

# ABSTRACT

The subject of this research is intercity passenger rail transportation in the United States, approached from two perspectives: Amtrak's traditional rail services and high-speed rail projects. The aim is to understand the workings of public rail transportation policies, what they contain, and how they are developed and pursued by the different actors. The originality of the research lies in its multiscale approach, with a constant back-and-forth between the different scales of analysis, and in its use of several case studies to analyze the territorialization of intercity rail transportation policies.

## *Research question*

This research, which explores policy trends in passenger rail transportation in the US, seeks to provide answers to **two main questions**. The **first** concerns the adoption or readoption of the rail mode by the players in the transportation sector. How do the Federal government, the individual States, and Amtrak construct and implement their rail policies? What are perceived to be the political, economic, and territorial priorities of rail transportation within the overall context of transportation in the United States? How do the different actors perceive the institutional conflicts around the train, whether rooted in financial and legislative factors, or in political practices. The **second** concerns territorial embeddedness and the territorialization of rail policies in a context where the individual states and local actors develop their own practices and their own forms of public action based on political and economic considerations that have little to do with the federal level. What are the factors that foster and hinder the emergence of new rail policies? What is being done to develop the connections and the necessary coordination between intercity rail projects, regional and urban transportation networks, and mass transit development policy? How do local actors and transit operators view the metropolitan dimension of rail projects in the form of stations and station districts?

## *Hypotheses*

The **first hypothesis** advanced is that the emergence of high-speed rail (HSR) policy is driven by coalitions of public and/or private actors and not underpinned by national policy. Our argument is based on three factors. First, the difficulties of progressing a new federal rail policy inherent in the structure of the US rail network (centrality of freight, largely private ownership of existing infrastructure, formation of more and more bottlenecks in the big metropolitan regions, Amtrak's institutional and financial weakness). Then the partial failure of the Obama administration's initiative in favor of high-speed rail despite the unprecedented allocation of funds for this mode of transportation. Finally, the fact that the renewal of US rail policies entails a more significant delegation of powers on transportation to the states and the regional/metropolitan authorities (in particular the Metropolitan Planning Organizations) in order to circumvent political obstacles at the federal level.

The **second hypothesis** is that a political paradigm shift is contributing to the emergence and implementation of policies favorable to passenger rail transportation. The argument is that there has been a change in thinking about transportation policies and that economic, territorial, and environmental reasons (growing freeway congestion, future airport congestion, need for policies in favor of public transit and zero-carbon mobilities, global greenhouse gas reduction strategy, etc.) are being advanced to legitimize and justify new rail projects and the big investments associated with them.

The **third hypothesis** concerns the emergence of a new policy in favor of high-speed rail. High-speed rail in the US is being implemented under a new development model, which represents a move away from speed as a central objective and the traditional goal of building a dedicated high-speed rail network, to the detriment of the existing network and financial and economic balances. By analyzing the business model and geographical context of the train, this research shows that high-speed rail is only appropriate in a small number of “megaregional” or “megalopolitan” corridors. The development of public policies or private strategies for high-speed rail in the US reflects conditions that vary from one region to another, and is based – deliberately or by default – on a passenger rail network that includes European and Asian style high-speed corridors (California, Northeast corridor), and on “higher-speed” corridors that use upgraded existing infrastructures (Cascades, Florida, Midwest corridors). As well as a hybrid concept of technical corridors and the coexistence of different rail services, this new policy is also founded on the importance of regionalized strategies. The other countries with high-speed rail – though with undeniable internal differences – have implemented a unified, uniform, top-down vision, primarily with central government backing, of spatial development and planning through high-speed lines. In the US, the federal government’s powers in transportation are limited to safety and the Interstate highways, or to special investment, while Amtrak has insufficient resources to take on the private freight companies. States, on the other hand, have extensive powers in this sphere but have to accommodate a galaxy of local actors, which also have input into transportation and planning policies. And more recently, private players independent of any public strategy have declared an interest or have become involved in developing rail projects (Florida, Texas, Midwest). This distinctive political and institutional setup is complex – a complexity reinforced by administrative overlap and local government fragmentation in the US – and encourages the development of new strategies appropriate to the regional context, which preclude the uniform practices, goals, and instruments favored at federal level.

