



**UIC Map of Russia’s High-Speed Rail Lines**

Russia is the largest country in the world in terms of size, stretching between Eastern Europe and the eastern boundaries of Asia. Some of the countries bordering Russia include Finland, Poland, Ukraine, China, and North Korea. Russia has 138.1 million people, which ranks 9th in the world, and 73 percent of that population is designated as urban. The capital city of Moscow has 10.5 million people with St. Petersburg following in size with 4.6 million people. Russia’s GDP of \$2.38 trillion ranks 7th in the world, with the GDP per capita of \$16,700 ranking 70th. One International Union of Railways (UIC) source indicates only a single planned line in Russia between Moscow and St. Petersburg as shown in the map above, however, the

Russian Railways indicates current high-speed operations over the line between Moscow and Nizhny Novgorod and an ambitious, planned high-speed network for the country. Another UIC source lists the operational line between Moscow and St. Petersburg as shown in the table below.

**UIC Table of Russia’s High-Speed Rail Lines**

Stage	Speed		Year Opened	Length	
	km/h	mph		km	miles
<b>Planned:</b>					
Moscow – St. Petersburg	300	185	–	650	404

## SYSTEM DESCRIPTION AND HISTORY

The Russian Railways website documents an ambitious vision for high-speed passenger rail operations in the country, driven by two major directives. Ratified in 2006, the *Programme to Develop Fast and High Speed Rail Travel on Russia's Railways to 2020* introduces the vision to create higher quality and faster passenger train services in order to attract more rail passengers, which in turn makes the passenger rail system more economic and more ecological given capture from air and automobile. The three sets of measures presented in the 2020 vision include:

1. Increasing the speed of long-distance passenger trains on journeys of more than 700 km (435 miles) to 70–90 km/h (45–55 mph).
2. Organizing fast rail services after the reconstruction of existing lines between major regional centers, where the journey time does not exceed 7 hours, using fast trains that travel between 160–200 km/h (100–125 mph). The plan identifies 15 priority routes, including two currently operating at fast speeds (St. Petersburg-Helsinki (Finland) at 220 km/h [135 mph] and Moscow-Nizhny Novgorod at 250 km/h [155 mph]).
3. Organizing high-speed rail tracks based upon which trains can reach speeds of up to 350 km/h (220 mph). The two routes identified include St. Petersburg-Moscow and Moscow-Adler.



Russian Railways Sapsan train that runs between St. Petersburg, Moscow, and Nizhny Novgorod

The *Strategy for Developing Rail Transport to 2030* was signed by Russian Prime Minister Vladimir Putin in June 2008 with the strategy to develop fast (up to 160 km/h [100 mph]) and high-speed (up to 350 km/h [220 mph]) passenger rail operations. The plan calls for growing the fast and high-speed network from the current 650 km (400 miles) to over 10,880 km (6,760 miles) over the next two decades, of which 1,500 km (930 miles) would operate at high speeds. The figure below shows the lines planned by 2030.



Russian Railways' Planned HSR System by 2030



**Moskovsky Rail Terminal (Moscow Rail Terminal), St. Petersburg, Russia**

### 2018 FIFA World Cup

Russia is hosting the 2018 FIFA World Cup tournament throughout the country in 13 cities, which may be driving the accelerated development/timelines of high-speed rail projects throughout the country, according to news sources. One source indicates high-speed rail lines will connect the central Russian cities of Kazan and Nizhny Novgorod, essentially extending the Moscow to Nizhny Novgorod segment that is currently capable of operating up to 250 km/h (155 mph) out to Kazan.

Another source indicates that a 658 km (410 mile) high-speed line between Moscow and St. Petersburg to be constructed as part of a Public-Private Partnership (PPP). The system would be designed for speeds up to 400 km/h (250 mph) between cities and designed to share existing alignments to reach city centers. Travel time would reduce from 3 hours 45 minutes to 2 hours 30 minutes with the new service, with ridership expected to be 7 million passengers annually initially and growing to 10.5 million by 2030. Construction would be completed by the end of 2017, in advance of the World Cup events.

The article indicates that the selection of the private-sector infrastructure provider will occur in 2013, with construction estimated at 696.2 billion roubles (\$22 billion<sup>1</sup>). Under the terms of the PPP, the government will provide around half of the capital cost during the 2015–2018 construction phase, indicated as around 313 billion roubles (\$9.9 billion), and make availability payments worth 58 billion roubles (\$1.8 billion) annually to 2050, provided that contracted infrastructure performance criteria are met. The concessionaire will be responsible for maintaining the line for 30 years and has the right to decide the number and location of any intermediate stations. The Chief Executive of the Russian Railways' high speed rail agency indicates that the government is expected to recoup much of the capital outlay through external economic benefits, which are estimated to be worth 2,240 billion roubles (\$71 billion) over the 2018–2050 period.

*Sources: "High-Speed Trains"; "Russia to Build High-Speed Rail for 2018 FIFA World Cup"; "PPP Model to Fund Moscow-St. Petersburg High Speed Line."*

<sup>1</sup>Conversions to U.S. dollars made with Google's online calculator using exchange rates that were current on August 7, 2012.



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