Bering Strait tunnel and railway project will boost Pacific development

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A tunnel to connect the Eastern and Western Hemispheres between Alaska and Siberia has been proposed as perhaps the ultimate infrastructure development megaproject. The idea was originally proposed at the turn of the century and led to the formation of a joint American-French-Russian company, chartered in New Jersey in 1906, to connect New York and Paris by railroad via Moscow. The idea was abandoned with the onset of World War I, but planning studies were begun in Russia in the late 1940s under Stalin, along with the construction of a northern railroad line along Russia's Arctic coastal zone. The idea died again with the death of Stalin in 1953, but has been reborn in the 1990s as a result of growing public awareness resulting from the recent completion of the English Channel railroad tunnel between France and England.

An international nonprofit consortium has been formed to promote the development and implementation of the Bering Strait tunnel and railway project, which consists of American, Canadian, and Russian members. This international consortium is known as the Interhemispheric Bering Strait Tunnel and Railway Group, with offices in Washington, D.C. and Moscow, and is headed by George Koumal. The consortium is presently looking for public and private sponsorship to provide funding in order to conduct the required feasibility studies for this project. To date, there has been no funding provided from any agency of the United States government to support these feasibility studies.

There have been two meetings held for discussion of the feasibility of the proposed Bering Strait tunnel and railway project. The American Railway Engineering Association sponsored a conference on this project at the University of Alaska in Fairbanks, in May 1994. This meeting was attended by approximately 30 people, with 1 participant from Canada, 5 from Russia, and 24 from the United States. There were 15 presentations made at this conference, focusing primarily on the engineering and technical aspects of the project.

The author attended a meeting in Russia at which the Bering Strait tunnel project was discussed, in July 1994 at the Siberian State Transport Academy in Novosibirsk. This meeting focused on the impact of the proposed Bering Strait tunnel and connecting railroad lines on regional economic development in Siberia. There is considerable interest in Siberia in the Bering Strait rail tunnel project and its impact on economic growth and resource development in Siberia and elsewhere.

Current status and future plans

The first stretch of the connecting railroad to the Bering Strait is already under construction over the approximately 400-mile (650 km) stretch from Tynda to Yakutsk. The portion from Tynda to Tammat of approximately 200 miles (330 km) is already completed and in operation. The construction of the remaining 200 miles (330 km) of this rail line is expected to be completed in 24 to 30 months. Yakutsk is one of the largest cities located in remote areas of Russia which is not served by the country's extensive and heavily used railway system. Completion of the railway line to Yakutsk in the permafrost zone would facilitate the opening of the extensive oil, gas, and coal resources in the state of Sakha, along with other mineral resources.

