

Urban planning and LRT systems in France

In France, the organization of public transport is based on the system of decentralized administration set up at the beginning of the 1980s. For twenty years, urban local authorities have therefore had total autonomy to develop their public transport systems in a context in which the car reigned supreme. The largest cities chose to set up rapid transit systems, among which the modern French tramway has experienced continued success. This success is based mainly on the opportunity offered by the tramway to reorganize the city, locally around the line, and to a greater extent if we couple transport planning and urban planning. Tools now exist for this, and local authorities have to adopt Urban Mobility Plans (Plans de Déplacements Urbains / PDU) and Urban Area Integrated Schemes (Schémas de Cohérence Territoriale / SCoT) to go beyond what might merely be a passing mode, and give the tramway its rightful place in urban policies.



Nice - Masséna Square (E. Boizet)

Public transport in France today

In France today there are approximately 240 urban transport networks, which serve populations varying from 10,000 to 10 million inhabitants.

Outside the Paris region, the organization of local public transport has come under the responsibility of municipalities and groups of municipalities since the decentralization laws of 1982. Since then, urban local authorities have had the choice of running their networks directly or of delegating them to a private operator. 90% of French networks are run on a delegated management basis today. Consequently, the public transport market is dominated by three large corporations (Veolia, Keolis and Transdev) which are also very well established on the world market. Since the 1970s, urban communities have benefited from specific resources to finance their public transport systems: the Transport Tax (Versement Transport / VT) is levied on companies located in the urban perimeter. The large networks are equipped with mass transport systems, metros and tramways, but France does not differ in this respect from its European neighbours. Nevertheless, the renewal of the French tramway and the urban operations which accompanied it continue to arouse the curiosity of public transport specialists, in France and abroad. To understand the reasons for this curiosity, it is necessary first of all to look into the changes that have led to the current situation.

A brief history of french rapid transit systems

Until the 1950s, only the city of Paris was endowed with a metro, built at the beginning of the twentieth century. As throughout Europe, most large cities were equipped with well-developed tramway networks (there were 48 cities with tramways in France in 1946).

In the 60s, the private car began to assert its supremacy and, very quickly, French cities decided to adapt themselves to this. Apart from one or two exceptions, all the French tramways were dismantled to make room for the car.

At the same time as the negative effects (congestion, pollution) of this "car culture" began to be felt, the first oil crisis, **in the early 1970s**, incited the French State to boost urban public transport. The Transport Tax (see above) was then set up and made it possible to build the large metros in the provinces (Lyon, Lille, Marseille, Toulouse).

