PRIORITY ROAD INFRASTRUCTURE PROJECTS OF TURKEY

GENEVA, 10 Sep 2013
GENERAL DIRECTORATE OF HIGHWAYS

OUTLINE

- GENERAL OVERVIEW of ROAD NETWORK
- ROAD INFRASTRUCTURE INVESTMENTS
- VISION 2023 PPP PROJECTS
- PPP PROJECTS ON TEM & EATL NETWORKS
The road network excluding urban roads is about 385,000 km in length.
### General Overview of Road Network

**NATIONAL ROAD NETWORK**

<table>
<thead>
<tr>
<th>Road Type</th>
<th>Length (km)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorway</td>
<td>2.244</td>
<td>3.4%</td>
</tr>
<tr>
<td>State Road</td>
<td>31.362</td>
<td>47.8%</td>
</tr>
<tr>
<td>Provincial Roads</td>
<td>31.945</td>
<td>48.7%</td>
</tr>
</tbody>
</table>

**Total National Road Network (km): 65.551**

- The density of road network excluding urban roads is close to 50 km / 100 km²
- Total asset value of Motorway, State & Provincial Roads is approximately 62 Billion €
- The density of motorways per 1000 km² is 2.85
- EU 15 average of 17 and the new EU members average of 2.7.

**Road Network with Dual Carriageway (km):**

<table>
<thead>
<tr>
<th>Description</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>22.396</td>
</tr>
</tbody>
</table>

**TOTAL**
Turkish Road Network under General Directorate of Turkish Highways’ responsibility.
GENERAL OVERVIEW of ROAD NETWORK

DOMESTIC PASSENGER AND FREIGHT ROAD TRANSPORT

<table>
<thead>
<tr>
<th>Passenger and Freight Road Transport-2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Motorways</strong></td>
</tr>
<tr>
<td>(Million)</td>
</tr>
<tr>
<td>Ton-Km</td>
</tr>
<tr>
<td>Passenger-Km</td>
</tr>
<tr>
<td>Vehicle-Km</td>
</tr>
</tbody>
</table>

Freight Road Transport in 2012 (Ton-Km)

- Motorways: 22.56%
- State Roads: 70.20%
- Provincial Roads: 7.24%

- Total 79 % increase in vehicle-km in the period of 2003 and 2012
The percentage of heavy vehicles varies from 25% to 50% on Turkish Roads.
ROAD INFRASTRUCTURE INVESTMENTS

PERCENTAGE OF GDP USED FOR ROAD INFRASTRUCTURE INVESTMENT

<table>
<thead>
<tr>
<th>Year</th>
<th>Investment (EURO)</th>
<th>GDP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>1,301</td>
<td>%0,40</td>
</tr>
<tr>
<td>2004</td>
<td>1,491</td>
<td>%0,42</td>
</tr>
<tr>
<td>2005</td>
<td>1,956</td>
<td>%0,49</td>
</tr>
<tr>
<td>2006</td>
<td>2,338</td>
<td>%0,57</td>
</tr>
<tr>
<td>2007</td>
<td>2,298</td>
<td>%0,52</td>
</tr>
<tr>
<td>2008</td>
<td>3,216</td>
<td>%0,72</td>
</tr>
<tr>
<td>2009</td>
<td>4,015</td>
<td>%0,85</td>
</tr>
<tr>
<td>2010</td>
<td>5,331</td>
<td>%1,03</td>
</tr>
<tr>
<td>2011</td>
<td>5,857</td>
<td>1,19</td>
</tr>
<tr>
<td>2012</td>
<td>5,435</td>
<td>0,88</td>
</tr>
</tbody>
</table>
1. Staying competitive by reducing travel times and transport costs

2. Providing uninterrupted and safe road transportation

3. The improvement of mobility and road user comfort

4. Facilitating the distribution of economic prosperity to all regions of the country
General Directorate of Highways started the implementation of a highway upgrading program in 2003 involving the upgrading of existing single carriageway into dual carriageway.

**Missions and Goals**

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

**Current Situation**

The length of dual carriageway roads opened to traffic has reached to 16295 km including motorways in the period of 2003 and 2012.
DUAL CARRIAGEWAY NETWORK (01 Jan 2003)

1.714 Km
Total Motorway

4.387 Km
Dual Carriageway State and Provincial Roads

6.101 Km
TOTAL

DUAL CARRIAGEWAY NETWORK (01 July 2013)

2.244 Km
Total Motorway

20.152 Km
Dual Carriageway State and Provincial Roads

22.396 Km
TOTAL

Highway Network: 63.143

Highway Network: 65.551
D 100 HIGHWAY: Kapıkule Border Gate (Bulgaria)-Edirne-İstanbul–Gerede-Amasya-Erzincan–Erzurum-Ağrı-Gürbulak Border Gate (Iran)
Total Length: 1792 km

D 300 HIGHWAY: Çeşme-İzmir-Afyon-Konya-Nevşehir–Kayseri-Malatya-Elazığ-Bingöl-Muş-Bitlis-Van-Kapıköy Border Gate
Total Length: 1920 km

We pay attention to construction and improvement of two Main Corridors (D 100 & D 300) which connect Europe with Caucasia & Central Asia.
### ROAD INFRASTRUCTURE INVESTMENTS
#### DEVELOPMENT OF NORTH-SOUTH AXES
**(BLACK SEA-MEDITERRANEAN)**

<table>
<thead>
<tr>
<th></th>
<th>Dual Carriageway</th>
<th>Single Carriageway</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Operation</td>
<td>8,299</td>
<td>524</td>
<td>8,823</td>
</tr>
<tr>
<td>Under Construction</td>
<td>1,251</td>
<td>224</td>
<td>1,475</td>
</tr>
<tr>
<td>Will Be Tendered</td>
<td>1,163</td>
<td>288</td>
<td>1,451</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10,713</strong></td>
<td><strong>1,036</strong></td>
<td><strong>11,749</strong></td>
</tr>
</tbody>
</table>

**Note:** The table above represents the current status of road infrastructure investments for the development of North-South axes in the Black Sea-Mediterranean region. It includes the number of kilometers in operation, under construction, and tendered for each category of carriageway (dual and single). The total number of kilometers is calculated for each category and summed to provide the overall total.
ROAD INFRASTRUCTURE INVESTMENTS

MOTORWAYS

MOTORWAY NETWORK

IN OPERATION.......................................................... 2244 KM
2023 VISION IN 100TH ANNIVERSARY OF THE FOUNDATION OF TURKISH REPUBLIC.

