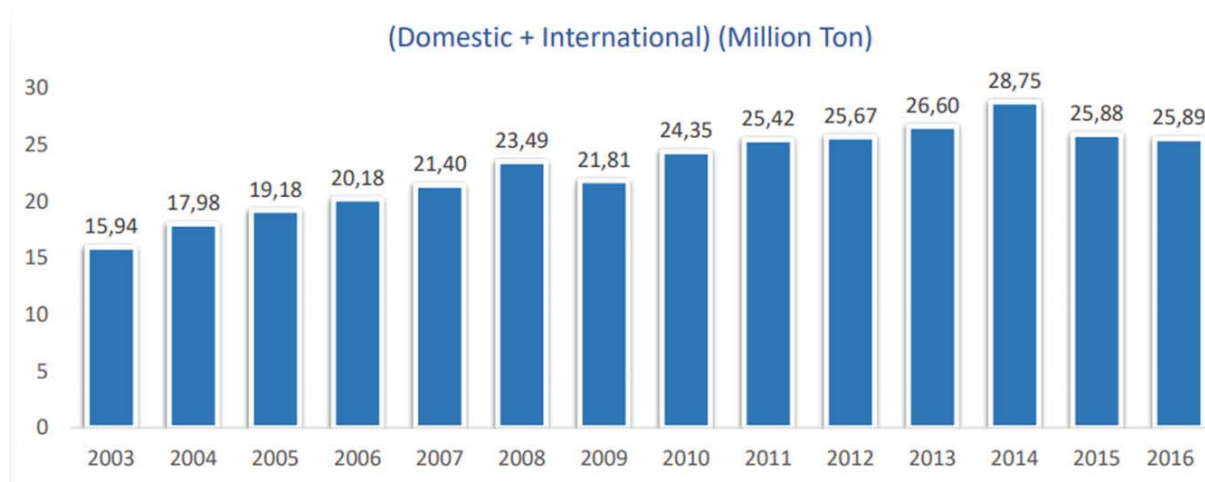


Graph 5: Growth of Container Traffic at Ports in Turkey (MoTMC)

In terms of the development of railway sector, Turkey has started block container train operations in 2003. In 2016, 25.9 million-ton freight has been carried with these operations. Compared with 2003, a 63% increase has been achieved in railway freight transport. In this period, Turkish State Railways has increased its freight transportation revenues by 195%.

International block train operations have also been launched towards European countries, Central Asia and the Middle East in order to improve foreign trade volume and increase the share of railways in freight transportation. From Turkey, shuttle block trains run to Europe; Germany, France, Hungary, Austria, Poland, Bulgaria, Romania and Slovakia and to the East; Iran, Turkmenistan and Kazakhstan in Central Asia. At present, there are 14 international and 157 block container train operations of Turkish State Railways. In 2016, 1.83 million-ton international freight was transported and thus, 41% increase

in international freight volume was achieved compared with 2002. In the first six months of 2017, 13 million-ton cargo was transported which results in a 6% increase compared with the same period in 2016.



Graph 6: Total Freight Transportation by Turkish Railways (TCDD)

In order to perform transportation from Aegean and Marmara regions to Europe, rail ferry operation between the ports of Tekirdağ and Derince has been launched. Rail ferry operation between the ports of Tekirdağ-Bandırma will be launched in a short period of time.

Furthermore, connection lines are designed to link industrial zones and big manufacture areas to main railway route in order to attract more cargo from production chain. In this respect, “Organized Industrial Zones” with high transportation potential, large industrial establishments and all centers carrying bulk cargo such as port and pier are connected directly with “connection lines” to the railway network by Turkish Railways in cooperation with private sector. (See Map 41 for connection lines)



Map 41: Connection Lines in Turkish Railways (TCDD)

The intermodal capability of Turkish railways will be further enhanced by the new railway law which enables private initiatives (corporations) to perform their own railway transport operations.<sup>49</sup> Turkey encourages private companies to collaborate with Turkish Railways to accelerate the development of railway transport and to achieve a performing infrastructure. Therefore, it becomes ever more important that public investments would be correlated to private investments to develop railways, ports connectivity, logistics centres, production centres and plants.