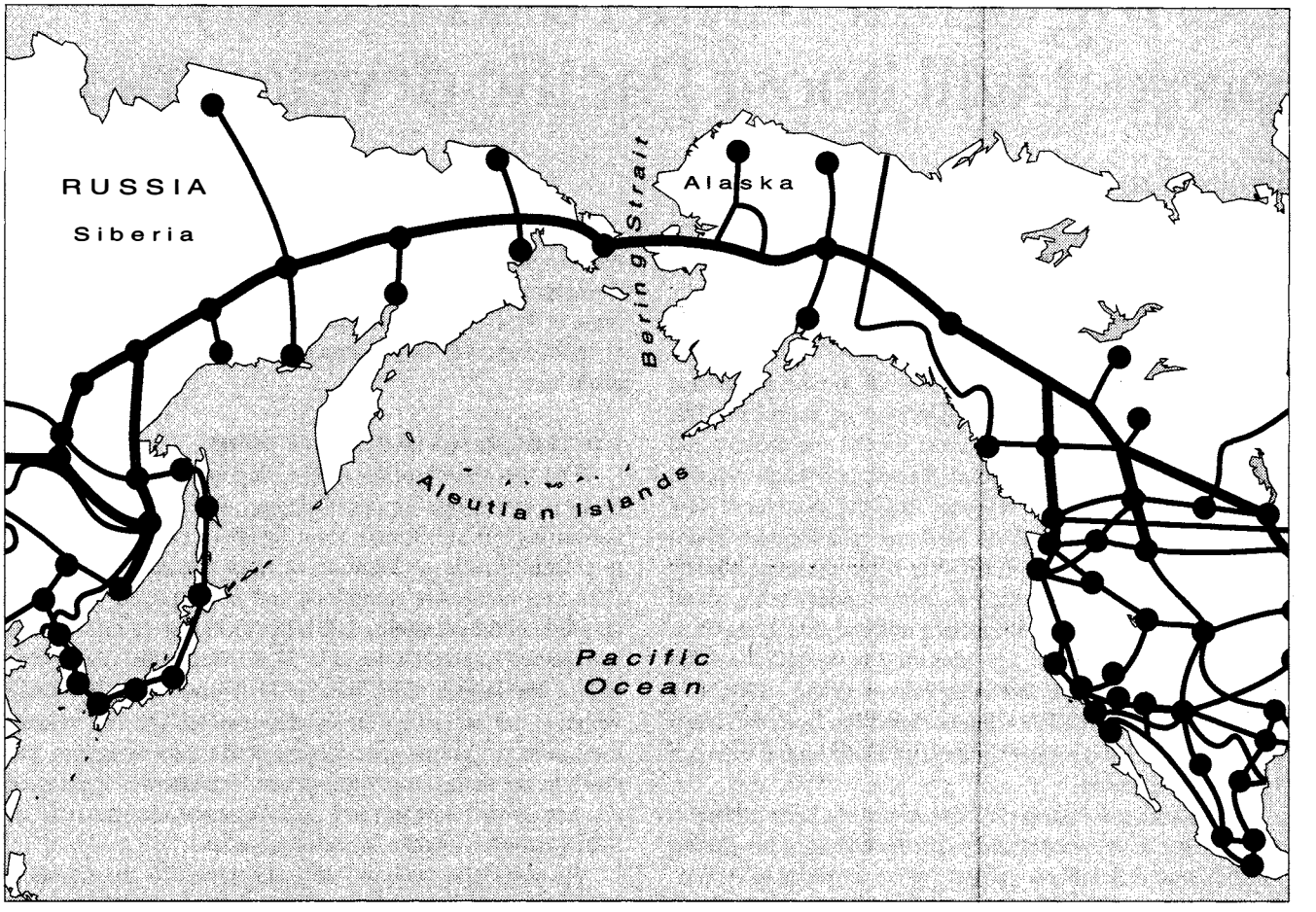
No plans have been officially announced for the extension of the railway line past Yakutsk up to the present time. However, the next logical extension of this railway line would be to pass near Zyryanka, with the railroad then extended along the present road to Magadan at the Pacific Coast at the northern end of the Sea of Okhotsk. The isolated Magadan region could then be opened to inland trade and commerce with the rest of Russia to substantially benefit its local and regional economy.

The proposed Bering Strait railroad tunnel would be approximately 53 miles (85 km) long under water. The tunnel would be double track and electrified, with centralized train control, and could be built in consecutive stages. There would need to be approximately 2,500 miles (4,000 km) of connecting railroad line built on each side of the Bering Strait to connect with the existing Russian and North American railroad networks. Questions concerning compatibility of gauges, couplers, signals, voltages, and standards would need to be resolved between the Russian and North American systems in order to construct the Bering Strait railroad tunnel.

Regional economic integration

There is a need for the economic integration of the proposed Bering Strait railroad tunnel and connecting railroad

FIGURE 1
Bering Strait interhemispheric railroad tunnel from Siberia to Alaska



lines, with the existing railroad networks of North America and Siberia. This economic integration necessitates connecting to the Bering Strait railroad tunnel by way of northwestern Canada and Alaska into Siberia and elsewhere in Asia and Europe. The integration of the new rail system infrastructure to the Bering Strait with the existing railroad network in Washington, Oregon, Idaho, Montana, and North Dakota, and connecting to other West Coast, Rocky Mountain, and Great Plains states, will have a significant impact with respect to specific commodity movements, including oil, wood grain, machinery, and intermodal traffic.

The rail system infrastructure development from the Bering Strait railroad tunnel to the Northern Tier states will need to incorporate the movement of specific commodities in order to be economically viable. These connecting railroad lines must be integrated along with the parallel development of freshwater pipelines, natural gas pipelines, electric transmission lines, and fiber-optic telecommunications cables along common rights of way. The construction of electric power generation facilities will need to be incorporated as a part of the railroad infrastructure development for electrification purposes. The construction of the connecting railroad lines will facilitate regional economic development in Siberia, Alaska, and Canada.

The specific bulk commodity movements identified in terms of future suitability for this rail transport along the Bering Strait connecting railroad lines include crude oil, petroleum products, forest products, mineral aggregates, metallic ores, coal, grain, and food products. The Bering Strait railroad lines can also be used to transport specialty cargoes such as machinery and equipment, motor vehicles, and intermodal containers. Passengers could also be transported on the line for tourist purposes, as well as for occupational access to remote mining and forest areas, especially in Siberia.