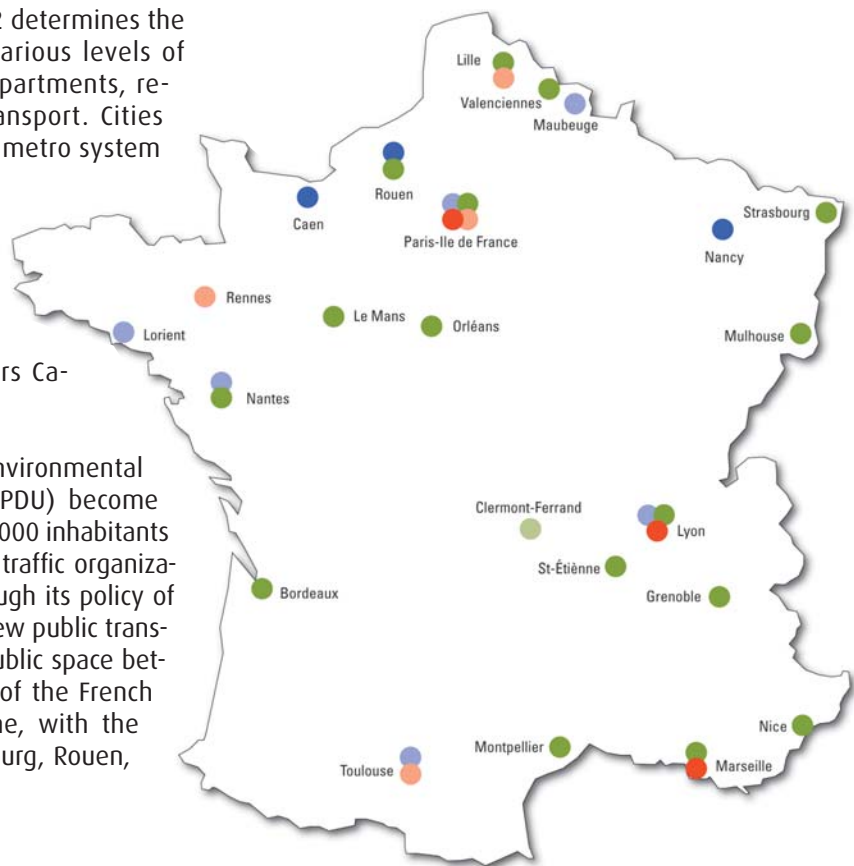
At the very beginning of the 1980s the system of decentralized administration is set up in France. The Domestic Transport Orientation Law (Loi d'Orientation des Transports Intérieur / LOTI) of 1982 determines the degree of responsibility which the various levels of local government (municipalities, departments, regions) have for organizing public transport. Cities continue to equip themselves but the metro system is suitable only for the largest ones. Nantes and Grenoble, a long time before the others, reintroduced the tramway into their networks. They then chose the technology of the French Standard Tramway, developed at the initiative of the State (Concours Caillaillé, 1975).

The 1990s see the growth of environmental concerns. The Urban Mobility Plans (PDU) become compulsory for cities of more than 100,000 inhabitants in 1996 and impose a global vision of traffic organization. At the same time, the State, through its policy of subsidies, encouraged towns to build new public transport systems overground, by sharing public space between the various modes. The revival of the French tramway can be dated from this time, with the construction of the first lines in Strasbourg, Rouen, Montpellier...

After the year 2000, the State decides to complete the decentralization process and takes advantage of this to reduce its public deficits. It asks local governments to take full responsibility for their transport policies and it stops giving them subsidies. The French cities that want to start or complete their rapid transit networks are confronted with a serious financial crisis. Nevertheless, the French tramway continues to develop. In 2009, there are more projects than ever. Mulhouse and Valenciennes brought their first tram route into service in mid- 2006. Clermont-Ferrand inaugurated its tramway on tyres in late 2006. Nice and Le Mans opened their first line to the public in 2007. Next will be the turn of Angers and Reims in 2011, not to mention the new lines or network extensions of Saint-Etienne, Lyon, Montpellier, Bordeaux ...

Cities with TCSP systems in service on 1 January 2009

(source: Certu)



- | | |
|---|---|
| ● Heavy metro: 49 km (provinces) + 212 km (IdF) | ● Light metro (VAL): 81 km (provinces) + 7 km (IdF) |
| ● Tramways: 361 km (provinces) + 32 km (IdF) | ● Rubber-tyred tramways: 14 km (provinces) + 212 km (IdF) |
| ● Heavy metro: 49 km (provinces) + 212 km (IdF) | ● Non-guided BHLs: 32 km (provinces) + 20 km (IdF) |

Transport planning and urban planning

We have seen how the State has been able to encourage the development of public transport (Transport Tax), over-ground in particular (higher subsidies). At the same time, important legislation was passed which gradually assured coherence between urban planning and transport planning.

The main transport planning tool, the **Urban Mobility Plan (PDU)**, was introduced by the **Domestic Transport Orientation Law** in 1982. Project ownership is entrusted to the Public Transport Organizing Authorities (Autorités Organisatrices des Transports Urbains / AOTU). PDU's first objective is the development of public transport.

In 1996, the **Law on Air and Rational Use of Energy** (Loi sur l'Air et l'Utilisation Rationnelle de l'Energie / LAURE) gives an environmental dimension to the PDU. The objective is now to decrease car traffic. The PDU becomes compulsory for cities of more than 100,000 inhabitants. During this period, urban planning loses momentum. As a result, PDUs, which are normally mid-term programming tools (5 - 10 years), will include a little long-term urban planning (10 - 20 years).

