

Trond Arne Undheim

EXIT, VOICE OR LOYALTY IN THE
ITALIAN CULTURE OF MOBILITY
Electric Transport as a Vehicle of
Public Space-making in Rome

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1. Introduction

Italy has a serious traffic problem, and has started to do something about it. But it is about time. Every day, 31 million Italians (with an increase of 200 thousand from 1995 to 1998) have to travel by a means of transportation (car, bus, tram, metro etc.) to get to work (ISTAT, 1999:122). Inner cities are condensed and polluted, and have been so for ages. Nevertheless, mobility concerns are hidden in public and political discourse. Even a recent Italian publication on the 'metropolitan dimension', fails to address mobility concerns as part of urban sociology (Martinotti, 1999). We will try to show why the resistance to policy change, and change in mobility patterns is so strong in Italy. Hirschman's (1970) categories of exit, voice or loyalty serve as metaphorical guides through the chaotic sociology of traffic in Italy. Originally born to describe the possible political choices of dissent or consent in social issues, exit, voice and loyalty are well fit for the Italian reality. Italy is set aside from Europe by its cultural heritage, only recently reclaiming authority on the European scene with the recent appointment of Roman Prodi as head of the European Commission. A reality where public communication is symbolical, rather than directly confrontational, the Italian experience may illustrate the key issue in changing mobility paradigms: making people act, escaping the so-called 'collective action problem' (Putnam, 1993). This paper discusses the Italian culture of mobility as a politics of space, money and communication, and ultimately as a politics of resistance. The aim is to explore the cultural dynamics of mobility and to analyse the relationship between this cultural dynamics and the performance of technology policy initiatives related to transport.

Italy has among the worst inner city congestion in Europe. Its cities are dense, overpopulated and have a pre-modern city structure. Rome, Naples, and Bologna are examples of cities with a large historical centre where traffic is the most characterising feature of the living urban core. Traffic is threatening to move the monuments to the background, so to speak. With 5 million non-catalyst vehicles, registered before 1984, Italy also has a practical problem when leaded fuel goes out of production sometime in the year 2000. As the

first and ultimate concern of citizens and tourists alike, traffic is a paramount reality in modern Italy.

The best way to understand traffic in Italy is to be part of it. I do not think it is possible to understand Italian mobility without doing fieldwork. Therefore, this paper is a result of one year's stay in Naples, conducted in 1995-1996 and five weeks of intense interaction with a variety of actors in Rome and Naples in November and December of 1999, such as cab drivers, politicians, journalists, pedestrians, tourists, technologists, transport providers etc. Insider knowledge of Italian language and culture was essential, especially for the informal interviews, as well as the eavesdropping that was a central part of my study. It would be impossible to give an exact count of interviews, encounters, brief exchanges and conversations overheard, but at least 15 formal interviews were executed, and probably a hundred small encounters provided the arguments behind this paper.

In the following we will see the sociology of traffic as a lens to Italian political interaction with mobility. In particular we will look at how this conditions the attempts to change what we could label the 'system of mobility', that is the structure of public and private transport and its embeddedness, its social, infrastructural and political reality. Interpretations by users, policymakers, scientists and transport providers co-exist, often reproducing this system, and with various vested interests in perpetuating existing, rather than fostering novel approaches. In short, the social stability is the most striking feature of the mobility system.

Nevertheless, in the last decade we have seen some significant attempts to change this system. One initiative is the political and environmental lobbying of environmental concerns, gradually diffusing into industry, now as the earlier oxymoron industrial ecology. Its effects are only starting to show now, 26 years after the oil crisis of 1973. In order to understand this, we have to describe the peculiar policy field for the public sector in Italy. Of all services, the transport sector is the most chaotic, with a myriad of actors and a disintegration of systems and an incredibly strongly delegated, or rather demolished sense of responsibility, the notion of 'minimum service' prevailing only as an ironical allusion to things past, like the advanced Roman infrastructure. Here, one is forced to think of the saying that 'All roads lead to Rome', which they, effectively, once did. In this light, mobility in Italy becomes a paradox, and a bittersweet realisation that all civilisations have their times of grandeur.

2. The cultural dynamics of transport policy

It has been said that Italy has cities without policies, and that urban transport is in crisis (Pucher & Lefèvre, 1996). The system has been in decline for decades, and there has been few attempts to revive the system, addressing the major mobility problems facing historical cities. In an attempt to understand why, we will take a look at the political parties, labour unions and industry and

their relationship to expertise. We will also describe how novel approaches are met in general, whether they come from within or from outside the established channels.

The power of the Italian style party government to act as gatekeepers of any significant policy change is fundamental to understanding Italian transport policy (Tebaldi, 1999:140). Essentially, experts with a political voice come to centre stage through political parties. The notion of independent centres of expertise does not exist in Italy. You either belong to some interest group, political party or else you are marginal. Even Mayors have to rely on their partisan network to get anything done, rather than using his administration (Sassoon, 1997:224). This could explain why innovative attempts to tackle the transgressive transport needs of an increasing population is not met with significant policy changes. Italian politics are "politics with your hands and feet tied up", according to one informant.

Another feature of the transport policy regime is the power of a few institutional and private actors. The private monopoly of car producers and the regional distribution of responsibility for collective transport create a bipolar model of stability that ensures continuity of the policy paradigm, and thus, cripples new initiatives. Industrial groups like Fiat have controlled the political climate, and blocked significant laws affecting the car-system. In the public transport sector, the privatisation of recent years has spurred a large discussion of minimum service, but has in reality run into numerous political problems that it has not yet produced results for the users. Railways, in particular, the notorious Ferrovie dello Stato (FS) have received most of the criticism, and with good reason (Surplus, 1999, no.3:33). Trains are seldom on time, and have actually become slower in the last decade, rather than faster. This is mostly due to inefficient organisation, not because of poor technology.