<sup>49</sup> For more information on Liberalisation of Railway Market please see Chapter 1.

## Policies and Strategies

With the aim of reducing dependency on road transport and taking steps to advance sustainability in the transport sector, Turkey has prioritized further development of the railway sector and multimodal transport in recent years. Moreover, improvement of the regulatory framework and institutional capacity on multimodal transport has become top priorities of MoTMC.

In this regard, in 2011, a specialized Directorate General on Combined Transport was established under MoTMC. As for policy formulation and regulatory framework pertaining to combined transport activities, Turkey has developed a “Strategic Plan for Combined Transport” in 2014. The plan defines an integral transport system balancing different modes of transport, which requires investment, legislation and improvements to operations in railways, shipping and logistics.<sup>50</sup>

The Strategic Plan also aims to contribute in the formulation of policies, regulations, plans and projects that would guarantee a National Combined Transport System. The Plan envisages four grand strategies and various operational objectives which can be seen in Box 6.

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<sup>50</sup> *Türkiye Kombine Taşımacılık Strateji Belgesi*, UDHB, Ankara, 2014, p.1.



**STRATEGIC MEASURES IN THE COMBINED TRANSPORT STRATEGY:****1. Intermodal Maritime and Railway Development****1.1. Operational Objective for Port Intermodality:**

- Promotion of short sea shipping:
  - Analysis of trade flows likely to move along short sea shipping routes,
  - Study of current short sea shipping capacity in Turkey,
  - Identification and selection of short sea shipping routes in accordance with traffic volume optimization model and generalized transport cost,
  - Formulation of routes and scenarios,
  - Definition of a nationwide model for analysing the economic and social feasibility of a short sea shipping route.
- Improvements to sea-rail operations:
  - Establishment of a technical commission for port-rail intermodality,
  - strengthening public-private dialogue.

**1.2 Operational Objective for Railway Sector**

- Rail freight corridors:
  - Definition of a rail freight corridor objective framework,
  - Strategic reorientation of the TCDD Transport Corporation (Freight)
  - Interoperability and integration of Turkey's railway networks.
- Land intermodality:
  - Railway accessibility improvement plan in production and logistics facilities,
  - Definition of a nodal strategy,
  - A New operational framework in the combined freight terminals owned by Turkish State Railways (TCDD).

**2. Master Plans: Transport and Logistics****2.1. Operational Objective for Action Plans:**

- Regarding Transport Master Plan for Turkey:
  - Measurement of traffic and goods flow studies. Characterization of flows and design of traffic measurement model,
  - Proposed courses of action with regard to infrastructure, services, management and non-infrastructure and services aspects,
  - Implementation and assessment of the Plan: Organizational and financial strategy, competitive services supply strategy and competitive environmental supply strategy.

**2.2. Operational Objective for Logistics Master Plan:**

- Regarding Logistics Master Plan for Turkey:
  - Analysis of logistics sector in Turkey,
  - Analysis of production and logistics chains,
  - Definition of logistical locations: centers,
  - Establishment of logistics map of Turkey.

### **3. Regulation and development of intermodality in transport**

#### **3.1. Strategic Objective for regulation and development of combined transport:**

- Supplementary legislation:
  - Development of logistic sector legislation in Turkey,
  - Feasibility study for a single combined transport contract,
  - Feasibility study for application of arbitration courts in order to resolve to combine transport problems,
  - Establishment of a permanent combined transport platform involving all public/private stakeholders.

#### **3.2. Measures for the Development of Combined Transport:**

- Incentives for intermodality in transport:
  - Creation of a technical commission for the study of incentives,
  - Development of public-private sector dialogue.

### **4. Combined transport systems and support technologies**

#### **4.1. Plan of Action in Customs Procedures:**

- Customs operations:
  - Define a mechanism of institutional cooperation for the definition and implementation of a single window for Turkey,
  - Bilateral agreements with bordering countries.

