

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/274352051>

The Turin–Lyon High–Speed Rail Opposition: The Commons as an Uncommon Experience for Italy

ARTICLE *in* SOUTH ATLANTIC QUARTERLY · APRIL 2013

Impact Factor: 0.21 · DOI: 10.1215/00382876-2020262

READS

3

1 AUTHOR:



[Massimo Zuchetti](#)

Politecnico di Torino

245 PUBLICATIONS 608 CITATIONS

SEE PROFILE

THE TURIN-LYON HIGH-SPEED RAIL OPPOSITION: COMMONS AS AN UNCOMMON EXPERIENCE FOR ITALY

Massimo Zucchetti

Politecnico di Torino (Italy) – MIT (Cambridge, USA)

1. Introduction

The construction of the High Speed Railway (HSR, TAV in Italian) line Turin-Lyon in the Susa Valley (Italy) has long been surrounded by bitter controversies which do not give enough relevance to the most significant and technical aspects of the proposed project. Beyond the slogans and positions for or against its implementation, this paper starts exploring some of the critical aspects of the proposed HSR for going beyond that, pointing out the aspects dealing with the social implications of the anti-HSR (NOTAV in Italian) movement, the leading one in the Commons struggle today in Italy.

The HSR project brings with it, after more than twenty years of strenuous and continuous reworking, a deal of environmental issues. Main pollution problems dealing with the railway construction have been put into evidence by several studies. For instance, the presence in the Susa Valley of geological formations with asbestos and uranium is a particular concern, also considering the final destination of the extracted inert. Also, the questions related with local hydrogeology and its perturbations are of concern.

The question of the insufficient cost-benefit balance, especially in view of the dramatic diminution of the traffic along the Turin-Lyon direction, both of passengers and goods, has come to better evidence when the French Government (as of July 2012) has announced a spending review that could stop the construction of the HSR Turin-Lyon and other ones from the French side.

The Susa Valley, beyond the technical questions related with the HSR, has become in the recent years the most famous episode of the Commons struggle in Italy. In this Country, the concept of Commons as resources shared among communities and for which, being enjoyed by everyone, everyone has the right to be involved in decisions putting the Commons into danger or potentially damaging them, is uncommon yet. The NOTAV movement has put this question into better evidence for the Italian public opinion: beyond the question “HSR yes/no”, the opposition movement puts forward its struggle as a legal/social/political strategy for reclaiming common spaces and protecting them from privatization, and claims for a different concept of democracy and public participation. Started at end of the eighties as a grassroots movement, it has now national relevance, and it has become a paradigm for many other struggles and situations where Commons are involved, not only at local level, but also at national level, like for instance the movements

against the privatization of water and against the re-start in Italy of nuclear power plants construction.

The common that the NOTAV activists are claiming has evolved and it enlarged during the years. It started with a local defence of the territory, since the Susa Valley already has in its territory many other installations (highways, dams, etc) that are impacting its environment. However, during more than 20 years of struggle, started defending “their backyard”, the Valley as a community is now defending environment, public money (how you decide to spend it is a Common); land and water (how you use them is a Common) and public health of local citizens.

Getting back to the technical questions, we believe that the usual appeal to the Precautionary Principle, in the case of HSR project, is not even necessary. Economic data, energetic considerations, legal questions, environmental impact, the health impact potential, the negative experience of other projects, and especially the Common Sense, suggest that the High-Speed Train Turin-Lyon is not an actual priority for Italy, and its construction should be suspended.

2. The HSR Turin-Lyon, a brief description of problems

Let us examine why the HSR project [1] has been proposed and why it is still at a preliminary stage after more than 20 years from the beginning.

Concerning freight, the central problem is that **the trains transporting freight in Italy travel at an average speed of 19 Kilometres per hour**, since they are often stationary, waiting for passenger trains which get precedence. This is the point that needs improvement. It's not useful that goods arrive from France at 150 kilometres per hour if they then **pass most of their time in the station when they arrive in Italy**.

Concerning passengers, it makes sense to talk of **High Speed when the journeys are longer than 250-300Km**. In Italy, if we look closely at the figures, we can see that **80% of the demand for passenger transport is for short journeys**, less than 100 Km. It's true that our trains are super-full on certain routes but only **very few people go from one end of the country to the other**. The routes that are most frequented are those where there is the greatest exchange of passengers.

A study commissioned by the Mountain Community of the Susa Valley carried out by a Transport Engineering Company, shows that the **line would be justified** if in the next few years there was **40 million tons of goods traffic per year** making a total of **350 trains a day, every 4 minutes** at the **speed of 150 km/h**, alternating with **passenger trains at 300 km/h**.