In general, the excess of legitimating efforts can effectively weaken the responsiveness of policy-making (op. cit., p.144). As of December 1999, the reorganisation of local public transport within a market logic is taking up much time. Actually, the last decade has shown an increased supply of public transportation and a decrease of transported passengers (CERTAM-ISRIL, 1999:2). The definition of "minimum service" has so far tended to privilege the existing supply and has contributed to the status quo of existing industrial relations, rather than the interest of the users. There are no urban mobility plans that are able to address the mixture of infrastructural and organisational interventions needed for public transport to function better (op. cit, 1999:5). In a recent meeting CERTAM, a research agency for public transport, released a report on the political contractual strategies in the reorganisation of public local transport in a market logic, stating the importance of labour unions in this process. Their voice is very much heard in Italy.

Italian transport policy is poorly institutionalised (p.148). The problem is not the lack of institutional actors actually trying to influence the mobility system, rather their lack of legitimacy and bargaining power. Then, of course, there is still an absence of a competitive market in the transport sector. The ministries of Transport, the Environment and Science and Technology have

been weak actors with few, if no effective transport plans, and little co-operation between them, both on national and regional levels (CERTAM-ISRIL, 1999:10). In addition, the Italian transport regime is highly segmented in the 21 regions of the country. The responsibility of local transport is a local concern, even for large cities like Rome. Thus, central co-ordination and incentive has been poor and almost invisible. The sub sectors of street, railway, urban and air transport all have been dealt with on their own, rather than in their own right, which would be to integrate their concerns. They are most obviously linked together. The failure of such integration provides a main problem for any argument of interactivity between transportation actors in Italy. Only between local and regional actors is there some interaction. The integration of tariffs for different modes of transportation (bus, metro, tram, funicolare, train) has been one of the areas where some cities have obtained good results. This is also an area that has a promise for future interactions, including other actors.

According to Tebaldi, one of the few Italian scholars of transport, the comparative look at transport produces a paradox. The peculiarities of the transport sector has produced this phenomenon: less institutionalisation leads to less transport policy change (the case of Italy), while more institutionalisation leads to more transport policy change (the case of Great Britain, Sweden etc.). As for Italy, the fragmentation of organisational fields, the "small" cognitive resources within dominant coalitions, the openness to the interests of the private sector, and the inefficiency of sectoral development plans are main reasons why this happens.

Returning to our study, we see that an understanding of mobility in Naples, Bologna and Rome is necessarily about people and their relationship towards politics. If we look at the issues facing the transport sector, we often find that people and politics are not related. People move. Politics moves. But they do so in different worlds of mobility. Politicians are supposed to represent people. People are supposed to support politicians. But social context and history profoundly condition the effectiveness of institutions (Putnam, 1993:182). The Italians, as it has been said before, have a very precarious, almost indifferent relationship to politics. Not that politics does not matter, but rather the matters of politics do not match the needs of the people. And virtually everyone has given up the task of changing the system. This is the reality of modern Italy, which any attempt to sketch new paradigms, or even describe existent ones, must grapple.

Nonetheless, November of 1999 presents unusual, intense and far-reaching interactions between politicians, firms and other actors in urban transportation in Rome. Fuelled by Millennium funds, political will, and a Roman approach to social networks, the ecological zeitgeist finally gets a push from where it was least likely to occur, from Italy. A country where the Ministry of the Environment seldom has contributed to major improvements suddenly gained momentum. When Millennium money helps a city communicate, even Italian cities feel the political push towards alternative transport.

But although there is no such thing as money to move things around, other interests also come into play. Therefore we will mention the major actors in the field. They are the following:

- ATAC, bus operator (Pendenza, Generotti, Cafarelli)
- Tecnobus, electric bus manufacturer in Italy
- Ministry of Environment (Edo Ronchi)
- Ministry of Transport (Tiziano Treu)
- Ministry of Industry
- Ministry of Urban Areas
- ENEA (Research on Environmental Technology)
- Municipal administration in Rome (urban affairs division)
- Transport and mobility journalist in the Roman newspaper *Il Messaggero* (Fabio Cerosi)
- ConfCommercio (presidente Bille)
- STA (Società di Trasporto Automobilistica)
- ANCMA (Associazione dei produttori di motocicli)
- EDF (French electric works)

It would be impossible to describe the part all of these agencies have played in the construction of mobility in Italy, as well as in the mobilisation of electric urban transport in Rome, but we will sketch some important relationships and interactivities between them.

STA is a company of shareholders founded in 1929, but re-established in 1994 with new mandates. They are in charge of parking control, traffic lights and traffic control in general. They also run an experiment on electric mopeds.

Then, mobility is not only a system of actors, concerns and structural constraints. Or, rather, that is not the way it usually is understood. Mobility is taken-for-granted, it is part of being human, as much as communication is. In fact, mobility and communication are interrelated concepts. We move so that we can communicate, and we communicate moving. This seems obvious. On the other hand, it is striking how much public transport also means alone-time, reflection-time, breaking away from day-to-day worries, or maybe also intensifying them. Traffic has both of those effects, depending on temper and the degree to which you are accustomed.

