EXTENSION OF TEN-T INTO ACCESSION COUNTRIES AND TURKEY

Kazim Kartal
Transport Ministry, Ankara
and Transport Studies Unit,
University of Oxford

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Transport Studies Unit
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1.1 **Pan-European Corridors**

The European Commission defined the elements of pan-European transport network strategy as pan-European transport corridors and areas, extending the TEN-T to new Union members, a common approach to the use of transport technology, the intelligent use of transport networks and pan-European cooperation in R&D.\(^1\) The Pan-European Transport Conferences held in Prague in 29-31 October 1991; in Crete in 14-16 March 1994 and in Helsinki in 23-25 June 1997 have resulted in the adoption of 10 Pan-European Transport Corridors.

The European Commission by concluding with Central and Eastern European Countries legalized the Pan-European Corridors and Areas in order to connect TEN-T with those countries. Memorandums of Understanding were signed between participant states on individual corridors. As corridor approach would not fit certain areas, four pan-European transport areas (PETras) were defined: the Barents

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\(^1\) COM(97) 172 Connecting the Union’s transport infrastructure to its neighbours.
Sea/Euro-Artic area, the Black Sea Basin, the Mediterranean area and the area around the Adriatic/Ionian Sea.

1.2 TINA PROCESS

TINA Process (1997-99) served to define the future TEN-T in candidate countries as through this process corridors and areas would be incorporated into TEN-T. The Commission maintained that Pan-European transport corridors and areas would remain in the medium and long term the basic infrastructure for trade between the enlarged Union, the New Independent States and the Mediterranean basin. (CEC 97)

The definition of the TINA network or future TEN-T in accession countries was based on the following issues:

- The network should be in line with the criteria laid down in the EU guidelines for the development of the TENs (1692/96/EC)
- The technical features of the future infrastructure should ensure consistency between the capacity of network components and the expected traffic on them
- The time horizon for achievement of the network should be 2015
- The cost of the network should be consistent with realistic forecasts of financial resource, so that average costs should not exceed 15% of each country’s annual GDP over the period up to 2015. (TINA Final Report, 1999)

Beside interconnectedness, interoperability and intermodality have been the cornerstones of EU network extension policy. TINA network was identified by using two sources:

- a backbone network: 10 pan-European transport corridors on the territory of TINA countries as the European Commission proposed this as starting point of TINA process
- additional network components: links proposed by the three TINA regional subgroups, after assessment of proposals by each TINA country, according to the TENs concept and on the basis of cost estimates.

Identification of investment priorities constitutes an important dimension of extension of TEN-T through TINA process. TINA process did not come up with a list of priority projects. Yet, it was recommended that priority be given to financing the backbone network (i.e. the Pan-European transport Corridors on the territory of the TINA countries) over other components of the network. Although in the implementation backbone network is to be given priority, it was also noted that TINA network is meant to be one entity without any differences between its two components in the horizon of 2015. (TINA Final Report, 1999) The following two maps show the TINA rail and road networks in the accession countries adopted at the end of the TINA process:
Fleischer\(^2\) (2005) argues that development of TEN-T in EU15 was based on the internal demand of the area i.e. missing links, interconnection of well developed national networks. In this sense, TEN-T was regarded as a physical infrastructure of common market, which might be exemplified by the following figure:

The grid of TEN of the EU15

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Accordingly, the extension of TEN-Ts to CEECs would have been represented by the following figure if the same logic had been applied:

Extension of the grid to the enlarged European Union

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However, rather than the extension of the grid but the extension of the pan-European corridors (East-West corridors) represents the extension of TEN-T to CEECs since TINA process situated those corridors in the backbone network and other to the

secondary network. Fleischer (2005) argues that absolute priority was given to the east-west connection:

**Linking the new member states with the infrastructure of the EU15**

This figure shows that it was the interest of EU15 which determined the extension of TEN-T to CEECs not the extension of the enlarged EU. The fact that all corridors are mean to join the TEN-T15 also shows the priority of EU15 interest. According to the Fleischer (2005) TEN-T development in the new members are exaggerated since the internal connections deserve reinforcement.

Increasing accessibility through provision of transport infrastructure might further increase interregional discrepancies. As Banister and Berechman (2000) argue, improved accessibility between two locations might accrue benefits for the one having better developed network and in turn more accessibility at the expense of the location with less developed network. The new transport infrastructure can 'suck out' the economic activities in the location with less developed network and relocate to the location with higher accessibility. This argument might be applied to the extension of TEN-T into CEECs. The extension of TEN-T (physical infrastructure of the Single Market) was based on pan-European transport corridors which link the EU15 with the CEECs. EU15 had already accessibility advantages for the Single Market compared to CEECs which had a transport system not developed according to the liberal market economy. Hence, it seems reasonable to argue that the extension of TEN-T into CEECs would better benefit the EU15. Considering the cohesion effects of TEN-T, the first Cohesion Report of the Commission dated 1996 argues that while cohesion countries seem to gain in absolute terms from TEN-Ts but not necessarily in relative terms:

“...while improved transport facilities generally make a less developed region more attractive for investment by increasing access to inputs and to markets for outputs, and by facilitating business travel, there are instances where improvements in transport have made it easier for firms in more developed regions to supply goods and services directly to poorer ones, with the potential to hinder the latter's economic development prospects (although it is always difficult to assess the level of development which would have occurred in the absence of the investment).”
In this point, as the CEECs lacked a well developed intra-regional transport network, before prioritizing the development of intra-regional network in the CEECs reflecting their transport needs, the extension of TEN-T seemed to have favored the EU15 interest i.e. East-West connections.

