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# **THE LINKING OF TWO GREAT CONTINENTS BY RAIL TUNNEL CONNECTIONS UNDER THE BERING STRAITS**

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There is a plan and vision that would tremendously benefit our Country's economy, greatly increase employment for many generations to come, enormously benefit Russia, and the rest of the world as well. This plan is to establish a grand final trade route between North America and Asia. This connection would take place at the Bering Straits between the cities of Wales, Alaska and Naukan, Russia. The only method of efficient, safe, reliable transportation for this proposed connection would be a railway system and a tunnel connecting the Russian and North American railway systems.

There was once a land connection across the Bering Straits. It has been proposed for many years that the two continents be connected by a tunnel at the narrows of the Straits. This would be accomplished by building a railway tunnel under the Straits. A bridge should not be considered because of environmental concerns, weather related operational concerns, and more costly construction requirements.

The Strait is only 55 miles wide with a maximum depth of 170 feet. There are 2 islands midway in the Strait; Big Diomedede and Little Diomedede. Big Diomedede, belongs to Russia; and Little Diomedede to the United States. They are the last remnants of the land bridge that once connected the two continents.

The Diomed Islands are only 2.5 miles apart. These islands would provide access points to the tunnel. Little Diomed Island would then have a 22-mile tunnel connecting it to the westerly tip of Alaska near Wales. The large Russian island would be connected to Asia by another 22-mile tunnel extending to the area near Naukan, Russia. The tunnels would connect under the islands along with a passing track.

The building of two tunnels, connected at the two islands, with a total length of some 54 miles, plus shore entrances, is not an unreasonable or unaffordable scientific, engineering endeavor for our two countries, especially in light of the enormous benefits. The entrances to the tunnels at each end would have grades of no more than 1% percent allowing for good train operation.

A single railway tunnel with a service tunnel has been studied and engineered by George Koumal, a mining engineer and Chairman of the Interhemispheric Bering Strait Tunnel and Railroad Group. The organization has been in existence for several years, and did maintain offices in Arizona, Washington, D.C., and Moscow. The main tunnel would be 9 meters (29.52 feet) in diameter, and the service tunnel 6 meters, (19.68 feet). In the island areas, passing tracks would provide flexibility in train operation. At a later time, a second tunnel could be added for continuous two-way traffic and increased capacity.

The main railway tunnel would slope from each end to a low point at the center between the two islands. The service tunnel would slope oppositely with the high point at the center and sloping to low points at each end. They would be some 1200 feet below the surface at each continent's shore. The service tunnel would be connected to the surface at each continent and at the two islands by spiral tunnels. Two shafts will be connected to the surface at these

points. This will allow for mostly natural drainage. The cost of the tunnels and railroads that will connect the continents is about 37 billion dollars. The tunnel itself would be about 15 billion dollars. This is a small fraction of the amounts that Russia and the United States have spent annually for defense purposes.

Electrically powered trains would use the tunnels, as this is the only practical way to make use of long tunnels considering weather conditions and the distance to be traveled. The trolley wire would be fed with 50 kilovolts of electricity, which is very efficient. Also, railroads are very benign and undemanding on the environment, especially when they are electrified. Other portions of the railroad track connections from the Bering Straits to Fairbanks should also be electrified. It is expected that the Russian track connections would be electrified. The sheer volume of traffic may very well demand this more efficient method of locomotive power. It is anticipated that 500,000 to 600,000 carloads would transverse the tunnel annually. The standard railway gauge would be used on all new sections of track in Russia. At a suitable interchange point, trains would be transferred to the five-foot Russian gauge. China uses standard gauge. Perhaps some day, Russia will change its entire existing track to standard gauge, making for a worldwide standard railway gauge.

To construct the railroads to the Bering Straits on both continents would be an immense undertaking. This would involve long distances, harsh climatic conditions and some difficult topography. However, this undertaking is well worth the costs involved for their enormous benefit for many generations to come in all the counties and world areas these rail connections would serve.

Numerous mineral deposits are well worth development on both continents. Russia has large coal reserves, along with vast oil fields. The low

sulfur coal resource would total four trillion metric tons; the energy equivalent of 5500 years of Alaska oil pipeline production at 1.5 million barrels per day rate. This tremendous resource will have to be used at some time in the future, and the only way to make use of such a resource is by proper railway connections. The resources in Alaska and the Yukon coal, oil, and minerals in them are well worth the railroad track extensions and connections.

There are only about 987 miles of track needed to completely form the connection of the Canadian railroads to Fairbanks, Alaska. This would be 269 miles of new track in Alaska, 568 miles in the Yukon, and 150 miles in British Columbia to Denese Lake or 172 miles to reach Fort Nelson. A new platinum spike ceremony should take place where the new Alaskan tracks connect with the new Canadian tracks.