#### **4.2. Action for Port Community System:**

- Port community system:
  - Development of a Turkish port community system,
  - Legislative proposals related to Single Window.

*Box 6: Strategic Measures in the Combined Transport Strategy (TMKGM)*

## **4.4. Improvement of Logistics Capacity**

Global trade has become increasingly dependent on the quality of logistics services. As duties on customs have considerably decreased and supply of inputs has been globalized, logistics facilities became prominent factors in foreign trade. Today, commercial enterprises gain competitive power not only by successful marketing strategies but also by logistics services. Therefore, the logistics industry is acknowledged as one of the key components of economic development. According to World Bank's 2016 Logistics Performance Index (LPI), countries with inefficient logistics face high costs not only due to "the transportation costs but also because of unreliable supply chains which are major handicaps in integrating and competing in global value chains."<sup>51</sup> That is to say, competitiveness and growth of countries are closely related to their efficiencies in importing and exporting goods.

Logistics is more than freight transportation. It refers to the organization of "the movement of goods through a network of activities and services operating at global, regional, and local scale"<sup>52</sup>. As the backbone of international trade, logistics includes freight transportation, warehousing, border clearance, payment systems, and many other functions.<sup>53</sup> Although these operations are mostly performed by private sector, logistics is also an important component of the public policies developed by national governments and international organizations due to their direct impact on the economic growth.

<sup>51</sup> Jean-François Arvis and Saslavsky, Ojala, Shepherd, Busch, Raj, Naula, *Connecting to Compete 2016 Trade Logistics in the Global Economy, The Logistics Performance Index and Its Indicators*, World Bank, 2016, p.1. <https://openknowledge.worldbank.org/bitstream/handle/10986/24598/Connecting0to00n0the0global0economy.pdf?sequence=1&isAllowed=y>

<sup>52</sup> *Ibid.*

<sup>53</sup> *Ibid.*

In this sense, logistic performances of countries can be improved by a set of government actions which can take various forms.<sup>54</sup> Trade facilitation at the borders, infrastructure development, regulations, urban planning and education are important instruments of this support. In this context, Turkish Government has been taking steps to enhance logistics capacity of the country through infrastructure investments and regulations. Among these steps, construction of public-financed logistics centres, facilitation of multi-stakeholder collaboration, the establishment of a Logistics Coordination Board and preparation of a Logistics Master Plan can be highlighted.

## Current Situation

Logistics industry constitutes approximately 10-15% of the total global GDP and is also a significant portion of Turkey's economy.<sup>55</sup> In recent years, increases in Turkey's foreign trade volume have led to a vital growth in the transportation and logistics industries. Thanks to its strategic location, human resources and recent economic growth, Turkey has a great potential for being a logistics base.<sup>56</sup> It is estimated that total logistics market volume in Turkey amounts to 39 billion Euros.<sup>57</sup>

Logistics and transport sectors constitute two integrated and interrelated economic activity areas. This is why all measures taken for development of transport sectors in Turkey have also contributed in the country's logistics capacity. In this sense, investments made for improving the railway network, construction of dual carriageways, new seaports and large-scale infrastructure projects have paved the way for further enhancement of logistics activities. Considering reliable and low-cost transportation services as a prerequisite of trade, Turkey also strives to facilitate the entrance of its transport service providers into new markets and improve their competitiveness in the existing markets.

In 2016 LPI report, which is prepared by the World Bank as an "interactive benchmarking tool" for comparisons across 160 countries, Turkey ranked 34<sup>th</sup> in the world.<sup>58</sup> In this regard, Graph 7 and Graph 8 shows development of Turkey's performance in LPI (2007 – 2016) and its performance comparison with 20 countries in Europe and Central Asia respectively.<sup>59</sup>

54 Kai Hoberg, and Busch, McKinnon, Flöthmann, *Logistics Competencies, Skills, and Training A Global Overview*, World Bank Group, p.61 <http://dx.doi.org/10.1596/978-1-4648-1140-1>

55 *The Logistics Industry in Turkey*, Republic of Turkey Prime Ministry Investment Support and Promotion Agency (ISPAT), <http://www.invest.istanbul/media/24618/the-logistics-industry-in-turkey.pdf>

56 Mehmet Tanyağ and Murat Erdal, Fikret Zorlu, Can Fuat Gürlesel, Fevzi Filik, *Türkiye Lojistik Master Planı İçin Strateji Belgesi*, Türkiye İhracatçılar Meclisi Lojistik Konseyi, 2011, İstanbul, p. 107.

