

# **COMPETITION IN URBAN PUBLIC TRANSPORT A WORLD VIEW**

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## **ABSTRACT**

Over the past 15 years, a number of nations and urban areas have converted part or all of their public transport systems to competitive mechanisms. At the same time, the competitive market has provided public transport services in other nations for decades.

This paper provides an international perspective on the current situation and developments in competitive provision of public transport services. Particular emphasis is placed upon the history of competitive provision in France, the international role of French companies in competition and the prospects for additional competition under new regulations of the European Union. Detailed case studies are provided dealing with urban areas, including London, Stockholm, Copenhagen, Denver, San Diego and Las Vegas

## **THE RISE OF COMPETITIVE TENDERING**

Over the past two decades, policies have been established to convert developed world government monopoly transit systems to competitive tendering. Public transport systems are tendered to multiple operators, who provide service according to public specifications. The resulting regional transit system is seamless, with full fare interconnectivity. Marketing is handled by the tendering agency, which ensures that all services are operated, from the perspective of customers, as part of a single, unified system. Without exception, the result has

been cost savings, which vary country to country based upon labor market conditions.

## EUROPE

The European Union (EU) began as a political union. Dating from 1957 with the Treaty of Roma. It came to symbolise the peace and cooperation of different nations, just after the Second World War. At first it was a political union, then transitioning to an economic and monetary union, and then a customs union. In the last decade, the Treaty of Maastricht (1992, Feb.), laid the foundation stone of another step, the step of the “real common life”, with his own rules, case laws, precedents. The “mad cow” disease crisis represented the biggest problem of this fledgling EU: the gap between a “liberal” policy and a “democratic” vision of the economy.

**France:** Public transport is always a matter of contention among political parties. The 1984 Transportation Act in United Kingdom seems to be for each side either the worst, or the best, model of deregulation and competition. The French “public service” inspires the defenders of the welfare state and the local authorities. The legislative contexts are different, the roles and the functions of the authorities, if they exist or not, of the companies and of the passengers too.

We will analyse in a first part the French model for transit contracting. We will try secondly to understand its own evolution, of course in France, but mainly in the new European policy of regulation. Third, we will take three different examples, in the south-west French city of Perpignan, actually the one and only network operated by a non French company, in the German rail network (local and national) with many French investments, and finally the case of Melbourne, Australia, strategic place for the development in Asia and Pacific area of the biggest French operators, private or public.

An important characteristic of transit in France is that there is a clear distinction between the respective roles of local governments and operators. The “low demand” (insufficient for commercial operation) for transit is compensated by a “fixed” contribution from the local government that allows the operator to remain an “entrepreneur”.

The demand of public transport decreased over the years. Until the 1960s, public transport was profitable in French towns. Demand decreased because of the high rate of motorization that lead to a reduction of the service supplied soon followed by their suppression. This motorization phenomenon had happened in the US before the war, and everywhere in Europe in the 1950s.

In the late 1960s and mainly in the 1970s, local government public transport agencies governments (LTA's – Local Transit Authorities) assumed responsibility over public transport. This was made possible by the creation of the public transport tax (“versement transport”), first in Paris in 1971, and then in the province areas (a fixed percentage of all wages - between 0,55 and 1,75%, the highest rate is conditioned by the construction of infrastructure for tramway or

subway – of all companies over 9 employees devoted to transit within the LTA's territory).

During that early period, contracts are mostly management contracts: the operator merely operated the system on behalf of the LTA. The case of the Paris Region is substantially different. There is not an LTA in the Greater Paris (Ile de France Region), but a public agency with the different levels of political decision (national, regional and local), the public operators (RATP, Parisian operator, and the SNCF, public railway operator) and the different private companies operating in secondary urban networks. This led to a rapid growth of operating costs to the LTA's that got together within GART, whose sole members were LTA. Within GART, there are discussions about how to get a better involvement of the operators so that they try to reduce costs.

The first contracts involving actual "risk" for the operators appeared in the late 1970s. A new law ("LOTI") introduced by the new Mitterrand administration in 1982, the first modern light rail systems in Nantes and Grenoble, led to the idea of approaching the issue of global mobility within an LTA's territory: the PDU's (Plans de Déplacements Urbains). Many operating contracts are re-negotiated in the 1980s and involve specific financial performance bonuses for the operators.

In the 1980s and 1990s, there has been a strong trend toward delegation of greater risk and responsibility to the private contractors. Delegation would be called privatization everywhere but it is slightly different. Most networks previously directly operated by the LTA's are delegated. Smaller companies are acquired by the larger ones. Three French companies control the transit delegation market.

The operator is more often the owner of the rolling stock and must balance a budget including expenses and revenues from different clients. The LTA is in most cases the owner of the infrastructure (guided systems), controls fares and sets fairly precise guidelines for defining transit supply.

The 1993 "Sapin" legislation sets the new guidelines to LTA's. LTA's assemblies are to decide on the principle and characteristics of all delegation of public services, including transit. They vote on the choice of the operator to whom they delegate and on the contents of the delegation contract.

The decision to delegate transit and the type of delegation are political choices that are reflected in the type of delegation contract. One can favor: quality (comfort, reliability, information), cost (productivity, maintenance), fares (social, school, unemployed, handicapped), level of service (frequency, capacity), a combination of these criteria.

The main principles of delegation are described below.

Fares are always set by the LTA. There is a trend for the LTA to try to set its yearly expenditure for transit once and for all the duration of the delegation

contract (no surprises). The operator may get additional incentives to perform even better (bonuses and penalties).

There are current additional clauses to. A common clause makes it compulsory for a new operator to hire all his predecessor's staff (excluding managers). The operator is often requested for fiscal reasons to manage an investment fund on behalf of the LTA.

There are three general contract types:

- Type 1: contracts with a yearly financial contribution from the LTA ("contribution forfaitaire").
- Type 2: contracts at a fixed yearly price ("garantie de recettes")
- Type 3: "farmer" type contracts ("gerance")

Type 1 contracts (Yearly fixed financial contribution from the LTA)

The operator has an operational risk (within reasonable limits) on revenues and expenditures (Figure #1). The LTA has almost no risk and no surprises. The deficit proposed by the candidates to the RFP's for the duration of the contract are compensated on a yearly basis by the LTA. The commercial risk for the operator is based on his own revenue projections from the fare box but not on the fare structure (set by the LTA). The operational risk for the operator is based on his own productivity projections (better maintenance, better purchasing policies, better use of staff).