To illustrate what I mean by mobility as communication, I will use the example of Daimler-Benz's new mini vehicle, the Smart. Which, incidentally is not electric, but has many of the features that electric cars aspire too, including the public appeal. The Smart car has been an incredible success since its launch in Rome in September 1999. More than 4000 vehicles are sold within the city limit, and you find them parked everywhere. According to a salesman at their flashy sales office on a piazza adjacent to Via del Corso (the central shopping street in Rome) this car is *a la mode* in Rome right now. At 20 million lira it is an upscale, tight city car much in the urban, trendy image that Norwegian EV TH!NK aspires too (Undheim, 2001). The success of Smart shows that TH!NK could be a success, a cool brand, rather than just another small car. Especially in cities like Rome, Paris, and Naples, where

parking is a real issue, and the leisure class spends their money on trendy items. The only backside of the Smart, from the EV perspective, is that it is fuel injected, and as such, re-enters within the old car paradigm. But as an image, it is playful, and it took me a while before I discovered it was not an EV. It looks like an EV, is smaller than THINK, and is perfect for historical cities with parking problems and tight street structure.

3. Electric transport as a vehicle of public space-making

Studying the cultural impact of electric vehicles, I have been struck by the *meaning* of driving electric. Driving electric is a powerful expression of awareness, culture, and as many users would claim, it is the new meaning of urbanity. Often as much of an experience as a means of transport, driving electric gives voice to the citizen, to our political and sometimes flamboyantly critical selves. Electric vehicles for some reason stimulate other sides of us than the ordinary diesel driven transport. It is fun, engaging and active. When passengers of the 116 electric line from Piazza di Popolo ride towards Campo di Fiori they talk to each other. They jump on the bus, so small that it is intimate, but less crowded still than the big Roman city-buses. With a maximum of 27 passengers, and with a homogenous group of passengers, the sociology of this social space invites communication. And not just any kind of communication. Often we are met with the striking resurgence of public space. Much like the rise of the coffee shops in the 18th century in Naples, the low everyday communication distance in the electric bus in Rome stimulates political, social, and situational communication. Filled with essentially two major groups, old bourgeoisie women and tourists, this bus is a selected social environment that provides its own sense of group feeling. Driving electric is an experience. You either have to stand, facing each other, or sit down, on seats that are facing the centre, like yesterday's campfires. The seats are too tall to let your feet down, thereby giving a play-like, Lego reality where rules are inverted. Transport is fun. Transport is quality time. And as a grown up, when you stand, you can't see outside of the bus. Therefore it makes sense to look at and talk to the other passengers. Who are not going anywhere in particular. They are going to the historical centre. Thus they all have something in common. They are exercising their right to exit, voice and loyalty, all at the same time.

According to some modern historians at the Dutch Institute in Rome, taking the electric buses 116, 118, and 119 is the best way to gain insider knowledge about the political reality in Italy. Political issues are discussed, opinions are exchanged in a more synthetic and straightforward fashion than in the papers. In short, it is a shared world of social knowledge we have before us, an experience machine, a vehicle of common sense. Maybe it is an answer to Oldenburg's (1991) claim on the disappearance of the important third places, the alternatives to work and home spaces. These metropolitan in-between-spaces must now be filled with content. What French anthropologist

Marc Augé described as non-places – malls, station-areas and the like – must now be complemented by the resurgence of public transport spaces. Italians are the first to realise that transportation is not only mobility of the body, but mobility as the mediation of experience. I still remember what I had to tell my sister and her friend who came to visit me in Naples a few years back. We were going out with a group of Neapolitan friends. I knew it would take time before we got to the actual Trattoria. That was not exactly the point of the evening. "The party starts in the car", I told them repeatedly, as we sat waiting at various locations, under people's house waiting for their mascara to dry, their mom to give the latest instructions, under Piazzas waiting for another car to join us etc. After three hours we were ready to go. Italians never go anywhere unless they have three cars. And never more. This is the perfect socialising number, and it is just right to gain place in the pizzeria. Not less, not more.

The Italian culture of mobility might have been entrenched in its own closed logic. On the other hand, recent developments give us reason to sketch the contours of a new mobility paradigm. Some more interactive elements include partnerships, international contact, collaboration between government bodies, links between the state and industry, and a public response giving meaning to the phrase "making technology our own", coined by Lie and Sørensen (1996). Users domesticate, that is, take their own needs into account and produce liveable urban spaces, if given something to work with.

Strategic lessons for policy-makers include giving users something to work with, giving them spaces in which to act, giving them room to freely interpret the meaning of mobility even within those constraints that are necessary for a sustainable development.

New Interactivity voicing mobility concerns include internationalisation, collaboration across ministries and agencies, as well as links between government and industry. Recently, these phenomena have occurred also in Rome. In March 1999, a partnership between EDF (Electricité de France) and ATAC was presented to the public. This is the first of two major international partnerships ATAC is involved in. EDF will provide consulting on EVs, thanks to its experience with a large fleet of EVs (1500 vehicles). ATAC will provide experience from its electric bus fleet (40 vehicles). The second possible partnership is with the American battery producer Ovonic. Currently experiments are underway, where ATAC is trying Ovonic batteries on their Tecnobus electric vehicle.

Intersectoral consortia between both national and regional actors are another recent phenomena worthy of the label interactive. Co-operation between Industry, research, Ministries and other agencies for funding take the character of joint ventures. This is sustainable development, win-win-situations where common or converging interests spark the co-operation. One such phenomenon is the Millennium funds, which mostly were given to Rome. As the capital and the major pilgrimage city in Italy, Rome has fruitfully exploited this occasion to start an immense number of public works of

restoration or reconstruction. However, transport is arguably not among the sectors that have received the most money.