1.3 **HIGH LEVEL GROUP ON EXTENSION OF MAJOR TRANS-EUROPEAN AXES TO NEIGHBORS**

The revised guidelines of 884/2004/EC incorporated the TINA network into TEN-T network and identified priority axes and projects:

![Map of Trans-European Transport Network and TEN-T priority projects](image)

After the revision of guidelines and accompanying network schemes to include Central and Eastern European Countries, the majority of the Pan-European transport corridors have become TEN-T and as the EU moved eastwards (see TINA maps above), the need to develop transport links with new neighbors has become a priority. To this end, a High Level Group was established on 29 September 2004 on the “extension of the major trans-European axes to the neighboring countries and regions” to better connect the EU with its neighbors. Former Commission Vice-President Loyola de Palacio was appointed Chair of the Group which consisted of one representative from each of the 26 countries neighboring the EU and one observer from the European Investment Bank, the European Bank for Reconstruction and
Development and the World Bank ad also the Member States representatives. According to the final report of the Group\(^3\), better connections between the EU and the neighbors and other third countries and the promotion of efficient, safe and secure transport systems globally are important elements in facilitating trade and economic development of the EU and its neighbors.

The High-Level Group on extension of major trans-European axes to neighboring countries might be also evaluated within the European Neighborhood Policy strategy which called for improving the physical transport networks connecting the EU with neighboring countries.\(^4\) The European Commission in its latest communication\(^5\) concerning extension of the major trans-European transport axes to the neighboring countries which entails guidelines for transport in Europe and neighboring regions emphasizes this point. Accordingly, the implementation of the European Neighborhood Policy (ENP) in transport sector entails the aim is to ensure that legislation, standards and technical specifications of the EU’s main trade partners are compatible with those of the EU and thus contribute to the achievement of the Lisbon agenda by encouraging trade and sustainable growth as well as social cohesion. In this context, the work of High-Level Group is considered as one of the first steps of a comprehensive policy for closer integration of the EU transport system with the neighboring countries with a focus on the main infrastructure used by international transport and on the relevant legislation affecting the use of these routes by all transport modes. According to the Commission this approach may lead to the development of common rules and regulations for the transport sector as a whole and thus create an effective transport market involving the EU and its neighbors:

“There are a number of cross-cutting themes, among which transport, where the EU and its neighbors have common interests and concerns and which usefully could be addressed in a multilateral context. In order to take full advantage of closer relations with the EU and the prospect of improved access to its market, neighboring countries’ transport systems must be able to handle increased transport flows.”\(^6\) (Italicics added)

As mentioned earlier, pan-European transport corridors are mainly part of TEN-T after enlargements in 2004 and 2007. Besides, the following weaknesses have been identified by the Commission:

- Planning and prioritisation of investments is in most cases done in a piecemeal fashion that follows national logic neglecting the needs of international movements along the whole axis;
- The focus is on infrastructure and insufficient attention is paid to removing noninfrastructure related bottlenecks, which are often the primary cause for delays, particularly at border crossings.
- There are no commonly agreed methodologies to assess the economic, social and environmental impacts of plans and projects that would meet the standards of best international practice.

\(^3\) Final Report of the HLG II
\(^4\) COM(2004) 373 final Communication From The Commission - European Neighbourhood Policy STRATEGY PAPER
\(^5\) Com(2007)32 Communication from the Commission to the Parliament and Council Extension of the major trans-European transport axes to the neighbouring countries - Guidelines for transport in Europe and neighbouring regions
\(^6\) Ibid., p.3
The exercise of HLG is proposed by the Commission to revise the concept of the Pan-European Corridors/Areas (PEC) in the following ways:

- To extend the geographical coverage of the concept of the PECs to take fully into account the revised trans-European network policy and the accession framework and European Neighbourhood Policy objectives.
- To extend the relevant internal market principles and rules to the neighbouring countries by taking into account sustainability and by underlining the importance of non-infrastructure measures to facilitate trade and transport flows along the main axes.
- To strengthen coordination and monitoring frameworks to ensure full commitment of the countries concerned, to enable pooling of resources towards sustainable development of infrastructure and enabling the projection of the Union’s policies, including the social dimension.

The HLG was mandated to select a limited number of major transnational transport axes better connecting the EU and its neighbors to focus efforts and to enable countries to cooperate in an international setting. The second task of the Group was to put forward priority projects on the major axes identified.

The Group did not start defining the axes from the scratch as it used the existing and on-going exercises such as pan-European corridors and areas, Euro-Mediterranean Regional Transport project, TRACECA transport corridor, United Nations Economic Commission for Europe (UN-ECE) and United Nations Economic and Social Commission for Asia Pacific (UN-ESCAP) networks. Therefore, these exercises formed the part of the starting point for the High-Level Group work.

The Group identified 5 major transnational axes:

- **Motorways of the Seas**: linking the Baltic, Barents, Atlantic, Mediterranean, Black and the Caspian Sea areas as well as the littoral countries within the sea areas and with an extension through the Suez Canal towards the Red Sea.
- **Northern axis**: to connect the northern EU with Norway to the North and with Belarus and Russia and beyond to the East. A connection to the Barents region linking Norway through Sweden and Finland with Russia is also foreseen.
- **Central axis**: to link the centre of the EU to Ukraine and the Black Sea and through an inland waterway connection to the Caspian Sea. Connections towards Central Asia and the Caucasus are also foreseen, as well as a direct connection to the Trans-Siberian railway and a link from the Don/Volga inland waterway to the Baltic Sea.
- **South Eastern axis**: to link the EU through the Balkans and **Turkey** to the Caucasus and the Caspian Sea as well as to Egypt and the Red Sea. Access links to the Balkan countries as well as connections towards Russia, Iran and Iraq and the Persian Gulf are also foreseen.
- **South Western axis**: to connect the south-western EU with Switzerland and Morocco and beyond, including the trans-Maghrebin link connecting Morocco, Algeria and Tunisia. An extension of the trans-Maghrebin link to Egypt as well as
a connection from Egypt to the South towards other African countries are also foreseen.