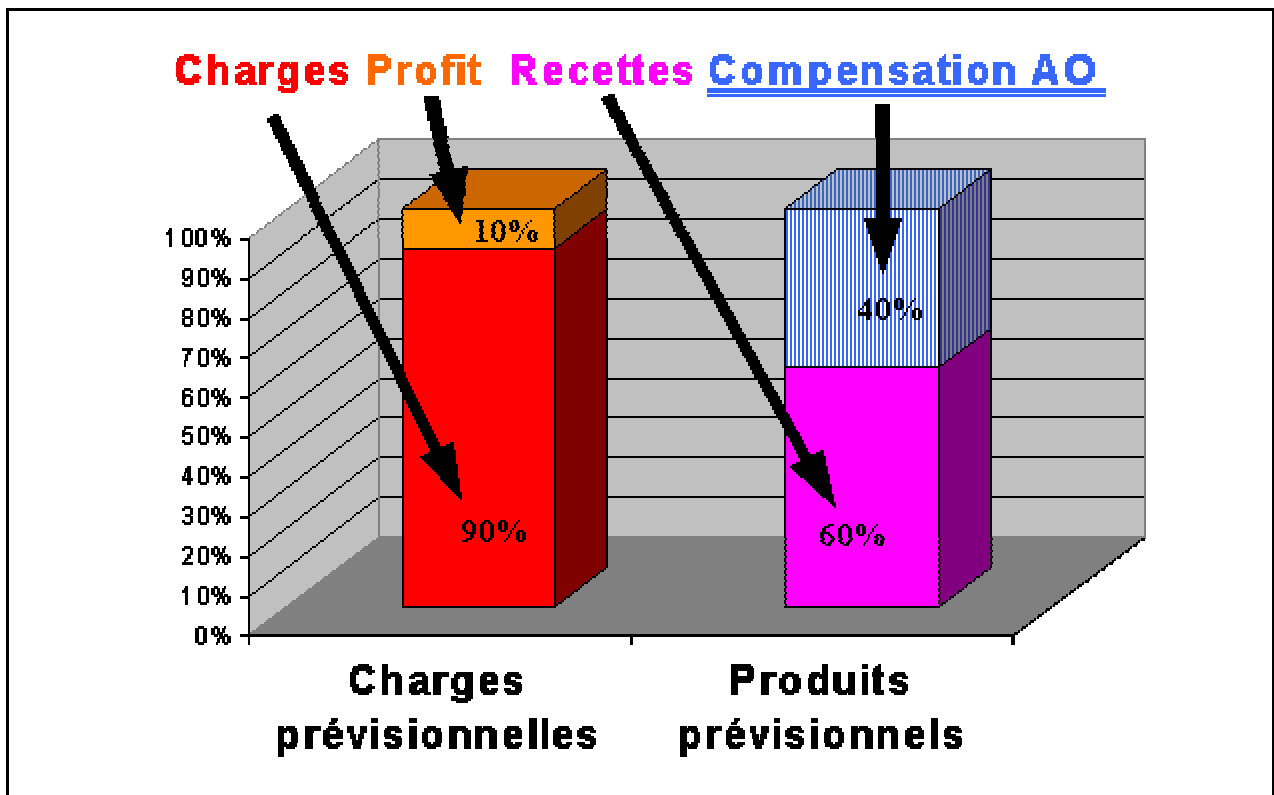


Figure 1

Figure 1 Notes

Type 1 contracts

The blue section (Compensation AO, or total operating costs minus customer revenues) is the object of the RFP “Charges”: *operating costs*

“Recettes”: *revenues from users*

“Compensation AO”: *contribution of the LTA*

“Charges prévisionnelles”: *planned costs*

“Produits prévisionnels”: *planned total revenues*

Type 2 contracts (contracts at a fixed yearly price)

The operator bears the complete operating risk on expenditures (Figure #2). The LTA bears the complete responsibility and risk on revenues, The LTA guarantees to the operator a fixed yearly coverage of costs. It collects all fare box revenues even though technically the operator collects the fares on the LTA’s behalf

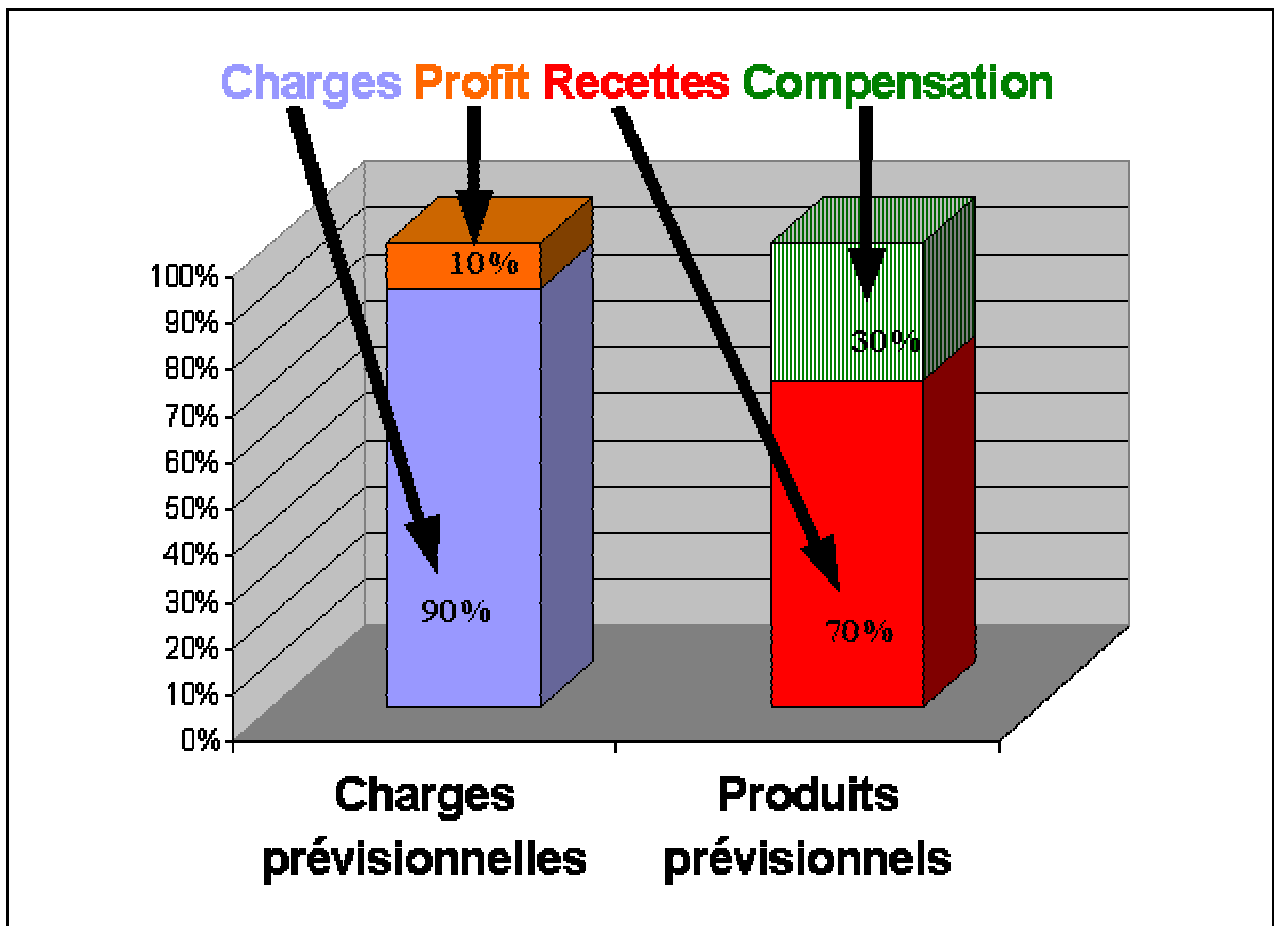


Figure 2

## Figure 2 Notes

Type 2 contracts

The blue section (Charges, or operating costs) is the object of the RFP

“Charges”: operating costs

“Recettes”: revenues from users

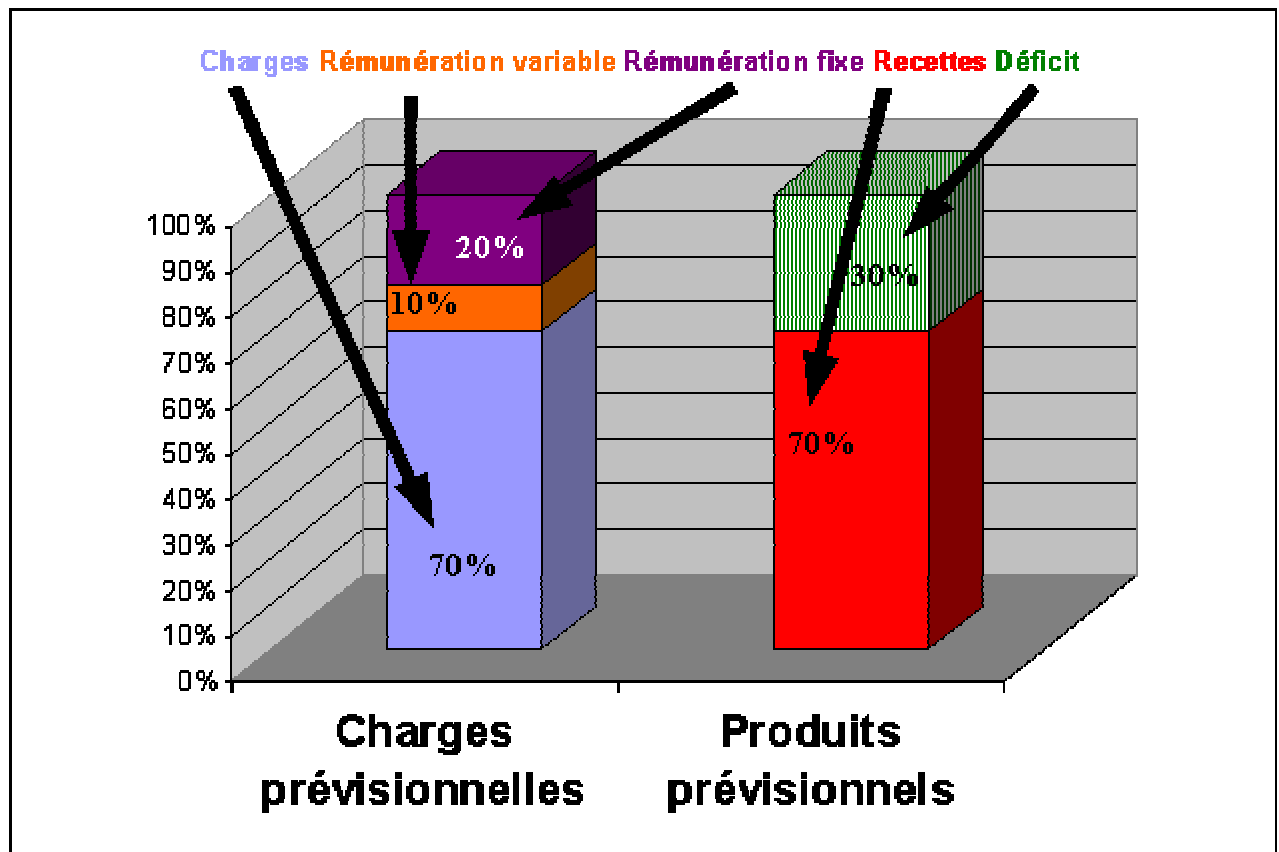
“Compensation AO”: contribution of the LTA