Interactivity also occurs more subtly as diffusion. Paris, London, Italy, Israel and China are all trying out EV buses on the Rome model, having come to Rome to look at how the system works, according to sources at ATAC.

The fourth new type of interactivity we have called the 'packets'. Funding packets make "park and ride" solutions possible, that is parking lots that have EVs (cars and mopeds) for use in the historical centre. Here, Confcommercio Roma (the association of commerce) is launching a new initiative in these days (December 1999). This initiative aims to provide more than 400 electric mopeds for shoppers in the historical centre. Their other idea is "car sharing" between residents in the historical centre. All of this would make customers happier, and traffic less cumbersome in the centre.

Fifthly, ATAC has started to run a Saturday night version of its 116, the 116F electric bus line, with a particular itinerary. It will pass at all major theatres in Rome, leaving from large parking lots outside the historical centre. This is a fun and practical initiative that makes transported passengers unite in a common goal – getting to their nightly entertainment. This is an illustration of how electric vehicles take on different meaning than other means of transport. In fact, like we have argued earlier in this paper, it might amount to the creation of a new public space, a resurgence of political conversation. Low and accessible (even to the elderly and disabled) the 116 is a space where humour, practicality and politics intermesh among the two strikingly different groups of elderly bourgeois women and mobile tourists. Mobility, thus, is also about moving together. An altogether important concern in our society, by some claimed to be disintegrating into post-modern, thematic tribes with their own particular concerns, rather than one guiding global vision.

Summing up the new trends towards interactivity, we have:

- International partnerships
- Links between government and industry
- Partnerships between bus companies and bus manufacturers
- International diffusion
- Public resources in 'packets' from various Ministries (Environment, Transport, Industry)
- Thematic environmental transport in the evenings (electric bus 116F to the major theaters)
- Electric minibus as a 'public sphere', a communicative space in the classic urban setting.

4. The case of Rome – from messy traffic to millennial celebration and back

With regards to its historical centre, Rome has seen two important developments recently. The initiative towards closing the centre for traffic, only allowing "necessary traffic", and the initiative towards electrifying the

bus park of the Roman transport provider, as well as supplying car and moped share-systems from parking lots outside this urban core. These things are necessarily linked. But the politics of their introduction is as messy as the phenomenon they try to solve. And the project's success depends on the civic reception of the initiative, rather than on politicians alone. In addition, some are against. If not opposing the ecological arguments, they are claiming such initiatives are counterproductive towards their own sector. The association of merchants and shops, Confcommercio Roma, is one such actor. Until recently, they have only produced negative statements regarding the so-called 'faccia blu', or the limited traffic zone initiative introduced in 1991 by Assessore della Mobilità, Walter Tocci. Working to let the city officials understand the concerns of around 200 shops and other smaller organisations, this 16000-member organisation gives voice to the problems connected with blocking traffic in a city. According to a spokesperson for Confcommercio Roma, the main problems are *l'abusivismo* (that clandestine street vendors occupy public spaces, sidewalks and even sell the same product outside a legitimate shop), and *la viabilità del traffico* (that cars are parked in three lanes outside a shop, blocking the access for goods and customers, as well as blocking the view of the shop). Most of the time, according to Confcommercio, the parking violators are residents or office workers. Usually, when trying to get the car out of the way, you beep the horn for about 5 minutes (to the dismay of tourists, because to everyone else it is commonplace). Or you may look for a note in the car window, as most drivers show you the courtesy of telling you what door to knock on to make them move their car. All of this happens with the most disturbing calm. This is normal in an abnormal reality.

Another group not necessarily happy with this is the residents themselves. Especially those who live in the Municipality proclaimed "green streets" (streets closed to traffic), or immediately outside them. The protesters at Via Libia are one such group gaining public attention daily. In November and December of 1999 their vigilant protests against the bus company ATAC, and the Commune di Roma, was heard all over Rome, and reported in all major newspapers.

It is tempting to ask the basic question: why did Rome need alternative solutions to transport problems? But from the perspective of people living here, you do not even need to ask why. Everyday traffic is immense, emissions affect people and monuments alike, and citizens and tourists are fed up with it. Rather, we would like to ask: How did the EV experiment in Rome get started, who are behind it, what visions are connected to the experiment, what types of interactions can we spot between different actors? Is there a vision of changing the system of mobility? How is the future for this project? What can we learn from it, and put into policy discourse in other countries?

The main vision pushed forwards by the urban transport provider ATAC is focused on alternative means of transport. ATAC's executive director, Ing. Pendenza is a policy entrepreneur who is riding on the current political situation, favourable to change, to ecology, and to image. He asks nothing less than this question: Is electric transport the future for Rome? Is the

electric minibus in historical centres the urban transport solution for a new Millennium? Prior to this question lies a 3-year experiment with electric buses. A total of 40 buses run in the historical centre, knitting together parts of the city that previously did not have bus connection, addressing small-scale mobility in the urban core of Rome. ATAC has the world's largest running electric bus fleet, and are planning to buy at least 35 new vehicles, thereby doubling the impact by the year 2001. Of course, transporting 3 million passengers a year by electric bus is not going to resolve the major traffic problems in an urban transport system that carries 815,71 million passengers a year. But it is a start. And the potentials of such an experiment are much greater than when the same experiment is done in a small town in southern France. Rome alone has 2464 buses. If they could run electric, it would provide a major relief on urban air quality, probably reducing overall urban emissions by 1-2%. (The reason for the low impact is that the car accounts for most of CO2 emissions).