The Group also identified projects on these transnational axes:

Projects ready to start before 2010 (completion by 2020) - Projects in this category aim at addressing the most pressing bottlenecks stemming from congestion, poor quality infrastructure or from environmental considerations that hamper international exchanges and traffic at present. These projects are expected to bring about time and operating cost savings to the users and operators in comparison to today’s situation. The estimated cost for this category is ca. € 35 billion.

Projects of longer term interest (works to start by 2020) - With forecast traffic growth from today to 2020 and beyond, congestion, environmental or other bottlenecks are likely to occur in the medium to longer term. Projects in this category aim at addressing these bottlenecks before they become too acute and costly to the users and operators. This category includes typically the second stage of a project that increases the infrastructure capacity gradually, the first phase being among projects ready to start prior to 2010. The cost of these projects is estimated at app. € 10 billion.

The Commission also proposes the endorsement of the horizontal measures outlined by the HLG as the basis for cooperation in view of making transport along the axes more rapid and effective. These measures aim at gradually approximating the neighbouring countries’ legislation and policies with the relevant acquis communautaire; they concern all transport modes and include, among others:
Ensuring technical, legal and administrative interoperability with systems in the EU as regards e.g. railway networks, signalling systems, infrastructure charging schemes.

Speeding up border crossing procedures by implementing without delay the relevant international conventions, as already adopted in the EU, by introducing “one-stop” offices through shared facilities, simplification and harmonisation of trade and transport related documentation in line with the EU practice.

Implementation of new technologies like traffic management and information systems in all modes (notably ERTMS and SESAR), including satellite navigation (Galileo), that are effective and compatible with those implemented in the EU territory.

Measures to improve safety and security and working conditions in all transport modes, e.g. through harmonisation of standards and procedures at the highest level of performance.

Application of international conventions, social and environmental impact assessment, public procurement procedures etc. in accordance with the EU standards, donors' funding rules and best international practice.

1.4 TINA Turkey

TINA Turkey project aims to identify future TEN-T in Turkey. To this end, the International Consortium led by TINA Vienna carrying out the TINA Turkey project proposed a two-step approach just like the one used for the original TINA process with a backbone network and additional network components which was also supported by the European Commission. Accordingly, the backbone network was to comprise

- the Turkish part of Pan-European Corridor IV from the Bulgarian/Turkish border to Istanbul
- the southern branch of TRACECA: Istanbul - Batumi/Gumri (road) and Istanbul – Sivas – Kars/Gumri (rail)
- the Turkish parts of the South-East Axis defined by the HLG II

In this sense, network schemes defined by the United Nations Economic Commission for Europe (UNECE) through AGC (European Agreement on Main International Railway Lines), AGR (European Agreement on Main International Traffic Arteries) were left to additional components. This methodology is completely in line with the original TINA process as discussed above. In the same vein, the extension of TEN-T into Turkey was proposed to base on corridor extension approach rather than a network. The following maps are the proposed backbone network of the TINA-Turkey which is prioritized by the European Commission and the International Consortium:
Although the European Commission aimed at applying the same methodology to Turkey as the one applied to the CEECs, Turkey poses a different case for the EU. Turkey is in Custom Union with the EU since 1996. As argued before, the CEECs lacked a well developed transport network. However, Turkey has a relatively
developed transport network especially in the Western part. Furthermore, maritime transport accounts for a great deal of foreign trade of Turkey (in terms of tonnage):

<table>
<thead>
<tr>
<th>Years</th>
<th>Maritime %</th>
<th>Rail %</th>
<th>Road %</th>
<th>Air %</th>
<th>Other %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>87,3</td>
<td>0,7</td>
<td>9,7</td>
<td>0,2</td>
<td>2,1</td>
</tr>
<tr>
<td>2003</td>
<td>87,6</td>
<td>0,8</td>
<td>10,5</td>
<td>0,1</td>
<td>1</td>
</tr>
<tr>
<td>2004</td>
<td>87,4</td>
<td>1,2</td>
<td>10,3</td>
<td>0,1</td>
<td>1</td>
</tr>
<tr>
<td>2005</td>
<td>86,0</td>
<td>1,2</td>
<td>11,9</td>
<td>0,2</td>
<td>0,7</td>
</tr>
</tbody>
</table>

The main partners of Turkey for exports and imports are in Europe. In 2004, Turkey has 35.84 million tones of imports (total 113.83 million tonnes) with its partners in Europe and 29.29 million tones exports (total 60.51 million tonnes). Transport connections with the European Union countries have been already established and functioning. It seems reasonable to argue that Turkish economy has been already integrated into the EU economy. Therefore, the EU interest in extension of the TEN-T into Turkey seems to concern the connections to the neighbors of Turkey in Caucasus and Middle East and beyond such as Central Asia and North Africa. Indeed, this is exemplified by the South-Eastern Axis of High Level Group chaired by the Loyola de Palacio. In 2006 Progress Report on Turkey, the European Commission emphasized on this exercise and stated that the EU expects Turkey to implement the outcome of this exercise. Although the fact that Turkey is treated as a neighboring country in this exercise despite its candidate status since 1999 causes unrest in Turkey, it is likely that the European Commission will aim at channeling pre-accession EU funds and implementation of TEN-T in Turkey to implement the sections of South-Eastern European axis on Turkey.