57 Stefan Iskan and Peter Klaus, *Transport, Logistics and Supply Chain Services in Turkey Market Sizes, Market Players, Infrastructure and latest Trends in the Turkish Logistics Industry*, DVV Media Group GmbH, 2013, p.25.

58 Global Rankings 2016, <https://lpi.worldbank.org/international/global/2016>

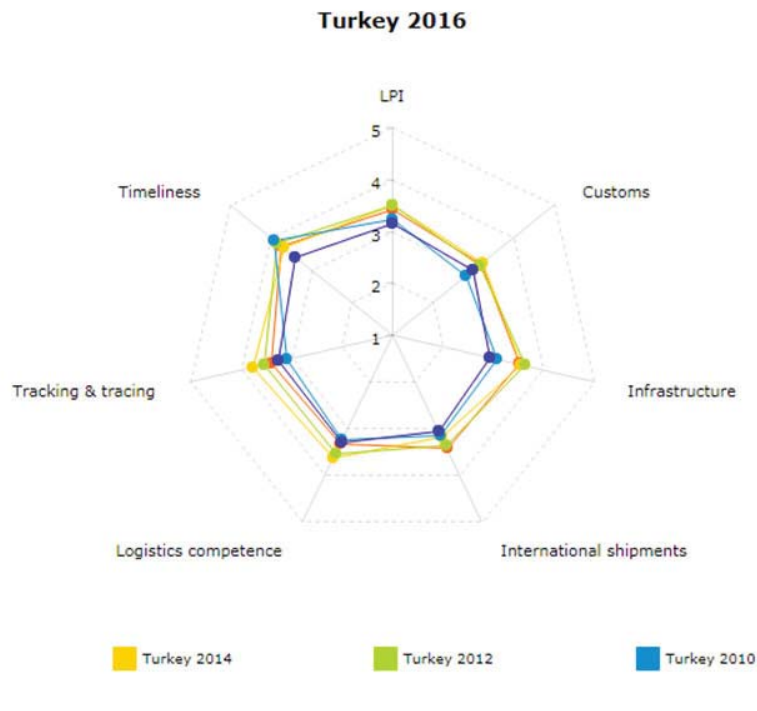
"The logistics performance (LPI) is the weighted average of the country scores on the six key dimensions:

- 1) Efficiency of the clearance process (i.e., speed, simplicity and predictability of formalities) by border control agencies, including customs;
- 2) Quality of trade and transport related infrastructure (e.g., ports, railroads, roads, information technology);
- 3) Ease of arranging competitively priced shipments;
- 4) Competence and quality of logistics services (e.g., transport operators, customs brokers);
- 5) Ability to track and trace consignments;
- 6) Timeliness of shipments in reaching destination within the scheduled or expected delivery time."