Rome is one of our historical cities, it carries a great symbolical value in the history of Mankind. For that reason, its historical centre has particular space-limits – limits to what you can change, and responsibility for a sustainable future. This is something that goes way deeper than the usual environmental worries we find in other places. Therefore the approach taken by Rome on the issue of urban transport has a general interest. It is something that all culturally aware people are worried about – how to safeguard the cultural heritage.

The main issues are as follows:

- The entire soil is an archeological terrain -> makes it hard to foresee a large subway system (like Paris, London) in short time limits
- There are major air-quality issues (this is important to people's health, as well as deterioration of historical monuments)
- Constant influx of tourists, and business in the historical centre.

The current political climate in Rome is very favorable towards policy change. As one ATAC informant, Ing. Cafarelli of ATAC, states: "In questo momento abbiamo una compatezza di politica...il che significa molto in Italia. (Right now we have a certain compactness of politics, which means a lot in Italy, meaning things can be done). The current administration and major were elected for the first time in 1993. Major Rutelli from the "Green Party" (I Verdi) was re-elected in 1997 and sits for 4 years until 2001. Within ATAC, there is a push to use these connections while Rutelli is in power. The key player is Dir. Pendenza.

There are also a whole set of other factors that accounts for a rather particular situation that has arisen in 1999. Summing up, the main characteristics of the situation are as follows:

- Available Millennium funds that mostly go to Rome, the capital of a major pilgrimage city
- Policy entrepreneurs within the local bus company ATAC (Ing. Pendenza)

- Availability of (a limited number of) commercially available electric vehicles (buses). The bus is a tested prototype from an Italian manufacturer, Tecnobus.
- Progressive political climate (Major Rutelli of the Green party (i Verdi)
- Interaction between national and municipal politics, ATAC and the media

5. Limited access zone - Exit, Voice or Loyalty?

There are 15 thousand residents in the historical centre of Rome, and around 7-8 million 'other categories' like doctors and journalists, who have free access to the city. Other than that, the historical centre is a limited access zone until 6.30 P.M. The proposed 21 P.M zone will probably take a while, due to Concommercio, the association of merchants, the chamber of commerce, and other actors. Concommercio are against preferential lanes for collective traffic. "They are against everything", according to an Italian journalist.

But according to most cab drivers, the limited access zone is a joke. Or as my informant from Concommercio says: "Fatta la legge si trova l'inganno", an Italian proverb meaning once a law is made, you learn how to brake it. Everyone gets in anyway. There are always excuses, and corrupt policemen who let you through if you have any social power at all, guard the entrances. They can not risk their position, and they accept bribery. "One says he has to run an errand, another that he has forgotten his permission, a third that he knows a politician, a fourth pays money, others just move around the policeman when he is talking to somebody else ... you always get in", says one cab driver I talked to. In short, the loyalty to the limited access zone is a major problem in Rome at the moment.

The civic culture of the Romans is essential to understand the possible effects of technological or other innovations in the urban centre. People in general are tired of initiatives that will better the situation, unless these measures do not pose problems for carrying out everyday activity. It is accepted to drive against a red light if it "just doesn't turn green". It is accepted to swear at a driver who stops at an intersection, takes some time "off", and then makes a turn. These things are part of Roman traffic reality.

Traffic in Rome is an experience. It comes towards you. It meets you when you do not want to meet it. It is the most prevalent conversation topic, just like the weather is in Scandinavian countries. It is the paramount reality for Romans.

We have said that Rome, in principle if not in practice, has a zone of limited vehicle access in the historical centre. Tied in with this is the national environmental policy changes introduced in 1999. Deadlines for the provisions of the "benzene-decret" (law) of 1999 are as follows:

- October 6, 1999 – January 5th 2000, manual access control of historical centre for non catalyst vehicles

- January 1, 2000, economic incentives for the purchase of low emission vehicles
- January 1, 2000, permit renewed for non-residents of historical centre only if in possession of catalyst vehicle
- April 1st 2000, automated zone access control of historical centre for non catalyst vehicles
- September 1, 2000, no circulation in historical centre for emission vehicles (up to Eco3), except residents
- January 1, 2002, no circulation in historical centre for emission vehicles
- Now, to support the introduction of such measures, and to control it, Officially, this will work. The major papers, like the Roman *Il Messaggero*, and the national *La Repubblica* write that the "telematic eye" at the 24 entrance points to the historical centre will effectively and automatically close off the city except only those with a valid permission. This will make real vigilance by police unnecessary, so that they can do more important things. Well, this sounds great. But the reality is different. According to most cab drivers, the system will never work. "We will find our way around it. Romans are "furbi" (street smart). I would cover my licence plate", says one of them confidently". Another says people will smash the cameras, or always make sure that several of them do not work.

Having spent some time doing fieldwork on traffic and mentality in Rome, I tend to agree with them. All of this will happen, there is no doubt about it. The question is, will it prevail? Or will the Municipal administration persevere in their attempt to make this work? More than a question of money to replace broken cameras, this is a question of mobilising the citizens. The success of the limited traffic zone does not depend on technology alone. It depends on the goodwill of a critical mass of the people. So far, this seems far-fetched. And only time will show. For sure, January 1st will not be a perfect day for taking a walk in Rome. It will be chaotic and messy. And probably full of angry drivers, crazy drivers, and smart drivers. The only sure thing about the Millennium is that the Romans will survive.