Comparing the extension of TEN-T into CEECs and into Turkey, it might be argued that in both cases the EU pursued its own interest through ‘corridor-making’ by prioritizing connecting the CEECs to EU15 in the former, and by prioritizing connections which Turkey offers for the Caucasus, Middle East and North Africa in the latter. It both cases, the internal needs of countries to develop a network inside seem to be of secondary importance.

However, Turkish side did not accept this methodology and proposed for a one-step and one-network approach. Accordingly, the main inputs to the TINA-Turkey:

- Pan-European transport Corridors (i.e. Corridor IV) and Areas (Black Sea PETrA)
- Final Report of the High Level Group for “Extension of the major trans-European transport axes to the neighbouring countries and regions” chaired by Ms. Loyola de Palacio (HLG)
The TRACECA transport corridor connecting Europe through the Caucasus to Central Asia, has been developed since 1991 playing an important role in the continued development of these regions.

The European agreement on main international railway lines (AGC) of 1975 and 1985 respectively the E-rail networks as they were elaborated by United Nations Economic Commission for Europe (UN-ECE).

After the traffic forecasts carried out by the consultant, the Core Network 2020 for Turkey, comprising about 8210 km of roads, about 7124 km of railway lines, out of which are 684 km planned lines, 23 airports, out of which are five international connecting points, nine community connecting points and nine regional connecting points and 13 out of which are twelve international seaports and one regional seaport, is the base for bilateral discussions between Turkey and the European Commission.

The following maps are to be agreed by the Turkey and by the European Commission:
1.5 **Turkish Transport System**

TEN-T policy is the 21st chapter of accession negotiations between the EU and Turkey, yet it does not entail legislative harmonization in the pre-accession era but definition of a network in line with the TEN-T guidelines. TINA project in Turkey is meant to serve this purpose. Turkey’s accession into the EU does not only require legislative harmonization but also alignment with the EU policies. This is especially relevant to TEN-T as its development has been influenced by different EU policies such as economic growth, employment, sustainable development and cohesion. In this sense, definition of a future TEN-T network should be accompanied by research on the impacts which the completion of TEN-T might accrue on growth, competitiveness, employment, cohesion and maybe most importantly environment considering the prevalence of sustainable development in EU policy making. Turkey should follow the EU policies in these fields very closely and their implications for transport infrastructure provision considering the uneven share of the transport modes in Turkey.

Transport infrastructure investment in Turkey seems to be led by political and economic rationales as sustainable development and environmental concerns have very limited role. In 1950 in the passenger transport, the distribution among the transport modes was like: %49.9 highways, %42.2 railways, %7.5 seaways and %0.6 airways. On the other hand in inland freight transport, railways had %55.1 share, seaways had %27.8 share and the highways had %17.1 share.

With the support of the US’s Marshall Plan and foundation of General Directorate of Highways in 1950, highways entered a state of rapid development. But similar developments were not experienced in the other modes of transport. While highways continued to have certain developments, railways and seaways began to lose their efficiencies in transport. The condition also did not change in the planned development that began in 1963. One of the reasons of the imbalance between transport modes are the investment programs and applications. 7

In the same vein, Babalik (forthcoming) 8 argues that the development of the rail network was the main priority until 1950s and since then road oriented transport policy has dominated the transport policy as a result of both the technological advances in road and car industry and the US Federal Government aid that was received to invest in the development of the road network.

*Babalik* argues that the common theme of all the development plans since 1970s has been the dominance of road transport in passenger and freight transport and negative implications on economy. The objectives of the development plans have been to remedy this imbalance by improving alternatives to road. Furthermore, such a policy has been justified by solely on economic grounds by emphasizing the need to reduce petrol-dependency. Yet, the environmental concerns got into the development plans

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7 *Transport Master Plan Strategy for Turkey, Istanbul Technical University, 2005*
starting with the 7th (1996-2001). On the other hand 8th Development Plan (2001-2005) included the concept of sustainability.

Although policy documents adopted pro-rail sustainable transport perspective, the implementation seems to be far from complying. For instance, 7th Development Plan which introduced the environmental problems into transport investment policy allocated 88% of transport funds on roads and air transport. Yet, 8th Development plan seems to have changed this trend slightly as the share of railways in funds increased 19% in 2003 and almost 20% in 2004. (Babalik forthcoming)

Transport investments on modes between 1995-2004:

Babalik (forthcoming) argues that even if it is possible to interpret these changes as a shift towards pro-rail transport investment policy, it has not yet materialised in implementation.

Currently, 95% of passenger and 90% of freight transports are realized through highways in intercity domestic transport, whereas these percentages are 84.9 and 43.5 for passenger and freight transport respectively in the average of EU-25 countries. In the EU countries, 42.9 % of the freight transport is realized through maritime and inland waterways transportation, and 13.4 % is handled through railways and pipelines.9

<table>
<thead>
<tr>
<th>Turkey:</th>
<th>Passenger (%)</th>
<th>Freight (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>95,21</td>
<td>90,47</td>
</tr>
<tr>
<td>Rail</td>
<td>3,15</td>
<td>4,52</td>
</tr>
<tr>
<td>Maritime</td>
<td>0,02</td>
<td>4,84</td>
</tr>
<tr>
<td>Air</td>
<td>1,62</td>
<td>0,17</td>
</tr>
</tbody>
</table>

Turkstat(2002)

The total railway network in Turkey is 10.984 km length and 8.697 km of this figure is the main lines. On this railway network, 20% is electrified and 23% is signalized. In

