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HOW TO MOBILIZE TRANSPORTATION ECONOMICS?

**The legitimization process of economic competence
in the Lyon subway project (1963-1973)**

When the subway project reaches the political agenda in 1963, we notice an important development of studies in public transport in Lyon. The local authority that managed public transport at the time did not have an engineering department. It decided to create one, the SEMALY, in 1968. This development underlines the institutionalisation of an independent expertise in a scarcely propitious context. Indeed, during the 1960s, government officials were above all interested in road infrastructures [Offner, 1988]. Furthermore, it is usually assumed that during the first two decades of the Fifth Republic, central administrations monopolized legal, economic and cognitive resources [Gaudin, 1999, p. 24]. Therefore, it is worth looking at how this local expertise in urban public transport was created and legitimised. A first analysis reveals that this expertise was built on knowledge and tools drawn from different fields and disciplines. The analysis of the initial reports drawn by an engineer, and then by the SEMALY, underlines the important use of tools found and used in town planning, traffic engineering, and economic science.

If we consider the historical context and the academic works on this topic, it is interesting to pay more attention to the latter. Indeed, economic science underwent an important “modernisation” process in the 1960s (thanks to the increasing use of mathematics and statistics). In addition, the tools of the economic science were at the heart of the administration reform

process during that period. Not only were economic calculation and program budgets the key instruments of the American PPBS but they were also key instruments of the reforms it inspired in Sweden, Great Britain, Canada and France (with the RCB operation) [Bravo, 1973, p. 3]. In the latter, economic competence progressively became a new model of “administrative excellence” and was even converted into a political resource by some of its holders [Dulong, 1997]. Microeconomic knowledge, in particular, was abundantly produced and used to try to rationalise the public decision making process, and then to reconsider the administrative organisation [Bezès, 2002]. An abundant literature expounds the process taking place at the “top of the State”. Thereby, we better understand the parts played by the “high-ranking civil servant planners” and the “central institutions and elites” (E. Malivaud, P. Massé, F. Bloch Lainé...) who transformed economic science into a “State science” [Dulong, 1997, p. 23].

We believe the study of the parts played by these prominent figures ought to be completed by a research into the use of economic science tools at a local level. We therefore propose to focus on the subway studies made by different institutions between 1963 and 1973. In this specific case, the analysis tries to bring to light the reasons for the mobilisation of these key tools of the administrative reforms at the periphery. In other words, this paper explores the mechanisms of the recognition of economic competence at a local level at the beginning of the French Fifth Republic.

We shall pay attention to the way forms of expertise circulate, in particular between central services and local experts. The most recent and promising trend concerning studies on circulation of knowledge acts as an incentive to analyse the “entre-mondes”, the transnational spaces [Saunier, 2008]. Our field and our monographic approach do not fit this objective. But we can carefully examine “the local scenes which play an important role in filtering, accommodating, distorting and combining again” [Verdeil, 2005, p.165] expertise models and tools. We shall try to grasp the processes of legitimisation of know how and knowledge of the economist through the analysis of exchanges, talks between local study engineers and other civil servants. Our aim is to understand if, and how, the “economist engineer” model [Dulong, 1996] is imposed on a local level.

Our approach of knowledge-power and core-periphery relations is inspired by the “socio-historical analysis of government sciences” [Ihl, Kaluszynski and Pollet, 2003]. This constructivist approach tries to understand how the cognitive tools used by politics are made and legitimised. Furthermore, the empirical and inductive position, and the micro-sociological scale enable us to observe the actors’ practices. The analysis of the expert’s practices will allow us to question the reasons of a possible transition from tools used in accounting and financial management (aimed at cost estimation and budget equilibrium) to tools at the time promoted by the centre, related to economic calculation (with priority given to the analysis of the profitability of an investment)¹. Finally, this approach is appropriate to abandon the theory according to which “the circulation of knowledge is a simple diffusion from centre to periphery” [Payre, 2008, p. 114]. It is interesting to follow the historical development of the expertise of the Lyon urban public transports, starting with the local processes².

This survey on the local uses of economic science tools will lead to an understanding on how, after the subway project reached the political agenda, a Ponts et Chaussées engineer, relatively marginal in this professional body [“corps”], used - or not - the tools of this discipline in the initial report on the subway (1). We shall repeat the analysis on the second report, made in 1966 after certain central services reacted to it (2). Finally, we shall see if, and how, the SEMALY used economic calculation in a context characterised by the launch of the RCB operation (3).

¹ Economic calculation is principally used to relate costs with effects by evaluating or comparing the profitability or collective utility of an investment through an economic balance before the operation. Its use implies, namely, the quantification or the conversion into monetary values the costs and benefits of the operation. It also implies the use of a discount rates for estimating the actual value of future results [Benamouzig, 2005, p. 51-61 and Walliser, 1990]

² This study is based on archives - of Ville de Lyon (AML), Grand Lyon (AGL) DDE du Rhône (ADR) SEMALY (ASE), SAEI, IEE (ALET) and association “Lyon Métro” (ALM) - and on thirty interviews.

