

RAILWAY POLICY IN SPAIN AN OVERVIEW OF PLANNING AND IMPLEMENTATION DURING THE PAST 30 YEARS

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I. INTRODUCTION

The purpose of this study is to review public policies that have been developed in Spain during the past 30 years in regards to railway infrastructure, wherein, albeit with its ups and downs, a radical transformation has taken place as a result of the creation of a high-speed network for passenger travel.

This study progresses along a chronological line following the planning documents developed since the '*Plan de Transporte Ferroviario*' (the Railway Transport Plan) in 1987. While doing so, an assessment of results is carried out and further consideration is given to the role of planning as an instrument of public action. Thirty years since this first planning document came into being, we have gained enough perspective to know and assess its significance, the contributions of the subsequent plans, the deviations from the pattern (should one have emerged) and its replacement with different models, if such was the case.

II. RAILWAY PLANNING AS AN INSTRUMENT OF PUBLIC ACTION

Planning is a well-established instrument for public intervention in the different levels of administration. It is indeed a technical instrument that regulates its own activity. It constitutes a political commitment with society to accomplish a defined set of goals, which must be evaluated within a set timeframe. It is intended to be a process of interaction between the initial political and technical proposal and the feedback obtained from the several social and economic agents involved, with the purpose of achieving an agreed-upon government action. As a result, planning is pervasive at all levels of public activity, more accurate planning techniques have been developed and, in turn, society is increasingly more demanding of control over the proposed actions (Benabent, 2014).

In the case of transport infrastructure, planning is particularly important due to several factors: the high financial costs; the social, economic and environmental impact associated with action launching and execution; the extended timeframe involved, starting from the decision to build to the completion of the new infrastructure; and its durability in the landscape. Above all, in the author's opinion, a point of paramount significance is the irreversibility of many of the decisions that need to be taken. To some extent, this is due to the prolonged process involved in infrastructure development and execution. Thus, very rare are the cases in which the reversal or complete abandonment of initiatives are at all possible. On occasion, decision-making has triggered unexpected dynamics that alter the path that was devised in the initial plan.

In this regard, planning and decision-making prior to the execution of transport infrastructure are key to the optimised use of public resources and their economic and social profitability.

III. 30 YEARS OF RAILWAY PLANNING IN SPAIN

The purpose of this study is to apply this concept to railway transport infrastructure in Spain. In order to do so, an analysis of plans and actions taken since 1987 is carried out. At the starting point of this journey (the 1987 '*Plan de Transporte Ferroviario*'), the goal was to revitalize the railway system, which had become stagnant, and reclaim its competitiveness as a means of ground transportation. To do so, a renovation of the railway network was proposed, involving several initiatives: electrification, remodelling, double tracking of specific sections of railroad and the construction of new lines for certain routes. All these measures were intended to increase the average train speed to 200 km/h in 2,300 km of the railway network by the year 2000.

Among the new lines was a new access to Andalusia, through the bottleneck that the Gorge of Despeñaperros generated to connections to the South of the country. Soon after, the then-called '*Nuevo Acceso Ferroviario a Andalucía*' (NAFA) –the New Railway Access to Andalusia- became a centrepiece of the process for several reasons: the sheer volume of investment; its priority status for execution over the Madrid-Barcelona itinerary; and, finally, the December 9th, 1988 Cabinet decision to build all its central backbone from Barcelona to Seville in standard gauge. The decision to employ the standard gauge in the new line blew the plan's coherence 'to smithereens' (Aparicio, 2010: 14). There was no turning back. It was an irreversible decision, which has placed the spotlight of Spanish railway policy on the expansion of the high-speed network and the development of technical solutions to achieve compatibility between the Spanish network's traditional *Iberian gauge* (1,668 mm) and the standard gauge (1,435 mm).