Therefore, that line wouldn't seem to be indispensable, it would certainly have a very low priority in relation to other interventions because the **costs are really high** and the **traffic**, always going with the official figures, is really low, **among the lowest** of all the Italian valleys through the Alps.

The costs that are officially foreseen are for the whole line, not just the basic tunnel. That is 22 billion euro, but usually these forecasts are lower than the real costs. The Italian high speed train **cost three times** the amount forecast; the benefits for passengers are significant; but in this case the forecast number of passengers is very low, the line should thus be essentially for the **transport of goods**, but the goods traffic right now it has been in decline in the last 10 years and this seems to have limited growth prospects, because in the future it will have competition from the new **Gotthard tunnel** in Switzerland that goes more or less in the same direction. It seems unlikely that

the traffic will saturate the existing line that can carry up to 20 million tons **without spending one euro**, it's unlikely to go over that threshold.

The environmental impact for any new construction project is pretty high: if the project is very useful, then perhaps the benefits can be more important than the emissions from the construction work. But in this case, given the really big doubts about the usefulness of the project, there's also the risk that from the environmental point of view the shifting of traffic from road to rail would be very low and thus the benefits in the reduction of the environmental impact are very low too. They are forecasting 14 trains a day, while the capacity is 250. Goods traffic on rail is **in decline in the whole Europe** with very few exceptions. Even in France rail traffic is in decline because the things that we produce are not raw materials, bricks or wood or coal, those things that went by rail two centuries ago. Today we are producing outfits and microchips that are almost impossible to put on trains. It is much better to prefer **technologies** that cost much less and can do quite a good job at dealing with any likely increases in demand, if the increases in demand happen. There are structural reasons that explain why constructing more HSRs is unuseful: we have lifestyles and types of production that no longer are in agreement with the rail system.

Concerning the question of cost of construction and exercise, at the beginning it was promised that the HSR project would pay for 60% of its costs. Then this came down to 40% and finally it was established that 40% of the costs excluding the costs for the "nodes" near the cities, (really expensive). According to simulations by Prof. Marco Ponti of Politecnico di Milano [2], it would be around 20%. The system is destined for the default: the State pays, then. Many of these projects will start, then there won't be the money to continue and they will be restarted every time there is an election. The Turin-Lyon is a monument to dissipation: it will cost like 3 or 4 bridges over the Straits of Messina.

Actually, to develop innovation, we need to focus on technology rather than on cement. As far as employment is concerned, nowadays, the massive projects have a modest multiplier effect: manual workers are not used as they were in the 1800's. And then it is evident that our country has a great tourist value in the future. Thus there are more fruitful ways of spending money. Unless, of course, someone is promising great business.

3. The energy cost-benefit analysis

One of the main ecological justifications of the HSR projects would be the choice of transferring goods and passengers from road to rail, with a reduction of greenhouse gas emissions and pollutants associated with energy savings, achievable from the use of rail than by truck driven by thermal engines.

The supposed virtuosity of the train is not always true, and depends heavily on the investment of energy used for building infrastructure, including energy incorporated in the materials and the necessary management and maintenance. In the case of a big infrastructure project, such as the Lyon-Turin line between France and Italy, this is a particularly important requirement for a careful analysis of the life cycle of the project.

Rail transport, however less versatile than road transport, may cause less pollution. But this is true only if you use and/or improve an existing network. But if you design a new line, with over 70 kilometers of tunnels, ten years of work, tens of thousands of truck journeys, excavated material

disposed of, drills, thousands of tons of iron and concrete, in addition to the energy necessary keep it working, it turns out that the consumption of raw materials and energy and related emissions, could be so high as to nullify the gain of the hypothetical partial transfer of freight from road to rail. The assessment of this question is described for instance in [3]. As regards passenger transport, we can estimate the total energy spent to transport a passenger for one kilometer, expressed in units of megajoules (MJ/p-km). The bus has the lowest environmental impact overall, with 0,33 MJ/p-km. The car with one person on board however, is the worst solution, with 1.87 MJ/p-km. As the train classic car shows over the global consumption of energy equal to half (between 0,62 and 0,77 MJ/p-km, depending on usage), the HSR consumption doubles it (between 1,02 and 1,44 MJ/p-km). This means that if a HSR were to carry less than 300 people, it would be worse than a car with 2 people on board.

For freight, the best solution in terms of energy and therefore also of global emissions is represented by Trucks (1,25 MJ/p-km). The train shows that consumption may vary depending on if you are traveling at full load or half empty (1,79-2,5 MJ / p-km); The HSR shows consumption ranging from twice to three times (2,17 to 3,09 MJ / p-km).