1. Initial sets of expertise: seeking economic calculation (1963)

On April 14 1957, Louis Pradel became the mayor of Lyon. It was to be the beginning of an important town planning policy. Historians consider this policy to be very favourable to a car traffic system [Sauzay, 1998, p. 227-231]. The future looked very uncertain for public transport. Between 1957 and 1963, it was not a priority, either for the State or for the new mayor. But, two independent processes merged in 1963. They launched anew the prospect of a public transport revival. An expertise related to this field developed in the “Service Ordinaire des Ponts et Chaussées (SOPC)”³, and at the same time, a social request for an underground emerged.

First, we will analyse the initial sets of expertise - expertise directly connected to the project implementation⁴ - to question the uses of economic science tools. We will pay attention to the knowledge used by an association demanding a subway (a) and to the initial report made by an engineer a few months later (b).

a) The subway project on the political agenda and the association’s expertise

Louis Pradel was openly “*devoted to the car owners community*”⁵. He found powerful allies in the SOPC whose engineers wanted to adapt the city to cars [Gardon, 2007]. It is still difficult to fathom out why the mayor of mayor changed his mind⁶. In any case, he became a staunch supporter of the subway project. It seems that his attitude changed when the social demand, carried by associations especially the UCIL (Local Interests Comities Union) became stronger.

The UCIL was born in 1960 with the merging of different CILs (Local Interests Comity). It was one of those “citizen associations related to new town planning, lifestyle, and local democracy”. Its members come from the middle class, like their first president, Paul Scherrer⁷. As from March 22 1961, the UCIL began to pay attention to public transport: the association organised a symposium on the subject⁸. From that moment on the subway project was born. Indeed, this association was seeking an important project to prove its new mobilisation power and to federate its constituent parts⁹.

During a general assembly, in November 1962, the association called for a registration of the project in the Fifth five-year Plan¹⁰. Louis Pradel thought Paul Scherrer was a political rival, so he reacted three months later. His arguments were based on the work of a young engineer, M. Lescuyer, who estimated the cost of the operation and Louis Pradel declared: “*we can’t ever say the construction of an underground is impossible*”¹¹. In December 1962, The JCE (Jeune

³ Local structure of Publics Works Ministry. [NB: it becomes the Ministry of Equipment in 1966.]

⁴ Off course, they’re older subway projects, like the projects: Haour (1900), Simonnet (1919), OTL (1931), Renaud (1942), Langevin (1945) [Waldmann, 1991, p. 11-40]

⁵ Quoted in [Sauzay, 1998, p. 230]

⁶ Some SEMALY’s engineers think what he wanted to win space on the surface and, then, promote car’s traffic development. Gallet M., interview, 16 novembre 2004

⁷ Paul Scherrer was born in Lyon. He have continued his studies in history and geography and became teacher. In 1960, he’s in charge of the CIL «Monchat - Sans Soucis ». Thanks to Guy Sanglerat’s help, he becomes the UCIL’s president. Scherrer P., interview, 20 avril 2005

⁸ Symposium titled « *Comment améliorer les transports urbains de l’agglomération Lyonnaise ?* ». ALM (Archives « Lyon Métro ») H1

⁹ Sanglerat G., interview, 22 novembre 2005

¹⁰ ALM (Archives « Lyon Métro ») H1

¹¹ « Le métro à 37 298 F le mètre », *Le progrès de Lyon*, 6 février 1963, p. 6

Chambre Economique)¹² joined the UCIL to organise an important meeting entitled: “*The Lyon underground. Why? How?*”¹³.

On May 30 1963, four contributors spoke in front of a large audience. The presidents of UCIL and JCE tried to assert the needs of the Lyon population¹⁴. These associations used the expertise of two engineers and staged this expertise which was an unusual procedure at the time. First, they unequivocally asked Pierre Casenave (X-Télécom) to « *discuss the economic matter and answer the question « why [a subway]? »*”¹⁵. Actually, his speech did not deal with the economic matter and came down to some considerations on the difficulty of getting around the town centre. A little later on, Guy Sanglerat a civil engineer “des Ponts et Chaussées” had to « *discuss the technical aspects and answer the question « how [to build a subway]? »*”¹⁶. His arguments were based on his knowledge on civil engineering, but he also broached the financial aspect. He estimated the cost of the operation (but not its profitability) in light of the experience of Milan¹⁷.

Three weeks later, on July 23 1963, the topic was addressed during a council meeting. Despite being dubious of Paul Scherrer’s initiatives, the mayor confirmed the launching of the project: “*there will be an underground project*”¹⁸. The UCIL and the JCE, proud of their success, were to create in January 1964 the association “Lyon subway”.

As a result of these events, the public transports local authority, the STCRL, was to commission a study from the SOPC. We shall analyse this report to question the possible use of economic science tools.

b) The first official report

The prefect was at the time chairman of the STCRL which was made up of an equal number of city and department¹⁹ councillors. The STCRL was the owner of the public transport network and made decisions for all that concerned its functions and evolution. However it didn't have any administrative services of its own so it received help from a SOPC service, whose role was to enforce obedience of the law. The STCRL was entrusted a first study on the subway to the SOPC's head of department. Rival suggestions were made at the time from the private sector and this study could have been entrusted to a more prestigious SOPC department. But, René Waldmann became the “*professionel repéré*”²⁰ [Trépos, 1996, p. 17]. Did his possible economic competence play an important role in this report?

