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Authorities**  
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**Session 2 – Solutions for a sustainable mobility in Europe**

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Let us open the second session of this conference, organized by the Madrid regional Transport Consortium, a wonderful conference which gathers many speakers and people of impressive level.

I would like to congratulate Mr Pradillo and his staff, as well as D. Carlos for their excellent organization of the conference, and congratulate the Consortium for its silver anniversary as Regional Consortium, and the excellent work it's been doing and will continue doing, I am absolutely convinced.

First of all, I'd like to introduce myself. I am Ignacio Aguirre, I belong to the Madrid Network, where I am the Director of Institutional Relations. I am replacing my general director, Alicia Hinojosa, who had to go on a trip for professional reasons. Madrid Network is an agency, which politically depends on the Ministry of Economy and Finance and the Chamber of Commerce, but above all, it is a public-private body, managed by twelve clusters, each of which has its own partners and members. I am here today because one of these clusters, called "Madrid Logistics Platform", aims at bringing together all the companies that work in the logistics sector of the Community of Madrid, and of course, here comes the mobility sector. Within this cluster, we realized that the region of Madrid has a number of excellences, one of which we call "Modelo Madrid". This term refers to Madrid accomplishments which are fully marketable outside Spain for the quality with which they were implemented. This includes transport within the Community of Madrid, as well as hospitals, water management and high-speed rail system. I'd like to take advantage of this international seminar on mobility to talk a little about Madrid Network and urban mass transport.

The Madrid Comunidad, through Madrid Network, is a public-private partnership that was created four years ago, which promotes involvement of our transport and logistics companies members in major infrastructure projects abroad. This implication is consistent with an overall strategy that aims at marketing the skills that have been achieved in recent years in the region of Madrid and in Spain in general, in the fields of design, management, financing and implementation of infrastructure.

This is a public-private project because, even if it benefits from the financial support of the Regional Administration, the private sector remains the main contributor, through the member companies of Madrid Network, which cooperate in projects of all kinds and promote the development of new technologies.

In this regard, I want to emphasize the model of the region of Madrid, which combines metro, tramway, and buses. In all these areas, the region of Madrid has reached a level of excellence, efficiency and quality in management hardly matched worldwide. The rapidity with which new lines have been built over the last twelve year makes the Madrilenian Metro an international reference, and attracts considerable interest from many agencies promoting metro projects around the world and especially in America, both Latin America and the United States, who often wonder on what basis this capability relies.

The answer is manifold, and different elements have collaborated and cooperated to make this possible. First, the Community of Madrid has been able to channel the capacities of companies participating in the project through a favorable legal framework, which made the models of concession and PPP (public-private partnership) feasible. Secondly, the region of Madrid has brought together and coordinated the work of public administration and private companies through public entities as MINTRA<sup>1</sup>, the Transport Consortium itself, etc., which have been essential to make the scheme a success. These entities have efficiently supervised construction and implementation of projects procedures, so that coordination has been indispensable. This really has to be stressed, because sometimes, transport projects in some parts of the world, are not carried out or strongly delayed for lack of coordination.

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<sup>1</sup> Madrid Infraestructuras del Transporte

And then, thirdly, the favorable policy framework has also been a key-factor: by keeping the promotion of public transport on the political agenda throughout different mandates, the ruling party has allowed to assess the degree of political commitment to the population of the region. Today, any inhabitant of Madrid has a Metro station within a maximal distance of 500 meters, regardless of where they live. Public companies of the Community of Madrid have been essential, together with the experience and ability of construction companies, engineering consultants and other companies involved in the execution of various projects.

This altogether explains why the Community of Madrid has become an international leader in transportation. For instance, about thirty foreign delegations visited our region in 2010, mostly in order to study the public transport system and specifically the Madrid Metro.

From Madrid Network, through a working group, various agencies and regional and local governments in many parts of Latin America and the United States are being advised in the management of mass transport projects, through feasibility studies and collaboration in the design of mobility plans. We know that sustainable growth and social involvement in economic and human development of a city can be measured by the quality of its system of urban public transport. And in this way, many Latin American cities have to face a challenge, a crossroads where collaboration with experienced agencies can lead to mutual benefits, and help improving the quality of life for residents of these great cities.

I am now going to give the floor to Mr Armando-Fidel Gutiérrez, Managing Director of the Seville Area Metropolitan Transport Consortium. Welcome to this second session, Armando.

### **Armando-Fidel GUTIÉRREZ**

Thank you, good morning to you all, thank you very much Ignacio for your kind words of introduction. Thanks to Carlos Cristobal for inviting me to this conference, congratulations to the Madrid regional Transport Consortium for its 25 years of service to society.

The year 1986 is not indifferent to me, since I got married in that year, so I'm celebrating my silver jubilee as well as the Consortium, and by the times we now live in, I think we all agree that mine, is quite more commendable than yours. So Providence has brought me here and I'm happy to celebrate this anniversary with you.

Well, this is a historical turning point, because if it has not happened yet, the time is near when for the first time, more than half of world population is going to live in large cities. It will be even more here, so let's talk about the mobility problems we face in the south of Spain, and particularly in the metropolitan area of Seville.

Since the end of last century, the Andalusian nine agglomerations have been concentrating more than 60% of the population of the Community, and represent now about 70% of gross domestic product. And in our nine agglomerations, the private car remains the main protagonist of a transportation system that is no longer viable. Aware that this mobility system is no longer efficient, in the last two terms, the Andalusian Regional Government, has designed a strategy to improve the situation. This strategy mainly consists in acquiring a legal tool (the *Law on Urban and Metropolitan Passenger Transport in Andalusia*) and a planning tool (the *Infrastructure Plan for Andalusian Transport Sustainability*, or PISTA plan), and constructing new infrastructures for the public transport system.

