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# Integrating Urban Planning and Rail Transport for High-Quality Urban Development in sparsely populated areas: Case Studies of Béarn (France) and Canton of Jura (Switzerland)

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**Abstract.** This paper examines two case studies; the Béarn region in France and the canton of Jura in Switzerland, to investigate how urban planning and rail transportation are coordinated in sparsely populated areas. Our goal is to comprehend how this coordination is carried out, what steps local actors take, and how they implement this strategy. To achieve this, we use bibliographical analyses, urban planning papers, and information gathered from semi-directive interviews with elected officials, local government personnel, associations, and specialists in the two study areas that were chosen. Employing an analysis grid based on important theories of governance, our aim is to highlight the public action tools used to meet the unique issues of low-density territories. According to our hypothesis, we think that a partnership strategy including various public and commercial actors leads to the appropriation of urban planning and rail transport coordination policies. However, the degree of participation and coordination may fluctuate between various regions. Additionally, in these sparsely populated locations, native performers use four basic pillars of action: boosting station appeal and station quarter densification, enhancing rail service and intermodality, enhancing governance, and encouraging projects in the vicinity of the rail axis. . . .

**Keywords:** Béarn , Bonfol , Porrentruy , Sparsely populated area, Rail transport, Urban planning.

## 1 Introduction

Axis contracts are a kind of urban planning-transport coordination tool that has been used for planning and policy coordination as well as for studying densification around the railway (Gallez et al. in [3]; Maulat in [6] and in [5]; Bentayou et al. in [1]; Meunier-Chabert in [7]). However, some authors have partially addressed difficulties, such as those related to the low level of involvement for specific community categories like Maulat et al. in [5] and [6]. In order to address

this issue, we focus in this work on the public action strategies and governance instruments used in two railway axes contracts; the Béarn axis contract in the Nouvelle-Aquitaine region (France), which focuses specifically on the Puyoo - Pau - Montaut-Bétharram and Pau - Oloron - Bedous railway lines (Aquitaine Region, 2015), and the Canton of Jura agreement relating to railway line 238 that connects city of Porrentruy to the commune of Bonfol (Switzerland) (contrat d'axe Canton du Jura, 2017 in [2]). The research problem and our study hypothesis are discussed in depth in the first section, which is then followed by a description of the qualitative research technique we used, which included documentary analysis and semi-structured interviews. The territorial analysis grid, a crucial analytical tool created to analyze government options, is then introduced. The parts that follow give a detailed account of our findings, highlighting the impact institutional systems have on governance, before going over our theoretical framework and closing with implications and future ideas. In essence, this article explores the complicated environment of rail axes governance to clarify its various aspects and impacts.

## 2 Methodology

### 2.1 Problem statement and research hypothesis

Governance can be described as a way that different players, social groups, and institutions interact and coordinate, not necessarily all belonging to the government, to achieve common objectives defined collectively. This process involves using tools called "public action instruments," which are essentially devices that help manage how government authorities and their intended recipients interact, influenced by the meanings and representations they convey (Lascoumes, Le Galès 2005, p. 13).

Given this perspective, let's explore how the governance of the two studied rail corridor contracts is organized. How do the institutional frameworks in these areas influence the use of these tools? To address these questions, we propose the hypothesis that the approach to contracts in Pays du Béarn is potentially less inclusive and participative compared to that in the Canton of Jura. This difference is attributed to the distinct institutional frameworks in these two regions.

### 2.2 Qualitative approach using documentary analysis and semi-structured interviews based on an interview guide

First, the planning documents for the two study regions highlight concerns about methods for densification near the railway. Aquitaine Region (2015) and Canton du Jura (2017) allow us to identify and list the actions planned or programmed, the goals of which are to organize coordination between the various players involved in the process in order to promote monitoring. In this case, the railway axis contracts of the Pays du Béarn and the Canton du Jura.

Then, the local players in the study’s study areas, with whom we are conducting semi-structured interviews, are likewise faced with this issue. Between May 2023 and June 2023, these interviews with local stakeholders of varying status were conducted in the two designated areas. They were conducted utilizing an interview framework that addressed governance-related topics. The discourse of the players interviewed was then analyzed using a geographical analysis grid created for this purpose in order to pinpoint the governing processes driving the implementation of the route contracts.

### 2.3 Territorial analysis grid

The governance of the rail axes contracts under investigation is one of the public action levers available to local parties to implement a policy of densification around the railway. In order to make sure that these activities are being monitored, it is used to organize the parties involved. This tool is one of several that make up a territorial analysis grid (as presented in Figure 1) that is used to decipher the tools and techniques applied in the axis contracts as well as the perspectives of the participants. Based on research on the issues with coordinating urban planning and rail transportation (Gallez et al. in [3]; Bentayou et al. in [1]; Maulat [5, 5]; Meunier-Chabert in [7]), four territorial analysis indicators were created.