Six years later, the '*Plan Director de Infraestructuras 1993-2007*' –the 1993-2007 Infrastructure Master Plan- was approved. It is the first plan to approach national infrastructure planning (transport, coast and hydraulic infrastructure) in a comprehensive manner. It places transport infrastructure within a wider framework in regards both to economy and to regional balance.

In regards to railway policy, it continues to contain the expansion of the high-speed network to its central backbone as per the aforementioned Cabinet decision, extending now to the border with France. 'In the long term', this would be completed with a new connection to the European network through the Basque Country, which would connect to the main backbone by means of the Navarra passage, the extension of the high-speed line from Madrid to Valencia and the Madrid-Lisbon connection. Additionally, the Plan concedes that the Spanish railway system is composed of two networks: the high-speed network, in standard gauge and destined to passenger transportation, and the rest, in Iberian gauge.

The successive shifts in political colour in the government have resulted in new designs for transport infrastructure planning. The so-called '*Plan de Infraestructuras de Transporte 2000-2007*' –the 2000-2007 Transport Infrastructure Plan- cannot be strictly considered as such, as it lacks a formalized document of objectives, proposals and funding, nor has it been put through administrative processing. However, through the distribution of maps and political statements, it does serve to establish the high-speed network as the cornerstone of transport planning. Again, the priority is the expansion of the high-speed railway system to the whole country, over 7,000 km, leaving aside other issues that the railway system is afflicted with as a whole.

The '*Plan Estratégico de Infraestructuras y Transporte 2005-2020*' (the 2005-2020 Infrastructure and Transport Strategic Plan) did go through regulated processing, involving a period of public information, assessment by regional governments and environmental studies, and was finally approved by the Cabinet. It includes an accurate analysis of the transport system; following European guidelines, it establishes objectives in regards to system efficiency, sustainability and social and regional cohesion. It has been the most ambitious plan so far, with an estimated investment budget of 248,892 million euros, also in line with Spain's economic growth during that period.

In regards to railway policy, following European guidelines for interoperability and with the purpose of integrating the Spanish railway network, the decision is made to replace Iberian gauge with standard gauge. With this in mind, bi-block sleepers will systematically be installed in conventional tracks in preparation for the gauge shift, when it becomes technically feasible. In addition, the Plan projects a more tightly meshed high-speed network than the previous plan did. It would extend to 10,000 km and it would serve both for passenger and freight traffic (*mixed traffic*), with the exception of train lines already in operation or in construction. This Plan does not deviate from the political commitment to expand the high-speed network to the whole country. Instead, it aims to extend the 2000-2007 Plan network. By combining passenger and freight traffic in the same lines, it endeavours to find a solution to the necessary revitalization of freight railway transport quota, which continues to decline, and by doing so, justify the expansion of the designed network.

Lastly, the '*Plan de Infraestructuras, Transporte y Vivienda 2012-2024*' –the 2012-2024 Infrastructure, Transport and Housing Plan- is a properly designed and processed document. Its final approval in 2015 depends on the decision of the Deputy Minister for Infrastructure and Planning. It was devised in the midst of the financial crisis featuring drops in all modes of

transportation and a sharp decline in public investment, in general, and in public infrastructure, in particular. Accordingly, the principles of efficiency and sustainability are prioritized and previous planning is revised. Simultaneously, however, infrastructure planning remains one of the most important objectives in order to overcome the financial crisis.

Regarding railway policy, it accurately diagnoses the main issues of railway transportation in Spain: the lingering losses in freight traffic market quota; the interoperability of the railway system, which requires a comprehensive network gauge shift; and its intermodal interaction with other means of transportation. On the one hand, it amends the mixed traffic proposal included in the previous plan: it assigns freight traffic to traditional lines, freed from passenger traffic by the introduction of the high-speed lines. On the other hand, it continues to support the decision to replace the Iberian gauge of the traditional Spanish network with standard gauge, in order to allow full interoperability with the European network. Nevertheless, against all expectations, the Plan preserves its predecessor's proposal: it maintains virtually all the lines defined initially and it adds a few more. However, it fails to define the deadline for this network's completion or its full extension in kilometres.