“Charges prévisionnelles”: planned costs

“Produits prévisionnels”: planned total revenues

Type 3 contracts (“farmer” type contracts)

The LTA bears all the risks (on revenues and expenditures),. This is very close to “management” contracts in the US (Figure #3). The operator gets a fixed yearly remuneration for operating the system, but there are usually bonuses and penalties based on performance.



**Figure 3**

## Figure 3 Notes

Type 3 contracts

The purple and orange sections (Remuneration fixe & remuneration variable) are the object of the RFP  
“Charges”: *operating costs*  
“Recettes”: *revenues from users*  
“Compensation AO”: *contribution of the LTA*  
“Charges prévisionnelles”: *planned costs*  
“Produits prévisionnels”: *planned total revenues*

After this description of the three different contract types, we will describe the political situation of public transport in France

The GART (association of LTA's) is an effective advocate lobby for public transport. The LTA's role is simple: setting the fare structure, setting the level of transit supply and the services to be supplied, choosing the type of delegation (1, 2 or 3) and launches the RFP's, choosing the operator, paying the predicted yearly deficit. The UTP (association of Urban Transit Operators) is a strong association, with a large political and economical influence. We can summarize the role of the operator to manage the personnel and operates the equipment, to collect fares and the contribution from the LTA, to be in charge of marketing and to counsel the LTA on all matters, including the fare structure and all characteristics of the transit network. The French companies are public (RATP, Régie Autonome des Transports Parisiens and Transdev, subsidiary of the French deposit and consignment office) or private (Connex, subsidiary of Vivendi company). A new company, Keolis, is a subsidiary of the SNCF (51%) and other companies. The is majority public owned, but Keolis will try to become a 100% private company in the next two years.

### **Prospects for Competition in Europe**

The challenge of urban mobility is one a major reason for the European competition policy. This policy will come into force in 2002. Using the competition and the transparency as arguments for quality and effectiveness, the EU is developing this policy, which is positioned between the British deregulation model - fully open markets - which do not satisfy passengers demand, and the closed (government monopoly) markets, which are too expensive. One of the questions is the status of the LTA. In France, this policy isn't popular among the officials in charge of public transport. The politicians defend the right to choose even in European context one of the three contract types.

The European administration wishes to limit (or to forbid) the “farmer” type contracts. This contract worries the partisans of the deregulation. In fact, the competition is considered by them as the opposite of the French public service tradition. The principle of subsidiarity is a limit to European rule. The French operators have understood it, in particular the question of the contracts duration. The project limits the duration to 5 years. Many French operators are used to sign contract for decades, especially in the case of important investments. For example, the five opening tramways last year (Strasbourg, Nantes, Orléans,

Lyon and Montpellier) are the result of the PDU's policy, of course, but also of the twenty of thirty years contract between the LTA and the companies.

Are European countries ready to open their markets to foreign companies? This question is especially appropriate in France, whose companies are present all over the world (in Spain, in Sweden, in UK, in Germany, in Australia, soon in US or in Italia), but where the national market is closed to European competition. There is only one example, or a perfect counterexample, in Perpignan.

**Perpignan:** The French philosophy derives directly from the heritage of the "Siècle des Lumières", when France developed the Human Rights Declaration and emerged as a nation dedicated to Freedom and Liberty. The French companies, in the different sectors of public service (urban and public transport, water, waste management, etc.) are proud of this heritage and believed for a long time that they were simply the best in the world. Connex, Transdev or Keolis (ex- VIA-GTI) are operating in many countries. Their costs of production and main rates are very competitive. This aggressive and successful policy in the rest of the world is occurring at the same time as the French market is closed to foreign competition. In fact, the French model is very profitable for companies, because of "versement transport", the yearly contribution from LTA. In 1998 a "revolution" occurred. The city of Perpignan, the capital of the Catalan area, near the Spanish frontier, chose for its urban transport network an operator, subsidiary of two Spanish companies, Trap SA and Subus, for a ten years duration, with the financial contribution principle. Perpignan was until this date the "exclusive province" of the VIA-GTI group, subsidiary of the Parisbas Bank. For forty years, this operator has exploited the urban transport network like the a real authority, not like a winner of a competition market. The cost per kilometer, per employee per bus, and the level of the public contribution were a source without sacrifice to the company's profit. For example, few weeks before the political decision to choose the Spanish candidates, VIA-GTI has given back the municipality more than 9 millions of francs (1.3 million Euros). "It was simply an error in the budget of the company..." said the president of VIA-GTI! This raises the question as to whether competition is efficient in France, whatever the public service is (water, waste management, transport, but now phone or television)? As indicated by the French commission in charged of the transparency and the efficiency in the investments of the public subsidies (Cour des Comptes), it seems that the French companies have a virtual combined policy of non-competition in France. Sometimes, the battle exits. In Saint-Etienne, in the middle of the country, Connex won two years ago a network exploited and operated during a long time by the Transdev company. The recent evolution of the "landscape" (integration of little or local companies in one of the three or four "major" operators) is probably the end of this apparent agreement. The LTA will probably open competition to European companies: the British (Vectice, Go Ahead) tried three years ago to "mount" the French wall. Perpignan is now the example. The question is whether this decision arose from the competitiveness of the Spanish or the a new trend in French procurement. .



The characteristics of this network correspond to the medium sized of the French urban transport model: 133 km, more than 3 millions service kilometres per year, 95 vehicles, and 26 kilometers per inhabitant per year. The total of the charges is 63 millions francs per year for only 25 millions of “recettes commerciales” (revenues per users). The “versement transport” adds up yearly to 37 millions francs.

A new French company “Siberbus” was created by the Spanish in 2000. Its main mission is very simple: to win two or three networks every year. After a year of existence, Siberbus won no network. The battles were hard in little or middle networks (in Vienne, 30.000 inhabitants city in the south of Lyon, in Millau renown for “José Bové” in the “Massif Central” or in Dunkerque, in the north of the country, near the Channel). The recent evolution of the major operators, RATP takes part in the Transdev company, the birth of the Keolis company, bodes well for the future of the public services in France. Is there yet a place for European companies in France? Is there a possible competition in these urban areas? This question is interesting because the competition will be open in other countries. The networks of many Italian cities are now opened to a competition. The French groups are present especially in the north area (Torino, Milano, Firenze or Roma). In fact, France is ” unique for public transport competition in the EU. The subsidiarity is an effective reality, even if the Maastricht Treaty and the “Citizen Network” green paper (1996) envisioned ETN (European Trans Networks), including urban and all others types of transports (regional, national). This policy was to encourage the development of the “intermodality” policy in every place. At the same time, the necessity of a common procedure in the organization of the competition and the public services in EU remains. The French model of the “delegation de service public” to private (or public) operators inspired this project of modernization of one textbook dated from July 1969 and with the perspective to began in 2002. (The application of the green paper)

This policy is an effective step forward community. With its own limits: the danger of a free deregulation. The English experience is a good model on this account. The experiences of deregulation in Germany is different. It's our present subject of description.