If we look at mobility statistics for Rome (see table 1), we find that the mobility system is large, but relatively poorly developed compared to other major cities in Europe. ATAC (Azienda Tramvie e Autobus del Comune di Roma) handles buses and tramways, and COTRAL handles metro systems and local trains. But the metro system is small. Among cities like Berlin, Barcelona, Frankfurt, Lyon, Prague, Stockholm and Vienna, Rome has the smallest metro system (per inhabitant). Only 34 km metro lines on 2.8 million inhabitants compares poorly to, for instance, the 142 km and 3.5 million of Berlin.

But again, according to Pendenza: "We were thinking about the Metro for 30 years. But it is futile. We need to think about electric buses". Pendenza gives no explanation to why this suddenly occurred to them as a thought. When asked, he says: "this is up to the researcher to find out, is it not".

Apparently, this is part of a political game in which the cards must be played carefully.

Table 1. Mobility statistics for Rome (1997)

Number of buses	2464
Number of trams	118
Number of electric buses (1999)	40
Number of passenger transported by ATAC+COTRAL (bus and metro)	815,71 (million)
Cost of ordinary ticket	1500 (Lira)
Commercial speed of the surface means of public transport	14 (km/h)
Number of taxis in urban areas	5778
Cost per kilometer in taxi	1300 (Lira)
Hourly cost of taxi (in traffic jam)	35.000 (Lira)
Number of cars (Commune di Roma)	1.723.263
Cars per inhabitant	1,63
% of cars >10 years old	38,60%
Number of electric cars	105

The prices are included, so that it becomes apparent how taxis only can bring you 1 km for the price of an ordinary ticket on public transport with current prices. This in itself should account for the public interest in increasing public mobility solutions. According to a cab driver I interviewed, even taxis would benefit from a loosening up of traffic in the urban areas. Even though the hourly cost for the client of sitting in a taxi when there is a traffic jam is 35.000 Lira (roughly \$22), taxis earn more if they could do more pick-ups, rather than sit jammed in traffic.

6. ATAC after 1994

For Rome, 1994 marked an important policy change in local public transport. Bus provider ATAC, the 3rd biggest industrial group in Central and Southern Italy, 2nd only to the Federal Railways (FS), transporting 1 million people a day, became a shareholding company Italy with 16 000 workers. Driven by ATAC (bus) and COTRAL (metro) who now are in partnership, new transport management entered the scene, opening up for policy entrepreneurs. The labor unions took an active part in these developments. The new strategies meant reduced costs, a new vehicle park, and integration of tariffs between metro, bus and trains (Metrebus).

More than 3 million passengers are using the three electric bus lines (116,117,119) every year. In addition to the park of 40 electric buses, there are 12 hybrids, and 5 bio-methane buses under experimentation. In a vision

document (ATAC 1999b) ATAC refers to the Kyoto protocol for the drive to reduce emissions, increase public transport, decrease individual transport (!), and increase use of low emission vehicles (LEV). Their project: "Mobilità Centro storico Romano" (Mobility in the Roman historical centre) has a strong focus on alternative transport.

On their home page, a rather flashy image-laden affair with little real information, ATAC proudly boasts their mission is to ensure bus and tram service. Their explicit aim is to facilitate more mobility, rather than reduce it. But the home page is not representative. It only foreshadows the many different faces of an entity like ATAC. Within ATAC the main actor is Pendenza, who is vice-director, and operative director. He influences Di Carlo, the President of the company, and has a strong group working on alternative transportation, led by Ing. Generotti (although only 3 people!). According to Generotti, "The electric vehicle is the future" (Ing. Generotti, ATAC).

But electric buses are not just the future; they are on the road today. Rome has Europe's biggest experiment with electric buses (40 buses operating). Moreover, a 'dream' was born out of this experiment, a dream of reinventing transport in Rome. The vision document, 'Il sogno del ATAC' (The dream of ATAC) from June 1999 presents the dream of a new innovative vehicle, a full size electric bus, and will launch a competition before the end of the year. This bus would ideally take between 80 and 220 passengers (see table 2).

Table 2. Ideal vehicle (filobus moderno).

Length	12-25 m
Number of passengers	80-220
Operating speed	25 km/h
Engine	electric

Currently, the only commercially available buses, like Tecnobus (27 passengers) and Ponticelli (55 passengers), can not match this ideal. But, "we are convinced that the resources available, together with European funds will make "Il Sogno dell'ATAC" a reality in 3-4 years from now", says Engineer and Vice CEO Pendenza, ATAC, in his vision document of July 1999.

The vision was born in September 1998, in Orleans, France by ATAC's Ing. Pendenza. In June 24-25, 1999 ATAC releases its vision document, Il Sogno Di ATAC. Of concrete plans, ATAC plans to buy 35 new electric buses in 2000. September 22, 1999, there is a nation-wide initiative for a day without car transport (boycotted by Bologna). On November 19, 1999, Minister of the Environment announces "bollino blu", environmental control of mopeds, to remedy the situation where only 7 million out of 120 million mopeds comply with EU regulations requiring catalysts or electrical power. In November Italian gas prices rise with 500 lire, followed by Minister of Environment's initiative to have Sundays car-free. On December 9, 1999, there is Consortium meeting between ATAC and various Ministries (Environment, Transport,

Industry), Tecnobus and Commune di Roma. On the evening that day, the Italian TV channel Rai 1 has a special on the traffic crisis in Italian cities, especially discussing the initiative of car-free Sundays by Minister of the Environment Edo Ronchi. Featuring the Minister himself, Mayor of Rome Rutelli, and CEO of Confcommercio Billè, Italian talk show host and commentator Bruno Vespa invites to "Porta a porta" (Door to Door). One could clearly say that the late 1990s have produced an intense situation, and an elevation of mobility concerns.