A further consideration: the Frejus highway in the Susa valley has a passing through of approximately 3000 TIR (Big Trucks) per day. The HSR realization would add over 2300 transits per day of trucks, in front of a future benefit that we have seen difficult to evaluate and ultimately not convenient.

We can therefore affirm that the construction of the HSR Turin-Lyon is not consistent with the requirements of the Kyoto Protocol.

4. The direct pollution analysis

The case of the HSR construction brings with it many environmental pollution problems, that have been put into evidence by several studies [4,5].

The case considered here is due to the presence in the Susa Valley of geological formations with asbestos and uranium: this is of particular concern, also considering the final destination of the extracted inert. Moreover, the questions related with local hydrogeology and its perturbations are of concern.

The tunnel will be more than 100 km in total, and will pass through zones with high presence of asbestos and uranium. For example, concerning Uranium, it is foreseen that the resulting material from excavations will also be disposed of in two open-pit mines in the Valsusa, Meana and Caprie. This would imply the dispersion into the environment of about $3.3 \cdot 10^9$ Bq of radioactivity coming from Uranium and his daughters, with possible water and soil contamination. Due to the action of meteorological agents, resuspension, wind, such a dispersion of pollutants implies an exposure of local population to collective doses of several thousands of Sv-person.

5. The HSR opposition movement

A short history about how the NOTAV movement was created can be summarized as follows: the first HSR proposal dates since the end of the eighties, and soon it began the opposition in the Susa Valley: in particular, in a small village of Valley, called Condove, a pacifist nonviolent and ecologist movement was active already: in the seventies, and they were known for opposition to

military service, to weapons factories and to cruelty against animals. A local journal, called "Dialogo in Valle" (Dialogue in the Valley) was active in the seventies and eighties, and an ecologist association called "Comitato HABITAT" can be considered the root of the NOTAV movement in the early nineties: the first NOTAV conference, even though the NOTAV name had not even been created, was held in Condove in 1992, with professors and researchers of Politecnico di Torino (the local technical university) showing the environmental impact of the "New TGV" (Train Grand Vitesse = High Speed Train) in terms of noise. The first opponents to the HSR were local people belonging to those pacifist and ecologist movements, plus individuals, some of them belonging to left-wing and communist parties and a local association called "Cattolici per la Valle" (Catholic people of the Valley). The activist movement became stronger during the nineties, but still at a local level.

In 1999, three young squatters in Torino (Italy, the capital of the Piedmont region to which the Susa Valley belongs), Silvano Pelissero, Edoardo Massari "Baleno" and Maria Soledad Rosas "Sole", were arrested and accused of terrorist actions against the first HSR construction survey sites. The final trial proved they were innocent: however, Massari and Rosas never heard the final sentence, because they both committed suicide, Baleno a few weeks before Sole. At the end of trial, Pellissero was only charged with robbery and arson, and acquitted from all other charges.

In 2005/2006, the movement gained the attention of the national media, due to big manifestations and some clashes with the police, while in the small village of Venaus (Susa Valley) the NOTAV people succeeded in occupying a site where the first surveys for the HSR were going to be done. Manifestations were held in Torino too, with great participation of people from outside the Valley. After that, it has been a "crescendo" of participation and attention at a national level. In 2011, when the new site for the HSR surveys was chosen in the Chiomonte village (Val Susa), the NOTAV movement occupied the zone, founding the so-called "Repubblica della Maddalena", while the police removed it using the force on June 27th, 2011. After that, many nonviolent actions and manifestations took place, while the actual work for the HSR construction has not begun yet.

The HSR "NOTAV" opposition movement in Valsusa [6] has nothing to do with the "NIMBY Syndrome" (Not In My BackYard). Those who oppose the HSR in Val di Susa were immediately accused of suffering from this disease, a "postmodern" one, for which you want to enjoy the benefits of industrial production without paying the costs, particularly the environmental ones. It is a disease that produces symptoms almost always "oppositional", directly proportional to the distance of the site polluting your daily movement (home, work, little drive out of town). The "Nimby syndrome", in fact, is almost always a mix of well-founded fears, selfishness, selective nostalgia, suspicion.

As such the "syndrome" has no scientific dignity nor, therefore, raises no interest that can aspire to become general. Since the politics of the "particular", the localistic one, also carries the gene for its political defeat: it speaks to a small fraction of the population and involves interests which are insufficient to generate a critical mass to win.

In contrast, the NOTAV movement has made evident the "inner boundary" of the concept of a "major infrastructural work": no NIMBY, but quite general thinking indeed. Here there can be no room for rhetoric claims about "nature raped": the NOTAV experts have reconstructed the complex operation of financial engineering that supports the HSR projects: again, an analysis that can be applied to every similar project in Italy.