**French Companies in Germany and Overseas:** As explained above, the French companies have interests in other European countries. For example, in the German Federal Republic, the situation of the DBAG, the national rail company, is catastrophic. The president of this public service, Mr. Hartmurt Mehdorn, estimates the company “in a very worrying crisis”. The level of investments (15 billions of marks per year for 8 years) is insufficient. The state of the infrastructure is bad, the deficit structural (34 billions of marks in 2000). What are the solutions? More public subsidies? This seems unlikely. Sell a part of the national network to private companies? This last point tempts the appetite of French companies.

Connex (Vivendi – Universal Group) is present in Germany. In 2000, four subsidiaries were created: the first, “Connex Regionbahn” groups together six regional rail networks of passengers; the second, “Connex Cargo Logistics” operates five regional rail networks for freight; the third, “Connex Stadtverkehr” has 800 busses in 16 public transport networks (60 millions of passengers per year), the last “Deutsch Eisenbahn Gesellschaft (DEG) serves some massive industrial areas (Opel factories or chemical centres).

Keolis (the SNCF group) operates one regional rail network (150 kilometers, 12 trains, a turnover of 11 millions Euros in 2000) and two urban transport networks (turnover of 12 million Euros, 150 vehicles).

The challenge is for the French companies to develop their investments in others continents, especially in the English speaking countries. Connex is developing its activities in US and in Australia (Hillside in Melbourne with 74 trains, 129 kilometers , 51 million passengers per year; Perth with 140 buses and the “metro” of Sydney). Transdev has created a subsidiary in Australia, Transdev Australia, in association with Transfield, a local enterprise. In 1999, Transdev became the operator of the Yarra tramway network in Melbourne.

The duration of the Melbourne tramway contract is 12 years. The turnover is yearly 350 millions francs. The principles characteristics of this network are: 700 employees, 210 vehicles, 103 kilometers , 51 millions passengers per year. This is the fourth tramway network in the world. The condition of the contracting act are very ambitious: a passenger growth of 60 percent in 5 years.

Regional, national or continental: the environments of public transport are different . In France, the competition is not open to foreign operators. The French situation is paradoxical: closed for the inside competition, while opened and aggressive in the outside competition. In Europe, as the process of legislation starts, genuine competition could result. The real question is what will become of the French model?

**Case Studies:** Outside of France, some of the world’s largest public transport systems have been fully converted to competitive models.

**London:** Transport for London (formerly London Transport) manages the largest bus system in the world, with more than 6,000 vehicles (service area population: 7 million) . From 1970 to 1985, bus costs per vehicle kilometer had risen 79 percent.<sup>1</sup> In response, the British parliament enacted legislation that lead to conversion of the entire bus system to competitive tendering.<sup>2</sup> By 2000, the conversion had been completed, with the following results (Table #1):

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<sup>1</sup> Unless otherwise noted, all financial data is inflation adjusted.

<sup>2</sup> Outside London, public transit was deregulated, with similar savings, but substantial losses in ridership.

- Costs per vehicle kilometer were reduced 51 percent from 1985 to 2000. This allowed LT to expand service<sup>3</sup> 32 percent, while reducing operating and capital expenditures 35 percent. Improved productivity relative to inflation has produced cost savings of £5 billion (8.4 billion Euros) and a productivity improvement of 103 percent (Tables #1 & #2).<sup>4</sup>
- By 2000, ridership rose to the highest level since 1978, at 1.3 billion annual passenger journeys.

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<sup>3</sup> Service as measured in vehicle kilometers.

<sup>4</sup> Vehicle kilometers per constant (inflation adjusted) currency unit of expenditure.

Table #1 London Transport				
Fiscal Year	Vehicle Kilometers (000,000)	Operating & Capital Cost	Cost per Vehicle Kilometer (2000 Prices)	Annual Passengers (000,000)
1984/85	268	£886	£3.31	1,160
1985/86	263	£799	£3.04	1,152
1986/87	260	£743	£2.86	1,164
1987/88	263	£697	£2.65	1,207
1988/89	274	£713	£2.60	1,211
1989/90	282	£686	£2.43	1,188
1990/91	300	£702	£2.34	1,178
1991/92	316	£705	£2.23	1,149
1992/93	321	£690	£2.15	1,129
1993/94	326	£639	£1.96	1,117
1994/95	322	£596	£1.85	1,167
1995/96	329	£569	£1.73	1,205
1996/97	332	£551	£1.66	1,242
1997/98	342	£578	£1.69	1,294
1998/99	344	£564	£1.64	1,279
1999/00	354	£577	£1.63	1,296
Change	32.2%	-34.9%	-50.8%	11.7%
Source: UK Department of Transport and the Environment				

In the early years (before privatization), the government owned operator won more than one-half of the competitive tenders. This operator, London Buses was divided into eleven firms and some years later sold to private investors (including management and employee buyouts). These companies continue to operate most of the service, but at market rates.

Until they were fully privatized, the publicly-owned London Bus subsidiaries were allowed to bid. Initially, because of high costs and low productivity, London Bus operating subsidiaries had difficulty winning competitive tenders. Service quality improved, even where the former public monopoly is awarded service it previously operated non-competitively. According to the London Transport 1994 *Annual Report*, the contracted services division *achieved London Transport's best operating performance*.

Before competitive tendering, passenger fares covered 60 percent of operating and capital costs. On average, more than 95 percent of both capital and operating costs are now covered by passenger fares.

In this competitive environment, London Transport has been able to improve Underground (subway or heavy rail) cost effectiveness to the point that fares now exceed operating costs (not including capital costs).

Table #2 London Results	
Period	1985-1999
Converted to Competition	100.0%
Total Expenditures	-34.9%
Change in Service Level	32.2%
Change in Unit Costs	-50.8%
Change in Productivity	103.1%
Annual	4.8%
Productivity measured in service level per constant currency (inflation adjusted)	

**United Kingdom Outside London:** Outside London, bus services have been deregulated. There is no overall public planning authority, though “quality partnerships” have been established between dominant local operators and local government units. Unit cost have declined 54.0 percent from 1986 (the last full year before deregulation) and 2000, slightly more than that of competitive tendering in London. From 1986 to 1999, overall expenditures were reduced more than 40 percent, considerably more than in London.<sup>5</sup> However, ridership losses were substantial, at nearly 34 percent, compared to London’s 10 percent increase over the period (Table #3).<sup>6</sup> Local government support (all government support) per passenger has fallen 93 percent over 10 years in London, while it has risen 15 percent in the deregulated environment. Thus, government support per passenger is now eight times higher in the deregulated environment than in London, a reversal of the situation ten years before when London subsidies per passenger were 75 percent higher than in the deregulated environment.

<sup>5</sup> Latest information available.

<sup>6</sup> All data from the UK Department of the Environment, Transport and the Regions.

Table #3 London & Outside: 1986-1999		
Indicator	London (Competitively Tendered)	Outside London (Deregulated)
Total Costs	-29.6%	-41.8%
Service Kilometers	30.8%	26.7%
Change in Cost per Service Kilometer	-46.2%	-54.0%
Government Support per Passenger	£0.009	£0.087
Change from 1989	-92.8%	15.3%
Fares as a % of Costs	97.8%	86.1%
Passengers	10.0%	-33.9%
Concessionary reimbursements counted as fares. Calculated from UK DETR data.		

**Copenhagen:** In 1989, parliament began mandating conversion of public bus services in Copenhagen (1,150 buses, service area population 1.5 million). The government owned bus system was not allowed to compete, so that it could remain objective in administering the tendering. The tendering mandate was later expanded and the government bus company was privatized through sale. Conversion of all bus services was completed in 1995.