The law, from which comes from everything I've just said, revolves around three fundamental principles:

- First, the *metropolitan area* is defined as a set of contiguous and interdependent municipalities, whose economical and social reciprocal links influence the transport system

- Secondly, the *Metropolitan Transport Plan*, refers to the document or the set of documents that define the transportation system in the metropolitan area and establish the necessary provisions for its funding and management
- Thirdly, the *Metropolitan Transport Consortia* are conceived as public entities gathering the Andalusian Regional Government, the County and the municipalities of these metropolitan areas. They intend to coordinate the transport system and the Metropolitan Transport Plan management.

Today, these Transport consortia have been created in the nine agglomerations of Andalucía; eight of them have already implemented an integrated fare system and an intermodal ticket, which is also common to all metropolitan areas. The ninth one, the Huelva Consortium, has been formed recently and should define its own integrated fare system within the end of the year. And, in recent years, these consortia operate as a network for projects of common interest.

We have gone much further since 2008, by creating a coordinating body, the Governing Board of the Andalusia Transport Consortium Network. It is chaired by the President of all Consortia, which is at the same time the head of the Ministry of Public Works and Housing, and the different directors. A coordinator of Metropolitan Transport Consortia of Andalusia has also been appointed.

But let's focus on the case of Seville. And allow me to make a minimal presentation, providing data that will help us to understand the problems of mobility in our area. With 4820 km<sup>2</sup>, the metropolitan area represents 33.6% of the total area of the province. It is composed of 46 municipalities, which account for over 78% of the total population of the province, with a population of over 1,45 million people and a density of 300 inhabitants per km<sup>2</sup>.

The problems of mobility are dealt with via the Metropolitan Transport Plan, which is the tool provided by the law I have mentioned. I would like to stress that this document was written in a relatively short period of time, between September 2005 and October 2006, when it was approved by the **Governing Council**. Its elaboration associated the different authorities and institutions involved in transport.

In terms of contents, it is a diagnosis of the situation of mobility in the metropolitan area, from which derives a series of objectives, goals and policies, declined in a battery of measures and guidelines for planning and coordination. The monitoring is given to the Seville Area Metropolitan Transport Consortium. Its validity has no defined term, still review mechanisms are anticipated. The Metropolitan Transport plan can be modified whenever the Governement Council think it relevant to do so, or should one of these evolutions occur: increase of motorized mobility superior to 2.6 million trips, modal share of public transport inferior to 30% after seven years of implementation, or failure to meet environmental improvement objectives.

As I have said, the basis of the Plan is a diagnosis which shows very clearly that there is a predominance of private vehicles, that public transport plays a quite secondary role, that walking has dropped significantly while cycling is disappearing from the mobility landscape. All this makes the system inefficient and unsustainable, because the use of private vehicles causes major congestion, urban space occupation, environmental and noise pollution, and therefore increases travel time. Moreover, this system is socially unjust, because the use of public transport is limited to those we call "captive travelers" who do not have any choice, and because walking or biking are only thought of as leisure activities or sports. Given this diagnosis, the aim is clearly to provide the Seville Metropolitan area with an efficient, sustainable and socially cohesive integrated transport system. And here is the remedy: we need to maximize the use of public transport, moderate private vehicle traffic, and encourage walking and biking.

Focusing a bit on the measures included in the Plan to enhance the use of public transport, I wanted to highlight only the most important. It affects all modes of transport and many public organizations are involved in this type of measures.

As far as the Metro is concerned, the objective is to provide the Seville metropolitan area with a metro network of over 60 km, composed of 4 lines. Line 1 is in service since 2009 ; Public information process has been completed about projects of lines 2, 3 and 4, the location of these lines is defined and the final phase of these projects is about to be launched.

As regards connections to the most important locations in the metropolitan area, various tramway connections to the Metro network are planned. The tramway line has been operating since 2008, and is about to extend within a fortnight, with connections to Alcalá de Guadaíra, whose three sections are being built; two sections are also being worked on at Dos Hermanas; one section at Aljarafe (the other part of the project being still in its drafting phase); in the La Rinconada tramway project, the study phase hasn't been completed yet.

As regards rail ring closure, different projects include the line C-2 commissioning within the end of 2012, the railway connection with Palacios y Villafranca, another important population of the metropolitan area, and with the surroundings of north Aljarafe, who became operational last Monday.

As regards buses, we intend to build exclusive bus lanes between the central city and the Aljarafe area which the most densely populated area: the Camas-Sevilla and Sevilla Gelves projects, which are in their final drafting phases. Thus buses will not have to compete with private cars anymore.

We also consider a bus-vao in the A-49, which has been widened to create a third lane in most of the metropolitan area. But the bus-vao lane project is still under study, as well as the exclusive lane for planned urban development in an area of Seville called el Cortijo del Cuarto.

Ultimately, the striking point is that, after 4 ½ years of implementation, more than 88% of the Plan is now dealt with, and that 17% of its actions are already operating. And this is because the Plan was realistic, collected actions that were somehow weighed, and summarized in a document a series of proposals and objectives that were in everyone's mind.

Another important point is the development of actions to promote the use of bicycles, and this includes the construction of 229 km bike paths, integrated to the main routes defined in the Seville General Urban Plan, to the urban routes in the municipalities of the metropolitan area, and the axes connecting the main centers of the metropolitan area with each other and with Seville. It also includes the creation of bicycle parking areas on the major traffic-generating centres, and the implementation of public bicycle systems.

The Plan also schedules a series of actions on metropolitan roads, mainly the implementation of the old project of a second outer ring road, known as S-40: the drafting phase is over, two sections are being built, work is about to be undertaken in six other sections which have been awarded, and three sections are in bidding process. In addition, the *Plan Más Cerca* (Closer Plan), a plan of the regional government, aims at establishing new accesses to Seville, road facilities, road connections, road duplications, etc.

Another important fact is that, for the first time, the criteria are reversed: in a plan of this nature, 64% of the investment is directly related to Public Transport, while the road network accounts for only 36%, with an expected investment in initial Plan of 2065 million euros.

