



MOST
CENTRO NAZIONALE PER LA MOBILITÀ SOSTENIBILE



G7 Transport Academic Workshop

Resilience: a natural strength of Public Transport

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Resilient by nature

Local public transport in a big urban area is, by its very nature, has to **face with continuous adjustments and reorganisations**, depending on the needs of the area and endogenous and exogenous criticalities, to which it is confronted while ensuring both rigour and flexibility.

Constantly exposed to disruptions and unforeseen events, local public transport has to prove its resilience in the day-to-day running of the service.

ATM in its 100 years of activity has grown together with Milan. An integrated mobility network of more than 1,700 km of metro network, trams, buses and trolleybuses in Milan, a system interconnected with other operators, carrying more than 2.5 million passengers per day.

The Group also operates in Copenhagen, Denmark, where it has been managing the entire automated metro network for over 15 years and has recently extended its activities to Thessaloniki, where it manages the first automatic underground transport service in Greece.

Planning extraordinary events

Being 'at the service' of the territory and its citizens, ATM constantly updates and improves **procedures and protocols to manage situations and emergencies that are foreseen, or in any case 'foreseeable'**, from major events taking place in the Milan metropolitan area to various emergencies.

In these contexts, ATM interacts directly with all the stakeholders that impact and determine the functioning of the city - institutions, police... - to **guarantee a mobility service capable of addressing the various needs:**

- to manage the greater flows of passengers expected for major events
- to guarantee efficiency, speed and safety for their journeys
- to facilitate the overall organisation and full success of major events.

Managing Expo Milano 2015

ATM tackled an extraordinary event in 2015: the Expo Milano 2015 universal exhibition, which involved the exceptionally demanding management of the city's public transport for an extended period.

In six months, ATM transported 20 million more people compared to the previous year.

Over six million visitors used the Milan Metro Line 1 to reach the exhibition grounds.

ATM planned, organised and implemented an impressive investment plan to guarantee an efficient service on the entire network throughout the six months of Expo, increasing the number of metro rides by up to 90%.

Expo Milano 2015: investments and planning

This result was possible thanks to important **planning, organisation, scheduling and massive investments in human resources, fleet and infrastructure.**

Investments:

- 100 million for the new signalling system for Metro line 1 and the new integrated, technologically advanced control room
- 260 million in new transport vehicles - 30 Metro trains, 125 Euro 6 buses - revamping of 12 trams
- over 600 recruitments
- digital passenger information system.

Covid 19, the big shock

Milan and Lombardy were the **first territories in the world (after China) to face the pandemic emergency in 2020.**

ATM was the first public transport company **that had to redesign, structure and implement new procedures for the service management, work organisation and the implementation of various health protocols.**

Right from lockdown, ATM **guaranteed at least 80% of the public transport service to allow mobility for those who could not stop working and travelling.**

Two years of constant reorganisation

Then **ATM** accompanied the various phases of recovery from the pandemic emergency, marked by the many discontinuities caused by later COVID waves and the many regulations (about 20), through prompt and timely service rescheduling.

In particular, ATM ensured

- the management of reduced vehicle capacity (first 75% then 50% then 80%...)
- the distancing between people on vehicles and in stations
- the counting and management of passenger flows
- the dynamic analysis of passenger demand in order to grant the capacity limits in the vehicles and in the stations.

Health security measures

Extraordinary measures were set up to **ensure the health safety of workers and passengers:**

- constant sanitisation of all vehicles and stations and sanitiser dispensers on all vehicles
- 400 people to sanitise the 1,600 vehicles and all 113 stations of the Milan Metro network several times a day
- measures to guarantee safety distances.

At the same time, **signage, support staff and information campaigns** ensuring correct passenger distances and behaviour.

Institutional task forces

ATM was a key part of the working group **with the Prefecture, the Politecnico Milano and the institutions at the Crisis Committee to organise the safe reopening of schools.**

The strategic decision to favour a greater distribution of passenger flows during peak hours was the reorganisation and re-arrangement of the city's timetables, from businesses to offices to the freelance jobs.