- Costs per vehicle kilometer were reduced 24 percent from 1989 to 1999. Overall capital and operating expenses declined eight percent from 1990, while service was expanded 14 percent. Management estimates savings at approximately DKK2.2 Billion through 1999 (300 million Euros, US\$250 million). The productivity improvement has been 32.2 percent (Table #4).
- Ridership has risen nine percent to 260 million annual passenger journeys, after years of decline. Management attributes higher ridership to higher service levels from more cost efficient operations.

Table #4 Copenhagen Results	
Period	1989-1999
Converted to Competition	100.0%
Total Expenditures	-13.5%
Change in Service Level	14.4%
Change in Unit Costs	-24.4%
Change in Productivity	32.2%
Annual	2.8%
Productivity measured in service level per constant currency (inflation adjusted)	

**Stockholm:** An act of parliament led to the conversion of virtually all public transit service (bus and rail) in Sweden. Stockholm operates the nation's largest system with 1,700 buses, 900 metro cars and 300 commuter rail cars (service area population: 1.8 million). All bus and rail services have been converted to competitive tendering.

- From 1991 to 1999, costs per vehicle kilometer were reduced 20 percent. Overall capital and operating expenses declined seven percent, while service was expanded 16 percent. If costs had continued to rise at the rate of inflation, an additional SEK 9.5 billion would have been required over the period (1,050 million Euros, US\$900 million). The productivity improvement has been 25.0 percent (Table #5).
- Ridership has reached an all time record at 380 million passenger journeys.

Table #5 Stockholm Results	
Period	1991-1999
Converted to Competition	100.0%
Total Expenditures	-7.1%
Change in Service Level	16.1%
Change in Unit Costs	-20.0%
Change in Productivity	25.0%
Annual	2.8%
Productivity measured in service level per constant currency (inflation adjusted)	

## UNITED STATES

Generally, the United States is perceived one of the most free market oriented economies. It may be surprising, therefore, that with respect to public transport, the United States is largely institutionally committed to a government monopoly model. The overwhelming majority of public transport services are provided by government monopolies.

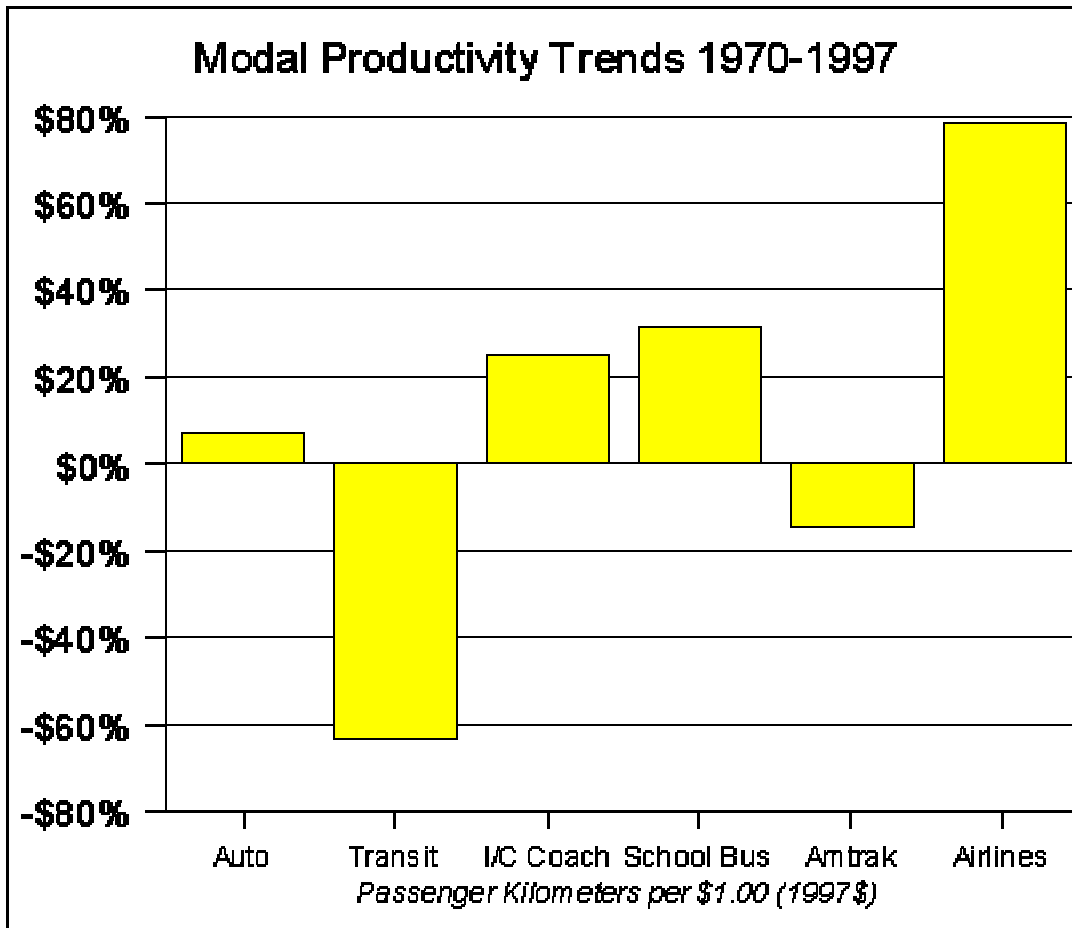
Perhaps the most important reason that government monopolies have survived in the United States is that public transport policy has been largely nationalized. A leading trend in US law over the past 70 years has been pre-emption of state and local government authority by the federal government. When public transport companies were no longer able to obtain regulatory approval to raise fares to cover costs, the public transport policy was nationalized (federalized), and the public monopoly model was substituted for the former regulated private system.

Part of the federal program involved establishment of extraordinary labor provisions, including employee severance packages of up to six years. Another segment of the US economy, the railroad industry, had similar provisions, owing to its national defense importance (after World War II). In the railroad industry, workers made redundant by improved productivity or mergers receive the extraordinary redundancy benefits. But the program works much differently in public transport. The federal public transport labor program is a significant barrier to improved productivity, because public transport agencies are disinclined to use the redundancy features, and the US Department of Labor has discouraged or barred its use in that manner. Not surprisingly, labor costs have risen well ahead of market rates and unit operating costs have risen substantially. At the same time, the federal program has provided large infusions of funding for capital projects, such as vehicle purchases and new rail systems. From 1970 to 1999, annual spending per passenger journey rose 141 percent (inflation adjusted) --- expenditures were increased 155 percent, while ridership was increased six percent.<sup>7</sup> Public transport's productivity (passenger kilometers per constant \$1.00) has dropped 63 percent, compared to gains in all other transport sectors (Figure #4) except intercity rail (Amtrak). However, even Amtrak's productivity loss is less than one-fourth that of public transport.

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<sup>7</sup> Estimated from American Public Transit Association and National Transit Database information.