Pictures are worth a thousand words, and I like to show you what we have done and what we continue to do in the metropolitan area of Seville. This is an image of Metro Line 1, which carried out 14.6

million trips in 2010. It is true that there has been a modal shift from urban and metropolitan buses, but possibly more than half of those million trips used to be made with private vehicles. As you can see, it is a modern line, with an excellent security system thanks to landing doors located in every station. Integrated ticket system, which is one of the guidelines of the Transportation Plan, has been implemented since 2007, and allows the card holders to travel on all the modes of transport operating in the metropolitan area. Integration with the RENFE commuter network still remains to be done, but for now, it is already possible to buy a single or a round trip ticket with the card as an electronic purse.

57% of the Metro trips are made with the Consortium card. This card, as I've said before, can be used in all metropolitan areas of Andalusia where an integrated fare system has been implemented. More than 250,000 cards are in use in Seville, and account for 23 and a half million trips performed this year. In 2002, when we began, we expected 12 million and a half trips, we're at 23 million and a half trips. Metro Line 1 benefits from a series of multi-modal interconnections, which are essential in metropolitan stations. This is an image of San Juan Bajo multi modal hub, where you can connect not only trains and city buses, but also private modes, thanks to park and ride facilities; Tram line 1, with 4 million trips in 2010, has been perfectly integrated within pedestrianization policies in Seville.

As I have said, on Palm Sunday it will extend its route till San Bernado exchange terminal, which is the biggest interconnecting station in Seville.

The commuter network required a 60 million euro investment from the Ministry of Development to upgrade and extend: creation of four new stations or halts, remodeling of two stations to serve 10 municipalities in North Aljarafe metropolitan area representing more than 86 000 people ; exclusive lanes (mainly the ones connecting the Aljarafe con Seville), the recovery of the Iron Bridge for public transport and bicycles that represents an investment of 5 million euros, and has been operational since last year.

Non-motorized mobility, represented by biking, has been booming: 127 km bicycle lanes were implemented in less than three years, 52,780 cyclists on weekdays, which means biking went from nothing to 6.6% of mechanized trips; 5,600 spaces on 556 bicycle parking points, bicycle parking in all Metro stations, in the central city as well as in metropolitan stations, generally 900 bicycle parking spaces in the cities of the metropolitan area; two public bicycle systems, the more important being SEVici in Seville, with 2,500 bicycles available to users, 250 stations with 4,611 bicycle racks, more than 53 000 registered users and about 15 000 uses a day.

Another innovative public bicycle system I like particularly is the Bus+Bike service, which combines public transport with cycling trips through the ticket. Bus+Bike service is designed for Consortium card holders who can freely use a bike every day from half past 7 in the morning until 12 at night on 58 km metropolitan bike paths in Seville.

There is still more work to be done. The provincial Government of Seville is conducting an ambitious study, in which a 41 cycle path network of a length of 600 km is being considered, as well as another 600 km-long greenways network. In total, it could be a cycling network of more than 1,200 km structuring the entire metropolitan area.

To conclude, I'd like to comment these two pictures taken in Seville half a century ago. When I look at the man with the bowler hat and at the boy on a bicycle, I often wonder if we really did transform our city, or if we have just corrected a huge mistake.

Thank you for your attention. (Applause)

## **Ignacio AGUIRRE**

Thank you very much, Armando. I am really impressed at the ambitious sustainable transport project you are implementing in Seville. It looks like Seville meets all the necessary conditions to promote this kind of transport, and the numerous tourists you welcome in your city will probably be grateful for that. I think we should start to duplicate this formula in Spain, to follow other European examples. It is true still that in such a wonderful city as Seville, with so few hills and a suitable climate, things might be easier than in other cities. But anyway, the work done remains impressive.

Thank you very much Armando.

To continue, I am giving the floor to Mr D. Daniel Bergeron, Vice-president of the Montreal metropolitan transport agency.

## **Daniel BERGERON**

*My presentation is about a new strategy for transport governance in Montréal, which is in Canada. Montréal is the second biggest city and region in Canada, between Toronto and Vancouver. We have a population of about 3.6 million people in the whole area, with the central city having about half that number, 1.8 million. The central service area is about 4,000 square kilometres, and the annual number of passengers using public transport is about 470 million for all areas.*

*Back in 1995, the objective of the government of Quebec was to provide the Montréal region with an organisation capable of elaborating and realising an aggressive transport plan with a regional vision. The AMT has been provided with legal authority and autonomous funding to cover capital expenditure and operating costs in order to realise this goal. This short presentation will show some of the results of this ambitious effort and also try to highlight some of the coming challenges for the next few years.*

*I will give you a very brief historical review of what was happening before 1995 in the Montréal region, an overview of the actual governance framework for the Montréal region, some recent facts and results, and future challenges we face.*

*Regarding the review, there was a systematic decline in public transport use since 1970 in the Montréal region, and also a decrease in public transport mode sharing, explained in part by the systematic increase in car use; during that time there was also great environmental concern. Emerging issues at the beginning of the 1990s were that mobility was more and more on a regional scale while the planning was still on a local scale, and there was a clear lack of integration between different local interests.*

*The Government of Quebec created the AMT as a regional agency, directed by a board of seven people, four directly appointed by the Government, which we call independent board members, representing regional issues in Montréal, and three representatives from the municipalities. You should also know that there is no regional government in Montréal; there are only municipal elected officials, and the regional organization is only administrative. That is why four people are named by the provincial government and three are from the municipalities.*

*Our mission was, firstly, to increase usage of public transport services, as this was a clear mandate from the Government, and to do this we needed to plan, coordinate, integrate and promote public transport services, knowing that there are 13 different local public transport operators in the region; so you have 13 different local operators and one regional agency. Our role was to be a strategic planner, and we are also the principal contractor of all metropolitan public transport projects in the Montréal region. We are also the operator of the commuter rail, express buses, reserve lane buses and park and ride facilities. Local buses and subways are operated by local operators. We are also the manager of all the financial frameworks of the public transport services at the metropolitan level.*

Regarding our funding, about a third comes from car users, CAD50 million per year from car registration, and another CAD50 million from gas tax, which will double this year; this will help us to reduce the municipal share of regional public services funding. The average recovery rate for fare revenues is about 50%.