Territorial analysis indicators	Reinforcing rail services and intermodality	Attractiveness of the station and densification	Promoting a regional project linked to the railway axis	Theoretical framework
Levers for public action	Journey times, frequency and amplitude of train journeys, comfort of rolling stock, infrastructure capacity (train paths available for freight in particular)	PRM accessibility, renovation of buildings, development of car parks, construction of shelters, creation of footbridges or subways, raising of platforms, etc.	Special features and assets of the area (e.g. tourism and culture), Social tariffs (work season tickets, school and student tariffs, unemployed people, young people, the elderly), tourism or culture.	Multi-level governance theories
	Intermodal services (MEPs, joint pricing, joint ticketing systems, coordinated information systems, reorganisation of existing services to better position them to meet developing needs)	Improved signage, installation of cash dispensers	Coexistence of distinct uses (local and long-distance passenger transport, freight transport)	
	Transfer to stations (car park, two-wheeler garage, walking, cycling infrastructure, bicycle space on the train), Transfer by public transport to the destination town (bus, minibus or feeder coach, express coach, TAD).	A place for people, jobs and facilities close to stations, a multi-service intermodal hub, a place to live, part of the town’s image, a place to access the region	Freight and combined transport infrastructure and facilities, rail services to ports, mainline services, inter-regional services, infrastructure capacity investments	
Governance	Structure for proximity and consultation between players (Regions, Cantons, local authorities, SNCF, civil society, local companies, public land establishments, etc.), Inter-regional cooperation (coordination between neighbouring regions), Intra-regional cooperation (coordination between local authorities or AOMU and the Region).			

Fig. 1: Regional analysis grid for rail transport policies (Source: author based on Rapport Jacques Chauvineau (2001), Region Aquitaine (2015), Canton du Jura (2017))

Figure 1 displayed as a table, provides a structured view of the rail axes contracts' key elements. In this table, the top row outlines the primary goals and objectives specified in the contract's official documents.

The subsequent three rows delve deeper into these objectives, elaborating on the specific public actions designed to attain them. This detailed breakdown helps to understand the steps and strategies involved in achieving the outlined goals. In the last row of the table, you'll find a listing of governance tools that have been implemented within the rail contracts to facilitate the realization of these objectives. These tools serve as mechanisms for coordination and management. Finally, the table's last column introduces the theoretical framework of "multi-level governance." This framework is crucial for interpreting the perspectives and discussions of the stakeholders interviewed in the context of the rail axes contracts.

### 3 Results

Institutional systems shape how governance works, influencing public actions at both national and local levels. They provide insights into what can be achieved and how it's done. For instance, France is a decentralized unitary state with a strong central government, which can sometimes exclude certain groups like private developers, NGOs, and foundations, leading to challenges.

On the other hand, Switzerland, as a Confederation known for shared management and participatory democracy, has a different governance model. These distinct institutional dynamics in France and Switzerland impact how public policies, including rail contracts, are designed and carried out.

In the case of rail corridor contracts in Béarn and the Canton of Jura, they rely on partnerships involving various stakeholders pursuing common goals. Notably, these partnerships tend to be more inclusive in Switzerland than in France due to their differing institutional frameworks (Palier et al. in [8]; Poupeau in [9]).

### 4 Discussion

In this paper, we examine the strategies and methods applied in the Béarn and Canton de Jura rail corridor contracts. We employ a theoretical framework called neo-institutionalism, which allows us to comprehend that contemporary decisions are often influenced not solely by efficiency but also by established norms and practices. It's important to note that while we primarily utilize neo-institutionalism, other approaches, such as inter-organizational analysis, can also provide valuable insights into the motivations and interests guiding public actions (Poupeau in [9]; Palier et al. in [8]).

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## A APPENDIX 1: ACTORS INTERVIEWED

List of actors interviewed in the Pays du Béarn.

- EB1: Mobility representative Pyrenees Atlantiques Urban Planning Agency
- EB2: Doctor of Planning, Université Paris Est
- EB3: Deputy Managing Director Community of Municipalities Lacq Orthez
- EB4: Territorial Planning Project Manager, Pays de Béarn, Syndicat mixte du Grand Pau
- EB5: Member of Collectif pour les déplacements en Bearn : code Bearn
- EB6: Director of Urban Planning and Spatial Development Community of Municipalities Haut de Béarn
- EB7: Director of Mobility and Public Spaces Pau Bearn Pyrenees Urban Community
- EB8: Director of the Courte Échelle association
- EB9: Director General of Services Communauté de communes du Pays de Nay

List of players interviewed in the Canton of Jura.

- EJ1: Former Mayor of Alle and Member of Parliament

- EJ2: Head of the Transport Mobility Section
- EJ3: Former project manager, drafters of the axis contract
- EJ4: Mayor of Bonfol
- EJ5: Developer participating in the Route Committee
- EJ6: Current municipal planner

## **B APPENDIX 2: INTERVIEW GUIDE**

- 1- What is your name, position and reporting structure?
- 2- Who are the main players involved in drawing up and implementing the Bearn axis contract, and what are their responsibilities?
- 3- What tools or resources do local authorities have at their disposal to encourage a policy of densification around the railway? How can the Route Contract help?
- 4- Generally speaking, are the measures set out in the Bearn axis contract likely to encourage urban densification around these different rail routes? If so, which do you think are the most relevant? If not, why not? What do you recommend achieving this? What are the main obstacles that need to be overcome to achieve the desired objective?
- 5- Do you have anything to add to conclude our interview? Would you be willing to take part in a focus group we could organize on this topic with other local players in the coming weeks?