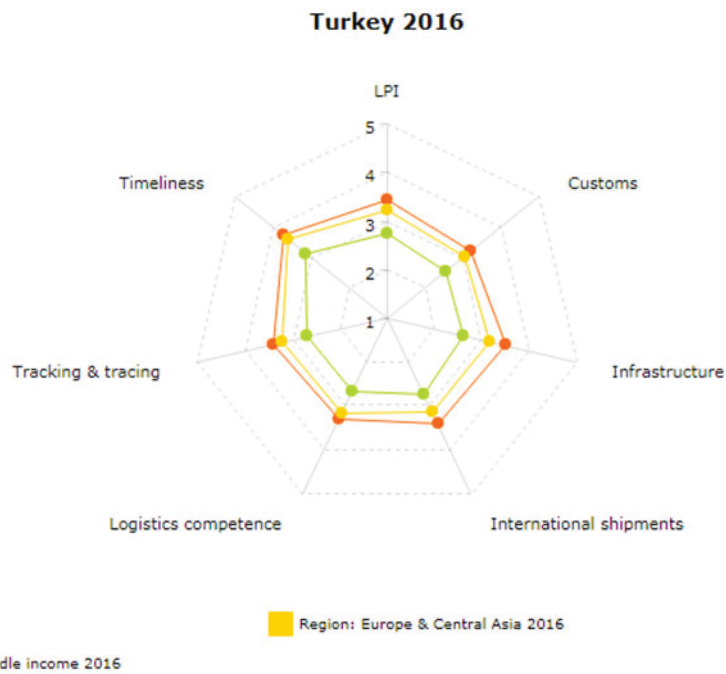
59 *Country Score Card: Turkey 2016*, World Bank, *Turkey across years and Turkey against its region and income group*, 2016,

<https://lpi.worldbank.org/international/scorecard/radar/254/C/TUR/2016/R/ECA/2016/I/UMC/2016>

<https://lpi.worldbank.org/international/scorecard/radar/254/C/TUR/2016/C/TUR/2014/C/TUR/2012/C/TUR/2010/C/TUR/2007#chartarea>



Graph 7: Turkey LPI score across the years 2007- 2016



Graph 8: Turkey LPI score against its region and income group



## COMCEC Countries Ranking In Logistics Performance Index

Map 42: COMCEC Countries Ranking in LPI (UND)

Although Turkey demonstrates a better performance than other countries in the region, there is still room for improvement. The quota limitations in particular and the lack of efficient logistics centres in general negatively affect the logistics performance of Turkey. First of all, quota restrictions and high charges imposed by especially European countries are the main barriers to the development of Turkish logistics sector. The most efficient way for bilateral trade between Turkey and the European Countries is road transportation as it allows for swift delivery time compared to the maritime and railway transportation and has a cost advantage relative to air transportation. However, since more than half of Turkey's exports go to Europe, restrictions imposed by European countries adversely affect the activities of Turkish transport companies and manufacturers, cause delays in transportation of goods and increase transportation costs.

Secondly, Turkey has been making efforts to fulfill the need of efficient logistics centres. Logistic centres, which are integrated to all transportation systems, are key to lower costs and increase the efficiency of logistic networks.<sup>60</sup> In the last decade, Turkey began to focus on building logistic centres for enhancement of its logistics capacity. In line with this objective, as it is explained in detail below, Turkish Government has envisaged to construct 21 logistics centres across the country.

### Policies and Strategies

Turkey has adopted an "Action Plan for Transformation from Transport to Logistics Programme" under 10<sup>th</sup> National Development Plan (2014-2018) which identifies main components and priorities for development of logistics sector. The Action Plan is composed of six components as follows<sup>61</sup>;

- Component 1: Establishment of an Institutional Structure and Strategy for Logistics Sector
- Component 2: Improvement of Logistics Infrastructure in Provinces
- Component 3: Ensuring Efficiency in Customs Procedures
- Component 4: Completion of Large-Scale Transport Investments
- Component 5: Increasing Competitiveness of Firms Operating in Logistics Sector
- Component 6: Supporting of Domestic Logistics Structuring by International Structuring

60 *The Logistics Industry in Turkey*, Republic of Turkey Prime Ministry Investment Support and Promotion Agency (ISPAT), p.97. <http://www.invest.istanbul/media/24618/the-logistics-industry-in-turkey.pdf>

61 *Onuncu Kalkınma Planı (2014 - 2018) Taşımacılıktan Lojistiğe Dönüşüm Programı Eylem Planı*, Koordinatör Ulaştırma, Denizcilik ve Haberleşme Bakanlığı - Kalkınma Bakanlığı [http://odop.kalkinma.gov.tr/dokumanlar/18TasimacilikTan Lojistige\\_Donusum\\_Programi.pdf](http://odop.kalkinma.gov.tr/dokumanlar/18TasimacilikTan Lojistige_Donusum_Programi.pdf)