The bus is a Tecnobus Gulliver, Category M3, made in 1996 by an Italian manufacturer. Much like the story of Norwegian EV producer Think Nordic, the Tecnobus only produces EVs, not ordinary cars. It has been allowed a separate development, outside of the car industry. With a range of 40 km, the bus only lasts 4 hours in hectic city traffic. Not everyone is happy with this addition to Rome's already hectic and crowded streets. One cabdriver I interviewed was critical to the impact of the electric bus lines. 116, 117 and 119 are very slow, and they inhibit the traffic flow, especially for taxis. As I drove towards my interview with ATAC bosses, he told me to ask them about the speed when full of passengers. "I bet they do not run more than 30 kilometres per hour", he says gruntingly.

ATAC has developed a system of shuttle-traffic between recharge unit in Trastevere, 10 minutes from the main line, and the buses 'in linea'. So that 27 buses are active, while 7 are running support functions. Another feature is that all maintenance is outsourced. This amounts to an unusually precise system of exchanging the recharged vehicles for the 'tired' ones. The dream of ATAC is, essentially, to strengthen the electric bus park, add around 145 trams (24-30 meters long) from Fiat Ferroviaria, and realise the Stream project, in collaboration with Ansaldo transport and the City of Trieste. The centrepiece of this dream is to put a new type of vehicle on the road, a full-size electric bus at a decent cost and that is easy to maintain. So far, this is both a technical and an economical question. Development costs are high, and we are still talking a niche market, although potential markets are enormous, according to ATAC.

A possible player in this future market is the French electric bus manufacturer Ponticelli. Their prototype has been tried in Rome, but was found too problematic to pursue. The main reason was that higher temperatures posed a problem. If a future version handles this better, their vehicle is a better alternative because it is bigger, and takes 50, rather than 27 passengers. This is a considerable shift in cost per passenger mile.

The ideal in the ecological discourse on urban transportation, of course, is a large metro system, a fast tramway with preferential tracks, filobus (trolley), alternative transport (electric and hybrid buses), and gas buses (methane), according to Pendenza. But as Pendenza says in an interview in Nov. 99, there are still hurdles to bypass: "speriamo che diventa il sogno del comune" (let's hope this also will be the dream of the city administration).

7. Lacking interactions between research and industry

There is a striking lack of interaction between Rome's transport planners and the Italian (or foreign) universities. Despite the large CNR project "Trasporto 2" that included a major project on alternative vehicles, ATAC has had little contact. Maybe because the project collaborated with Pininfarina, and not Tecnobus. As often happens, including an industrial partner often excludes others in the same sector. CNR "Il Progetto Finalizzato Trasporti 2" is the biggest research effort to date on mobility in Italy (165 Billion Lira public money and 92 Billion Lira private capital). Built on PFT1 (1982), this project is finished 31.12.99.

The probable reason for the lacking interaction is that ATAC has poor contacts to the universities, and probably previously bad experiences with such contacts. Only 26% of the innovating manufacturing firms and only 8% of all manufacturing firms use relations with the public research system to innovate (CNR, 1998:79). But public scientific players must also take their share of the blame. As a recently released report states: "they ought to promote a greater integration and finalisation of activities in public intervention" (CNR, 1998:91).

The Italian industrial segment concentrating on alternative transport solutions contains IVECO (a Fiat company), Altra, Ansaldo, Fimm (batteries), for electric transportation there is Tecnobus, Fiamm, Stream, and, recently, there is established a link to the American battery producer Ovonic. Fiat has been hostile to EV development, according to our informants. Their electric car Fiat 600 is only sold on demand. Only two vehicles run in Rome, according to our sources. Other experiments are conducted in Bologna, Naples, and Torino. These projects do not compare in scale to the Roman one. Bologna, for instance, has three busses running. Nevertheless, their projects are worth mentioning.

7. Naples, Torino and Bologna

After a crisis in the urban transport, Naples has seen major improvements in its mobility system in the last 3 years. Due to new leadership in the bus company, as well as a dynamic mayor, Antonio Bassolino, many new lines have been introduced, and the operative concept is changing. Essentially, many new, smaller buses are introduced and they circle around, and arrive faster than before.

The Elletra Park station car experiment in Torino has high ambitions. The actors behind it have a vision to change the existing mobility system. They want to close off the whole city centre only to electric vehicles, and connect it to public transport solutions. Conducted for 190 hectic days in 1996, the experiment involves 20 electrically run Fiat Pandas for rent in a public parking lot, sponsored by the city of Torino, Fiat, the electricity company (AEM) and the public transport authorities (ATM). A major finding, very

indicative for so-called "alternative" transport solutions is that the majority of users are students (31%), followed by office workers and professionals. What the report from CSST on this experiment does not point out, is that students normally do not have a car. Thus, this is not alternative transportation, it is extra transportation. Or the alternative was to walk or take public transport. Another sad fact is that the majority of users lived nearby. Nevertheless, this experiment is interesting. And in another context it might prove more useful, and not only carrying on new mobility concerns among already 'ecological' groups, like students.