These cargoes can be transported to and from the Northern Tier states plus adjacent Pacific Coast, Rocky Mountain, Great Plains, and Southwestern states via Alberta, British Columbia, and Saskatchewan to the Northwest and Yukon Territories to Alaska. These cargoes can then be transported through the Bering Strait railroad tunnel to or from Siberia

and elsewhere in Russia, to the Newly Independent States, to eastern Europe, and then to western Europe via newly established markets. Existing major markets to and from Asia can be greatly expanded in the future for both containerized and bulk cargoes to China, Japan, Korea, Mongolia, Malaysia, Thailand, Vietnam, Indonesia, and elsewhere, by means of the Bering Strait tunnel railroad.

The market analysis for railroad transport through the Bering Strait tunnel plus connecting rail lines indicates potential movements of as much as 95-285 million tons per year in the long term, with a maximum movement of 100-150 million tons per year through the tunnel itself. Crude oil constitutes the greatest potential for shipment, with an expected 26-35% of the total movements. Intermodal containerized cargo shipments and automobile transport would comprise 17-19% of the expected movements, while grain transport would comprise 10-11% of the expected total. Passenger traffic would be expected to provide 500-1,000 riders per day, primarily for tourist travel and work access.

The Bering Strait railroad tunnel and connecting railroad lines would need to be integrated with other transportation, energy, industrial, and water infrastructure development projects in North America and Asia. The expected capital cost of the total Bering Strait tunnel and railway project is expected to range from $35 to $60 billion in a 10-20-year development period. Approximately half of the cost would be for the 53-mile-long tunnel, with the other half of the cost going for the construction of the 4,500-5,000 miles of connecting railroad lines. The starting point on the North American side would be to haul crude oil from Alaska to refineries in Washington, over the new rail line, to replace shipments via the aging Alaska pipeline, and to prevent oil spills by tankers in Prince William Sound and Puget Sound.

Geopolitical implications

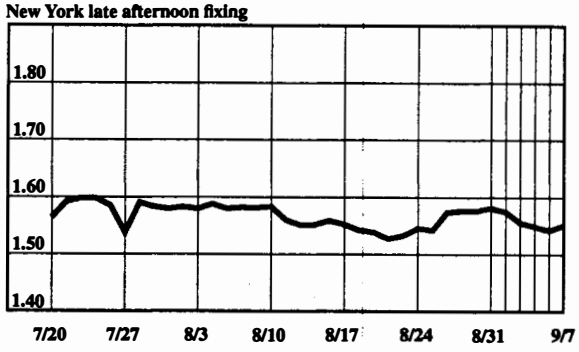
The development of the Bering Strait railroad tunnel and connecting railroad project has geopolitical as well as economic implications. The recent agreement by U.S. President Clinton and German Chancellor Helmut Kohl at the Naples Group of Eight summit points to an emerging new economic alliance of the United States and Germany, which includes Russia. The recent announcement of the construction of a high-speed rail line from Paris to Berlin to Warsaw to Moscow, along the lines of the Delors Plan, points to a realignment of national allegiances to include Germany, Russia, the United States, Japan, China, and others.

This new emerging geopolitical alliance would make it possible for the United States to obtain its increasing oil import needs from Russia, to the mutual economic benefit of both countries. The United States would then no longer be dependent for its oil supplies on the increasingly unstable Middle East. The construction of the Bering Strait tunnel and connecting railroad is the key to making all of the above a reality.

Currency Rates

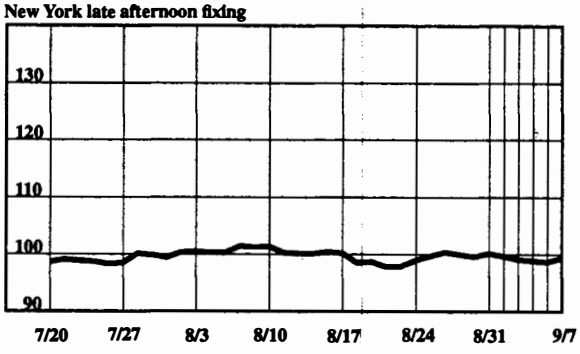
The dollar in deutschemarks

New York late afternoon fixing



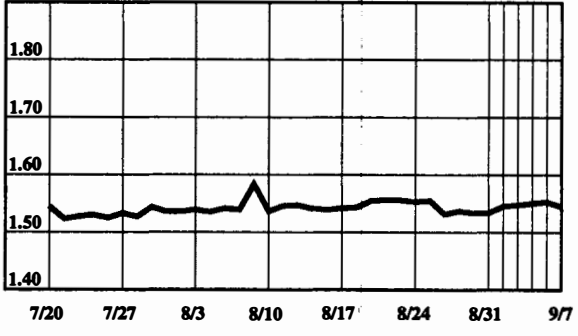
The dollar in yen

New York late afternoon fixing



The British pound in dollars

New York late afternoon fixing



The dollar in Swiss francs

New York late afternoon fixing