René Waldmann's professional background (1929-1957)

He was born in Lyon in 1929. His father, a doctor, died a few years after his birth. He graduated from the prestigious “Polytechnique” (1950) and “Ponts et Chaussées” schools. Because of disappointing results at his last college, he could not choose his first posting and spent two years in a “town planning and housing” service in Rabat, Morocco, where he was in charge of housing construction. He managed to get into the Rhône SOPC in April 1957, after the last person in charge of public transport died. The Chief engineer explained to him at the time that the job was not very attractive... When he arrived, his cousin, Felix Rollet, was second deputy mayor in charge of town planning.

¹² “young economic chamber”

¹³ ALM H1

¹⁴ ALM EPS et ALM ERP

¹⁵ ALM EPC

¹⁶ ALM EPS

¹⁷ ALM EGS

¹⁸ Quoted in [Waldmann, 1991, p. 72]

¹⁹ French government level

²⁰ Personal translation “located / revealed professional”.

There were two reasons for his getting to be in charge of the first report. First, his Ponts et Chaussées colleagues were not interested in public transport and defended the “cause” of cars. Secondly, his interest for town planning -and public transport- had been noticed by several local officials. He even became secretary for the group who underwrote the « Programmes d’Equipement et de Modernisation du Groupement d’Urbanisme de la Région Lyonnaise »²¹, under the authority of the Commissariat Général au Plan (CGP).

René Waldmann completed his writing “*Les transports de personnes dans l’agglomération lyonnaise*”²² on December 31 1963 concluding that a subway was necessary. The author used the data he had collected -while working in the CGP- in town planning, demography and transport departments. He devoted two thirds of his work to urban traffic issues. The report is noticeable by the use of “*mathematical*”²³ methods to calculate urban transit in 1980. In his conclusion, we notice that “*the future transit in the town centre*” proves the necessity for an underground²⁴. He dealt with the “*economic issues*” in only half a page²⁵. He tried above all to estimate the cost and the amortisation of the loan for a first underground line. Its “profitability” was not calculated and he didn't use economic calculation. This omission could be explained by the teachings of the Ponts et Chaussées school. Its engineers had mastered economic calculation for a long time [Etner, 1987], but it is only since 1969, and more so 1973, that economics education has been really increased in this school [Gervais, 2007, p. 391-405].

In any case, the STCRL approved René Waldmann’s report on February 3 1964²⁶, and following its conclusions, it decided to ask the local authorities to fund a study which would be commissioned to a firm specialising in public transport.

2. The success of "State" transportation economics and the first local uses of economic calculation

In 1964, a report was produced by the SOFRETU, an agency linked to the RATP but created by the government in 1961²⁷. In that “*pre-project for a first underground line in Lyon*”²⁸, the estimation of the cost is detailed and there is a “*balance sheet*”²⁹ of the project. However, there is no trace of economic calculation.

We will concentrate on the “economic” aspect of the second report commissioned by the STRCL and carried out by the Lyon engineer in 1966. This case is interesting since it follows the study carried out by the SOFRETU and the reactions of several central authorities.

a) Central incentives and economic science “good practice” guides.

²¹ Personal translation : « Equipment and modernization planning for the town planning group of Lyon area » He wrote three *Programmes d’Equipement et de Modernisation du Groupement d’Urbanisme de la Région Lyonnaise*, in 1960, 1961 et 1963. He also wrote, in 1962, a report for the Housing Ministry related to public transports : Waldmann R., *Le coût des transports urbains dans les agglomérations*, Ministère de la Construction, novembre 1962

²² Waldmann R., *Les transports de personnes dans l’agglomération lyonnaise*, STCRL, 31 décembre 1963

²³ Ibid, p. 23

²⁴ Ibid, p. 74

²⁵ Ibid, p. 72 et 73

²⁶ AML (Archives Municipales de Lyon) 161.ii-C5

²⁷ From that period, slowly begins to take shape an opposition between a local expertise, later represented by the SEMALY, and a Parisienne expertise based on the RATP and SOFRETU experience. R. Waldmann, interview, May 3, 2005 and R. Waldmann, interview, May 17, 2005. We will see later what will become of the hopes to pilot the underground studies of the two organizations.

²⁸ AML (Archives Municipales de Lyon) 161.ii-B3

²⁹ Ibid, p. 56-58

On February 3 1964, the day of the examination by the STCRL, R Waldmann suggested that the prefect sent out his first report to various central organizations³⁰. The document was positively received by the majority. However, the Land Transport Director (DTT) from the Ministry of Public Works, Philippe Lacarrière (Inspector of Public Finances) proved reticent and demanded that the study continued, focusing particularly on

*“-the preparation of a detailed projected trading account -mentioning other technically feasible solutions (for example: an elevated section of the underground, reshaping of the bus network, etc...) and the comparison of the cost and advantages each solution entailed by means of an « economic balance sheet » rough draft”*³¹.