The distance from Fairbanks to the tunnel entrance at Wales, Alaska is about 1,000 miles. This route and the Russian route, have been studied by the Tunnel Group. The Russian connection to the tunnel requires some 2,100 miles of track to connect with the Trans-Siberian Railroad at Egvekinot and ultimately to Yakutsk on the Lena River. There would be connections through Russia to China, Korea and Japan. It is expected that Russia would, with some help, construct their part of the railroads.

The rail connections, especially from the Fairbanks area to the Canadian rail point connections, are something that should be done anyway, and should have been done years ago. The Exxon Valdez oil spill disaster may have been prevented if the majority of the oil would have been hauled by efficient unit trains that safely transport oil to various places on the continent. The unit train would not have posed a danger of a large oil spill as ships do. The transportation of oil by super tanker ships has a dismal record of safety with

many large spills occurring each year. These disasters are very costly and damaging to the environment. In the October, 1992, issue of Trains magazine, Don Stott said "It's bad enough that they have to ply the oceans, but to use dangerous, inefficient, flimsy oil tankers where rail transport could be used is ludicrous." Recently Exxon has been accused by Green Peace of using a significant portion of their Valdez costs to influence public opinion that the disaster wasn't really so bad, while in fact great harm 'will remain for many years. This should have been prevented by using railroads to transport oil safely on land routes.

The unit train concept of moving oil was proposed by engineers when the oil pipeline was constructed some 20 years ago. This proposal was published in Trains, but no one in power listened, was concerned, or had the wisdom to do what was environmentally correct. Other interests prevailed. If one just considers the damages and costs caused by the Exxon Valdez spill to the environment, the costs of clean up, and the economic impact on the area, this would have more than paid to build the railroad track connection from points in Canada to Fairbanks. We should have had the wisdom to do this years ago. The laws of average dictate that another oil spill is sure to occur in this same area, and others, as accidents involving ocean-going vessels cause large oil spills to occur many times annually throughout the world. It should be obvious that most people when informed would support the Grand Trade Route because it would surely benefit everybody, along with the environment.

Besides the original article in Trains about moving oil by the unitized train concepts, the article in the August, 1994, issue of Trains, fully reinforced this concept with the title "Hot Seat on the Oil Cans", or "Oil Pipeline on Rails". Each car would carry 23,150 gallons and be composed of 78 or so cars, and each train would carry 1,805,700 gallons of oil very efficiently. This article describes a

way to beat oil tankers and pipelines. It would only take about 8 of these trains to equal the spill of the Exxon Valdez and haul that amount of oil without any danger of spilling. The route of this train is over some heavy mountain grades and still works very well moving this heavy load of oil. Any anticipated grades in the rails associated with the Bering Straits tunnel and its connections would be engineered to be of an even lesser challenge than the grades on the Southern Pacific Lines. The train will also move the oil much faster than any other tanker, and the volume of oil comparable to a super tanker would be moved in one or two days depending on its destination. So you can clearly see this concept is a good viable and environmentally safe way of moving oil and other commodities.

Looking at a globe you can easily see that it is almost a direct route from Chicago, Illinois, northwestward to Fairbanks, Alaska, and then across the Bering Straits, through northeastern Russia; connect with the Russian railroad; then link to Europe, the Middle East, China, India and even Japan with another tunnel connection that could be built between the Russian Ostrov Sakhalin peninsula and the Japanese island of Hokkaido which has existing rail service to the rest of the islands. With this virtual direct international trade route from North America to Russia, Asia, China, and Japan, anyone should realize the advantages and benefits of this grand trade route for the earth's environment and its economic health.

The tunnel itself across the Bering Straits should not be much more difficult to build than the 33-mile railroad tunnel in Japan, or the Chunnel with its railroad tunnel connection between England and France. What we have learned about the Chunnel railroad, 22 miles in length, and the Japanese railroad tunnel at 33 miles in length, would help to engineer the tunnel under the Bering Straits. The cost to build the tunnel would be about the same as the Chunnel's. The freezing waters of the Bering Straits would also have some

advantages for the construction of the tunnel. This would include transporting equipment to the Diomedede Islands for use during construction tunnel and some shaft boring.

Remember that the two items that made the United States great, and truly united us into one nation from coast to coast, were the right of free enterprise, and the development of the steam locomotive with rail tracks laid from the Atlantic to the Pacific. It should also be realized when the nation's railroads deteriorate; the nation's economy will deteriorate. In times of need such as war, or other disasters, railroads are absolutely vital. It is extremely necessary to have a reliable, economical, efficient, railroad system. Completing this grand trade route, would invigorate all of our railroads, which would be a good thing for our countries.

