Breakthrough in Switzerland

New Gotthard Rail Tunnel Completed

by Andrew Spannaus

Milan, Dec. 10—On Oct. 15, 2010, the drilling of the longest rail tunnel in the world was completed, in central Switzerland, beneath the village of Sedrun. The final section was broken through by a massive drilling machine, connecting the two sections of the tunnel, dug from each side, starting in 1996. This will allow for the completion of a new 57-km (35-mile) tunnel for high-speed passenger and freight rail. The tunnel is scheduled to open for traffic in 2017, after the installation of the rail systems and all the accessory and safety services.

The breakthrough was celebrated as a milestone toward the construction of a high-speed rail network for Europe and beyond; it also represents an example of the type of long-term thinking about infrastructure and economics that is woefully lacking in the political discourse in the United States and many other countries at this time. In fact, the potential for launching a series of massive infrastructure projects that can change the very nature of the global economy is obvious; what is lacking is the political will to do so, a step that requires dumping the anti-progress policies of recent decades, which have culminated in the destruction of the physical economy through the creation of speculative financial bubbles that survive only by pillaging what's left of production and vital services.

The completion of the Gotthard Tunnel also has direct relevance to the North American Water and Power Alliance (NAWAPA) project which the LaRouche movement is now moving to revive in the United States, both as a technological feat, and an act of political determination to create long-term benefit.

Breaching the Mountains

To understand the significance of the new Gotthard Tunnel, look at a topographical map of Europe (**Figure 1**). The Alps form a natural barrier separating Italy and the Mediterranean from Northern Europe; the massive mountain range running through Switzerland and Austria forces roads and rail lines to wind through mountains and numerous smaller tunnels, slowing down transport considerably. The time needed for passenger traffic by car or train gives you an idea of the obstacle: It takes approximately seven hours to get from Milan, in Northern Italy, to Frankfurt, in central Germany, by car (if you're lucky and there's no construction work or tourist traffic), and over eight hours by train.

High-speed trains now run on most major corridors in Europe, but the Alps block the creation of an integrated North-South high-speed rail system, leading to large numbers of commercial trucks on the roads—an inefficient form of transport to which industrialized countries still cling fiercely, with enormous costs in

FIGURE 1

This topographical map of Switzerland and the surrounding countries gives an idea of the problems presented by the mountainous terrain in developing transport networks.

terms of traffic, pollution, and safety. For passengers, the solution has been to use air travel, but for freight, the situation has been getting worse for years.

The Swiss approach to the problem has been to tax everyone who passes through the country, and to use that money for the creation of infrastructure. Indeed, the amount of transport infrastructure per capita in Switzerland is significant, given the mountainous terrain, and its position as a corridor between northern and southern Europe. The Swiss have decided that it is imperative to reduce the number of trucks passing over their highways. Thus, the decision to build the new tunnel.

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This photo of interior of the western tube of Gotthard Base Tunnel, at Wye Junction, was taken on Sept. 16, 2006.

This project is called the "new" Gotthard Tunnel because it is the second major tunnel under the St. Gotthard Mountains, which rise to around 7,000 feet. There are currently two tunnels under the Gotthard pass, a 16-km single-bore, two-lane automobile passage completed in 1980, and a 15-km rail tunnel nearby, opened way back in 1882. As noted above, the problem is the huge amount of freight that continuously passes through the tunnel. In 2001, a collision between two trucks led to a fire in which 11 people died; the tunnel was closed for two months.

The situation on other corridors is even worse. The tunnel between France and Italy under Mont Blanc, Europe's highest mountain, was originally designed for about 450,000 vehicles per year, while it is now used by almost 2 million. In 1999, a truck fire there led to a disaster with 39 deaths.

The new tunnel is double-bore, with the twin bores 40 meters apart, and an additional 96 km of accessory tunnels for safety, ventilation, and connections. In order to dig the tunnel, tremendous boring machines, nicknamed "Sissi," 450 meters long and 9.5 meters wide, were assembled; they perform various functions automatically, immediately after breaking through the rock, such as the initial stabilization of the tunnel walls.

The machines have removed 24 million metric tons of material since beginning work, which is coordinated by the Swiss company AlpTransit, a wholly owned subsidiary of the Swiss Federal Railways. The public railway company contracts out the work to a number of consortia, including engineering and construction companies principally from Germany and Italy, but with the participation of expertise and manpower from Austria, France, and numerous other countries. Over 2,000 people are working directly on the project, many of whom live in one of the nine temporary villages constructed near the work sites.

In a visit to the work site of the new Gotthard Tunnel organized by the Foreign Press Association in Milan, in which this author participated, the public relations manager for the project said that the goal is to shift at least 50% of truck traffic onto the rail system once the new tunnel opens. This is to be achieved through a series of incentives, primarily based on increased taxes on road traffic. While the Swiss are optimistic that this will be effective, it is likely that, to achieve the preferred goal of eliminating through traffic on Switzerland's highway system, stronger measures will be necessary, including some mandatory requirements.

Creating a Network

To be truly effective, though, the new Gotthard Tunnel must be part of a European-wide effort to jumpstart the entire continent's infrastructure network. There are numerous projects in the surrounding countries that need to be initiated to make that happen. These involve the upgrading of rail lines in Germany, Italy, and France, to bring them up to the standard set by the new line.

These projects have been delayed due to financial and political problems.

In Germany, for example, the connection from Basel (Switzerland) to Karlsruhe (Germany) has been the subject of 172,000 (!) legal actions presented by citizens' associations. In Italy, the new Turin-Lyon line, part of "Corridor 5," which is planned to stretch through to eastern Europe, has been blocked by protests that aim to stop any new infrastructure in the name of the environment.

The reality is that such projects would bring a major improvement in terms of reduced road traffic and air quality, but the "Nimby" ("not in my backyard") propensities of local citizens are easily played on by national and international groupings who aim to block any public investment that could lead to true economic growth. Similar problems exist for numerous other connections in Northern Italy, without which the new Swiss passage risks creating a massive bottleneck at the tunnel's southern tip.

The other major excuse behind the delays is financial. First of all, the Swiss attitude toward the necessity of infrastructure is marked by a significant difference with that of other European countries. Although financial considerations have delayed some projects in Switzerland as well, it quickly becomes evident that the country's nonparticipation in the euro system makes quite a difference. Priorities are set, and projects are initiated with a decades-long perspective of the country's needs.

Elsewhere, work is slowed down or abandoned, because it "costs too much." The budget constraints set by the European Union, and enforced by the speculative markets, allow only anemic progress on isolated projects, and are often treated as a drain on resources for other needs. Numerous areas are neglected because infrastructure is constructed in a piecemeal manner, as there is no credit policy that allows for separating such costs from the state's current accounts, and considering such work as an investment that will drive economic growth immediately and in the future.

As the Swiss have reminded us, many decades after the great projects that transformed entire sections of the United States (such as the TVA and the Hoover Dam), the impediment to large-scale infrastructure is not technical, or even financial. To the contrary, any society which hopes to survive must necessarily adopt a long-term vision for upgrading its central nervous and circulatory systems. The only impediment lies in the thinking of the institutions and the population, stifled for too long by an ideology antithetical to the progress that is necessary for our future.