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9 EU Energy & Transport Statistics (2005)
terms of railway density, with 11.1 km/1000 km², Turkey has the lowest figure among the European Union member and candidate countries. In terms of total traffic per km which shows the utilization ratio of the network, Turkey is well behind the 3.2 European Union average. Moreover, Turkey is also lagging with 20 percent in terms of electrified lines than the 50 percent European Union average, which is important for block-train operation.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Highway density km/km²</th>
<th>Motorway density km/km²</th>
<th>Railway density km/1000 km²</th>
<th>Annual air transport traffic (1.000 passenger)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Czech Republic</td>
<td>0.737</td>
<td>0.006</td>
<td>121</td>
<td>7.788</td>
</tr>
<tr>
<td>France</td>
<td>0.715</td>
<td>0.017</td>
<td>58</td>
<td>96.296</td>
</tr>
<tr>
<td>Germany</td>
<td>0.675</td>
<td>0.032</td>
<td>101</td>
<td>121.136</td>
</tr>
<tr>
<td>Belgium</td>
<td>0.571</td>
<td>0.056</td>
<td>113</td>
<td>15.087</td>
</tr>
<tr>
<td>Austria</td>
<td>0.444</td>
<td>0.019</td>
<td>71</td>
<td>15.799</td>
</tr>
<tr>
<td>EU-25</td>
<td>0.454</td>
<td>0.014</td>
<td>51</td>
<td>32.408</td>
</tr>
<tr>
<td>Turkey</td>
<td>0.196</td>
<td>0.002</td>
<td>11</td>
<td>34.267</td>
</tr>
</tbody>
</table>

Source: Sectoral Operational Programme for Transport, Draft, prepared by the Ministry of Transport for IPA programming.

Although 86% of foreign trade in terms of tonnage is realized by maritime, domestic maritime transport is very low with a figure of 3.6%. 2.33 million TEU containers and 200 million tons of cargo were handled at Turkey as of end of 2005. The cargo tonnage handled per port is low compared to the cargo tonnage handled at European Union Mediterranean Ports. The share of maritime investments out of total transport investments is realized as 2.4 % in the last decade. Since large-scale port investments are not realized on time, increasing trade creates a situation in which small-scale ports and piers are constructed, which in turn disperses freight traffic. At the end, since the economy of scale could not be caught, enough freight could not be attracted.

Table: Container Traffic in Mediterranean Ports (2003)

<table>
<thead>
<tr>
<th>Ports</th>
<th>Container (thousand TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gioia Tauro – Italy</td>
<td>3.149</td>
</tr>
<tr>
<td>Algeciras – Spain</td>
<td>2.516</td>
</tr>
<tr>
<td>Valencia – Spain</td>
<td>1.993</td>
</tr>
<tr>
<td>Genoa – Italy</td>
<td>1.606</td>
</tr>
<tr>
<td>Barcelona – Spain</td>
<td>1.652</td>
</tr>
<tr>
<td>Piraeus – Greece</td>
<td>1.605</td>
</tr>
<tr>
<td>La Spezia – Italy</td>
<td>1.007</td>
</tr>
<tr>
<td>Marseille – France</td>
<td>833</td>
</tr>
<tr>
<td>Izmir - Turkey (Aegean)</td>
<td>701</td>
</tr>
<tr>
<td>Mersin - Turkey (Mediterranean)</td>
<td>467</td>
</tr>
<tr>
<td>Haydarpaşa - Turkey (İstanbul)</td>
<td>244</td>
</tr>
</tbody>
</table>

55.5 million passengers have been carried in 35 airports in year 2005. Most of this traffic have been realized at Atatürk, Antalya, Esenboğa, Adnan Menderes, Dalaman, Bodrum/Milas, Adana and Trabzon Airports. The capacity increase in these airports is unavoidable.

In Turkey, casualties and injuries, as well as economic losses resulting from traffic accidents persist being a serious issue. According to 2004 traffic statistics, a total of 537,000 road accidents have taken place in Turkey that year on urban and intercity highways, with total casualties of 4,428, total number of injured reaching 136,229. Casualties resulting from road traffic accidents are roughly 5 times more than the EU average.

As of beginning of 2006, the total length of the state and provincial road network (excluding rural roads) is 63,714 km, of which 31,371 km are state roads, 30,568 km are provincial roads and 4,424 km are still unpaved. The total length of roads having hot-mix asphaltic concrete pavements capable of handling heavy axle loads is only 7,080 km (excluding motorways). Thus, superstructure upgrading of approximately 10,000 km of roads having average daily heavy vehicle traffic more than 1,000 vehicles through construction of hot-mix asphaltic concrete pavements is a major priority. The multi-lane road network in Turkey currently stands at 10,286 km, including 1,775 km of motorways. The new dual carriageways have been paved mostly with surface treatment asphalt.

Ministry of Transport (MoT) has the biggest responsibility in this sense together with its central institutions and related and affiliated bodies. DG Land Transport, (MoT) is responsible for policy making in land transport, whereas DG Highways, which is under Ministry of Public Works and Settlement, is the constructing body for road infrastructure. Concerning, railways, Turkish State Railways (TCDD), which is an affiliated body of MoT, fulfills the duty of operation and maintenance of the rail infrastructure.

Undersecretariat of Maritime Affairs, which is also a related body of MoT, is responsible for the maritime affairs except construction. As the last mode of transport, regarding air transport, there are three responsible bodies in charge of the policy making and supervision (DG Civil Aviation), of operation and infrastructure construction (DG State Airports Authority). On the other hand, DG Construction of Railways, Ports, Airports (MoT) is responsible for the construction of infrastructure in maritime, air and rail transport.