In the same manner, connecting nations together would be just as necessary and vital in most all respects. Land, air, and truck transportation cannot meet all our transportation needs, and certainly are not nearly as efficient in the use of fuel and other natural resources. Trucking alone requires eight times the amount of fuel per ton as compared to a railroad. Then there are the billions of dollars in road damage caused by heavy trucking and the poor safety records where some 20,000 truck related accident deaths occur annually in the United States alone.

In addition, by having the railroad connection across the Bering Straits, it would make it easy to harvest wheat, timber, oil and other commodities that cannot now be easily transported across the vast Pacific Ocean, The great circle route from North America and to southern Siberia is virtually a straight line, shorter, and less time consuming than other land-ocean routes. The commodities could go directly from these sources to the points of use by the

railroad connections. This would revitalize our railroads, which would be good for our country as well as others.

Over 500 years ago Columbus searched for a trade route to the Far East. The decision should definitely be made to complete his quest for a route to the Far East and back to Europe, by completing the railroad connection in North America and across the Bering Straits, connecting Russia and other Asian countries. A passenger train could run from Chicago to Fairbanks, Alaska, across the Bering Straits to link up with the Russian train that now travels from Moscow to Vladivostok, and with a train going to Peking, China. This may seem like a long distance; but in most cases it is in fact the shortest distance. These new tracks should be built to reasonable-high-speed standards like those now being used in Europe. Thus the time would not be unreasonably long, taking into consideration the needs of tourism and its rewards, and other transportation needs. Many people would like to take a beautiful scenic 3 or 4 day train trip from the 48 states through the 49th state and on to Russia and China as opposed to a day or more of boring-expensive jet lag airplane type of travel. These lines should be electrically powered. This would allow medium to high-speed operation in various areas, and the efficient hauling of commodities by rail.

This project would link most of the industrialized areas of North America to the whole of Asia, Europe, and through the Chunnel to Great Britain. It should be anticipated that the freight and passenger rail traffic would pay for the cost of construction of the tunnel and connecting tracks within a reasonable length of time. In addition land and rights could be sold along the rights of ways that would pay much of the costs at 1000 dollars per acre or more if there is oil or other known mineral wealth.

Some passenger trains could be rolling hotels, taking tourists from city to city at night, allowing for daytime visits to attractions and places of interest along the way. There could be no better way to see these sights. The cost of installing the railroad and the tunnel across the Bering Straits would be well worth it. Many people in our country, as well as countries around the world, would want to take this trip some time during their lifetime. The rail passenger fare would be substantially less than air travel. Even some of our loggers might take the trip to the Russian forest areas and leave a little more room for the owls here.

The far-sightedness of our country in accepting the challenge to build the Panama Canal has been heralded for a century. The building of a link between Russia and the United States would be just as great of an accomplishment, but with even greater benefits to all areas that would be linked and tied together by this grand route of rails that would not require ocean transportation at all. This project should be started at once. It does not require a lengthy bogged down study. The tunnel and the railroads associated with it are very benign on the environment and certainly are much better than other forms of transportation. Railroads are the most efficient form of transportation known to man. The construction should begin on a timely schedule and be finished for traffic before the year 2000 to have the twenty-first century begin with this grand proposal in use. Finally, picture in ten years a group of Midwestern school children boarding their train in Chicago, and three or so days later getting off the train in Peking, China. The children and their teacher will always remember the countries they saw, the leaders, the engineers and peoples of vision that accomplished this grand route of trade and travel.

Walter Hickel, former Governor of Alaska, and Chairman of the Northern Forum, speaking before the United Nations Headquarters, September 22, 1994,

stated "Why war? Why not big projects?". In his address, Governor Hickel said "And we have dreamed about a rail tunnel beneath the Bering Sea. Imagine, a rail trip from New York through Alaska, connecting with the Trans-Siberia rail way, and on to Paris, circling more than halfway around the world, and carrying with it a wealth of ideas, of commerce, and of wonder." He further stated, "The solution to our social problems is not money, it is productive work."

The Chunnel between France and Great Britain was completed and opened for traffic in May 1994, allowing rail traffic between the two countries. Obviously there will be more traffic and commerce flowing between the continents with the tunnel to connect them. It is time to begin the Bering Straits Railway Tunnel for the benefit of the world. The Bering Straits Tunnel could be financed as the Chunnel was financed, by a consortium of banks. Certainly we should expect Russia and Canada and America to build the connecting tracks on their respective sides. This would not then be a big burden on one country. It will be well worthwhile whatever it takes.

It is even more important now to do this with the change in control of the Panama Canal. No longer can we depend on free access through the canal. The Bering Straits Railway Tunnel would be a great benefit to the world. The cost would be well worth it when you consider the enormous benefits to the countries involved.

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