Regarding investment, we have a three-year capital plan, with CAD3.2 billion required for the next three years. The governmental share is quite significant, with 75% of all eligible projects being subsidised by the Government, so the region and the municipality have to subsidise 25% of that investment. AMT has a dedicated fund for investment in order to do that, and it is financed directly from property assessment. Our revenue for that fund this year is about CAD33 million, and our expenses on services will be about CAD24 million, so income is greater than expenditure, though that positive balance will end in 2014; after that we will begin to be in deficit, and will take money back from the fund. We are working on the new concept for the funding system for the period after 2015.

Now I will give some recent facts and results. Firstly, regarding development and service improvement from 1996 to 2010, we built three new rail lines, with a fourth currently under construction to open next year. We built 22 new country rail stations, with 11 currently under construction to open next year. We bought 160 new bi-level cars for country rail and 20 new dual mode locomotives. This has helped us to increase usage by nine million passengers per year from six million to just over 15 million in 2010. The recovery cost ratio from fare revenue went from 21-51% during that period, so we were also very aggressive with regard to this aspect. We increased the fare with a zoning scheme, but we also managed to increase usage; the recipe was also to increase services at the same time.

We also acted quite aggressively on regional buses, adding eight new bus terminals which can be used by our operators, 20,000 new park and ride spaces, and 45 kilometres of reserve lanes for buses. Regarding the metro, we recently added three new metro stations, and we are looking at three new extensions with 12 new stations.

We have completed the integrated fare system for the whole region, and have approximately CAD112 million per year in integrated fare revenue which we share among the different operators. We have total customer integration between 15 operators and three transportation modes, bus, country rail and metro. We also a large number of regional transit facilities, with 16 metropolitan bus terminals, 61 park and ride lots, and 85 kilometres of reserve lanes. We have five country rail lines with 50 stations and one regional bus line, and we subsidise the local bus operator at the rate of about CAD50 million per year.

Regarding results, between 1986 and 1995 there was a systematic decrease of public transport usage of almost 1% per year; since 1995, we have reversed that tendency, and now have an increase of about 1.4% per year. Regarding travel behaviour from a wider point of view, we have a 15% increase in public transportation use, and for the first time since the 1970s we have seen a slight reduction, 1%, in car use in the Montréal; this is a very small decrease but still relevant for us. Because of those two figures, the slight decrease in car usage and the significant increase in public transportation usage, our market share increased for the second time since 1998; before that it was systematically decreasing, but now it is up to 25% in the Montréal region. It was 21% in 1998, increased a little in 2003 and is now up to 25%. Therefore, our actions seem to have given us some results.

What are the challenges? Let us begin with strategic and sustainable planning. We have issues in country rail, metro and buses, and those issues are a real challenge for us. We need to do some network consolidation in country rail after a very rapid development period, so we are now planning two new maintenance centres for our country rail cars, are renegotiating the contract for operation and maintenance with our provider, and we want to increase the level of service on the lines. Another issue for us is network electrification, because in Canada, as in most of North America, rail is mainly used for



freight, so we need to share the tracks with freight trains, which currently work on diesel. We want to electrify the passenger network, so we are looking at a ten-year plan at a projected cost of CAD1.5 billion, so we will be taking a number of steps in that area over the next ten years.

Regarding metro, it is already electrified, so that is not an issue; the real issue is the replacement of the subway cars, which have been in operation for over 40 years now. We have 1,000 cars to replace; the first order to replace 500 cars is already in place, and after ten years we will need to replace the other 500 and to supply the new extension, so we have about 1,200 new cars to buy. We will need to rebuild the financial framework to provide money for this issue. We are also planning three main subway extensions in the Montréal region.

Regarding buses, we are working hard on the development of the BRT all over the Montréal region, and we are trying to focus on improving quality. We are seeing that people do not like buses as much as they do the subway or country rail, so we want to change that passenger perception and improve their view of quality; we really want people to take a better view of buses, so we want to work quite aggressively on that. We are also working on network electrification for buses, maybe not for the whole network but at least for the main lines; this is a very progressive approach.

Regarding our strategic positioning for the development plan over the next ten years, we want to consolidate our services into an efficient metropolitan public transport network, and through improving quality and electrification, we want this network to be as sustainable economically, environmentally and socially as possible. The quality of our service, as well as the perception of that quality by our customers, are really important, and we really want to focus on improving the quality of passenger experience, because our customers are more and more motorised. The number of cars in the Montréal region has in fact increased twice as quickly as the population, so people have more and more choice as to modes of transport, and we need to improve the quality if we want people to travel with us instead of in their cars.

Motorisation in the Montréal region is a big issue; the increase of car ownership in the region might not be what we want, but we understand that it is probably more of a social issue than a mobility issue. We do not, in fact, want people to buy cars because of mobility needs; if they want to buy cars for social status, that is their issue, but we want to improve the quality of transit services, not prevent people from buying cars.

Regarding funding, the challenge for us, and probably for each of you, is to provide long-term sufficiency, predictability, stability and equity in public transportation funding. The challenge for operation is also to have a funding framework that will also help us to manage urban transportation demand by balancing the use of cars and public transport; so not only do we need money, but we also need a source of revenue that will help us to manage demand between bus and car usage.

Regarding investment, we need to secure our funding for new service improvement and development, knowing that major investments are needed for services, especially for subway and country rail; in fact, we will need CAD84 million per year more than what we have today over the next ten years simply to replace subway cars, finance the country rail extension and consolidate the network, so there is a major issue in that regard.