- Population: 85 Million
- GDP per Capita: 25,000 $
- The world’s 10th largest economy: GDP 2 Trillion $
- 500 Billion US $ Export

**Mobility**
- 70,000 Km Road Network paved by BHM
- 378 Billion passenger x km
- 422 Billion ton x km
- 5,550 Km New Motorway by BOT
- Motorway Network 7,827 km
- 1,000 Km$^2$ 10.1 Km

**Traffic Safety**
- Fatality per 100 Million Vehicle x Km < 1

**2023**
- Dual Carriageway Road Network with a length of 36,827 Km
ONGOING PPP PROJECTS

- İSTANBUL -İZMİR MOTORWAY (INCLUDING İZMİT BAY CROSSING AND CONNECTING ROADS)
  - Investment Cost is 6.3 Billion US $

- NORTHERN MARMARA MOTORWAY, ODAYERİ PAŞAKÖY SECTION (INCLUDING 3. SUSPENSION BRIDGE) PROJECT
  - Investment Cost is 2.5 Billion US $

- SABUNCUBELİ TUNNEL PROJECT
  - Investment Cost is 55 Million US $
İstanbul-İzmir Motorway is one of the biggest Build Operate Transfer (BOT) projects in the world which includes World 4th suspension bridge (İzmit Bay Bridge) with a longest central mid span 1550 m.

- Project consists of 2682 m suspension bridge, 377 km motorway + 44 km connecting roads,
- Total investment cost of the project is about 6.3 billion USD.
- The BOT Contract was signed at 27.09.2010. According to contract, the contractor will build the project in 7 years, and operate the motorway for 15 years and 4 months.
- Length of the road between Gebze-İzmir will be shorten by 90 km. Travel time from Istanbul to İzmir will decrease from 8 hours to 4 hours.
### GEBZE-ORHANGAZİ-İZMİR MOTORWAY
(INCLUDING İZMİT BAY CROSSING AND CONNECTING ROADS)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motorway Length</td>
<td>377 km</td>
</tr>
<tr>
<td>Connecting Road Length</td>
<td>44 km</td>
</tr>
<tr>
<td>Suspension Bridge Length</td>
<td>2,682 m</td>
</tr>
<tr>
<td>Mid Span</td>
<td>1,550 m</td>
</tr>
<tr>
<td>Approach Viaduct</td>
<td>1,378 m</td>
</tr>
<tr>
<td>Number of Viaducts</td>
<td>30</td>
</tr>
<tr>
<td>Total Viaduct Length</td>
<td>18,212 m</td>
</tr>
<tr>
<td>Number of Tunnels</td>
<td>2</td>
</tr>
<tr>
<td>Total Tunnel Length</td>
<td>5,142 m</td>
</tr>
<tr>
<td>Number of Bridges</td>
<td>199</td>
</tr>
<tr>
<td>Toll Plazas</td>
<td>20</td>
</tr>
<tr>
<td>Service Facilities</td>
<td>11</td>
</tr>
<tr>
<td>Parking Lots</td>
<td>7</td>
</tr>
<tr>
<td>Interchanges</td>
<td>25</td>
</tr>
</tbody>
</table>
3rd Strait Suspension Bridge: 1875 meter long with a mid span 1408 m.
59 m platform width (2x4 lane highway and 2x1 lane railway) and 322 m tower height.
The longest suspension motorway bridge with railway in the world.

Signed at 20.04.2012.


Construction & Operation: 10 years 2 months 20 days.

Construction period: 2 years and 6 months

Operation period: 7 years, 8 months and 20 days

Total Investment Amount: 2.5 billion $

Bridge Toll Price for car: 3 $

Motorway Toll Price for car: 0.08 $
/km
- Total length of TEM road network 6941 km composing of 28% of TEM Network
- Almost all TEM network is in dual carriageway standards with Bituminous Asphalt Hot Mix. (2013)
- İstanbul-İzmir Motorway with a length of 421 Km and section having a length of 95 km of North Marmara Motorway (incl. 3rd strait bridge) are under construction by BOT
- Part of TEM network & EATL Routes.
- 285 km motorway (2x3 lanes) + 57 km connecting roads (2x2 lanes),
- Total Length: 342 km.
- Cost: 1.7 Billion USD
- Feasibility and design works were completed.
GEREDE-MERZİFON-GÜRBULAK MOTORWAY PROJECT

- Consist of two sections: Gerede-Merzifon & Merzifon-Gürbulak.
- Gerede-Merzifon: 357 km, 2,6 Billion US $ 
- Merzifon-Gürbulak: 919 km, 7,1 Billion US $ 
- Design of the project is still continuing.
- Finish: Gerede-Merzifon 2018  Merzifon-Gürbulak 2023
Total length: 472 km, Cost of the Project: 2.6 Billion US $.
Consist of two sections Ankara-Kırıkkale-Delice & Delice-Samsun.
Feasibility studies are continuing within the framework of project consultancy contract.
THANK YOU VERY MUCH FOR YOUR ATTENTION

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