Traffic Regulation Measures in Milan: Area C and Area B

GO SUMP training on financing sustainable mobility
12 June Barcelona
Milan’s Mobility Figures

Inhabitants Milan city: ~ 1.3 M
180 km², ~ 7300 inh/km²

Inhabitants Metropolitan area: ~ 3.2 M
1570 km², ~ 2000 inh/km²

Daily city users: ~ 1 M

Overall Mobility (trips/day, 2013):
5,255,000

Trips in Milan:
2,978,000 (56%)

Trips between Milan and the metropolitan area:
2,277,000 (44%)

Motorization Rate: 50,7 cars per 100 inhabitants
2 SUMP – Four pillars

**Sustainable Mobility**
- Ensure high accessibility
- Reduce dependency on private vehicles
- Redistribute public space in favor of active mobility
- Encourage compliance with the road rules

**Equity, security, social cohesion**
- Reduce road accidents
- Reduce the exposure to noise and air pollutants
- Overcome barriers in access to mobility services
- Enhance freedom of choice in favor of more sustainable modes of transport

**Environmental quality**
- Reduce emissions of air pollutant
- Reduce energy consumption and emissions of greenhouse gases
- Preventing and reducing noise pollution
- Improve the urban landscape quality

**Innovation and economic efficiency**
- Ensure economic balance to mobility system
- Internalise environmental, social and health costs
- Promote economic efficiency of commercial traffic
- Optimize use of mobility resources

GO SUMP training on financing sustainable mobility - 12 June Barcelona
3 AREA C – Peculiarity

Milan is the only city in the world which experienced 2 type of road pricing measures

2008 - Ecopass scheme (pollution charge)

2012 - Area C (congestion charge)

The scheme was upgraded following the results of a referendum asking a plan of action to enhance public transport and alternative mobility, the extension the road charge to all vehicles (except those with zero emission) and the progressive widening of the area subjected to the pricing.

The referendum was approved by 79% of voters, in stark contrast with the experience of other cities, where voters have turned down charging schemes (e.g. Edinburgh, Manchester) or been barely decisive (in Stockholm, only 51% of voters were in favour of introducing a congestion charge scheme). London’s congestion charge has been introduced in 2003 without referendum.
4 Milan Pollution Charge – ECOPASS

The Ecopass was part of the overall sustainable mobility strategy of the Municipality of Milan.

Objective: to **discourage the use of polluting private vehicles** inside the central Milan “Cerchia dei Bastioni” area (the internal ring = 8.2 km²), by applying an entrance charge related to the polluting emission levels (PM10).

Some vehicles had to **pay an urban toll** when traveling within the Limited Traffic Zone.
<table>
<thead>
<tr>
<th>POLLUTION CLASS</th>
<th>VEHICLE EURO CATEGORY</th>
<th>DAILY ECOPASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLASS I</td>
<td>gpl – lng,cng - electric – hybrid</td>
<td>FREE ACCESS</td>
</tr>
</tbody>
</table>
| CLASS II        | Petrol car E III- E IV
                Diesel car diesel E IV with APF
                Petrol light freight E II – E III- E IV
                Diesel light freight E IV with APF | FREE ACCESS |
| CLASS III       | Euro I, II petrol cars and goods vehicles | €2 |
| CLASS IV        | Petrol car pre E
                Diesel car E III – E IV* no APF | €5 |
| CLASS V         | Diesel car pre E –E I- E II
                Diesel light freight pre E – E I – E II
                Diesel Freight 3.5 t pre E I – E II- E III | €10 |
Milan Pollution Charge – ECOPASS Results

• Traffic reduction, both private and commercial, within the ECOPASS Area during the ECOPASS enforcement time (- 21%)

• Public transport commercial speed increase (+13% tram and + 20% bus and trolleybus)

• Passengers increase on Underground lines moving towards ECOPASS Area (+23,000 pax daily average)

• Reduction, within the ECOPASS Area, of the main pollutants emissions:
  - PM: - 20%
  - CO₂: - 15%
  - NOₓ: - 16%
  - Ammonia: - 45%
7 From Pollution Charge to Congestion Charge

Ecopass resulted a drastic traffic drop in 2008 (-21%), however, over time, the increase in the share of exempted vehicles (while in 2007 50% of vehicles entering the area would have been exempted from Ecopass, in the first year of the scheme this percentage went up to 75% and in 2010, the share of exempted vehicles was as high as 90%!) gradually reduced the dissuasive power of Ecopass.

Moreover, following the results of a bottom-up referendum in which a large majority of voters (79%) demanded an upgrade of the Ecopass measure, the scheme was upgraded to a congestion charge in 2012.
2012 – Objective: to improve life conditions of those who live, work, study and visit the city. “Area C” is the restricted traffic zone in the city center of Milan (C as Cerchia Bastioni).

The access points, **monitored by cameras**, are 43, including 7 for exclusive use of public transport. The charge was active **Monday-Friday from 7.30am to 7.30pm**. Each ticket to enter “Area C” must be activated the **same day** or **no later than midnight of the next day access**. Payment (5€) enables vehicles to drive around, leave and re-enter the charging zone **as many times as required in one day**.
Area C – The context

• The area = **8.2 km²**, **4.5%** of the whole **territory** of the Municipality of Milan

• Residents = **77,950** (42,300 families)

• The area has an **outstanding attractiveness** because of the activities and services settled in, that determine during the central daylight hours an average of **39,000 persons/km²**, with a **peak of almost 140,000 person/km²** within the **historic center** between Duomo and San Babila

• There are **295,704 employees**, amounting to **almost 37%** of the total **employees** of the Municipality of Milan.