State Planning Organization coordinates all investments and drafts national development plans which give it a strong leverage thereby further weakening the role of MoT for developing transport strategies.
SWOT analysis of Transport System in Turkey:

<table>
<thead>
<tr>
<th>Strength</th>
<th>Weakness</th>
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<tbody>
<tr>
<td>✔ Turkey’s strategic position regarding the transit transport between Europe and Asia, as well as Europe and Middle East</td>
<td>✔ The imbalance among different modes</td>
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<tr>
<td>✔ Development opportunity for hub port facilities on the Aegean sea, and Mediterranean sea, which could create East-West and North-South traffic flow in reaching Caucasian markets and Middle East regions directly</td>
<td>✔ Low highway and railway density</td>
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<tr>
<td>✔ Public support on rail and maritime investments</td>
<td>✔ Mostly single track and old rail network</td>
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<td>✔ Rail transport without transfer after the completion of Marmaray project</td>
<td>✔ Dependence on imported technology on all system construction</td>
</tr>
<tr>
<td>✔ Eligibility of Turkey’s geographical structure for efficient long-distance rail transport</td>
<td>✔ Inadequate connection between national networks and regional growth poles</td>
</tr>
<tr>
<td>✔ Restructuring of Turkish Railways</td>
<td>✔ Insufficient public finance resources</td>
</tr>
<tr>
<td>✔ Economic advantages due to formerly established free trade zones</td>
<td>✔ Lack of statistical data and information system</td>
</tr>
<tr>
<td>✔ The existence of well-organized firms with high capacity fleet in international road transport</td>
<td>✔ Inadequate infrastructure in some ports and its hinterland</td>
</tr>
<tr>
<td>✔ Application of the rules and procedures of EU in air transport due to the membership in international organizations.</td>
<td>✔ Lack of long term plans especially in air transport sector.</td>
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<tr>
<td>✔ Successful implementation of Build-Operate-Transfer model especially in airport and terminal construction</td>
<td>✔ Lack of efficient and trained staff</td>
</tr>
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<td></td>
<td>✔ Conventional type port infrastructure and lack of specialised container port system</td>
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Opportunity

| ✔ The potential for shifting the passenger and freight transport between Turkey, Central Asian Turkic republics and Middle East to railway transport | ✔ The future implementation of North-South transport corridor by Russia-Iran-India which may threaten the role of Turkey between Europe and Asia |
| ✔ The strategic position of Turkey close to emerging markets in Middle East and Caucasia with increasing demand | ✔ The regional conflicts which interrupt the transport services with the neighboring countries |
| ✔ Increase in the amount of freight due to the implementation of Ro-La transport and establishment of logistic villages | ✔ High dependence on imported fuel resources for transport               |
| ✔ Great capacity to raise the share of aviation in the other transport modes through Regional Aviation Policy | ✔ Delay of completion of projects that are results of TINA, because of the insufficient EU funds |
| ✔ Potential of İstanbul to be aviation hub between Europe and Asia. | ✔ Competition with other ports in the Mediterranean                     |

Source: Sectoral Operational Programme for Transport, Draft prepared by the Ministry of Transport for IPA programming.

1.5.1 9th Development Plan (2007- 2013)

9th Development Plan (2007-2013) identifies the strategic goal of transport sector as establishment of rapid and safe transport infrastructure that will increase the competitive power of the country. In line with this strategic goal, 9th Development Plan puts forward four thematic subjects for transport policy:
Establishment of an Efficient Transport System.
Improved Safety and Security.
Integration with Europe and Neighbouring Economies
Environmental and Financial Sustainability

9th Development Plan includes sectoral priorities, as well:

**Railway Transport Priorities:**
- Improvement of private sector train operations to make freight transport predominantly by railway.
- Restructuring TCDD to decrease its financial burden on public sector.
- Realisation of railway connections by PPP models and private sector vehicle investments.
- Realisation of high-speed train passenger transport on the railway network whose center will be Ankara (İstanbul-Ankara-Sivas, Ankara-Afyonkarahisar-İzmir, Ankara-Konya)
- Utilisation of PPP models in construction and operation of the lines on high-speed train network.

**Maritime Transport Priorities:**
- Improvement of port capacities within EU transport networks (especially in surroundings of İzmir, Marmara and Mediterranean regions)
- Completion of road and rail links of main ports in line with the aim of making the ports logistic centres. Turkey’s Mediterranean Region is supported to be an important logistic centre of Eastern Mediterranean.
- Increasing investments for ports and ships to improve transport in Short Sea Shipping
- Improvement of Flag and Port State control

**Air Transport Priorities:**
- Improvement of capacity of terminals and airside structures in major airports.
- Modernization and Harmonisation of ATC (Systematic Modernisation of ATM Resources in Turkey-SMART).
- Improvement of safety and security measures
- Development of regional air transport

**Road Transport Priorities:**
- Traffic Safety
  - Elimination of “black spots” at which traffic accidents are concentrated.
  - Installation of guardrails, traffic signs, horizontal road markings with thermoplastic paint, improvement of peripheral roads.
  - Dual carriageway construction on major axis and establishing ring roads around city centres.
  - Improvement of mobile traffic controls and performing traffic safety audits of the existing roads.
  - Development of educational programs in association with the NGOs.
  - More efficient overloading controls through state-of-the-art weight control stations.
- Improved Mobility and Accessibility
  - Asphalt pavement of all State and provincial roads
  - Increasing the percentage of roads with Asphalitic Concrete Pavement from 14% up to 25% within 7 years
- Establishment of an environmentally sound sector
• Diversion of a greater share of passenger and goods transport to “cleaner” modes such as railways.
• Basing all new highway projects on sound environmental impact assessments.
• Conforming average age and technical characteristics of the truck fleet’s with the EU norms.
• Improvement of road maintenance and repair activities that are carried out exclusively in-force by the state highways authority through more involvement of the private sector.