In the year 2000, the **Law on Solidarity and Urban Renewal** (Loi relative à la Solidarité et au Renouvellement Urbains / SRU) is going to revive the PDU's initial purpose by making the **Urban Area Integrated Scheme (ScoT)** the real tool for urban planning (20 years term, with a revision after 10 years). The SRU law encourages cities to unify town planning and transport planning. The tramway project has to be part of the urban planning process, with all the associated urban projects. Urban development is organized around public transport routes. The PDU once again becomes the tool for public transport policy programming: structuring public transport around the tramway, reorganizing the bus network, examining issues such as demand-responsive transport, social fares, information, accessibility, park-and-ride... The PDU has not only to provide a balance between mobility needs and environmental protection, but it also has to strengthen social and urban cohesion.

The modern french tramway: the reasons for its success

The strong link created by the SRU law between transport planning and urban planning therefore increases the success of the modern French tramway and explains the large number of projects, in progress or already in operation, in French cities in 2009, even in spite of the funding crisis mentioned above. But this success had already begun in the 1990s and the reasons are worthy of analysis.

The tramway is firstly a **transport tool**. Out of the whole range of different public transport systems, it provides the best answer to a certain demand for capacity, commercial speed, comfort... It corresponds to the main guidelines of the sustainable mobility policy advocated by the Law on Air. With its dedicated trackbed, its priority at crossroads, it can reassert itself with greater credibility against the private car and reconquer part of the public space that cars have monopolized in cities. The first lines of the new French tramways, in Nantes, in Grenoble and in the large cities which will follow their example, are therefore transport projects intended to relieve congestion in urban areas.



Montpellier Tramway (T. Gouin)

So the tramway achieves something that the bus could not. But it is not a metro either: it does not go underground in order to increase its capacity. It gives onto the city and is visible from the city. Architects, designers, landscape specialists are going to put this visibility to good effect by making the concept of sustainable development a little more tangible, the positive effects of which can normally only be seen in the very long term. The tramway gives an impression of immediate environmental improvement: silence and absence of air pollution, tree planting, grass trackbeds. **The tramway makes the city sustainable now.**

This reconquest of the public space, in cities from which the tramway has disappeared for twenty or thirty years, practically requires complete demolishing and re-building of the street. Whilst these works are a very obvious inconvenience, they have been turned by French cities to their advantage by taking the opportunity to revamp the street, from one side to the other. The tramway is also a **tool to enhance the urban space**. The tramway gives towns the means to restore, at least locally, the urban landscape which has often been disfigured by the car: removal of the truncating effects, traffic redirection, greater consideration given to pedestrians and cyclists,

architectural station design. The tramway helps to rebuild a quality city. Shopkeepers, at first worried about losing their customers using cars, realize that a calmer environment can be profitable to them.

In addition to rehabilitation of the urban fabric existing alongside the tram line, the transport project can also provide the opportunity to help in the actual development of the city as a whole. The extension of the first tram lines built in large cities, by crossing through less dense areas further away from the city centre, brings with it opportunities for urbanization. The tramway can then fill in partly urbanized areas which lie between the main town and the surrounding districts. It can be the support for linear town planning which helps to structure the city by creating links, for example by connecting the centre with these often peripheral social districts. But it also allows for polar town planning, by organizing the city around its stations, by creating intermodal poles, by reorganizing traffic, by developing residential areas, businesses and other activities, by providing public facilities. The tramway is also very much a **tool for urban development** and should become one of the strongest elements of the Urban Area Integrated Schemes (SCOT) which have been, since 2002, the urban planning tools in France.



The tramway, giving onto the city and visible from the city (P. Varnaison-Revolle)



The metro, built underground in order to increase capacity (T. Gouin)

And tomorrow?

