

Turkey speeds into the

Turkey is well on the way to creating a high-speed rail network of almost 3000km, with the first new line due to open this year, David Briginshaw reports from Istanbul.

THE first section of the 533km high-speed line linking the Turkish capital Ankara with its commercial centre Istanbul is due to open early this year. This will mark the start of a major transformation of long-distance rail travel in Turkey.

Turkish State Railways' (TCDD) market share of passenger traffic is a miserable 3%, despite a sharp increase in the country's population from 51.4 million in 1985 to 71 million today. There are three main reasons for this. Insufficient money has been invested in the existing rail network, which means that rail travel is very slow and trains are infrequent, so rail is hopelessly uncompetitive with road, let alone air transport.

To make matters worse, there are several major cities in Turkey that do not have direct rail connections between them, such as from Ankara to Konya in the south and Sivas in the east, and there are other important cities such as Bursa and Antalya that do not have a railway at all. Indeed most of the main holiday resorts along the south coast are totally devoid of railways.

Finally, there has been an explosion in road transport. There were only 2.4

million automobiles on Turkish roads in 1985 compared with 13.5 million today - that's a 400% increase, and the numbers are still rising. According to Turkey's transport minister, Mr Binali Yildirim, this has major consequences for Turkish people and the economy. He says about 3000 people are killed on Turkish roads each year and 100,000 people are injured in accidents. This is estimated to cost the Turkish economy \$US 3.5 billion a year, not to mention the misery and suffering road accidents cause.

The government has finally decided to look to rail to solve its road traffic nightmare. "For the first time since 1946 our railways are now at the centre of our transport policy," says Yildirim. "We plan to invest €1 trillion up to 2025." The cornerstones of the railway investment plan are the tunnel under the Bosphorus in Istanbul to link the European and Asian parts of Turkey by rail for the first time, and the high-speed network.

Plans to plug the gaps in the Turkish rail network have been around for decades, and construction started in the 1980s on a 260km direct line from Ankara to Arifiye, but work stopped when the project ran out of funds.



Seatback screens are included in the first class seats of the new CAF trains.

While the direct line would have cut the Ankara - Istanbul journey time dramatically, it did not serve important centres of population along the existing line, in particular Eskisehir.

When the plans to build new lines were dusted off again, the original plan was to upgrade and double-track the existing Ankara - Istanbul main line, but this did not represent good value for money because of the high cost of rebuilding an existing railway while maintaining services, and the journey time savings would not have been sufficient to make rail competitive. So it was decided to build a new 250km/h double-track electrified railway on a new alignment, but where possible near the existing railway.

The 206km first phase of the new railway runs from Sincan, to the west of Ankara, to Inonu, to the west of Eskisehir. Test running on the first completed section started in April 2007 using Italian Rail Network's ETR 500 test train. The tests were organised and conducted by Mer Mec, Italy.

CAF, Spain, has delivered a fleet of 10 six-car 250km/h emus to launch its high-speed services. Two sets can operate in multiple to form a 12-car train, and it will be possible to add two cars to each set to create eight-car sets. The four centre cars in each set are powered, with one traction motor per bogie. The trains have regenerative

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future



braking, pneumatically-controlled disc brakes, and wheel slide protection.

These trains will also be used on the Ankara - Konya high-speed line, construction of which is at an advanced stage. The line is connected to the Ankara - Istanbul line at Polatli, and when both lines are complete, rail transport will for the first time provide highly-attractive journey times from Ankara to Konya (1h 15min) and Istanbul (3h).

Construction is underway of the first section of the \$US 1.8 billion project to build a 250km/h line from Ankara east to Sivas. This is another project which will plug a gap in the rail network, as the existing line runs south via Kayseri which is a 136km detour compared with the new line. Again, a dramatic reduction in the journey time will make rail a viable option on this route.

Work should start this year on the



One of the new six-car 250km/h emus supplied by CAF to TCDD.

\$US 2 billion project to build a 524km line between Ankara and Izmir, Turkey's third largest city. As with the Konya project, the new line will start from Polatli and create a direct link to Afyon. The rest of the line will be built in the existing rail corridor, except for a new direct alignment from Alasehir to Izmir.

Trains from Izmir to Ankara currently use a more northerly route via Balikesir and Eskisehir, which is about 200km longer than the new line. It is hoped to

complete this project in five years.

Bursa is Turkey's fourth largest city with a population of about 1.5 million, and yet it is not connected to the national railway. A new 106km line is planned at a cost of €280 million, and it is hoped to fund this relatively small project as a public-private partnership.

Three more lines are planned: Istanbul - Edirne in the European part of Turkey and for which plans are fairly well advanced, Eskisehir - Afyon - Antalya, and from Kayseri to Yerkay to connect with the Sivas - Ankara high-speed line.

Completion of all eight 250km/h railways will go a long way to transform rail travel in Turkey. But there will still be more to do in the future, such as replacing the train ferry across Lake Van with a railway around it to plug the gap in the main line to Iran, and providing better rail connections to Adana and Gaziantep, Turkey's fourth and fifth largest cities. **IRJ**

Turkish high-speed projects

Line	Status	Length		Journey times	
		Current	Future	Current	Future
Ankara - Istanbul	Under construction	562km	533km	6h 30min	3h
Ankara - Konya	Under construction	No railway	212km	No railway	1h 15min
Ankara - Sivas	Contracting phase	602km*	466km	11h 10min	3h
Ankara - Izmir	Final design completed	825km†	623km	13h 30min†	3h 30min
Osmaneli - Bursa	Final design completed	No railway	106km	No railway	30min
Istanbul - Edirne	Final design completed	283km	230km	5h 20min	1h 20min
Ankara - Kayseri	Planned	381km	350km	7h 17min	1h 15min
Eskisehir - Antalya	Planned	No railway	430km	No railway	1h 45min

* via Kayseri
† via Eskisehir