➢ A sustainable competitive market structure.
• Priority given to the establishment of a market structure with fewer but stronger and more institutionalized transport firms following fair competition rules & standards and personnel policies in line with EU norms
• Adoption of the Acquis Communitaire and other pending international conventions.
• Monitoring all transport activities with the new database system being set up at the Ministry of Transport.

In order to achieve the strategic goal i.e. establishment of rapid and safe transport infrastructure that will increase the competitive power of the country, 9th Development Plan defines sectoral objectives in terms of investment for the period 2007-2013:

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<th>2006</th>
<th>2013</th>
<th>2007-2013</th>
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<tbody>
<tr>
<td>Railway Mainline Length (km.)</td>
<td>8257</td>
<td>9195</td>
<td>938</td>
</tr>
<tr>
<td>Total Length of Dual carriage Highways (km.)</td>
<td>9441</td>
<td>15000</td>
<td>5559</td>
</tr>
<tr>
<td>Asphalitic concrete pavement state and provincial roads (km.)</td>
<td>7500</td>
<td>14500</td>
<td>7000</td>
</tr>
<tr>
<td>Air Transport Passenger Traffic (million passenger)</td>
<td>60</td>
<td>110</td>
<td>50</td>
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Although the rail transport is given a great deal of coverage in the 9th Development Plan, it seems unlikely to consider the Plan as ‘pro-rail’. Rather, the Plan rests upon the objective of increasing the share of alternatives to road and this does not necessarily mean the dominance of rail development in the Plan. Overall, 9th Development Plan contains very general objectives. For instance, any transport measure can be justified by the Plan’s objective of “Establishment of an Efficient Transport System”. Therefore, it is difficult to analyse the Plan for any bias it is meant to have. Rather, rail transport is given a greater importance with tangible projects (such as High Speed Train network with Ankara being at the centre) once the current Plan is compared to the previous ones.

9th Development Plan entails environmental sustainability as a thematic subject. However, internal consistency of the objectives seems to be lacking as the record breaking air transport growth is supported and accessibility through road is still a major concern. Furthermore, Turkey aims to strengthen its role as a transit country having the transport connections between the EU, Middle East, and Caucasus and beyond. Such as role means concentration of traffic flows on Turkey which would be at odds with sustainability perspective. ‘Growth’ seems to be the catch-word in Turkey as economic growth in general and growth in transport are desired objectives with no concern for sustainable mobility. A sustainability analysis of the Turkish
transport system based on the growth rates in economy and transport, the quality/capacity of the transport system and regional development effects would be important for aligning with the EU sustainable mobility policies.

As Babalik (2007) puts it, the dominance of road transport, the strength of road transport lobby and the short-term vote-winning policies of the politicians are main obstacles for pro-rail policy in Turkey. Roughly 5 million people are employed in road transport sector out of around 25 million-workforce in Turkey. The public reaction led by the big bus company lobby to the train crash in 2004 on the ‘accelerated’ rail line between Ankara and Istanbul has been illustrative in this sense. On the other hand, the same lobby has been demanding value added tax reduction for bus services by arguing that reductions in special consumption tax for maritime transport and air transport companies have disadvantaged the bus companies with comparison to the latter in passenger transport.

1.6 RECOMMENDATIONS

The development of TEN-T has been also politically driven once the role of intergovernmental High-Level groups are considered, namely the Christophersen Group and Van Miert Group in the definition and revision of guidelines in terms of priority projects and TINA senior officials and de Palacio Group on the extension of TEN-Ts to CEECs and to neighboring countries. It is important that Turkey follows such initiatives very closely. Pan-European corridor 4 ends in Istanbul and a land corridor of TRACECA passes through Northern Turkey connecting Balkans to Caucasus. Besides, one of the transnational axes of High Level Group namely South-Eastern European axis passes through Turkey giving the EU connection towards Caucasus, Middle East and North Africa. TINA network in Turkey will compile all the network components of these different initiatives into one network. In this sense, a strategy for international corridors is needed in Turkey for optimizing the role of transit country in the region despite the political problems.

However it must be also noted that extension of TEN-T is not meant to provide connections between the EU and Caucasus and Middle East. A network approach should be pursued in Turkey rather than merely playing a bridge role. It seems reasonable to argue that the European Commission is likely to attribute Turkey a corridor role exemplified by the South-Eastern European axes which would also be the extension of pan-European corridor 4. The possible outcome of such a development would be to focus on East-West corridor thereby hindering the development of a true network in Turkey in line with TEN-T guidelines. In this sense, the development of North-South connections in Turkey should be also considered especially in the Eastern Turkey where the proposed TINA network seems to lack a network characteristic but only to comprise connections to the neighboring countries. Furthermore, unleashed potential of maritime transport in Turkey in Black Sea and the Mediterranean should be investigated through active participation in development of Motorways of the Sea. The fact that the EU has become an important actor in the Black Sea region with the recent enlargement including Bulgaria and Romania further justifies such a policy.
Considering cohesion effects of transport infrastructure, the proposed TINA network for Turkey is not accompanied by such analysis. Besides, as argued before, the less developed Eastern Turkey is not well covered by the TINA network which brings the question “Does this network promote economic and social cohesion in Turkey?” In order to ensure sound development of TEN-T in Turkey, the development of secondary and periphery networks which give connections to the main network should be also analyzed. Under the new pre-Accession Instrument IPA, Turkey is supposed to channel investments in transport, environment, human development, SMEs and energy in order to promote regional competitiveness. However, Investment in transport infrastructure is directed at TEN-T projects in order to have consistency with the multi-annual planning document objectives prepared by the European Commission for programming the IPA resources. Yet, this poses a problem since TEN-T projects focus on international trade routes (rail connections with Greece and Bulgaria through geographical and sectoral concentration as proposed by the Commission), and environment, SMEs and human development investments concern in particular Objective 1 regions in Turkey. Investment in regional links would better fit into this picture.

