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## [Milan's plan for sustainable, efficient and innovative mobility \(Italy\)](#)



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Urban mobility planning

**In brief**

Milan's Sustainable Urban Mobility Plan (SUMP) represents an important change to the city's mobility and transport policy. It is aimed at enhancing public transport, giving value to urban space and shifting the urban mobility focus from private car ownership to a model based on shared mobility services (such as car- and scooter-sharing) across the whole metropolitan area.

The SUMP was developed with citizens, local authorities, stakeholders and a Scientific Committee in an open discussion on relevant thematic areas. By combining urban development, innovation and sustainability; putting the policy focus on environment and life quality; adopting an integrated approach to urban mobility management; and defining priorities, tools and resources, the SUMP aims to make the city more liveable, safe and accessible, and will ensure social equity and sustainable mobility.

**Context**

Milan is the second-most populated Italian city, with 1.35 million people in the city (about 7 400 habitants per km<sup>2</sup>) and about 3.2 million in its metropolitan area (about 2 000 habitants per km<sup>2</sup>).

Every day 850 000 people enter Milan and 270 000 exit the city – resulting in a total of 5.3 million trips per day. Inside the city, 37 per cent of trips are made by car (car ownership is 0.52 cars per inhabitant) or motorcycle and 57 per cent use public transport (PT), but the share of car trips rises to 62 per cent when the exchange trips between the city and the external areas are considered.

The PT transport network consists of four underground lines and 154 surface lines for a total of 1 286 km, producing about 120 million vehicle km/year. The problems of Milan's mobility and transport system are the increase in private transport demand due to the functional separation between the city centre and the hinterland; the lack of planning of goods transport and logistics activities; road congestion; and inefficient allocation of public space.

### **In action**

The Milan SUMP arose from the decision of the City Council Committee to update the Milan PUM (Urban Mobility Plan) and carry out a VAS (Strategic Environmental Evaluation). In addition to the consultation process envisaged by the VAS, the SUMP has been developed through a participation process which has involved public authorities (the Municipality, the Mobility Agency, PT operators), stakeholders (professional associations, local associations, companies, residents' associations) and citizens, who contributed to the identification of agreed strategies and actions of the plan.

The participation process consisted of an information campaign (to inform the public on the process for the development of the plan and its main themes), thematic meetings with authorities, stakeholders and citizens, and the publication on the municipality's and mobility agency's website of the presentations held during the meetings and their minutes and reports.

Thanks to a deep analysis of the current situation and trends as well as the consultation process, four mobility strategies were identified:

- a shared mobility governance with co-ordinated strategies and tools;
- urban accessibility using PT;
- urban space as common good;
- passenger and freight mobility demand management.

Starting from the analysis of the current transport situation in Milan, projections to 2024 of the main transport variables have been made in order to evaluate the SUMP's planned measures against a reference (trend) scenario 2024 (which only includes measures already approved or in progress using a multimodal transport modelling tool developed by AMAT (the Milan Mobility Agency)).

### **Results**

The total investment costs of the SUMP are about € 2.55m and its implementation is articulated in three phases. These phases were defined in terms of implementation priority established on the basis of the assessment, through a cost-benefit analysis, of investment public expenditure efficiency indicators, rather than completion time of the SUMP measures.

The SUMP includes an implementation-monitoring process in order to identify in real-time possible deviations and suitable corrective actions. The expected impacts of the SUMP compared to the current situation relate to the following three areas: mobility, environmental quality, and human health and safety.

## Mobility

- The PT modal share is expected to grow up to 63 per cent inside the city, while car share is expected to decrease by 24 percentage points.
- The cycling network, which currently accounts for 9 per cent of the urban road network, will cover 25 per cent.
- The average trip time is expected to decrease by 8.3 per cent (by 9.5 per cent inside the city) and road congestion, measured according to suitable network indicators<sup>[1]</sup> by 10 per cent.
- The PT service offer (seat-km) is expected to increase by 20 per cent and PT commercial speed by 17.5 per cent.

## Environmental quality

- Air-polluting emissions are expected to decrease by 10 to 17 per cent (in particular CO, NO<sub>x</sub> and PM<sub>10</sub> by 14, 10 and 14 per cent respectively), while greenhouse gas emissions by 13 to 15 per cent (in particular, CO<sub>2</sub> by 15 per cent).
- Energy consumption is expected to decrease by 12 per cent.

## Human health and safety

- Citizens' average exposure to air pollutants is expected to decrease by 13 per cent.
- As for citizens' average exposure to acoustic pollution, 37.4 per cent of the population will experience a decrease in noise levels, 14.1 per cent an increase, and the remainder will experience no changes.
- The number of road accidents is expected to decrease by 75 per cent between 2013 (about 10 000 accidents/year) and 2024 (about 2 500 accidents/year).

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[1] Congestion has been assessed in terms of an overall congestion index based on the following three indicators: 1) the rate between vehicular flow and road network capacity; 2) the rate between congested network vehicular flow average speed and empty network vehicular flow average speed; 3) length of the congested road network, assuming congested the parts of the road network where the rate between flow and capacity is equal or greater than 0.9.

## Challenges, opportunities and transferability

The main challenge Milan took on by developing its SUMP is to achieve the optimal balance between efficient mobility demand, quality of life, and environment and health protection. This required an integrated approach to mobility in order to:

- Decouple mobility needs and the use of private cars;
- Improve the quality of public space by reducing the share allocated to infrastructure;
- Ensure proper safety levels for pedestrians, cyclists and vehicles;
- Encourage, integrate and innovate low-impact transport services and modes;
- Encourage to share virtuous choices and behaviour;
- Develop practices of sustainable mobility and efficient use of energetic resources;
- Use public resources efficiently.

The participation process helped to better understand mobility needs and increase the acceptance of the measures.

'We are facing a hard challenge', declared the City of Milan's councillor for mobility and environment, Pierfrancesco Maran. 'We must ensure even more efficient and sustainable services to an increasing number of people [...] The conversion of Milan into a metropolitan city has redefined

the municipality borders and made it necessary to redefine services on the basis of passengers' needs. The SUMP meets these needs by increasing the number of PT services in the outskirts and metropolitan areas.<sup>[1]</sup>

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[1] [http://www.comune.milano.it/wps/portal/ist/it/news/salastampa/comunicati\\_stampa/archivio\\_2015/maran\\_PUMS\\_mobilita](http://www.comune.milano.it/wps/portal/ist/it/news/salastampa/comunicati_stampa/archivio_2015/maran_PUMS_mobilita)

## In Depth

- [SUMP page on the AMAT website](#) (with links to presentations and documents).

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