Regarding solutions, we are working hard on new legislation which should be voted on next autumn. Firstly, it is proposed that the Government will give us double the dedicated tax we currently receive from car users. Previously we had CAD50 million from the gas tax, and this was doubled to CAD100 million from the beginning of 2011 per year; we also have car ownership revenue. However, there are 83 municipalities in the Montréal region, and a key issue is how to share that among them. We worked hard on that topic, and what seemed to be acceptable was to share the deficit among them according to the place of residence of users of country rail, subway and buses; so we monitor where people come from, and

we share the deficit according to those figures. We are working on how we will change the investment fund.

Regarding government, the challenge is still how to improve collaboration between different local authorities and specific interests. We have recommendations from the municipalities, and we also need to link those with the policy direction from the Government; we are working on that now. A parallel issue is that there is still a lack of metropolitan land use planning, so there is still a lot of work to do on that topic. Our main concern for now is transportation, but land use planning is a main issue for us, and we are working on that now.

There is new legislation on rules of governance for provincial agencies like us, concerning things like ethics, human resources management and auditing, and there should be improvements in these areas, as the legislation will provide for more representation from the municipalities while still increasing the number of independent board members to represent regional issues. We are working on the approval mechanism between AMT and the regions, fare tables, the annual budget, and the investment plan.

## **Lennart HALLGREN**

*It is an honour for me to represent Stockholm Public Transport and the city of Stockholm at this conference. My presentation will focus on how the congestion tax system in Stockholm was built up and how it works today, but first I will start with a few words about Stockholm. Hopefully everybody knows the information I will give you, but I will do it nevertheless. Afterwards I will give you some data about Stockholm Public Transport.*

*The city of Stockholm is the capital of Sweden; the county of Stockholm is quite a densely populated area, with two million inhabitants, and represents 1.6% of Sweden's total area. We have an attractive public transport system, at least we hope we have, and there are new features coming into effect now, such as integration between public transport by sea and by land. The sea transport element is a much smaller component, but it will be integrated a little more in the future.*

*Stockholm Public Transport focuses on the same thing that all public transport authorities do; we will offer, and have evidence that we are offering, the citizens of Stockholm extensive and accessible public transport, and we focus very much on customer satisfaction. The investigations we have done tell us that close to 80% are satisfied, though that does not mean that 20% are dissatisfied, just that they are a little more neutral. We also focus on security and safety, and on offering these services for a fair price; by doing this we contribute very much to the sustainable development of the region, which is very important today.*

*I will now give you some data about Stockholm Public Transport. We have approximately 740,000 passengers in the system per day. Our market share is quite good, though you can measure it in different ways; it is 40% on average, but in peak hours 75% or a little more are using public transportation to travel between home and work. We have almost every mode of transport in the system, the most important being the metro system, with three lines and 100 stations. We also have a big commuter line system with 50 stations and three lines, and close to 2,000 buses in service in the city and county. The turnover on a yearly basis is EUR1.1 billion, and the yearly investment is close to EUR500 million, mainly consisting of reinvestments in the system.*

*The metro system was first built in the 1950s, and so it is becoming quite old now and we need to do a lot of reinvestments there. There are also extensions to be done, along with a tram system that has started construction. The funding consists of approximately 50% from fares and 50% from taxes; there is also some marginal income. Close to 12,000 people work in the system on a daily basis, most of them for private operators; the public transport authority is a much smaller component of this.*

Regarding the congestion charge, it became evident in the 1960s and 1970s that something had to be done, because there were a lot of congestion and traffic bottlenecks in Stockholm. Stockholm, like other cities throughout Europe and the world, has been growing steadily, at a rate of 20,000-30,000 people a year, along with the traffic. This first became evident in the 1950s and 1950s, but it was in the 1990s that concrete plans were first decided on. However, it took until 2003 for the national Government to decide on a full-scale trial, along with a referendum to ask if the people wanted it. All transportation modes have increased in terms of passengers, with the number of journeys doubling over the past 25 years; this showed that something needed to be done.

Regarding the background to the congestion charge, it started with a trial during the period of January-July, and before that period, though not long before, the improvements to the public transport system began. Stockholm Public Transport was responsible for building up the system in just eight or nine months so that it could cope with what we understood would be the effect of the congestion charge system. However, we managed to do that quite well, the congestion trials started and worked fairly well; a lot of people were nervous about whether the system would work, but it did. There was also a referendum in connection with the issue in September 2006, which was carried, and in August 2007 the system was made permanent.

The congestion charging system consists of 18 checkpoints around the city. I mentioned that the county of Stockholm has approximately two million inhabitants; the city of Stockholm is close to a million now, and it is growing. The charging zones are around the city, and the congestion tax is levied when you are driving into and out of the city during the day, 6.30 am to 6.30 pm during weekdays. Registration is automatic, and most of the system is automated. The charge differs during the day, from DKK10 or EUR1 to EUR2 per journey, with a maximum daily charge of DKK60 or nearly EUR6, which is not very much, and this has not changed since the system started. Approximately EUR335,000 in taxes is raised every day from the system.

Nearly 28% of all journeys are exempt from the tax, namely emergency vehicles, disability permits, buses over 14 tonnes, and vehicles on renewable fuels for a certain period of time. The principles are quite simple: you are charged both when you enter the city and leave it, and the charge is automatic, so no notice is given about it; you are billed once a month, and it is tax deductible, so it does not hurt very much. The month of July is free from the tax.

We need to invest a lot in the public transport system in Stockholm in order to cope with this; this was a major step to take, as it was the largest increase in public transport provisions since the metro system was introduced. You could compare what we did to creating a system for the third largest city in Sweden, Malmö, which has a population of 400,000, so we needed to make a lot of investments. The basis of this was the forecast that 6-7% more passengers should be expected to use the public transport system, and the ambition was to retain the level of comfort or improve it if possible.