We can clearly observe the urge to resort to the economic calculation technique.

In addition, in May 1965, René Waldmann received a study from the same Ministry – the Office of Economic and International Affairs (“SAEI” in French) – named *“report on the Lyon underground”*³². In the introduction the tone is set when the author explains that the local authorities want an underground more for its *“prestige”*³³ than anything else. Its main aim is to carry out an *“economic study”*³⁴ in order to compare various alternatives: *“improvement of the network, building an underground or an urban motorway”* and he adds: *“the first difficulty will appear when obtaining the contribution of the local engineers to assess the costs of the different solutions, which is often a long job”*. He then assesses the *“return rate”* of the underground project, the breakdown of the *“calculation of the economic advantages”*³⁵ and his hypothesis (the *“time value”* in particular). The document ends with a graphic showing *“cost of time”* on the ordinate and *“hourly transit”* on the abscissa³⁶. The latter allows us to visualize the results of an *“actualized balance”*, also developed further on. The author concludes that the underground is justified *“if it is proved impossible to predict the opening of any urban motorway between the “presqu’île” and Villeurbanne before 1979 + 13 = 1992”*. He finally recommends the studies of the project be carried on and to employ to that end *“an economist engineer for more or less a year”*³⁷. This new urge to use economic calculation can be considered a *“good practice”* guide.

These two reactions are to be linked to a real fad for economic science amongst some central administrations and in particular the Ministry of Public Works and Transport. Besides, the SAEI (Office of Economic and International Affairs) was trying to set the trend within the latter. It has to be noticed that Philippe Lacarrière had been the first director of the SAEI. This office, created in the spring of 1960 in an attempt to limit the inconveniences of a sectorial organization, was directly attached to the minister’s cabinet. Its mission was to develop statistic and economic information, to conduct studies, to advise the Ministry and the minister himself. As Michel Rousselot, one of the office pioneers explains *“economics was in full expansion especially that applied to public decisions”*³⁸. We can see the development of an economic science branch: *“transportation economics”* from its action in bureaucracy. Indeed, this office *“was to approach transportation economics as a whole and provide coherence to the Minister’s cabinet”*³⁹. Within the Ministry, the SAEI was, at the time, promoting economic calculation and shedding light on decisions. The engineers who were working in the office confirm the fact that economic calculation was the key tool of the SAEI, and that *“economist engineers,”* such as

³⁰ The document is sent to the DATAR, the CGP, to the Home Ministry and to the Public Works Ministry. AML 161.ii-C5

³¹ AML 161.ii-B2

³² AML 161.ii-C7

³³ Ibid, p. 1

³⁴ Ibid, p. 3

³⁵ Ibid, Annexe n°3

³⁶ Ibid, Fig-I

³⁷ Ibid, p. 7

³⁸ Quoted in [Bardet, 2000, p. 306]. M. Rousselot, a Ponts et Chaussées engineer, arrives in this department in 1960. He will be the head of this department (1965-1968).

³⁹ Rousselot M., *Notes sur le SAEI*, 18 mai 2004, Private Archives (M. Rousselot)

Marcel Boiteux or Pierre Massé, were role models and their works were the main intellectual backup material⁴⁰.

This double signal sent out by the central services was clear. We shall now evaluate its influence on René Waldmann's second report.

b) The 1966 report: strategic use of economic calculation

Between 1963 and 1966 René Waldmann continued to concentrate his work on the field of urban transport. During that period the exchanges he established with different civil servants justify his particular use of economics tools in his 1966 report.

First, he used to actively contribute to the International Public Transport Union (UITP) congresses⁴¹. However, it seems that these meetings provided little as far as tool analysis is concerned:

“HM: (...) during the 1960s, methods of calculation and traffic models were created and imported from the United States... Was this methodological issue tackled during congresses?”

RW: *No! Certainly not! The International or National Congresses were interested in operating problems. (...) As for the studies: absolutely nothing. No-thing (he insists)! We never talked about studies in those whatsits.*”⁴²

In addition, he took part in many CGP [Commissariat Général au Plan] meetings. He was registered as an “active member” of the “urban transport” group and “public transport”⁴³ subgroup during the preparation of the Fifth Plan. The discussions were mostly about traffic estimation methods, the possible evolution of town planning models and, of course, evaluation of return on profitability techniques⁴⁴.

He also benefited from knowledge collected during his trip to America from September 7 to 28, 1964⁴⁵. We know the role played by the FSIR, the OECE and the Road Union in organizing or financing trips to the USA for the “Ponts et Chaussées” engineers at the end of the 1950s and beginning of the 1960s [Dupuy, 1975]. But that particular study mission was organized by the Professional Organization of the “Ponts et Chaussées” and “Mines” engineers, especially George Pébereau. In America, he discovered the so-called “4 stages” model that was to become the standard in the field of traffic studies of the time⁴⁶. The Lyon engineer was more interested in the works achieved in Pittsburgh since, according to him, “*the great interest in the Pittsburgh study lies in the forecasts and the methods used to obtain them for they can be applied to the European Agglomerations when the same data basis is found.*”⁴⁷

Finally, his second report, entitled “*Preliminary study of the underground of Lyon and its suburbs*”⁴⁸, incorporated tools from different, more or less academic disciplines, such as town planning, traffic engineering... and economic science.