Talking about Commons, as we said in the introduction, the "Italian anomaly" still gives birth to monsters that swallow conceptually small but growing ever larger resources. Financialization is the behavioral model of reference for the new capitalism, but, on the contrary, these "Big Projects" are quite far from having any financial meaning and justification: why then are they pursued so strongly by the Government?

We think that the "large infrastructure" projects assume, in this context, the characteristics of a useful media event. As in finance, even in the communication media the physical object of the dispute may be indifferent, leaving the field entirely free for the art of combinatorial monetary circulation (in the first case) and for the skill of rhetoric (in the second one). So it is for the HSR in Val di Susa. What economic sense has a tunnel which will never become truly operational? What's the point, from a "Keynesian" viewpoint, at least? No one. All limits - those implied in any practical realization - defined by a real cost/benefit analysis are here broken. The reason why - this is the only possible explanation - is because the scope is not the declared one: it is not future benefits of HSR, but the immediate profit (and medium term ones) of the manufacturers themselves. The usefulness of the work, we mean, it is only for those who construct it, not for those who - in thirty years - will handle it or use it.

Criticism of this degeneration may be pursued at political and also at philosophical levels. But this level of criticism no longer meets a sufficient mass of listeners. The HSR opposition movement, instead, has learnt to couple technical and political opposition with a true democratic and popular participation, being then both at a local and a global level.

The Association of villages of the Susa Valley (Comunita' Montana della Val Susa e Val Sangone: CMVSS) has - during the years - set up a team of scientists and experts, many of them from Italian universities. This team, all composed by persons working for free, has performed technical analyses and produced reports and papers, which have been briefly summarized here: the cost-benefit analysis, the environmental impact assessment and many other studies has been used by the CMVSS for its action of legal opposition to the HSR construction. They combat misinformation with public conferences, both in the Valley and outside it. The NOTAV movement itself, at all levels, claims, using those analyses and inviting the experts at their public actions and manifestations, to have good technical reasons for his opposition, and refuses the accuse of being simply a NIMBY. Therefore, the cooperation between activists and experts is one of the important and distinctive aspects of the NOTAV movement.

6. Conclusion

Is the NOTAV struggle against "Progress"? Not at all. Progress must not be confused with infinite growth. The territory of Italy is small and over-populated. Natural resources (water, agricultural land, forests, minerals) are limited. Pollution and waste are increasing. Fossil energy supplies are coming to an end. Progress means understanding that physical limits exist to our mania to construct and transform the face of the planet. Progress means optimising, making more efficient and durable the things which already exist, cutting out what is superfluous and investing in intellectual and cultural growth more than material one, using our mind more than muscles. The HSR represents the exact opposite of this idea; it is an old project that is now an anachronism.

The citizens of Val di Susa are then doing well, in defending their backyard, since their Valley has become a Common for the Nation, and their action does not have anything local. Environment and how you impact on it with a construction is a Common. Public Money and how you decide to spend it is a Common. Land and water and how you use them is a Common. Public health is a Common. With a strong injection of scientifically based arguments, this is the message of the NOTAV movement.

7. References

- [1] Angelo Tartaglia, *Quali dovrebbero essere i vantaggi del nuovo collegamento tra Torino e Lione?*, <http://areeweb.polito.it/eventi/TAVSalute/Articoli/Tartaglia.pdf>
- [2] Marco Ponti, *Competition and Regulation in the Public Choice Perspective*, in 16TH INTERNATIONAL SYMPOSIUM ON THEORY AND PRACTICE IN TRANSPORT ECONOMICS, 247, 259 (2005)
- [3] M. Federici, S. Ulgiati, R. Basosi, *A thermodynamic, environmental and material flow analysis of the Italian highway and railway transport systems*, 33,5 ENERGY 760, 775 (2008).
- [4] TRAVOLTI DALL'ALTA VORACITÀ (Claudio Cancelli, Giuseppe Sergi, Massimo Zucchetti, ed. 2006)
- [5] Lucia Bonavigo, Massimo Zucchetti, *Dose Calculation Due To Underground Exposure: The Tav Tunnel In Valle Di Susa*, 17,9B FRESSENIUS ENVIRONMENTAL BULLETIN 1476, 1480 (2008)
- [6] Federica Appiotti, Fausto Marincioni, *The Lyon-Turin High-Speed Rail: The Public Debate and Perception of Environmental Risk in Susa Valley, Italy*, 43 ENVIRONMENTAL MANAGEMENT 863, 875 (2009)