IV. RESULT ANALYSIS

It is an undeniable fact that the greatest innovation of the Spanish railway network during this period has been the introduction of a high-speed network. It is often stated that it is indeed the most extensive one in Europe. However, there is no consensus as to its exact length in operative kilometres. As of December 31st, 2014, the latest *Observatorio Ferroviario de España (OFE)* available provides a number of 2,471.1 km –of which 84.1 km are in Iberian gauge and 151.9 km are single tracked (OFE 2014: 20). The 2014 *Anuario Estadístico del Ministerio de Fomento* estimates the length of the high-speed network at 2,829.96 km: among those, 567.34 km would be in Iberian gauge; 336.07 km would be unelectrified, and among the latter, 286.29 km would be single tracked. No explanation has been offered to account for that singularity (Ministerio de Fomento, 2014: 2). In turn, *ADIF (Administrador de Infraestructuras Ferroviarias)*, on its web page, calculates the extension of the high-speed network in 3,143 km. In relation to its physical design, the working high-speed network is clearly radial, with its centre located in Madrid.

The construction of the high-speed network has been the target of reasoned criticism due to: the high volume of investment (according to ADIF, more than €45.000m, to date); its impact on the environment; its questionable economic profitability; the opportunity cost in relation to other possible areas for investment; and the priorities established in its execution favouring radial connections with the capital of Spain (Albalade y Bel, 2011; Betancor y Llobet, 2015; De Rus, 2015; among others). There is a different perspective, however, notably that of the economic sectors involved in its construction: it highlights the effect that the elevated investment has in the country's GDP, employment levels and fiscal return (Herce y Sosvilla-Rivero, 2002) or its role as a 'tool' for economic policy; and it contemplates travel time reduction and the fact that railway transportation is now competitive in relation to road and air travel.

Regional cohesion and planning remain one of the fundamental objectives in infrastructure planning. In this regard, the heftiest reason is the reduction of travel time among the locations connected by the network; admittedly, however, it also creates a ‘tunnel’ effect as it renders itself incapable of contributing to the creation of economic activity between the nodes and the areas covered by the high-speed network (Hernández, 2011: 8).

Following the inauguration of the connection to the French border by Figueras in 2013 and the Albacete-Alicante line, progress in the last few years has mostly been focused on the Northwest quadrant, on the Madrid-Galicia and Madrid-Asturias lines. These actions have had the full political support of the Spanish government, despite the fact that their cost-effectiveness is at best questionable compared to the first high-speed lines. However, investment in other lines has been postponed. This is the case of the ‘Mediterranean Corridor’, the ‘Basque Country Y-shaped network’ and the connection to Portugal. The Mediterranean Corridor’s economic and population potential is beyond doubt and it is strongly supported from the regional political and business spheres. It was included as part of one of the main axes of the network since the 1987 Plan, but to date, it remains a double-track electrified Iberian gauge mixed-traffic passage, with a single-track bottleneck between Vandellós and Tarragona. The ‘Basque Y-shaped network’ and its connection to the French network (Vitoria-Dax) was already included in the initial list of 1994 trans-European projects, but still remains to be done. Likewise, the Madrid-Lisbon connection was also among the first trans-European network proposals, but its execution has been postponed in Portugal –there has been some work in Spain between Cáceres and Badajoz, but their connection to either Madrid or Lisbon remains uncertain. As a result, these actions of interest to Europe, predictably higher profitability and already present in the initial plans have been relegated to second place in favour of other connections.

While analysing the action results in the last 30 years, it is noteworthy that the Spanish railway system still has more than 5,000 km –almost 50% of its traditional network– composed of single-track unelectrified lines. In addition, its design is more akin to a 19th-century railway system. The result is a network of lines in poor conditions, low profitability and feeble traffic which sharply contrasts with the new high-speed network; the latter presents itself as the only alternative for a competitive railway service and triggers demands for its extension to all territories from the political, business and social spheres. Likewise, freight traffic is negatively affected, as it has barely been profiting from the high investment. Its goods transportation quota has continued to drop and it remains to this day the pending issue of the Spanish transportation system.