As a matter of fact, in his introduction he reminds the reader that the central services had asked for “*comparative economic studies*”⁴⁹. He starts by converting into monetary values the time-saving factor resulting from the improvements on transport time. He then explains that the method used to choose the best network is based on: “*an economic function of general cost of*

⁴⁰ Interviews with three pioneers of the service: Rousselot M., interview, 18 décembre 2008; Walrave M., interview, 12 mai 2009; Dobias G., interview, 11 mai 2009

⁴¹ ADR 3872 W 57

⁴² Waldmann R., interview, 11 décembre 2007

⁴³ Private Archives (R. Waldmann)

⁴⁴ AML 161.ii-E2

⁴⁵ Mission PCM, « *Transports et aménagements urbains* », brochure datée de septembre 1964, Private Archives (R. Waldmann)

⁴⁶ Ibid

⁴⁷ Waldmann R., *Les transports de personnes dans les villes des Etats-Unis*, 1964, p. 38-39. Private Archives (Waldmann R.)

⁴⁸ Waldmann R., *Etude préliminaire du métro de l'agglomération lyonnaise*, Préfecture du Rhône, 1966

⁴⁹ Ibid, p.I

transport”⁵⁰. He also broaches the subject of an “*economic balance*” in which he compares the costs of the “*underground*” solutions and the “*excess of urban motorways*”. He eventually comes back to the SAEI study and, without really detailing his calculations, concludes that an additional southern line in the underground (not originally scheduled) would considerably improve “*the immediate return rate*” of the operation⁵¹. The method used by René Waldmann appears less “sophisticated” than the one used by the SAEI. Nevertheless the requests of the central services seem to have somewhat reached their goal.

However, we may think that it is a strategic use of economic calculation. Indeed, it is during his tour of the United States of America that he began to think that the economics studies on the subject of transport were not reliable (when he became acquainted with the Pittsburgh studies). Back in France, he concluded, in an (unpublished) report, that “*economic calculations made by transport specialists, in their remarkable urban traffic studies, are not conclusive - not even for their authors when they try to demonstrate the profitability of a transport investment: it's too easy to manipulate figures*” (Waldmann’s underline)⁵². The same idea also appears in his report. Indeed, in the conclusion he explains that “*economics studies used to « demonstrate » the profitability of such an operation [are] not convincing (...). But, do we really have to « prove » the profitability of a park, university, or stadium? Our conviction is that a kind of urban cohesion needs a particular amount of collective achievement; otherwise, the city does not play its role* (we underline)⁵³.

He uses a lot of cognitive tools (urban development and traffic models, economic calculation) in his report. However his purpose is less to “demonstrate” than to “persuade” that an underground is necessary. We can almost say that he is a public transport “activist” whereas the local political leaders and the Ministry of Equipment openly support car development [Offner, 1987].

We can say that the Lyon engineer diverted the objectives of the organisers of the American tour. Thanks to his trip, the Ponts et Chaussées engineers had to learn road traffic models and construction methods of urban motorway. This purpose clearly appeared in the first brochure of the trip. It was entitled “*Adapt towns to cars. The urban motorway*”⁵⁴. At least, even if the title changed, the program was the same and the presentation of the aim of the tour was almost the same. But René Waldmann used his trip to learn more about public transport studies. He seemed to be the only one to pay attention to the issue.

“HM: Was any other colleague interested in public transport [during the trip]?”

RW: *Not at all! Truly! I was the public transport guy! I was known as that.*”⁵⁵

Furthermore he wrote in his (unpublished) report that, during the tour, he chose not to focus on urban motorways, but rather “*research information on PT [Public Transport], which needed supporters*”⁵⁶. His militant quality appears elsewhere. Indeed, he went to the “Lyon subway” association meetings, in spite of the fact that “*Pradel didn’t like it*”⁵⁷. And, accused of being relatively cautious about his long term predictions, he answers:

*"Like a lot of people, I was weary with long term predictions. But ... (he laughs) I was weary if it didn't bother me (laugh)... But when one has a goal... You know, I was really enthusiastic about it!"*⁵⁸

Despite all of this, his study was eventually approved by the STRCL on May 9 1966. It was even published by the *prefecture’s* services eight days later. Moreover, two things had

⁵⁰ Ibid, p.34

⁵¹ Ibid, p.126. He answers here to the SAEI study (see before)

⁵² Waldmann R., *Les transports de personnes dans les villes des Etats-Unis*, op. cit., p. 53,

⁵³ Ibid, p.134

⁵⁴ Association Professionnelle des Ingénieurs des Ponts et Chaussées et des Mines, *Mission aux Etats-Unis. L'adaptation de la ville à l'automobile. L'autoroute urbaine*, datée du « printemps 1964 », Private Archives (R. Waldmann).

