

Railway Vision in the Century of Türkiye

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In recent years, Türkiye has undergone a significant investment period in the field of transportation. To date, the Ministry of Transport has spent 65 percent of its investment budget on highways, and allocated \$40 billion of the total investment of \$194 billion for railways. With the completion of the highway infrastructure, railway investments have gained intensity and exceeded 60% today. The 2053 Transport and Logistics Master Plan was announced and a railway investment of \$64 billion was planned within the framework of this plan. By 2053, \$64 billion of railway investment will be made in our country.

Türkiye's Strategic Importance in Transportation

Türkiye is located in the middle of the East-West and North-South axis, which are the most important logistics corridors in the world. Located in the center of Eurasia, with a flight of only 4 hours, we are in a strategic region with 67 countries, 1.6 billion people, \$43 trillion of gross national product and \$11 trillion of trade volume. The larger the share of our country in these trade volumes, the more our country will earn. Türkiye will gain more importance in this region with the cooperation to be made from China to London, from the Persian Gulf to the Black Sea, the Mediterranean, Europe and the Caucasus.

Today, the trade volume in the world is around 15 billion tons. By 2030, this amount will increase to 25 billion tons, and by 2100, it will increase to 150 billion tons.

Istanbul and the Marmara Sea are in the middle of the trade volumes in the world. As of today, we are located in an area where 649 million tons of cargo are moving. In order to get more share from this commercial movement, we need to invest more and further develop our cooperation with the countries in these logistics corridors.

*One of the most important agenda items here is **the Development Path**. An important logistics corridor, which Türkiye attaches importance and works on, is planned to be opened in the coming years, starting from the Persian Gulf in the Indian Ocean and reaching Europe, the Caucasus, the Black Sea and the Mediterranean when the 1200-*

kilometer highway and railway from Iraq's Faw Port to our country is integrated with the middle corridor as an alternative to the Suez Canal. All countries in the Persian Gulf, Saudi Arabia, UAE, Qatar, Iraq, Iran and Türkiye are on this corridor. Work began at the port of Faw. Railway and highway connections are planned and works continue.

Significance of Urban Rail Systems

Today, 50 percent of the world's population lives in cities. Considering the coming years, 70 percent of the population will live in cities by 2050, and it is necessary to make plans accordingly. By 2050, the need for transportation will double today. Rail systems will meet a significant part of this transportation demand and rail systems will play a major role in emission reduction.

The transportation sector is the second sector that causes the most air pollution, especially with 16.2 percent in emissions. To reduce this, it is necessary to invest in electric vehicles and rail systems. Efforts are also underway to fulfill the commitments made to the 2050 Paris Agreement. If all transportation by railways were carried out by planes, vehicles and trucks, greenhouse gas emissions from transportation would be 1.2 billion tons higher per year. This figure is equivalent to the annual carbon emissions of the entire Africa.

What will we see in Türkiye when we reach 2053?

In 2002, there were 10,900 kilometers of railways, all of which were renewed, and today 13,919 kilometers of railways serve. By 2053, it will reach 28,590 kilometers.

As of 2023, the share of the railway in transportation is only 5%, but as a result of the investments to be made, this figure will increase to 20% in 2035 and to 22% in 2053. So far, 54 million tons of freight have been transported by rail. By 2035, this amount will increase to 306 million tons, and by 2053, it will increase to 448 million tons. The share of the railway will increase day by day. In passenger transport, the railway share, which is currently 1%, will increase to 6%, and in freight transport, the railway share, which is 5% today, will increase to 22%.

While the number of provinces connected by high-speed train is currently 10, it will increase to 52 by 2053. The annual passenger transportation is currently 19.5 million, and this figure will increase to 270 million in 2053. Annual freight transportation will increase from 55 million tons to 448 million tons. More than 35% of the total energy needs will be

provided from renewable energy sources. The number of logistics centers will increase from 13 to 26.

Ankara-Sivas line was opened in 2023. The travel duration decreased to 2 hours. Ankara-Sivas line will be connected to Kayseri with a 142 kilometers railway line from Yerköy. The tender was made and construction works were started.

The works between Zara and Sivas continue, and Sivas-Erzincan line works will be completed in the next years. Then, there will be Erzurum and Kars connections to be started. In fact, the works planned continue on the railway line from Kars to Aralık, Dilucu, Nakhchivan upto Baku.

The Ankara-Izmir high speed train line will be completed by the end of 2026, and the journey on the 508 kilometers railway line will be reduced to 3.5 hours.

Likewise, the 201 kilometers railway line between Bursa and Balıkesir will be connected to the Ankara-Istanbul high speed train line. The travel time between Istanbul and Bursa will be reduced to 1 hour and 45 minutes. There is intensive work on the lines between Osmaneli and Bursa.