Furthermore, there continues to be a duality with the traditional and the high-speed networks, as a result of the coexistence of the two different gauges. Despite the technical solutions for interoperability, one can hardly refer to it as a single railway system. The ‘*Plan Estratégico de Infraestructuras del Transporte de 2005*’ suggested the need to migrate the full network to standard gauge, and it is an objective that persists in the ‘*Plan de Infraestructuras, Transporte y Vivienda de 2012*’. It is true that certain measures have been put in place in order to promote said migration; at present, there are 4,620 km already equipped with bi-block sleepers albeit still operating in Iberian gauge. There is no set deadline for the gauge shift, as this would require an uninterrupted coherent network provided with bi-block sleepers and the availability of freight wagons, as well as carefully planned logistics, in order to carry it all to term.

V. CONCLUSIONS

With the consolidation of planning as a mechanism for government intervention as a starting point, the author's objective has been to analyse the progression of railway infrastructure planning in Spain in the last 30 years. By doing so, this study aims to explain content, internal coherence and level of continuity (or lack thereof) among the different plans. In sum, its goal is to observe the trajectory they have followed and the level in which planning has defined public action.

Over this period, up to four infrastructures general plans for transportation have been delivered within the competence of the Spanish government, subsequent to one specific railway plan. Each colour shift in the country's politics has been followed by a 'brand new' plan, resulting in an expiration date for plans of five to eight years. However, this plan changeover has not been a result of evaluation, but a mere response to political changes in the government. With every substitution, there has been a statement of new principles and objectives and an apparent rupture with the preceding plans; in reality, however, each plan has shown continuity in its essence with its predecessor's proposals and actions, as a result of the inertia that is inherent to public works and because of the irreversibility of the actions already in motion.

Above all and further considerations aside, the plans have lent an ear to every demand for the extension of the high-speed network, in the perseverance to surpass previous plans in this regard. It is a political reaction to the fear of regional unfair disadvantage, as part of the fear of the regional debate in a wider scale. As a result, making decisions and setting priorities are avoided in the plans, procrastinated to a *de facto* political, technical and/or financial programme, the results of which we have already analysed above.

At its core, diverse interests meet. They are the interests of the different regional governments, demanding a level of investment in their territories that is equivalent to those being, or expected to be, carried out in other regions. They are also the interests of the business sector, which profits from investment in infrastructure; these are top-ranking Spanish businesses with power to influence government decision-making. They are also the interests of the public opinion, whose participation is already regulated in the planning process, but lacks sufficient articulation and presents differing views: on the one hand, some groups advocate for a revision of these expansive proposals; on the other hand, some are convinced of the benefits that the construction of new infrastructure would entail, or adamant in their defence of what are considered by them their regional interests.

The Spanish government, as the body in charge of funding and execution, justifies their proposals in favour of regional balance and cohesion, as well as, according to the current plan, the impact that public investment has as the driving force behind job creation or its role in economic and employment recovery.

The final question then is the usefulness of planning in the government's action, and to which point it is indeed the government the force that leads and guides it. Transport infrastructure plans in Spain are supported on good technical knowledge and include an accurate assessment of the initial situation; through them, principles and objectives in regards to system efficiency concerning economic, social and environmental factors

are established; social and regional cohesion and economic development are promoted; and interagency coordination and cooperation is fostered. However far from reaching the planned objectives, those principles have been strengthened by means of the ideas compiled in the planning documents.

Nevertheless, the strong political component of these plans in their final stages substantially distorts the value of the planning. It renders its proposals uniform and in generic terms, whereby no region is excluded and all regions are awarded equally. And, by doing so, the essential principles of planning are called into question: the most efficient allocation of available resources in terms of economics and sustainability; it implies choosing out or discriminating.