⁵⁵ Waldmann R., interview, 11 décembre 2007

⁵⁶ Waldmann R., *Les transports de personnes dans les villes des Etats-Unis*, op. cit., p. 55

⁵⁷ Waldmann R., interview, 3 mai 2005

⁵⁸ Waldmann R., interview, 1 juillet 2005

clearly legitimised his work for the new Ministry of Equipment: his interest for town planning and his “marginal secant” position between Ministry of Public Works and Housing Department. Indeed, the minister himself congratulated him personally in the prefect’s office⁵⁹.

We can see the efforts of central departments to manage and even define procedures and contents of studies thanks to economics tools. Some high-ranking civil servants urged René Waldmann to resort more often to the economists’ knowledge and know-how. We can see the increasing use of economics tools in local expertise in a context of “transportation economics” development by the State. But, it is clearly a strategic use of economic calculation. He wanted, above all, the project to be successful whereas the competition with cars seemed opposed to public transport. If the new uses of economics contributed to transform the legitimising process of public decision at the top of the State, this new “kind of political ideology ” [Dulong, 1997, p. 13] seems to have had no influence on the most important local study makers at the time.

But, the local expertise changed in the following period, in particular because of the creation of the SEMALY. In addition, the RCB operation launched in 1968, urged all administrations to use economic calculation.

3. The SEMALY and the RCB operation

It was thanks to the second report that the State provided funding for the first time and the local authorities decided to create an entity devoted to studying the underground in 1967. The principle of this organisation and the choice of the director were established during a three parties negotiation between Louis Pradel, Raoul Rudeau, the new director of the DDE⁶⁰ and François Parfait, head of the SCET (Société Centrale pour l’Equipement du Territoire), a subsidiary of the powerful Caisse des Dépôts et Consignations. Despite the requests of rival companies (TCL and RATP-SOFRETU) René Waldmann became the first director of the SEMALY. 1968, the year of its creation, marked an important advance in the development of local knowledge (or expertise) of urban public transport systems.

However, in order to fully understand the work of this institution it is relevant to highlight some characteristics of France at the end of the 1960s.

First of all, urban studies had really taken off. The SEMALY had to reckon with the agencies that had been created, such as the OREAM and the CETE of Lyon, or those that were developing like the Atelier d’Urbanisme⁶¹. Secondly, more importance was progressively given to the study of economics amongst the Ponts et Chaussées “corps” [group of]. At the beginning of the 1960s, when two young graduates chose to specialize in economics, their colleagues regarded them “*as UFOs (...), as unconventional*”⁶². Six or seven years later, the young engineers were competing for jobs in economic organisations (such as CEPREMAP or SAEI)⁶³. At this time Economics clearly became « *à la mode* [trendy] »⁶⁴. It is equally relevant to mention the launch of the RCB operation on January 4 1968. Inspired by the American PPBS model, it “aimed at rationalising the whole of the State offices” [Bezès, 2002, p. 42]. This important administrative reform policy made an attempt to institutionalize economic calculation into all State services [Spenehauer, 1998].

⁵⁹ Waldmann R., interview, 17 mai 2005

⁶⁰ A local branch of the Ministry of Equipment. The DDE replaced the SOPC.

⁶¹ “Atelier d’Urbanisme”: Town planning agency / workshop

⁶² Walrave M., interview, 12 mai 2009

⁶³ Gastaut G., interview, 11 mai 2009 and Maugard A., interview, 2 juin 2009

⁶⁴ Ibid

Bearing this context in mind, it will be seen how a SEMALY expertise was constituted (a) and how the pursuit of budget choice rationalisation (RCB), notably through the use of the tools of economic science, influenced the work and practice of the SEMALY (b).

a) The making of the SEMALY expertise

Initially, 65% of the SEMALY capital was owned by the Regional authorities and 35 % by “*other participants*”⁶⁵. The constitutive assembly and the first board of directors took place on February 28 1968. As had been agreed beforehand⁶⁶, Louis Pradel was elected president. The SEMALY was to “*play the role of a normal service of the STRCL*”⁶⁷ and its first mission was based on drawing up a basic preliminary design (BPD) and a detailed preliminary design (DPD) of an underground line. The SEMALY had to carry on work on this study despite methodological and professional standards in urban transports not being yet established. How had this new expertise been “built” in such a context?

Firstly, by recruiting two people who aren’t specialized in urban transports. The preliminary designs were made by a town planner, Michel Gallet (a graduate from INSA) and an architect, René Gimbert.

Then through several trips, in 1968, the “semalysts” visited many towns which owned or were in the process of building an underground in Germany (Frankfort, Stuttgart, Berlin and Hamburg) and Scandinavia (Oslo and Stockholm). In April 1969, they visited Eastern countries (Moscow, Leningrad, Kiev and Prague) then, four months later, the United States (San Francisco, New York ...), Canada (Montréal, Toronto) and Mexico (Mexico)⁶⁸. The young team could therefore be acquainted with new analysis and building technicalities of an underground.

Between 1968 and 1973, the SEMALY expertise relied above all on important partnerships or subcontracting studies with different agencies. As Michel Gallet explains “*we didn’t make specific surveys as such. We only made studies with data that we already had on our shelves [coming from without]*”⁶⁹. The SEMALY used the INSEE, OREAM and Agence d’Urbanisme studies and surveys⁷⁰. In fact, at the time, the SEMALY’s most important partner was the DDE. Despite the RATP’s requests, the civil engineering studies were controlled by the local services of the Ministry of Equipment. The SEMALY did not have economics skills as such, so it had to subcontract to the Institut des Etudes Economiques (IEE) and the CERAU (see below).