To provide **maximum support to the mobility of students**, ATM set up an extraordinary upgrading plan, also with the involvement of private transport companies:

- 1,200 additional runs, 800 of which dedicated exclusively to schools
- 100 shuttle buses to connect the main 30 schools to the Milan Metro network.

As the first operator involved globally, ATM, through the Covid task force established by UITP, the International Association of Public Transport, shared its experience and pandemic management protocols with other transport providers around the world on an ongoing basis.

Energy shock, the paradoxes of local public transport

The impact the war in Ukraine is still having on electricity costs, petrol and gas prices, was yet another shock.

- **ATM is in fact the main consumer of electricity in Milan. To date, already 70% of the ATM service is supported by electricity from renewable sources only.** But the mechanism that fixes the price of electricity is the same as that for the price of electricity from fossil fuels. **This correlation is a first paradox.**
- The major increase in electricity costs, compared to forecasts, is having a considerable impact on the company's accounts, considering that energy requirements are set to , as the Full Electric Plan to convert the entire fleet of 1,200 vehicles to e-buses by 2030 was launched in 2018.
- **And this is where a second paradox arises: on the one hand, the public transport sector is seen as one of the key drivers of the energy transition,** so much so that the PNRR (National Recovery and Resilience Plan) boosts the sector, and **on the other hand it does not benefit from the tax relief measures provided for the so-called energy-intensive industrial sectors.**

This implies an unsustainable burden.

Energy shocks, the measures

To curb costs, **ATM has implemented a series of measures to increase energy efficiency**, including the replacement of the metro train fleet, relamping in the metro stations and tunnels and the renewal of the signalling system.

These operations have made it possible to curb consumption:

- an increase in kilometres travelled since 2004, + 30% (from 85 million to 110 million per year)
- consumption went from 335 GWh today to 340 GWh → it would have reached 390 GWh/year without intervening.

The other area of intervention is the self-production of energy.

Currently, ATM has 11,000 square metres of photovoltaic panels, with a capacity of about 2 MWh, and is expanding it further.

Resilience in the DNA

Looking at these experiences, we see that **LPT in a big city carries a genetic aptitude**

- **to flexibility**, to follow the development of the city and the events that happen there
- **to the timely management of the unexpected**, from small to major
- **to securing facilities and people**
- **to coordination with institutions and law enforcement agencies**
- **to re-planning the service** to provide the best service to citizens and the community.

This is above all thanks to extraordinary human skills, the result of an uninterrupted history of discipline and spirit of service, staff motivation, and a sense of belonging.

People, the key factor

Today, however, ATM, as well as the entire sector, is facing a new emergency, as serious as it is deep, which 'attacks' and 'undermines' this very strength: the **shortage of staff**.

According to the IRU - International Road Transport Union's Driver Shortage Report 2023, there is a shortage of **105,000 drivers** in Europe, an increase of 54% compared to 2022.

The Italian statistic - about 10,000 vacant positions - is in line with that of Germany, France and England, but lower than that of Spain, Austria and the Netherlands.

This critical situation prevents the sector not only from expanding to meet growing demand, but also from guaranteeing full coverage of the current service as well as dealing with both foreseeable and unforeseeable emergencies with the necessary flexibility.

A system approach is needed

Alongside the issue of the shortage of bus drivers, new technical skills need to be enhanced to better cope with the energy transition.

Even at international level, analyses converge on the fact that it has now become a structural phenomenon that goes beyond the issue of remuneration.

On this level, the sector needs to recover an attractiveness of its own and can do so if it becomes an instrument of innovation and a solution for urban mobility.

As with energy costs, a system approach is needed, and all decision makers need to contribute to this.

As UITP also advocates, if Europe wants to boost its resilience, be a leader in the transition to net zero and thus meet the environmental and mobility challenges, it needs to support the development of public transport with more courageous policies.