We had a short period of time, eight months, in which to build up this new system, and we could not do anything about the fixed-track system, which takes much longer to do, but almost all public transport services were extended, with more seating, longer trains, shorter waiting times, and the metro system took most of the new passengers. We invested in nearly 200 new buses for motorway services with a high level of comfort, such as high seats, reading lamps, safety belts etc. to make them more comfortable to travel in, and for the inner city we invested in new buses running on renewable fuels such as biogas, ethanol and others. We also created the first 14 routes in a new bus network, but this was extended to 18, providing fast, direct connections between the region and the city with frequent departures.

We also invested a lot of money in improved accessibility and mobility, with new bus lanes, improved traffic surveillance, and provided for bus priority at junctions; this work continues, because more needs to be done here. 1,500 new park and ride spaces were created alongside the existing 8,500; these were

free of charge during the trial period and have proved very successful, with an increase of 23% and 2,000 more cars using these spaces each day. We needed to distribute a lot of information about what we were doing at the beginning, so we included the information in our usual campaign, and the road authority mounted a massive information campaign, which was a very important contribution to the success of the congestion charge.

The targets were exceeded; we had ambitious targets of 10-17% less traffic as the outcome of this, but the result exceeded that at 20-25%. There has been a change in this since, meaning that we are a little closer to the target at 20%, so it is a little less today compared to when this started. Public transport usage has increased in line with the forecast, which was 6%, due to the congestion charge system. Mobility and accessibility have also improved, with much shorter queuing times, and there has been a reduction in CO2 emissions, and in the right places; the inner city of Stockholm has reduced its emissions by 10-14% due to the charging system, and the whole county has reduced by a little less, though it is still a reduction, at 2-3%. Local emissions have also decreased.

25% of all car traffic disappeared overnight, which was quite strange, and I do not know if anybody knows the real reason; there is the charging system of course, but that is not the only reason. Perhaps there has been a change in behaviour, and people are carrying more passengers per car and working from home; public transport is also being used much more than before. During the period since the charging system was introduced, journeys have declined from 450,000 to 370,000, and you could say that the daily reduction is between 15,000 and 100,000.

We also investigated whether the charging system had any effect on commerce, but there was no sign of this. This was a worry on the part of retailers, but on average there were no negative effects, and the influence on purchasing power for ordinary people is negligible. I mentioned that public transport usage increased by 6%, and the bus system saw the largest increase, though more people were affected by the underground system. The express bus service was very successful, and almost 90% of customers are very satisfied with the routes. The park and ride spaces also proved to be successful.

What were the costs and investments? The total investment was close to EUR380 million or DKK3.5 billion, consisting of DKK1,900 million or EUR190 million to build up the public transport system, and DKK1,340 million for the operations during the trial period. It is a lot of money, but it gives approximately DKK150 million or EUR85 million in income per year, and costs DKK190 million or EUR90 million; the revenue from the system is approximately EUR70 million per year. Therefore, the payback period is close to five years, so it is quite a good investment.

What will we get from this money? The congestion tax will finance new roads, such as a new ring road around Stockholm, but there will also be more investments in the public transport system, such as new bus lanes to facilitate bus traffic. Therefore, it will form part of a big plan to upgrade the infrastructure.

Regarding public acceptance, a majority was against the system in the beginning, because not many understood what benefits it would provide, but when we understood that it worked and did not complicate life very much, that mobility in the city was improved, acceptance increased gradually. The city of Stockholm is continuing to measure these things.

Why is the congestion charge a success? I hope you have understood that from what I have been saying. Technically it worked very well, and the environmental effects were noticeable, having even exceeded expectations. It is important to provide information about the results, of course, and not just about the system, and during this process everyone has seen with their own eyes that it works.

## **Alain FLAUSCH**

We had a lot of facts and figures this morning about three cities, Seville, Stockholm and Montréal, and before that we heard about Madrid, Paris, London and Berlin. I will not give you more figures now, but rather give more of a political paper promoting the case for public transport, so although I know you are all dedicated to public transport, I hope I am able to do the right job in dedicating you even further by the time I am finished.

Let us start with the state of the Union. Viewed on a worldwide basis, the modal split today, expressed in terms of market share and daily trips, show public transport at the bottom, meaning that the car basically runs the show with 48% and other modes at 32%, public transport being 20%, and that 20% represents 1.3 billion journeys. That is where we are starting from today, although the figures are from 2005, the latest ones available at the moment.

We are obviously very proud that we are contributing to making our cities liveable, and that if we did not exist life would eventually be terrible; I am sure we are all convinced by this. However, belief is not good enough, and the reason for that is that, if we look at some figures and construct a scenario, you can see that if we go on this way without pushing a little more, we will be losing ground by 2025. The car will still grow, in other words, the other modes will decline a little, and we will lose 2%, going from 20% to 18%, and though we will be gaining journeys, since the car is still progressing we are losing, comparatively speaking.

Therefore, the paradox we have to work with is that we are increasing patronage, which means a lot of cost, but we are losing market share, and if we are losing market share, that will mean unliveable cities, and we all know that. I am always surprised that our politicians know these things, yet still in many countries they pretend it does not exist. It means that congestion will be terrible and pollution even worse than ever at over 500 million tonnes of greenhouse gases; life for many people will become even more difficult, with no way to move in the suburbs of our big cities; and our cities will lose the attractiveness and competitiveness.

What should we do to try and change this? That is the whole idea of this strategy developed by UITP, which, as I mentioned this morning, is our contribution to making cities more liveable. There are four pillars to making this work. Firstly, there is the issue of alleviating congestion, and I was happy to hear some of the speakers say this morning that public transport is a fantastic tool for developing the economy. Taking a city like London, when the transport systems are on strike, which they do not often do, the whole city stops, and the same applies to Paris and other big cities; so obviously without public transport our cities would not work. There is the question of pollution, and finally the issue of social inclusion. These are the four pillars where we can make a contribution.