The **final hypothesis** is that since the revival of rail in the US depends on a small number of corridors, what is needed is network integration and an intermodal approach in rail policies. The construction of a new high-speed line or the upgrading of an existing line entail three imperatives that apply to all areas and to all parties: (1) interconnection of the intercity network with the existing regional and urban networks in order to enhance the performance and efficiency of the transportation system; (2) the application of an integrative multi- and inter-modal vision through the coordination of the different practices of the different operators and the construction or renovation of multimodal interchange hubs; (3) specific attention to the metropolitan embeddedness of intercity rail corridors through a restored emphasis on stations. The station, as a symbol of the material and territorial dimension of rail transportation, and as an urban “object”, is undergoing a threefold political reappropriation: as an element of metropolitan centrality; as a starting point for an urban regeneration plan; and in the development of better coordination between urban planning and services through the role of station districts.

### *Thesis plan*

After covering the main legislative stages relating to the introduction of high-speed rail and summarizing the Obama administration’s initiative, the aim of this **first part** of this thesis is to analyze the main projects underway in the US – including private projects – at their different stages of preparation and development.

The **second part** largely focuses on political and institutional conflicts. The aim is to analyze federal rail policy through the different transportation acts and the Amtrak reforms, and to compare it with federal support for other transportation modes. Our goal is also to study the federal government attempts to introduce a national strategy for the development of passenger rail transportation (National Rail Plan). The growing role of the states in rail policy since

the PRIIA and FAST Acts, and the support for Amtrak, occupy a large proportion of this institutional and political component of the thesis. In addition, even though the existing Metropolitan Planning Organizations (MPO) have no powers with respect to intercity rail transportation, it is interesting to explore the extent to which this institutional layer is taking on the challenges of passenger rail. The aim of this part of the thesis is to cover the interplay between the institutional actors in passenger rail, Amtrak and high-speed rail projects. This section prompts us to consider the points of political, institutional, and financial gridlock that prevent the development of Amtrak and of an ambitious rail policy. This leads us to look at Amtrak's business model, and that of high-speed rail in the USA. Indeed, the competition from air transportation (for long-haul routes, and increasingly medium- and short-distance travel), and from buses, raises questions about the pertinence of such projects in these geographic conditions. This third stage will therefore focus on four subjects: analysis of Amtrak's business model (with examples from several lines); analysis of the presumed business model for high-speed rail (based on the examples of the NEC and the Californian project); an exploration of the relevance of high-speed rail in the United States (competition between rail, air, and road); and finally the role of tourism in ongoing rail projects (example of Brightline).

Finally, the **third part** of the thesis looks at the territorialization of rail policies through the prism of several case studies that reveal the role of local institutional and non-institutional actors and of strategies of integration with urban networks to promote eco-mobility and alternatives to road and airport congestion. Three case studies are considered: the Cascades corridor (Seattle-Portland), the North Californian corridor (San Francisco-San Jose), the new private *All Aboard Florida* rail project (Miami-Orlando). These case studies will provide an entry into the analysis of the network-territory couplet, and into the examination of stations and station districts. America is seeing a proliferation of projects that involve the renovation of central stations and the construction of multimodal hubs, as well as projects that place stations at the heart of larger urban development programs.

### *Findings of the thesis*

The first hypothesis concerned the emergence of a high-speed rail policy propelled by a coalition of public and/or private actors, rather than by a national high-speed rail development strategy. Our analyses confirmed this hypothesis. In a political climate marked by recurrent tensions and polemics over the influence and role of the federal government, the introduction of any federally instigated scheme is compromised. The emergence of more and more private projects reflects the current situation of passenger rail in the United States, caught between technological, scientific, and political emulation and major financial obstacles. After a significant turnabout in 2009, marked by the passing of several acts and the implementation of an unprecedented funding program founded on a collaboration between the federal and states levels, the federal administration's rail policy seems to have applied the brakes since 2011. The Obama administration's top-down initiative changed the geography of US rail, but on too modest scale. It provided support for high-speed rail projects in California and in the Northeast, and for modernization of the existing network in other corridors (Cascade, Midwest, California), but failed to propose or impose a uniform nationwide vision. Rail projects are therefore sustained by coalitions of increasingly cooperating actors. The analysis demonstrates the emergence of a bottom-up approach to projects, notably apparent in the Californian HSR project and in the modernization of the Cascades corridor. This process has even gone to the extreme with the proliferation of private rail projects that stress their independence from government, be it in decision-making, governance, or funding. This seems definitively to preclude any attempt to establish a national framework for high-speed rail, like those found elsewhere in the world, regardless of party-political considerations, i.e. the traditionally greater enthusiasm of the Democratic Party for large-scale federal investment.