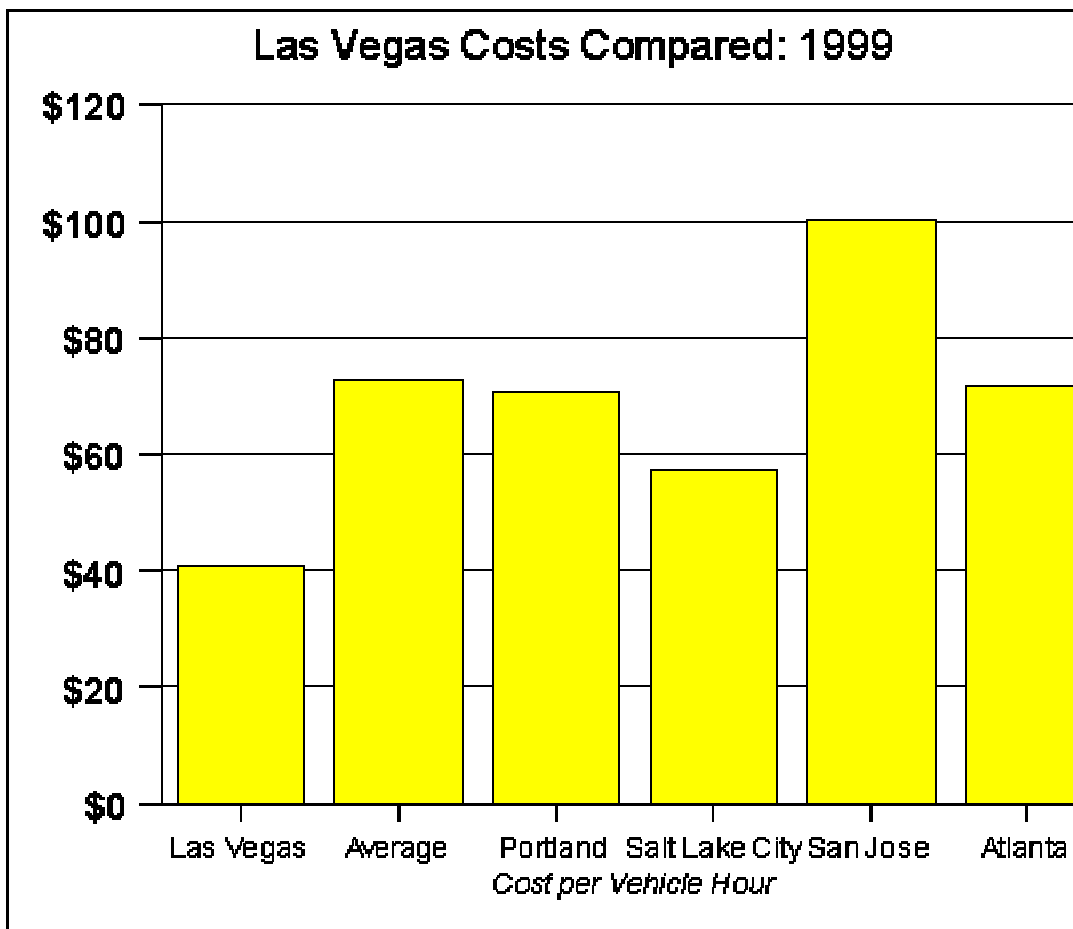
**Figure 4**

Thus, institutional barriers discouraged implementation of productivity improvements, such as competitive tendering. During the 1980s, the Reagan administration sought to implement competitive tendering programs, and the share of bus services operated competitively rose to approximately 10 percent. Since that time, the Clinton administration has discouraged competitive tendering, and there has been little or no increase in competitive tendering. However, 70 percent of paratransit (demand responsive services largely for senior citizens and the disabled) services is competitively tendered.

**Las Vegas:** Las Vegas established a new public transit system in the early 1990s, to replace a smaller privately owned system. By this time, it was clear from experiences in other parts of the country that considerable cost savings could be obtained through competitive tendering. Since the system was new and was to be greatly expanded, there was little opposition from public transport trade unions. Currently 200 buses are operated and the entire system is competitively tendered. Service levels in 1999 were 7.25 times that of the last year of private monopoly operation.

- Costs per vehicle hour were reduced one-third from that of the former private monopoly.. The Las Vegas system has the lowest cost of the 33 largest US bus systems, 44 percent below average (Figure #5). The productivity improvement has been 49.9 percent (Table #6).
- The low costs have allowed significant system expansion, which has led to annual ridership of nearly 55 million. This is a 400 percent increase over the former system and is one of the steepest ridership increases in public transport history.

Buses and operating facilities are leased to the private company by the public transport planning agency. There is a single contractor.



**Figure 5**

Table #6 Las Vegas Results	
Period	1992-1993
Converted to Competition	100.0%
Total Expenditures	128.5%
Change in Service Level	242.6%
Change in Unit Costs	-33.3%
Change in Productivity	49.9%
Annual	49.9%
Productivity measured in service level per constant currency (inflation adjusted)	

**San Diego:** Competitive tendering began as a response to the rapidly rising costs of the public monopoly operator, San Diego Transit. Various jurisdictions in the area had non-competitively contracted with San Diego Transit for service. After an expensive labor contract settlement in 1979, some jurisdictions began seeking competitive tenders for their services.

In the mid 1980s, the state legislature empowered the Metropolitan Transit Development Board (MTDB) to the public transport policy, largely due to a perception that MTDB had done an extraordinary job of building the first light rail line. MTDB has an uncommonly strong cost effectiveness ethic, and has relied upon that in administering the system. Part of MTDB's motivation is a recognition that the lower the cost of bus service, the more funding can be committed to higher levels of bus service and expansion of the light rail

San Diego is unique because its competitive tendering conversion was neither mandated nor encouraged by a higher level of government.<sup>8</sup>

Conversion to competitive tendering has been within the rate of employee attrition, so that no layoffs have been required. By 2000, approximately 44 percent of bus services were competitively tendered.

- From 1979 to 2000, system wide bus costs per hour were reduced 31 percent. Annual bus operating expenditures have risen 17 percent, while service levels have been increased 71 percent. If costs had continued to rise at the rate of inflation, an additional US\$500 million would have been required over the period (590 million Euros). The productivity improvement has been 42.7 percent (Table #7)

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<sup>8</sup> The Las Vegas system was also competitively tendered without outside encouragement, but involved establishment of a completely new system, rather than conversion.

- Competition has had an impact on the government owned bus agency, which has reduced its costs per hour 17 percent. This agency's improved cost performance has enabled it to win some tenders.
- Competitively tendered costs are approximately 42 percent lower than that of the government operator.
- Bus ridership is now 55 million, up 60 percent from 1979.

Generally, buses are leased to the private companies by MTDB. MTDB also provides an operating facility.

Table #7 San Diego Results	
Period	1979-2000
Converted to Competition	43.0%
Total Expenditures	2.7%
Change in Service Level	46.6%
Change in Unit Costs	-29.9%
Change in Productivity	42.7%
Annual	1.7%
Productivity measured in service level per constant currency (inflation adjusted)	

**Denver:** A 1988 Colorado state law required a partial conversion (20 percent) of Denver's Regional Transportation District (RTD) bus service to competitive tendering, a mandate that was extended to 35 percent in 1998. RTD oversees a system of 900 buses and a light rail line, with 70 million annual unlinked trips (2000). The Denver competitive tendering program is the only such mandatory system in North America. The public transport trade unions have been particularly interested in ensuring that the practice does not spread. As a result, there has been considerable controversy over the results of the program and contentious local political disagreements between proponents and opponents.

Further, the contentiousness of the Denver situation has been exacerbated by the fact that the public transport policy body, RTD, is also a direct operator of service. As a result, there are considerable internal interests that find competitive tendering to be in conflict with their own incentives. For most of the competitive tendering period, service contracts have been managed by the very department from which services were being taken away. Denver represents the only significant international case in which there is not a separation of policy (and contract administration) from operations.

Through the years, studies have been commissioned by RTD, the state and labor unions.<sup>9</sup>

- KPMG Peat Marwick was engaged under state law to conduct a performance audit of the program. The concluding second annual performance audit reported cost savings of 31 percent (public costs are 45 percent higher than competitive costs).<sup>10</sup> Savings over the first five year period were projected at nearly \$30 million, even after including more than \$8 million in labor redundancy payments to public bus drivers to avoid layoffs. With respect to service quality, KPMG Peat Marwick noted: "No relationship was found between safety and quality of service and higher employee turnover.
- Elliot Sclar,<sup>11</sup> in a study commissioned by transit labor, found competitive costs to be higher than non-competitive costs. Sclar calculated overhead costs at approximately double the normal rate, including costs normally associated with non-competitive service in overhead instead, did not adjust for competitive capital costs mandated by the public transport agency<sup>12</sup> and not reported in non-competitive costs, and used a base year that did not precede the beginning of the competitive tendering program.<sup>13</sup>
- Subhash Mundle, Janet Kraus and Wendell Cox were commissioned by RTD to produce a review of the competitive tendering program in 1996.

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<sup>9</sup> Another view of the Denver competitive tendering experience is put forward in a recent book by Jonathan Richmond (*The Private Provision of Public Transport*, JFK School of Government, Harvard University, 2001). The work is largely a narrative containing virtually no financial analysis, which evoked the following reaction in a letter from RTD CEO Cal Marsella to the publisher: "... blithely trivializes a subject about which a significant amount of valid, empirical data exists... reduces what should be a critical technical analysis of service and cost issues based upon actual experience to a superficial discussion of 'ideology.' ... The most serious shortcomings of Mr. Richmond's work is that he totally abandons any responsibility to honestly investigate the issue at hand and simply descends to 'talk show' interview format where the most tantalizing tidbits are represented as facts and the essential factors relating to his 'research' topic are relegated to a summary of political commentary."