It appears that the SEMALY became the heart and driving force behind a kind of larger “expert system”. It fed and was fed by this system to make its two preliminary projects. Its reports were drawn according to a similar process as described previously. It aggregated different tools and collected data in different disciplines or agencies. The “*basic preliminary design*”⁷¹ (BPD) still had a multi-disciplinary form. But we have to specify the fact that political choices were clearly made to influence the report. Indeed, during a work meeting, on January 15 1969, Louis Pradel imposed the layout of the first underground. The “semalysts”, who defended an alternative solution, obeyed and presented a basic preliminary design in accordance with the mayor’s plan⁷². We shall see later on what this incident seems to reveal about the use of

⁶⁵ Ville de Lyon : 16 % ; Villeurbanne : 8% ; Département du Rhône : 16 % ; Comité du STCRL : 25 %. The « *other participants* » are : Caisse des Dépôts et Consignations, SCET, SCNF, Chambre de Commerce. AML 161.ii-C9

⁶⁶ Ibid

⁶⁷ Ibid

⁶⁸ Waldmann R., *La grande traboules*, op. cit.

⁶⁹ Gallet M., interview, 16 novembre 2004

⁷⁰ SEMALY, *Avant Projet Sommaire*, juillet 1969, p. 18. ASE (Archive SEMALY)

⁷¹ Ibid

⁷² SEMALY asked elected representatives to choose an « H » plan. Town planners and architects supported this option. M. Gallet explains: “*All the technostructure wanted the « H »*” (Gallet M., interview, 16 November 2004). More details in [Mazoyer, 2005]

knowledge in projects. But, first, we will examine the use of economics tools, especially economic calculation in this report.

b) “Basic preliminary design” and RCB operation

To establish the report, the SEMALY subcontracted two agencies with strong competencies and even expertise in economics. Thanks to the contract with the CERAU (Centre d'Etudes et de Recherche sur l'Aménagement Urbain)⁷³, an “economist” and a “statistical engineer” conceived the “*economics studies to define the environment of the future Lyon underground stations*”⁷⁴. The partnership with the IEE is even more fruitful. Indeed, this organization, located in Lyon, was made up of a few economists who tried to legitimate “transportation economics” in the academic field. The relationship between these institutions was to grow stronger. The IEE was to make no less than six reports for the SEMALY between June 1969 and January 1974⁷⁵. The second report, especially, played an important role in the underground expertise process and in the development of this small new team of specialists in “transportation economics”. It was drawn by two “*assistants de recherche*”⁷⁶ (CNRS) and two “*chargés d'études*”⁷⁷ whose brief was to create a methodology for collecting data on people’s traffic in public transports. They also had to organize the collection of the information for which they recruited 1500 staff. They finally had to “*shape the statistical results*”⁷⁸ by building an “*origin-destination matrix*”. It was the first research done of this scale at the time in France⁷⁹. But no use was made of economic calculation neither in these studies, nor in those to come. Hence, it was mainly the competence in “statistics” that was used in this study and in the following ones too.

Even so, in the July 1969 SEMALY report, a new threshold was being crossed if we consider the use of “modern” economics tools. Indeed, in the “*possible solutions study*” chapter, it is clearly stated that “*economic calculations will demonstrate that only a subway can provide a satisfactory solution to the problem*”⁸⁰. Twenty pages are devoted to the “*economic and financial study*”. In this chapter, the RCB “language” clearly appears: “*A public investment is only acceptable if the community benefits from it. Between several investments pursuing the same objectives, we have to choose the investment which allows the most important benefit. This benefit is estimated through the actualized balance of the costs and benefits of the investment, in this case the first subway line, in relation to alternative solutions*”⁸¹. Thus, the SEMALY engineers will try to “*measure the improvement of well-being as a consequence of the existence of the subway*” by quantifying costs and benefits and by converting into monetary values the time savings⁸².

To understand this use of public economics tools we have to recall the context to mind, and especially remember that the Economy and Finances Ministry introduced the RCB operation in January 1968. Economic calculation, and in particular “*cost benefits analysis is an essential*

⁷³ Personal translation: “Studies and Research on City Planning Centre / Office”

⁷⁴ AGL 2087 W016

⁷⁵ ALET (Archives IEE/LET)

⁷⁶ Personal translation: “research assistant”

⁷⁷ Personal translation: “study manager / officer”. IEE, « Les flux de transports en commun dans l’agglomération lyonnaise, Enquête réalisée pour le compte de la SEMALY », *Cahiers de l’IEE*, n°2, série tabac, juillet 1970, p. 1 ALET

⁷⁸ Ibid, p. x

⁷⁹ This investigation will be used to make “TERESE” model. This model will be the standard during 25 years in public transports studies.