The definition of a future TEN-T network is only the first step and the next one being the implementation of projects on the network. The horizontal issues are as important as the network itself. Interoperability, intermodality, traffic management systems are important issues to deal with. Implementation of TEN-T projects in the EU suffered serious delays due to financial, administrative and political obstacles. In this sense, Turkey must make use of lessons learned especially in the CEECs on the implementation of TEN-T projects. The following issues are among the lessons learned in the CEECs experiences of ISPA implementation:

- absorption capacity
  - ownership by national authorities
  - efficient coordination of national institutions
  - enhancing project implementation capabilities at central, regional and local level
  - qualified and experienced staff in institutions involved with implementation of Community assistance for procurement, financial management
  - sound regulatory and legal framework (PPP and public procurement)
  - cooperation with International Financing Institutions

- project pipeline consisting of mature projects having Environmental Impact Analyses, feasibility studies, cost benefit analysis in EU standards

- participation of public and NGOs in process from the drafting of strategy documents and project selection stages; easy access to information in particular in native language

- the ultimate goal of the pre-accession funds implementation: is it to spend the money? Transformative impact of EU pre-accession process in terms of planning thinking, transparency, rules, monitoring/supervision etc. should be also valued.
Turkey has two EU Member States neighbors: Greece and Bulgaria. Indeed, Turkey’s connections to TEN-T is through Greece and Bulgaria. On the other hand, Romania is an important trade partner in region. Turkey co-chairs the Steering Committee of Pan-European Transport Corridor 4 and a similar role might be expected for South-East European Transport axis. In this sense, bilateral or regional cooperation for development of TEN-T would be useful not only in terms of regional cooperation but also for benefiting from the experiences of older and most recent EU members since under the new pre-Accession Instrument IPA, the European Commission insists on channeling the investments on rail connections with Greece and Bulgaria with a geographical and sectoral concentration understanding.

Considering the importance of financing and the limited grant contribution from the EU, TEN-T projects in Turkey would be mainly financed by Turkey through combination of national budget, EU grants, European Investment Bank and other IFIs loans. Indeed, a financial engineering for the completion of TEN-T in Turkey up until 2020 might be necessary. The possible contribution of PPPs should be better valued.

Since 1980s, Build-Operate-Transfer (BOT) model has been frequently used in Turkey. Furthermore, relevant legislation exists for Build-Operate-Transfer, Build-Operate, Build-Lease-Transfer, Transfer of Operating Rights and Long-term Leasing. Legislative framework is narrow in scope and scattered and there is no institution building for PPP implementations. However, a draft framework law has been prepared by the State Planning Organization covering the all models of PPPs and all sectors. Similarly, the draft law entails establishment of a central PPP unit which will enable coordination for implementation. The next step will be a law governing the tendering procedures and principles to be drafted by the Public Procurement Institution.

As this draft PPP law is expected to be adopted by the Parliament in 2007, an important research area would be to investigate the successful PPPs projects and models implemented in the EU and their applicability in Turkish transport infrastructure development.

In sum, it seems reasonable to argue that Turkey lacks research-based policy development in transport infrastructure and the following areas are ripe for research:

- environmental, economic growth, employment, cohesion and financial impacts of the completion of the future TEN-T network in Turkey: the total cost of TEN-T network in Turkey, impacts on the location of economic activities, induced international traffic from TEN-T, accessibility changes to be induced, monetary value of user time and operating costs savings, temporary and permanent employment effects of TEN-T, environmental effects and accident rates.
- the role of Turkey in international trade routes between the EU, the Black Sea region, Middle East and Caucasus and beyond for optimizing the different corridor initiatives such as TRACECA and South-Eastern European axis of HLG. An important issue is the analysis of transit country or hub role of Turkey i.e. whether this is possible or not. Policy Scenario development might
be applied (such as backcasting) in order to assess and develop Turkey’s position in Eastern Mediterranean, Black Sea, Caucasia, Middle East and the EU.

- Analysis of secondary networks giving regional connections to TINA network: the inadequacy of such secondary networks might impair accessibility and regional development. Secondary networks should be assessed with regard to quality/capacity and transport growth to be induced from development of TEN-T in Turkey.

- Special attention to be given to the Istanbul Straits which is already heavily congested. The development of the Motorways of the Sea might further exacerbate the situation of the Straits. A specific research might be carried out to analyze viable alternative routes to bypass the Straits in economical and environmental terms.

- Special attention to be given to the possible impacts of TEN-T development on urban transport in Istanbul considering the ongoing rail tube tunnel project, High Speed Train project and planned road tube tunnel project, third intercontinental road bridge devoted to international freight and third international airport project.

- Regional cooperation in the Balkan region for development of TEN-T in the region. A TAIEX workshop under the auspices of the Steering Committee of the Pan-European Corridor 4 for regional exchange would a starter.

- Research on PPPs and successful implementations in the EU and potential in Turkey for PPPs

To coordinate these research projects, a Transport Observatory inside the Ministry of Transport might be established which would turn into a policy implementation unit for TEN-T (a counterpart for TEN-T Executive Agency) Such an institution-building would provide a scientific basis for policy-making and enable Turkey to closely follow and align with the relevant EU policies.
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