The second **hypothesis** was that a political paradigm shift is contributing to the emergence and implementation of pro-passenger rail policies. This analysis was initially conducted at both national and state levels, with an emphasis on the arguments and guidelines in the strategic planning documents, whether for transportation or urban and regional planning. The dissemination of these arguments and recommendations coincides with a broad movement in favor of developing sustainable mobilities. Two conclusions emerge: first, the development of uniform arguments and recommendations to encourage new rail policies, emphasizing the structuring effects and economic role of high-speed rail, congestion reduction, modal shift; second, a tangible though uneven pro-rail position among public actors at all levels. However, this change of paradigm is limited by three factors that we identified through this research:

- gaps in the technical and administrative culture of rail – since high-speed rail is still an innovative technology in the US, it is hard for the institutional actors to acquire a grasp of the issues. This cultural gap is apparent both in the development of the business models of the different projects (market analysis, modal distribution, supply/demand analysis, changes in resulting footfall or modal shift, etc.) and also in the belief, still strong among public actors at all levels, in the structuring effects of a transportation infrastructure;

- the second factor is institutional and political. For the last few decades, the frameworks of public action for the federal government and for many states have been shaped by and for the development of the private car and the expressway system (lasting and earmarked sources of finance, consistent political backing for expressways, legislative and even constitutional prohibition on the use of existing funding streams for anything other than the expressway sector, absence of specific programs and targeted and stable funding for intercity passenger rail transportation, at both federal and states level);

- finally, a sharp disconnect between the formal political undertakings, present in both the grey literature and in rhetoric, and the reality of what the different actors can do with regard to transportation. While all of them recognize the environmental and economic need to encourage a modal shift from the private car to transit and to support rail, the current structure of powers relating to intercity rail transportation, Amtrak's institutional isolation, and the sharp division between this intercity mode and the other modes in public policies, mean that in reality the territorial players – beginning with the MPO/RTPO, the counties, the municipalities – have little real capacity to support a large-scale rail project. Their role is limited, in terms of powers, to urban planning with respect to stations and to the interconnections between the different transit networks at city or metropolitan scale. Nonetheless, despite the varying interpretations of local officials, significant convergences in viewpoints and recommendations are emerging. The public transportation and planning authorities are becoming committed to the challenge of backing new rail projects within their own sphere of institutional and geographic influence.

The third **hypothesis** concerned the emergence of a new policy favoring high-speed rail. Our analysis supports the idea that a different high-speed rail development strategy is emerging in the United States. It is one of the countries that most epitomizes the spectacular history and technical revolution of the railroad. Whereas rail freight in the US continues to achieve solid performances and results, the country is a newcomer to high-speed rail. Despite the profound crisis in passenger rail transportation since the 1950s and the many problems in redeveloping this mode, substantial projects have emerged, especially for the creation of high-speed lines. However, an analysis of these high-speed corridor projects shows that speed is not the dominant paradigm in the planning documents and has in fact been challenged in the scientific literature for many years. In reality, priority is placed on improving and modernizing existing

corridors for the launch of higher-speed services, and then on hybrid networks that combine different types of infrastructures. There are no publicly backed projects for new lines exclusively dedicated to high-speed rail. Most of the high-speed corridors are in fact “higher-speed” corridors, some of which are intended to become high-speed at some time in the future, such as the Northeast corridor. For its part, the Californian project is a mix of new infrastructure and upgrades to existing sections. Three findings emerge from our analyses:

- the hybridization of the technical solutions for introducing high-speed intercity rail services – with the *de facto* coexistence of high-speed corridors in the UIC sense, mixed higher-speed corridors (public and private infrastructure sharing), and private corridors on which the national operator Amtrak is absent;
- a high degree of selectivity in the construction of high-speed lines on a very small number of megaregional corridors with the right geographic and urban conditions;
- the dominant high-speed rail strategies in the US are regionalized, based on a bottom-up approach that reflects local specificities.

The final hypothesis advanced the idea that the rail revival in the US was based on network integration, on the implementation of a policy of intermodality, and on a specific emphasis on the metropolitan embeddedness of rail corridors. Indeed, public actors at all levels prerogatives in the spheres of transportation and/or spatial planning and urbanism, stressed the need for the networks to be interconnected at different scales. The territorialization of rail projects entails the design and construction of transportation networks that are more integrated – at least in terms of service provision and physical connection – and genuinely interconnected. After analyzing projects for the upgrading of higher-speed corridors and the construction of new infrastructures, we note the importance of stations and the emphasis on the need for better coordination between transportation and urbanism through support for station districts. Indeed, a rail corridor project – situated at the intersection of political, economic, technical, and territorial interests – is the nucleus of a process of territorialization that materially embeds the infrastructure within urban spaces, and of a process of politicization through the involvement of local actors. Rail projects seem to be an instrument that leads to the implantation of metropolitan scale facilities (stations, intermodal hubs) and to the shaping or reshaping of the urban fabric (station districts, larger-scale district regeneration projects).