When we first started working on this strategy, some of us said that it was crazy to think about doubling the market share of public transport in a city like Madrid. Obviously, it is not our purpose to double it everywhere, especially not in cities where the share is already very high, but it is a slogan we are developing so that everybody in the world in the community of public transport will be motivated to try to increase the market share. The whole idea is to see what it would mean; it would mean to go from 20% to 40%, and in terms of journey numbers to go from 1.3 to 4.1 billion, which is basically tripling. Therefore, it is about tripling the public transport patronage and stabilising private car usage.

It is a tremendous challenge from all viewpoints. However, some of you are in marketing, and one of the most efficient marketing strategies is to make people afraid of what is going on; you give them an illustration of what they could avoid and how terrible it would be if they did not move. Doubling the market share of public transport would avoid 350 million tonnes of CO<sub>2</sub>; this is a very abstract figure, but if you transform it into more a more comprehensible image, it would mean offsetting 58 million hectares of forest or 30 billion trees. Basically, these 58 million hectares of forest represents the entire territory of

France, and we could save it just by increasing our market share. Regarding the consumption of energy, you get the same picture, 100 million tonnes of oil saved annually, and that is 200 times the Gulf of Mexico oil spill; and that is already more comprehensible for us in terms of marketing.

Talking about Europe, we have a market share of 15% on average, compared to 55% for the private car, which is not very high. We have to reach 30% if we want to double this; I heard this morning that most of the cities represented here have already done it, so you have already done your job, but many other cities, for example some of the smaller cities in France, we are far below this figure. Looking at Europe in terms of CO2 emissions, the politicians have said that the objective is to reduce emissions from 550 million tonnes to 400. Going by the technology route, such as improving diesel engines, reducing our consumption on a day to day basis etc., we will not achieve this, whereas by using more public transport we could reach the 400 figure that is the objective.

There are other objectives, of course. What we are trying to illustrate with regard to emissions, energy use, but also the favourable employment impact, as well as space and congestion, accidents, local pollution, health and the economy, we want to illustrate all the advantages linked to the strategy of doubling the share of public transport, because in order to be credible in the eyes of our political authorities, we need to come up with all the advantages that they can use to justify taking that route, and then they would make a strong case for public transport.

Starting from there, it is good to have a goal, but it is another challenge to know how to do it. I heard this morning that everybody is on the right route, but for the sake of being clear, we have to try to distinguish between five routes that need to be followed. One which is obvious, but which has not been achieved today at all, because the car is still the lifestyle of the majority of the population, is to make our service part of their lifestyle. When you look at the history of telecommunications, when I was 30 it was such a privilege to have a telephone in the car, and today everyone has a PDA, at least in our business community, showing how it is part of our lifestyle today.

Why is it not the same for public transport? We lost market share in the 1980s and 1990s; it was not trendy to go with public transport, and even in the countries of Eastern Europe, the best thing to do was to destroy public transport, because freedom in the 1990s was having a car, and unfortunately they did not take advantage of our experience. I remember going to Russia just after the Wall was destroyed, and asking the minister what he was going to do with the money from Europe; he said he was going to put 98% of the money into roads, and that they did not care about public transport.

The reason is also that we were not very good at listening to our customers' needs, and today, instead of having politically driven systems we have more client oriented systems, and you have heard in this assembly that clients have taken a role they did not have 20 or even ten years ago. That is ultimately the major challenge, and we can meet it through communication, image building, and branding, so that our company and our system are considered fashionable, not just technical.

Secondly, as I mentioned this morning, the role of public authorities and transport authorities are the basis for everything, combining urban planning with mobility planning, but also, within mobility policies, trying to favour modality, trying to favour everything in the direction of seamless travel, as we have used that word in the past.

Thirdly, it is a very much a new business culture for the operator to move away from administration, and I do not mean that administration is not the right place to be, but for a company to deliver services it is not that easy to remain in administration while being more client oriented and trying to attract customers and investors. That is something I want to say here, because sometimes there is a misunderstanding in that regard. When you tell the public authorities in many countries that you want to make money, there is a lot of discussion about it, because an operator willing to make money is not really considered as being serious

or decent. However, if you put money in a public transport company and come up with 1-2% return every day, it will never work; nobody will come up with the money. A sound business sometimes means a sound return, because risk goes together with return.

Regarding the workforce, for some time it was an engineer driven business, but today many engineers are not very attracted by public transport, and they want to go to the telecoms or Microsoft, and that is a pity, because our companies, especially the operating companies, are places where engineers can really do the best job of their lives in terms of employing new technologies. An operating company is a much better place to work than for an engineer, for a marketeer or for a commercial man.

The fourth point is stable funding. For example, this morning Mr. Bergeron explained that in Montréal that they are trying to secure permanent funding through the congestion charge instead of depending on the annual budget from the authorities; that is the story of London, where they suffered from cuts or saw increases depending on what choices were made by the authorities. Therefore, we need stable funding and diversified revenue, and I was very happy to hear the general manager of STIF saying that she was pushing for increased rates, because that is a major issue today. Our systems are totally underpriced and underfinanced, and the right solution is not to rely wholly on taxpayer funding. We have to find a new balance where users also contribute; they are saving money through not using their cars, and the large amounts of money would normally spend on their cars is money we could get into our system for the sake of the community.

Enhanced efficiency is another job for the operators, because there is still that fight with the trade unions and the complicity between some politicians and the trade unions so that you cannot do anything against them. However, you can come back to some more reasonable and well balanced working conditions and make it clear that it should not cost too much money to employ people in public transport. That is also something that can be done if there is a will to develop this business.

There is ultimately increased patronage. We know that we are bound to have lots of clients in the future, all over the world. I heard this morning that there was an expected increase of 50%, and in my country we expect to go from 50% to 90%; we will have a lot of customers, so we have to treat them properly as the core of our business.