In line with the first component of the Action Plan, Turkey has recently taken two important steps towards the preparation of “Logistics Master Plan for Turkey” and the establishment of the “Logistics Coordination Board” (LKK). Within this scope, studies on the preparation of **Logistics Master Plan of Turkey**, which will provide a basis for the logistics legislation and identify definitions, building and operating principles, classifications and standards in logistics, have been launched by MoTMC. The goals and objectives of the Logistics Master Plan for Turkey are as follows;

1. Determination of locations, capacity and similar characteristics of logistics centres,
2. Assessment of the building methods and principles regarding the construction of logistics centres,
3. Setting the necessary technical and safety standards for setting up the infrastructure of logistics centres
4. Designation of the procedures for land allocation and acquisition for logistics centres,
5. Determination of location, classification, construction, operating models and incentive methods of logistics centres,
6. Assigning the duties, powers and responsibilities related to the roles that the stakeholders in the logistics sector will assume,
7. Specification of urban logistics policies and principles,
8. Contributing to the determination of Turkey’s logistics policies,
9. Establishing the base of planning logistics centres in Turkey by means of legislation
10. Planning the logistics infrastructure necessitated by economic and social developments,
11. Provision of a perspective on the development of alternative transport corridors and identification of the possibilities and capabilities of combined transport in the country,
12. Development of logistics statistical database

On the other hand, **the Logistics Coordination Board (LKK)** was established in order to identify the roles to be taken by public institutions and organizations operating in the logistics sector, to ensure coordination among public bodies and to coordinate arrangements on the logistics legislative.

The Board is chaired by the Undersecretary of the Ministry of Transport, Maritime Affairs and Communications and composed of high-level representatives of related Ministries and Private sector representatives;

- Undersecretary of Ministry of Science, Industry and Technology
- Undersecretary of Ministry of Environment and Urbanization
- Undersecretary of the Ministry of Foreign Affairs
- Undersecretary of the Ministry of Economy
- Undersecretary of the Ministry of Customs and Trade
- Undersecretary of the Ministry of Interior
- Undersecretary of Ministry of Development
- Chairman of Union of Chambers and Commodity Exchanges of Turkey
- President of Turkish Exporters Assembly

## Logistics Centres

In addition to these steps taken for enhancement of institutional capacity, Turkey has been endeavouring to develop its logistics capacity through construction of public-financed logistics centres. Although there are different standardizations and status for logistics centres across the globe, in a general sense, a logistics centre can be defined as “a specific area where all the activities relating to transport, logistics and goods distribution are carried out on a commercial basis, by various operators.”<sup>62</sup> As seen on Map 43, there are 21 Logistics centres planned to be constructed across the country. In this scope, construction of eight logistics centres has been completed and construction works of seven logistics centres are in progress. Tender, design and expropriation works of six logistics centres are also ongoing. These centres are as follows<sup>63</sup>;

Logistics Centres which are operational are listed below;

- Samsun (Gelemen)
- Istanbul (Halkalı)
- Eskişehir (Hasanbey)
- Denizli (Kaklık)
- İzmit (Köseköy)
- Uşak
- Balıkesir (Gökköy)
- Kahramanmaraş (Türkoğlu)

Logistics Centres which are under construction are as follows;

- Kars
- Bilecik (Bozüyük)
- Erzurum (Palandöken)
- Mersin (Yenice)
- Konya (Kayacık)
- İzmir(Kemalpaşa)
- Karaman

Logistics Centres which are under tender, design and expropriation phases are enlisted below;

- Istanbul (Yeşilbayır)
- Mardin
- Şırnak (Habur)
- Kayseri (Boğazköprü)
- Sivas
- Bitlis (Tatvan)

62 *Logistics Centres Directions For Use*, A Report By Europlatforms EEIG January 2004, p.3, [https://www.unece.org/fileadmin/DAM/trans/main/eatl/docs/EN-REV-What\\_is\\_a\\_Freight\\_VillageFinalcorretto.pdf](https://www.unece.org/fileadmin/DAM/trans/main/eatl/docs/EN-REV-What_is_a_Freight_VillageFinalcorretto.pdf)

63 *Lojistik Merkezler*, <http://www.tcdd.gov.tr/content/33>



Map 43: Logistics Centers (TCDD)

### Examples of completed logistics centres





## CONCLUSION

Located at the intersection of Europe, Asia and Africa, Turkey has been a major transit country, an international hub and gateway to Europe, Caucasus, Black Sea, East Mediterranean and the Gulf. Bridging continents and connecting major markets, Turkey is an indispensable part of vital transport corridors for centuries.