⁸⁰ SEMALY, *Avant Projet Sommaire*, juillet 1969. ASE

⁸¹ Ibid, p. 153

⁸² Ibid, p. 154

*centrepiece in this rationalization effort*⁸³. This operation appeared to have been introduced by the Economy Ministry to control “spendthrift departments” [Bezès, 2002 and Spenlehauer, 1998]. Nevertheless, the Ministry of Equipment rapidly became the “star pupil” of the reform, especially due to the SAEI’s important role. Indeed, this agency had focused on the American PPBS since 1967, even before the RCB started⁸⁴. But the SAEI was above all the secretary and the intellectual leader of the “*operation pilote*”, the equivalent to that of the RCB in the Ministry of Equipment⁸⁵. Thus, two important partners of the SEMALY were especially keen on the use of economic calculation.

Nevertheless, as with René Waldmann’s case, it was once again a strategic use of economic calculation. Michel Gallet confirms: “*We took up the RCB mould when we had to*”⁸⁶. René Waldmann’s answer is more precise:

“HM: Were the RCB operations and all those deep thoughts on economic calculation something that was paid attention to?

RW: *We understood it was very important. You know, we tried to be a kind of lobby; we don’t have to deny it. We really wanted the project to succeed (...). So, we thought to ourselves « the RCB is becoming standard, so it’s important to put it in our studies... to be fashionable. » and our « lobbying side » stimulated our interest in it.*

HM: Did you want to be within the frame expected by the Finances Ministry?

RW: *That’s it! We had to make a file with RCB calculations, or it would not have looked serious*⁸⁷

The process transforming economics into a “state science” encouraged local experts to use economic calculation. Nevertheless, they mainly used it to defend a project they “believed” in, partly for other than scientific reasons. Indeed, the SEMALY became quickly considered as a pressure group in favour of public transports.

CONCLUSION

The analysis of the reports drawn by René Waldmann and the SEMALY reveal the increasing use of economic science tools in the urban public transport studies in Lyon between 1963 and 1973. The observation of exchanges between centre and local experts shows that the central services prompted local experts to reinforce their economic competence so that they resemble the “economic engineer”. At the higher reaches of the state, we notice a strong enthusiasm for the economic knowledge because it had become the key tool to dealing with the administrative reform [Bezès, 2002]. In the present case, the senior civil servants who tried to promote the use of economic calculation, through the distribution of “good practice” guides or the RCB operation, seem, at first sight to have achieved their goal. The transition from accounting and financial tools to profitable techniques of evaluation of public investment is obvious.

Nevertheless, analysis has mainly revealed a strategic use of economic calculation. The assessors of the subway studies strive to speak the “economic engineer” language. But, the

⁸³ Levy-Lambert H. et Guillaume H., « L’analyse coûts-avantages dans la RCB », in *Bulletin Interministériel pour la RCB*, n°2, décembre 1970, p. 9

⁸⁴ See the interviews with the director and the deputy director of this office at this time: Bozon C., interview, 17 décembre 2008 et Rousselot M., interview, 18 décembre 2008

⁸⁵ ANF (Archives Nationales Fontainebleau) 20050364 ART 1

⁸⁶ Gallet M., interview, 16 novembre 2004

⁸⁷ Waldmann R., interview, 29 octobre 2004

“learning process of reasoning patterns (...) and values and norms” [Nizard, 1973] initiated by the promoters of a new public decision criterion – in this case the Ministry of Finances and SAEI – shows its limits.

We better understand this particular use of economic tools if we consider the whole knowledge used in the reports and the relations between experts and local political elites. By accepting the mayor’s influence on the underground layout, the experts showed they wanted to - or consented to - play the role of a “scientist lawyer” for the local level. They readily accepted this mission because, as staunch supporters of public transport, they above all wanted the subway to materialise. This strategic use of knowledge also clearly appears during René Waldmann’s stay in America when he actually distorted the organizers’ objectives and collected some pieces of information which served opposite projects or policies.

Finally, the study of the development of a local expertise in urban public transport shows the need to seriously take into account the knowledge locally produced in the core-periphery analysis. This point is important because during the 1970s the CSO (sociology organisations centre) studies underlined the increasing autonomy of large city and urban mayors [Crozier and Thoenig, 1975, p. 19-21]. But they overlook the “expertise” resource as they considered it totally monopolized by the State, or even excluded from the normal mechanisms of the “local politico-administrative system” [Worms, 1966]. Our monographic approach makes it difficult to attempt any generalisation. But our socio-historical approach enlightens the way the local level acquired an “autonomous expertise capacity” [Borraz, 2000, p. 14], which, in an era when the central administrations controlled the legitimate cognitive resources, or so it is assumed. It also demonstrates the contribution of knowledge in the assertion of an “urban government” [Payre and Pollet, 2005], in a particular field, in our case the urban public transports.

It would probably be interesting to extend the period studied and to analyse the possible effects of the Lyon transportation economics assertion on local uses of economic calculation. Indeed, the IEE members started using this new tool in the middle of the 1970s at a time when their relationship with the SEMALY was strengthening. Maybe, we’ll be able therefore to observe the following evolution: at first the government tried to impose transportation economics as a useful science to govern the local level, then, later on, it became a “local government science”.

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