Finally, and there was an excellent presentation made by our colleagues from Sweden on this point, there is mobility management, one of the tools for which is the congestion charge. There are other and even more sophisticated tools which can be developed, such as what they are trying to do in Holland and the north of Belgium, whereby you pay a lot of money if you go into the city at a peak time with a polluting car, but if you are in the countryside at off-peak time with a green car you will pay nearly nothing. Combining all of this, you can incentivise people to stay at home or use public transport at peak times and to use their cars at the proper time, so there is space for everyone. There are also tools such as yield management and so on.

The essence of these five pillars is that the whole community needs to combine their efforts. Everybody has a role to play: operators can boost their business through quality, and it was mentioned this morning that innovation can play a role, as it did here in Madrid, along with entrepreneurship, a strange word in our community but which is one of the key tools for the future. Governments have to recognise public transport as part of the solution, not the solution but part of it, and to earmark resources; one of our major struggles is to ensure we have permanent funding for our business.

Cities and local authorities have to develop sustainable mobility as part of integrated urban policy, and I will just give three examples of the objective of doubling transport market share. Sweden has decided that this was a national ambition; the city of Geneva in Switzerland is also adopting this plan to double the market share of public transport; and even in my country, Flanders in the north of Belgium, this is now part

*of the government development plan for public transport. There are examples all over the world of where people are ready to do this, and this momentum has to be built together with investors and industry, where each one has to play its role.*

*That was my message for this morning. I hope it was convincing, but at least pass on the word at every opportunity that we need to do this if we want the world to continue to be a liveable one.*

## **Ignacio AGUIRRE**

Well, we are now going to listen to Mr Claudio Masi, President of the UITP Organising authorities Committee, who will present the role of public transport authorities in sustainable mobility policies.

## **Claude MASI**

Good morning. First of all, I would like to thank my friends from the Madrid regional transport consortium for kindly inviting me. They have asked me to explain shortly how we handle the demand management and the Ecopass system we have launched in Milan.

We spoke this morning of many policies, strategies, we saw specific cases. I want to stress the fact that to get to the results we want, we need to implement measures, policies, strategies, political strategies and structural measures. It means we have to take steps and implement actions that really do modify users' behavior. The link between urban development planning and mobility and transport network planning is at the core of the subject. For instance, in Milan, the Government Territory Plan recently adopted includes all the documents regarding transport services. Of course, public transport infrastructures have to be extended, with all the funding difficulties it implies. We all want to increase public transport mode sharing, but as private vehicles and public modes share the same roads, we need to rationalize traffic and integrate the different mobility and transport systems more efficiently, to solve the last mile problem. And there is a problem that has not been mentioned this morning, but that is in the cities: goods logistics in congested cities, which is a subject that has to be studied very carefully. Policies can be implemented, acting through parking policies, and encouraging people using other transport modes than their private vehicle. In Milan, we have been implementing since January 2008 a system that is part of an overall policy of sustainable mobility, paying close attention to the health of citizens and to the protection of the environment. In the Ecopass system, not every vehicle that enters the Ecopass area pays, but only the most polluting vehicles. Vehicles are divided into five categories, beginning with the most ecological vehicles. This subdivision has been made according to the European COPERT 4 methodology, and I think only the categories 3, 4 and 5 have to pay, respectively 2 euros, 5 euros and 10 euros per day. Residents of the area can benefit from a discount, as well as in London.

After one year, average traffic has decreased by 14.4% within the area of Ecopass, and by 6.1% in the city. Road congestion has decreased by about 25%, which has a positive impact in terms of social cost reduction. These data are also significant because they show that people tend to buy less polluting vehicles: fewer polluting vehicles enter, while class 1 and 2 vehicles are more numerous.

As regards to air emissions, particulate matter (PM10) emissions have been reduced by 19% in the Ecopass area. These fine particles were the reason why the Ecopass project was launched. As far as concentrations are concerned, PM10 reached 43 micrograms per cubic meter in the year in Milan, and 42 micrograms in the Ecopass Area. Exceedance of the European limit value was observed 102 days in the Milan area, and 78 in the Ecopass area.

*Passenger: public transport has increased the number of its passengers ; commercial speed has risen and fewer accidents have been observed.*



I just wanted to quickly give you a piece of information, regarding transport authorities: we have seen the importance of having well-structured governance for efficient mobility systems. It can be illustrated by a 3-level triangle:

- First, the political level, where the objectives of the transport system are defined
- Second, a level to decide what services can best achieve the objectives
- Third, how transport companies have to perform these services

From research that we have done in our quality of UITP Organising authorities Committee within two years, we have seen what tasks or functions have been assigned to the organizing authorities: planning, public transport regulation, definition of the public service obligations, management of public budget to finance public transport. Some of them own the transport infrastructure, others are carriers, there are many different cases.

In some cases, the transport authority is in charge of selling tickets, collecting and distributing revenue between the operating companies, etc. This varies depending on the country, the region or geographic area, but we are witnessing a change because as time passes by, new tasks or functions are transferred to transport authorities. For example, some develop coordination between urban development planning and transportation systems planning; some develop traffic planning and conduct parking policies; some implement measures to reduce air emissions; some are in charge of the elaboration of all the Master Plans that are later declined in various policies and measures, etc.

I just have two more things to add: the UITP Congress is about to gather in about 10 days, and two sessions are dedicated to the priorities I have just enounced: transport systems integration, coordination between transport and urban planning, etc. A document written by the Committee will be presented, that summarizes the most important things that have to be taken into account when a public authority or a territorial, regional or local government wants to create a transport authority or increase its missions.

My last point is that an international conference organized by the UITP but open to other organizations as EMTA will take place in October this year. I think it's an important moment to discuss the issues that we have discussed this morning.

Thank you for your attention.