Moreover, the works on the 313 kilometers high-speed train line between Mersin-Adana-Osmaniye and Gaziantep continue at full speed and are planned to be completed in 2026 in order for Gaziantep, Kilis and the regional industry to reach the western sea ports of our country. It is very important for the industry in Gaziantep and Kilis to reach the sea and the ports. When this project is completed, line works will continue from Şanlıurfa to Mardin. Projects have been completed in Şanlıurfa and will be tendered in the near future.

The high-speed train line to Konya has reached Karaman and now works are being carried out on the 135 kilometers railway line between Karaman, Ulukışla and Niğde and the line is planned to open by the end of 2024. After this line is opened, Aksaray-Niğde-Ulukışla and Yenice, which are currently in the tender phase, will reach the Mediterranean with the 192 kilometers railway line that crosses the Toros Mountains. Later, the Istanbul-Ankara line will be connected to Mersin with a 192 kilometers railway line. 30% of this line will be in the form of a tunnel due to the Taurus Mountains. This line will be integrated with the Mersin-Adana-Osmaniye and Gaziantep high-speed train lines. When these lines are completed, a citizen who takes the high-speed train from Istanbul will reach Gaziantep without interruption.

Very important works continue on the west side of Istanbul. As 3 different stages between Halkalı and Kapıkule, construction works are carried out firstly between Halkalı and Ispartakule. Following this, a line tender was held the construction started for the line between Ispartakule and Çerkezköy. Works between Çerkezköy and Kapıkule also reached the level of 60 percent. 50 percent of this project was funded by IPA. The other 50% is from the public budget, and intensive work continues here. When these lines are completed, an expatriate from Kapıkule will have the opportunity to travel to Gaziantep or Sivas with uninterrupted high-speed train comfort in 2025.

In the project of the century, which has been under construction as an alternative to Marmaray recently, trains will start from Gebze Çayırova and reach Çatalca via Sabiha Gökçen Airport, Yavuz Sultan Selim Bridge, Istanbul Airport. Projects to be integrated into Gayrettepe-Kağıthane metro, Gayrettepe-Kağıthane-Istanbul Airport and Halkalı metros at Istanbul Airport are also ongoing. The rail system and high-speed train line, which will transport both freight and passengers, will also be a very important project adding much more value to Istanbul's brand value. Intense work continues at full speed in a significant project that will once again connect Asia and Europe by rail systems, with a total length of 143 kilometers.

In the Middle Corridor, there are also works between Divriği and Kars. The construction works continue for the same purpose as the important corridor extending from Ahılkelek to Baku and to China's Xi'an through Georgia and the BTK corridor opened in 2017. In 2020, the first train operated uninterruptedly from Beijing to London, which is used extensively, but alternative works continue, especially on the Kars-Aralık-Dilucu line via Nakhchivan. Here, Nakhchivan and Azerbaijan will be connected to each other uninterruptedly with the line that will cross the Zangezur Corridor. Now, the Orient Express will have the opportunity to go not only to Kars but also to Baku.

Railways are also planned in the Black Sea region. The Ankara-Sivas line, which is one of the most important railway legs here, will be extended to Derince, Çorum and then to Samsun. Projects were completed as 121 kilometers between Kırıkkale and Çorum and 173 kilometers between Çorum and Samsun. After the line reaches Samsun, the Black Sea region will be equipped with a railway network with a 513 kilometers railway line to the Sarp border crossing.

One of the most prestigious and important projects in Türkiye is the 350 km/h high-speed

train project between Ankara and Istanbul. With this project, the travel duration will be reduced to 80 minutes between Ankara and Istanbul. This line, which will pass through Ankara-Beypazarı-Nallıhan-Akyazı-Adapazarı-Kocaeli and Söğütlüçeşme, is 344 kilometers long, and 120 kilometers of which has been designed as 52 tunnels.

It is used very intensively between Istanbul and Eskisehir. Eskişehir-Antalya projects have also been completed. The 347-kilometer-long distance between Eskişehir and Antalya will reduce to 2 hours and 15 minutes and the travel duration between Istanbul and Antalya to 4 hours and 45 minutes. It was designed to be a 714-kilometer-long line between Istanbul and Antalya.

When all these vision projects planned for Türkiye's future are completed, all lines will serve as both high-speed trains and logistics over 28 thousand kilometers. Thus, passenger transportation will increase to 270 million, and freight transportation will reach 448 million tons.

There are currently 2,251 kilometers long high-speed train lines in Türkiye and 3,795 kilometers long high-speed train and rail system investments under construction. When these investments are completed, our country will rank the 8th in the world and the 6th in Europe in high-speed train operations, ranking among China, Spain, Japan, France, Germany, Finland and Italy. When all these planned lines are opened, Türkiye will have a rail system network much above the world scale.