The success of the modern French tramway can therefore partially be explained by the favourable context of decentralization from the 1990s to the year 2000, during which time a strong political will at national level, combining incentives (Transport Tax, subsidies) and aids (laws, tools, methods), coincided with the emergence of strong local political wills, within which visionaries and forerunners created a competitive spirit which has continued ever since.

This success, though real, remains fragile. The “car culture” still has many followers, who contest the place taken from the car by the tramway in cities, who dislike the disruptive works which it causes and who criticize the public money spent on unconvincing results. Those in favour of walking and cycling believe that the Urban Mobility Plan, which is run by the Public Transport Organizing Authority, often gives priority to public transport and that the cost of Right-of-way Public Transport (Transports en Commun en Site Propre / TCSP) projects prevents cities from developing other alternative modes. But even amongst advocates of public transport, the tramway has some critics. For some of them, the tramway doesn't do enough for the city: only the metro allows a city to become a true metropolis (this is the reason why Rennes chose to build a metro system in spite of having only 376,000 inhabitants). This debate brings us back to the essential question of the image of dynamism and modernity which its public transport system can give to a city. Tramway promoters are also concerned by this point and sometimes it drives them towards an uncertain and expensive race for innovation. For other detractors, the tramway is on the contrary unnecessary and too expensive. Up to 50,000 travellers per day, the Bus with a High Level of Service (Bus à haut niveau de service / BHNS) provides an adequate answer in terms of capacity. Furthermore, the BHNS requires less investment and does not require special technology or know-how. These arguments are often used by the World Bank in its work with developing countries. The question arises however, whether the



Lyons Tramway (H. Durand)

BHNS may also be a tool for urban development and city restructuring.

It is true that tramways sometimes appear to be expensive, but we have seen that the tramway is not only a transport tool but that it brings with it urban developments which can make the cost of a kilometre of line vary between €12 and 35 million.

While the direct costs of a tramway are easy to determine and are often used as an argument against it, the revenue which is generated is more difficult to ascertain. The passenger revenue, for example, is probably sufficient to balance the operating costs on tram routes with a high number of passengers. However, the rate at which revenues cover costs is often calculated at the level of the network as a whole and, as a result, the tramway suffers from the image of an unprofitable system which affects public transport when considered globally.

More and more, however - and the Urban Mobility Plans have contributed to this - we are attempt to also take into account as a source of revenue the reduction of the external costs of transport that the introduction of a tramway makes possible, in terms of air pollution, noise, road safety... but these effects remain difficult to estimate. More still needs to be done. While we agree that the tramway is an urban development resource, it is necessary to carry this concept through and try also to assess what this tool gives back to the local community or to society. If we are able to calculate what the tramway gives back in terms of reduction of space consumption, urban fabric enhancing, social cohesion, global image of the city... then we can hope to give a fair and realistic evaluation of the tramway. In this way, we shall understand a little better the reasons for its past success (local policy-makers always make their choices for good reasons, even if these reasons are not always explicit or quantifiable) and we shall be better able to guarantee the conditions for its future success.

Keywords

Tramway, right-of-way public transport, decentralization, national policy, local policy, urban planning, land use, urban mobility plan, urban area integrated scheme

Press Review

- **Le tour de France des Tramways** Ville & Transports – 24/05/2006
- **Quand le transport fait bouger la ville** Ville & Transports – 10/05/2006
- **Le tram transforme le paysage urbain** Le Moniteur – 7 avril 2006
- **L'insertion urbaine des TCSP** Rail & Transports – 19/01/2005

Certu Bibliography

- **Plans de déplacements urbains, guide - 1996 / 15 □ (cédérom)**
- **Les modes de transports collectifs urbains, éléments de choix par une approche globale des systèmes - 2004 / 40 □**
- **SCoT et déplacements, problématique et méthodes - 2004 / 50 □**
- **Bus à haut niveau de service, concept et recommandations - 2005 / 25 □**
- **Rénovation urbaine et offre de mobilité - 2006 / 30 □**
- **PLU et déplacements, l'essentiel - 2007 / 20 □**
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