Once constituting one of the most important segments of the Ancient Silk Road, now Turkey, is at the crossroads of East-West and North-South transport axes, identified by all leading global and regional organizations such as UNECE, UNESCAP, TRACECA, ECO and BSEC.

Turkey adopts a “Regional Integrated Transport Corridors” perspective which is a concrete result of the vision of peace and cooperation through “connectivity”. This strategy aims to develop a comprehensive and complementary approach towards all corridors in its region, appreciating the benefits of transport corridors for boosting trade and economic growth for all corridor countries.

A significant component of this corridor-oriented approach is building a Modern Silk Road which includes upgrading the existing transportation infrastructure, building new ones and also removing the impediments to intercontinental transport and trade through cooperation with the *enroute* countries. The strategy envisages providing an uninterrupted, high quality, safe and secure transport connection between Asia and Europe.

With a view to attaining these objectives, Turkish Government embarked on an ambitious investment program over the last decade in order to strengthen and modernise country’s transport network as well as its multimodal connections towards European and Far East markets. Grand scale projects for completion of missing links on major corridors were launched such as Baku-Tbilisi-Kars Railway, Edirne-Kars High Speed Railway, Marmaray, North Marmara Motorway and Yavuz Sultan Selim Bridge (3<sup>rd</sup> Istanbul Bridge) and Eurasia Tunnel Project. Upon completion of these projects, a well-developed, efficient and cost-effective infrastructure network will be secured, providing an uninterrupted and high quality transport connection between Asia and Europe.

Turkey’s approach to regional corridors covers both the hard and the soft infrastructure components of development. Turkey recognizes political cooperation among adjoining countries, facilitation measures aimed at removing trade-related and border-crossings bottlenecks and financing as the three major factors for the success of transport corridors.

Transport corridors demand a high level of political cooperation among *enroute* countries to ensure that the physical connectivity, interconnections and interoperability are secured on the corridor. Turkey has been enthusiastically cooperating with the countries in the region to complete the missing links of the Modern Silk Road. Besides, Turkey is keen on concluding bilateral and multilateral transport agreements with *enroute* countries, establishing coordination mechanisms for sustaining efficient transport operations and smooth border crossings along the corridors, and cooperating with the corridor countries to enhance sustainable logistics capacity.

Financing of the infrastructure projects along the corridors is one of the main challenges for the success of transport corridors. Given the huge costs of infrastructure projects, involving private sector in the construction of infrastructures is of utmost importance. Turkey invests immense resources to make transport system, the backbone of its economic and international

future and these investments comprise extensive use of Public Private Partnership models in which Turkey has been a pioneer country. Being aware of the potential that could be achieved via integration of private sector on the provision of public services and infrastructures, BOT model is successfully implemented by MOTMC. As the model has been successfully and extensively utilized in airports, highways, bridges and ports, the BOT model is being mentioned as the “Turkish model” all over the world.

Recognizing the cardinal role that corridors play in fostering regional integration and stimulating intra-regional and global trade development, Turkey views transport corridors as key road maps for economic development especially in developing countries. Transport corridors bear the potential of ensuring peace, security, stability and prosperity and boosting the overall human development by means of freight and passenger mobility and sharing of knowledge. That is why, Turkey has been supporting the development of regional transport corridors in all OIC geography. Ministry of Transport, Maritime Affairs and Communications of the Republic of Turkey is ready to share its experiences and best practices in corridor management and financing of grand scale projects that are essential for corridors with the interested OIC countries.

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