<sup>10</sup> KPMG Peat Marwick in association with Mundle & Associates, Inc. and Transportation Support Group, Inc., Denver RTD Privatization Performance Audit Update: July 1990 - June 1991: Final Report. (November 1, 1991).

<sup>11</sup> Elliot Sclar, *Paying More, Getting Less: The Denver Experience with Bus Privatization: 1990-1995*, report prepared for the Amalgamated Transit Union, AFL-CIO/CLC, February 1997.

<sup>12</sup> In the 1994 procurement, the last before the Sclar analysis, the public transport agency required contractors to provide new buses, with an option for the buses to be purchased by the public transport agency at the end of the contract term. That asset transfer has now taken place. The National Transit Database does not generally include capital costs. Capital costs are sometimes included where they are a part of a contract cost paid to another operator by the public transport agency. Even in these cases, however, the National Transit Database does not report such costs explicitly, and as a result they cannot be directly derived.

<sup>13</sup> This research was considered and not considered convincing by the Colorado legislature in 1999 when the competitive tendering mandate was expanded to 35 percent. The driving factor in this decision was the cost savings that had been documented in a number of studies, including Mundle-Kraus-Cox, KPMG Peat Marwick and the public transport agency itself.

They used the KPMG Peat Marwick cost allocation model and estimated average attributable fully allocated cost savings at approximately 35 percent. Through 1995 they estimated cost savings at \$51 million and projected savings of \$88 million through 1999 (1994\$).<sup>14</sup>

- Public Financial Management (PFM) was engaged by RTD to produce a report in 2001 summarizing results through 1999.<sup>15</sup> PFM limited its review to the 1991 to 1999 period, and found incremental cost savings of \$40.1 million. A major reason for the more conservative PFM results inclusion of costs relating to vehicle capital.<sup>16</sup> Other differences between the PFM report and the Mundle-Cox projection included the shorter period of analysis, use of current prices rather than inflation adjusted prices and a much more conservative excluded (overhead) function assumption. When the PFM results are adjusted to account for the difference in capital treatment, the 1999 cost savings become 34 percent.

Based upon the results of the KPMG Peat Marwick, Mundle-Kraus-Cox and PFM analyses, it is estimated that the savings over the first 10 years of the program were in the range of US\$70 million to US\$95 million<sup>17</sup> (\$80 million to 110 million Euros).

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<sup>14</sup> This study was commissioned after concern was raised that RTD had provided the state legislature with misleading comparison information between contractor and internal costs. With respect to the procurements covering the 1994 to 1999 period, RTD required contractors to supply new buses (with an RTD option to purchase the vehicles at any point), instead of providing the buses through a nominal lease. This resulted in extraordinary costs for RTD, which would not have been incurred if the normal approach to bus purchases had been utilized (cash purchase by RTD). This resulted in extraordinary costs for RTD, which would not have been incurred if the normal approach to bus purchases had been utilized (cash purchase by RTD). RTD had advised the state legislature that private costs had escalated to the point that there was little difference from internal costs per hour. The convergence of costs was a direct result of including capital and financing charges in the private costs, but not in the public costs. The Mundle-Kraus-Cox report found that \$36 million in financing charges, taxes, license fees and attributable contractor profits would not have been avoided if RTD had not required private provision of buses. Mundle-Kraus-Cox were able to find no record of any financial analysis with respect to the issue. There are at least three reasons why RTD might have incurred higher costs through private provision of vehicles: (1) RTD had been generally opposed to competitive tendering and internal management may have intended to artificially force competitive costs higher in an attempt to convince the legislature to repeal the competitive tendering mandate. (2) RTD simply did not know that higher costs would result, or (3) Paying higher costs through contractors over a longer period of time could have aided RTD's cash flow, during a period that it was constructing the initial \$115 million light rail line.

<sup>15</sup> Public Financial Management, *Analysis of Private Contractor Bus Service Costs*, report prepared for the Regional Transportation District, February 2001.

<sup>16</sup> During the 1994 to 1999 contract period, RTD required contractors to supply new buses. This resulted in extraordinary costs for RTD, which would not have been incurred if the normal approach to bus purchases had been utilized (cash purchase by RTD). The result was payment of \$36 million in financing charges, taxes, license fees and attributable contractor profits that would not have otherwise been necessary. PFM did not exclude the vehicle financing charges from its analysis.

<sup>17</sup> 2000\$.

Competitive tendering has been associated with a substantial improvement in RTD's productivity (Table #8).

- Before competitive tendering (1978<sup>18</sup> to 1988), RTD's operating expenditures rose 16.5 percent, while its service levels increased 2.5 percent, for a productivity loss of 12.0 percent.<sup>19</sup>
- Since the last year before competitive tendering, RTD operating expenditures rose 12.9 percent, while service levels were increased 31.8 percent, for a productivity gain of 16.7 percent (Table #9).
- If RTD costs per hour had remained at the pre-competitive tendering rate, 14.3 percent less service would have been offered for the same expenditure level in 1999.

The net effect has been that RTD has recovered virtually all of the productivity losses of the pre-competitive tendering period (Figure #6).

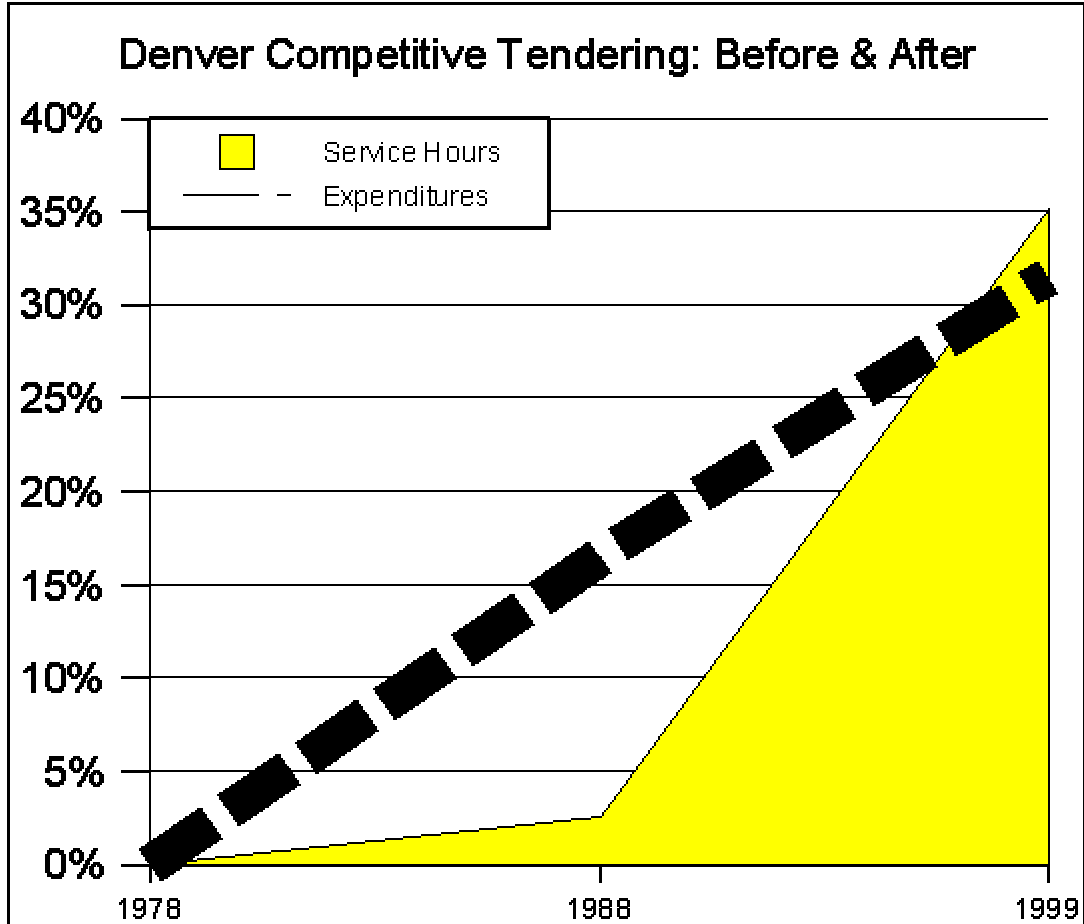
Comparison: Before & After Competitive Tendering	1978	1988	1999
Total Operating Cost (000,000 1999\$)	\$123.7	\$144.1	\$162.6
Total Service Hours (000)	1,606	1,646	2,170
Total Cost per Service Hour	\$77.00	\$87.49	\$74.94
Competitively Tendered Service Hours	0	0	486
Share of Services Competitively Tendered	0.0%	0.0%	22.4%

Source: Calculated from FTA National Transit Database and RTD data.