Bologna is the most internationally minded of the smaller Italian cities, and also a very modern city that has many links to Europe. Their Internet project, or digital city, has received international acclaim. Public transport is also partially on line, and of all cities, this is where they flag their electric public transport most vigilantly. In an Internet document form, the city boasts 'Mobilità, comunicazione, saperi: tre parole-chiave per capire Bologna' (Mobility, communication, knowledge: three keywords to understand Bologna). Focusing on how they are reorganising railway, highway, and telematic communication, mobility is seen to facilitate dialogue – therefore the aim to "intensify mobility". Despite this, taking a closer look at their efforts in electrical buses, we find a small project called Disia 1, where 3 buses are running. The DISIA 1 is an electric bus, put on the road as a collaboration between CAM, Ellettronica Santerno, Università di Bologna, Flaminia and ENEA.

8. New Italian initiatives to change mobility patterns

Other alternative transport experiments (apart from electric buses) also exist. Two examples are the hybrid bus and the hydrogen bus. IVECO, a Fiat company, produces a 12 meters long hybrid prototype with 90 seats (at the excessive cost of £ 600 000). This is under trial in Rome (12 buses), Genova, Ferrara (8 buses), Terni (4 buses), Madrid and Paris. The inside story on these experiments is that they are costly, and run into a lot of operational problems. The public is also complaining a lot, due to little stability. The hybrid is, according to the ATAC engineer responsible for the project, "a passage". It costs 80% more than a diesel version, and has major security issues. Another hybrid vehicle experiment is the hybrid car collaboration between Pininfarina, University of Rome III, Scuderia Bizzarrini and ENEA in the Trasporto 2 project. The prototype tested, called Etabeta, performed well, and had esthetical as well as practical sides. Hydrogen bus experiments are underway in Milan, Chicago and Vancouver.

Various actors have come up with new ideas on how to make Rome 'more electric'. Recently, Confcommercio Roma launched a plan to build more parking lots and provide electric mopeds for customers in the historical centre. Their document is not yet released, but my sources claim that 400 electric mopeds will be put out on a station car experiment at car parks outside

the city of Rome. Additionally, in connection with the Internet site <http://www.happy.it>, they will launch e-commerce solutions as well as home-delivery services. A private provider specialising in delivery, using an electric vehicle could exercise the home delivery. So far, these initiatives are only paper tigers.

Another initiative is the new company formed between the Roman bus provider ATAC and electric bus manufacturer Tecnobus, formed in September 1999. "Per spingere il veicolo elettrico" (to launch the electric vehicle internationally), according to ATAC sources. The director will come from Tecnobus, with a 51% ownership by ATAC. The results of this remain to be seen.

8. Conclusion

Despite many new initiatives, the existing mobility structure of Rome, and the rest of Italy likewise will remain unchanged for many years. As a major Delphi study carried out for the Chamber of Commerce in Naples shows, Italy is going to be slow in adopting innovations, and will only be able to occupy a few significant niches. One of them is related to cars, but probably not electric ones, due to the industry's resistance (Tecnocosmo 2005:21). In choosing between exit, voice and loyalty, most financial circles ensure that loyalty wins. We have seen that Rome has taken the choice of focusing on buses and trams, as opposed to railway and metro systems. ATAC is at this point prepared to pay about 450 million liras for an innovative full-size EV. Unless commercial bus manufacturers are able to provide this kind of an offer, we are unlikely to see a major change in the mobility system in Rome. The problem is technological insofar as this type of bus does not exist on the market, but it is economical insofar as it sort of exists, only that the price is too high since the market is so small. Finally, the problem is social, insofar as the users have to show that they will use electric transport, and support it wholeheartedly.

However, the resurgence of small 'third places' in the core of Rome due to the electric buses 116, 118 and 119 is no small thing. It might be seen as somewhat a curiosity, but could really be seeds to future growth. The adding of 35 new buses might provide a major international impetus towards changing the approach to public transport in historical cities, towards developing more *friendly* and *communicative* solutions that takes care of the environment, and gives reason to smile. Electric vehicles are vehicles that communicate. On the one hand, they might be seen as an exit from the highway of human emissions (for emissions are not technological, but social choices). On the other hand they might be seen as the voice of the new generation of aware citizens, or alternatively that of the reformed, responsible power elite. Thirdly, using the most cynical interpretation, electric vehicles are loyal voices of the existing mobility structure, still carrying out, and representing, personal, rather than public mobility. But there are also more novel interpretations of these categories. Novel voices. One of them is, as we

have seen, that electric vehicles could provide a necessary revival of 'third places' (Oldenburg, 1991), communicative spaces in the urban setting. The Roman experiment with small-scale electric buses is one such example. The bus itself becomes an agora. Here, political issues are discussed in a carefully designed historical setting. Then, moving together means *being together while moving*.

At this point it seems appropriate to remind the reader about the three basic options available to social actors in the metropolis: exit, voice or loyalty. We have claimed that the story of Rome is all of these, and at the same time. We do not have to choose. Totally stepping out of mobility discussions, dreaming about 'the days with no cars' from the Oil crisis of 1973 might be too excessive, as Minister of the Environment, Edo Ronchi has experienced with this "no car on Sundays" initiative. At the same time, voicing mobility concerns does not always result in less mobility, only in changed mobility patterns, and often mobility will rise as a result of it. Finally, loyalty to the system is both a cripple, and a precondition to future policy change. No loyalty leads to no space for change, as in the case of the disobedient drivers in Rome, who will not accept the limited traffic zone. Full loyalty, as in following the example of others leads to stability of the system and only perpetuates status quo. The solution lies in combining exit, voice and loyalty intelligently, in such a way as to make these elements interactive, aware and playful. The approach should then be on policymaking rather than policy, on moving rather than mobility, on community rather than communication.

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