Period	1988-1999
Converted to Competition	22.4%
Total Expenditures	12.9%
Change in Service Level	31.8%
Change in Unit Costs	-14.3%
Change in Productivity	16.7%
Annual	1.4%
Productivity measured in service level per constant currency (inflation adjusted)	

<sup>18</sup> First year of the National Transit Database reporting system.

<sup>19</sup> Incremental service divided by incremental expenditures.



**Figure 6**

### SUMMARY OF OTHER AREAS

**Canada:** Canada has been the slowest developed world nation to convert public transport services to competitive tendering. Suburban bus service is competitively tendered in Montreal, while smaller public transport systems are competitively tendered in British Columbia, Alberta, Saskatchewan and Ontario.

**Australia:** Conversions to competitive tendering have been completed in Melbourne (described above), Adelaide and Perth. Virtually all public transport services could be converted to competitive tendering in the first decade of the new millennium. Under a federal-state agreement intended to improve public resource allocation and international competitiveness by subjecting public services to competition.



**New Zealand:** New Zealand public transport systems have been converted to a regulatory system similar to that of the UK outside London, most services are competitively tendered.

**Japan:** In the largest urban areas, Tokyo-Yokohama and Osaka-Kobe-Kyoto, most public transport service (bus and rail) is provided by private companies on a commercial (non-subsidized) basis. There is little, if any, subsidy of public transport in Japan's largest urban areas. Ridership is high in Japan. Ridership in Tokyo-Yokohama alone is more than double that of the entire US and nearly 10 times that of Canada. Ridership in Osaka-Kobe-Kyoto is nearly equal to that of the US and five times that of Canada.

**South Africa:** Plans are underway to convert government and subsidized private monopoly public transport systems to competitive tendering. At the same time, unsubsidized privately owned "kombi-taxis" provide a large share of public transport rides. An exclusive lane for buses and taxis operates from the densely populated suburb of Soweto to the Johannesburg central business district.

**Developing World:** Throughout the developing world, more entrepreneurial models are typical. For example, for profit private bus operators predominate in Mexico City, Sao Paulo, Calcutta and Buenos Aires. In other cities, services are dominated by smaller vehicle operators, such as Manila and a number of African cities. Much of the former communist world continues to rely upon government monopolies. In many developing world cities, like those in the developing world, a number of urban rail systems are being built or expanded, which are largely owned and operated directly by government.

## **CONCLUSION**

The urban area case studies above show that competitive tendering has generally improved the productivity of public transport systems by increasing the amount of service provided per unit of expenditure. The US productivity improvements of 1.7 percent annually in San Diego and 1.4 percent in Denver are in contrast to the national public transport annual productivity loss of 3.7 percent. Moreover, these two productivity improvement figures are higher than those of all passenger public transport industries in the United States with the exception of airlines (above).

On average the productivity improvement among the international examples has been 2.7 percent among the systems taking more than one year to convert, ranging from a low of 1.4 percent in Denver to a high of 4.8 percent in London (Table #10).

Table #10 Summary of Productivity Trends		
Urban Area	Years	Annual Productivity Improvement
Copenhagen	10	2.8%
Denver	11	1.4%
Las Vegas	1	49.9%
London	15	4.8%
San Diego	21	1.7%
Stockholm	8	2.8%
Average Excluding Las Vegas	13	2.7%
Exhibit: US Public Transport	27	-3.7%
Productivity: Vehicle kilometers per constant currency unit (inflation adjusted).		

## BIBLIOGRAPHY

- BAVOUX J.-J., CHARRIER J.-B., *Transports et structuration de l'espace dans l'Union européenne*, Masson, 1994.
- BEAUCIRE F., *Les transports publics et la ville*, Les essentiels Milan, 1996.
- BEAUCIRE F., LEBRETON J., *Transports publics et gouvernance urbaine*, Les essentiels Milan, 2000.
- BERGOUIGNOUX J., *Services publics en réseau : perspectives de concurrences et nouvelles régulations*, Commissariat Général du Plan, 2000.
- CERTU, *Les grands groupes français de transport de voyageurs – histoire, stratégies, diversification*, 1999.
- [6] DE GAUDEMAR J.-P. (sous la direction de), *Environnement et aménagement du territoire*, DATAR – La documentation Française, 1996.
- COX, W., MUNDLE, S. & KRAUS, J., *Competitive Contracting of Transit Services: Denver Experience*, Paper presented to the 5<sup>th</sup> International Conference on Competition and Ownership in Public Transport (Leeds).
- COX, W, LOVE, J. & NEWTON, N., *Competition in Public Transport: International State of the Art*, Paper presented to the 5<sup>th</sup> International Conference on Competition and Ownership in Public Transport (Leeds).
- DUTHION B., GELBMANN B., *Transport collectif interurbain de voyageurs: approche terrestre*, Celse, 2000
- GART, *Les politiques de transport collectif dans les collectivités*, La Lettre du Cadre Territorial, 1999.
- GART, *1980 – 2000, 20 ans de politiques de déplacements*, 2000.
- GODARD X., DIAZ OLVERA L., *Cas de Lyon et Marseille – annexes 1 & 2*, in *Pauvreté et transports urbains*, Rapport Banque Mondiale, 2000.
- GRASLAND C., *A la recherche d'un cadre théorique et méthodologique pour l'étude des maillages territoriaux*, Entretiens Jacques Cartier, « Les découpages du territoire », 1997.
- Groupement de Recherches sur l'Administration Locale en Europe (GRALE), *Les premiers mois d'application de la loi du 12 juillet 1999 – Etudes coordonnées sur 18 régions*, 2000.
- GUIGOU J.-L., *Une ambition pour le territoire – aménager l'espace et le temps*, DATAR – Editions de l'aube, 1995.
- HAUMONT A., *La mobilité intra-urbaine*, Les Annales de la Recherche Urbaine, 1993.
- Ministère de l'Intérieur – Centre d'Etudes et de Prévision, *Organisation et administration des territoires urbains*, décembre 1999.
- Ministère de l'Equipement, des Transports et du Logement, *Villes et Transports – synthèses*, 1998.
- NEIERTZ N., *La coordination des transports en France – de 1918 à nos jours*, Comité pour l'Histoire Economique et Financière, 1999.
- OFFNER J.-M., ZEMBRI P., *Les réseaux, entre territoires fonctionnels et territoires institutionnels*, Netcom, vol.8 n°2, 1994.
- ORFEUIL J.-P., BIEBER A., *La mobilité urbaine et sa régulation*, Les Annales de la Recherche Urbaine, 1993.
- PUBLIC FINANCIAL MANAGEMENT, *Analysis of Private Contractor Bus Service Costs*, report prepared for the Regional Transportation District, February 2001.
- SCLAR, ELLIOT, *Paying More, Getting Less: The Denver Experience with Bus Privatization: 1990-1995*, report prepared for the Amalgamated Transit Union, AFL-CIO/CLC, February 1997.
- WACKERMANN G. (sous la direction de), *L'aménagement du territoire français – hier et demain*, SEDES, 1996.
- ZIV J.-C., NAPOLEON Ch., *Le transport urbain – un enjeu pour les villes*, Dunod, 1981.
- Reviews :
- Transport Public, n°1999, janvier 2001,
  - Transport Public, n°1002, avril 2001,
  - Transport Pulic, n°1003, mai 2001.