Every day about **500,000 people**, coming from outside, get there.
Decreasing vehicular access to the Area C therefore:

✓ Decreasing traffic congestion;
✓ Improving public transport speed;
✓ Decreasing the occupation of on-street parking;
✓ Reducing road accidents;
✓ Reducing pollutant emissions caused by traffic;
✓ Reducing health risks related to air pollution;
✓ Increasing the share of sustainable modes of travel;
✓ Improving urban center quality and attractiveness;
✓ Raising funds for sustainable mobility services and infrastructures.
**11 AREA C – The rules**

**Vehicle Categories**

**FORBIDDEN ACCESS 8am – 10am**

To freight transport vehicles.
Only freight electric vehicles admitted (with some exemption)

Charge for access: € 5
Facilitation
Residents: the first 40 accesses (every year) are free.
From 41st access onward they pay 2 €
Service vehicles pay 3 € (after registration)

**ELECTRIC AND HYBRID* VEHICLES**

Free access
*Free access until 30.09.2019

**TOURIST BUS – NCC (Car rental with chauffeur) > 9 SEATS**

New fees

<table>
<thead>
<tr>
<th>Category</th>
<th>Until 13.10.17</th>
<th>From 14.10.17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to mt. 8,00 Vehicles</td>
<td>15 €</td>
<td>40 €</td>
</tr>
<tr>
<td>Up to mt. 10,5 Vehicles</td>
<td>25 €</td>
<td>65 €</td>
</tr>
<tr>
<td>Longer than mt. 10,5 Vehicles</td>
<td>40 €</td>
<td>100 €</td>
</tr>
</tbody>
</table>

**SCOOTERS AND MOTORCYCLES**
**PUBLIC TRANSPORT AND TAXI**
**EMERGENCY VEHICLES**
**VEHICLES WITH DISABLED PEOPLE ON BOARD**

Free access
12 AREA C – Results

MOBILITY RESULTS

Decreasing road traffic in “Cerchia dei Bastioni” = - 37.7 % compared with 2012 (from 132,000 to 82,000 vehicle entrances); -9% (from 2016 to 2018)

Decreasing Road accidents = - 26% compared with 2012

Increase public transport speed = +2 % for buses between 9:00-10:00 and + 5.9 between 18:00-19:00 and + 2.2% for tram between 09:00-10:00 and + 4.4 between 18:00-19:00

Increase Public Transport users : +12% on surface PT; + 17% on Underground

Raising funds for soft mobility infrastructures = +10%

ENVIRONMENTAL RESULTS

Pollutant vehicles: - 49% (-2.400 pollutant vehicles entering every day the Area C)
Cleaner vehicles + 6.1 % (16.6% of the total vehicles)
Electric vehicles doubled: in 2 years (from 2016 to 2018) from 298 to 584 daily entrances (+96%)

Less emissions of pollutants:
Total PM10 -18% ; Exhaust PM10 -10%; Ammonia -42%; Nitrogen Oxides -18%; Carbon Dioxide -35%

Less Black Carbon (BC):
28% to 52% reduction of BC concentration

GO SUMP training on financing sustainable mobility - 12 June Barcelona
Area C achieved important results in terms of environmental, financial and social sustainability. As to the economical aspects, as a counterweight to the charge, several are the benefits enjoyable by users.

The reduction of the cars circulating in the city center enables the reuse of the public spaced once reserved to the parking. For instance, an area of approximately 15,000 sqm near Castello Sforzesco was turned into a pedestrian area, and new bike sharing stations and car sharing services were set up in the city.

Moreover, thanks to Area C, the traffic reduction generated benefits to the whole transport systems. In fact, according to a recent statement of AICAI (Courier Aircraft Association), the Area C has resulted in an increase in productivity of 10% on freight deliveries in the city.
14  AREA C – Technologies: electronic gates

Integrated IR illuminator

IR camera with OCR

Context (CTX) camera

List of transits
Incomes from Area C have been reinvested in:

- **62%** strengthening of public transport in order to improve frequency
- **22%** development of sustainable mobility projects
- **16%** operating costs (including software management and authorizations of payment channels)

**2018 incomes = approximately 33 million €**

**2017 incomes = approximately 30 million €**

**2016 incomes = more than 28 million €**

- **2015 incomes = 26.2 million €**
- **2014 incomes = 23 million €**
- **2013 incomes = 29.4 million €**
- **2012 incomes = 20.3 million €**

**OPERATING COSTS**

- **3.9 million €**
- **62 people**
Control of the most pollutant vehicle and control and tracking of access for heavy vehicles and for the transport of dangerous goods

As stated in the Sustainable Urban mobility Plan, the City of Milan has just launched the Italy’s largest Limited Traffic Zone and one of the largest Low Emission Zone of Europe, called Area B, an infrastructure of electronic gates around and next to the municipal boundary. The systems is set up for the control of the most pollutant vehicles and for the control and management of the most heavy vehicles and the ones used for the transport of dangerous goods, inspired by experiences such as Greater London LEZ.

185 Gates
132 km²
~ 70% City Area
97% Population
The rules

- **No entry for the most polluting vehicles**
  Monday - Friday from 7:30 to 19:30 excluding holidays

- **Residents and businesses** will have 25 days/year free entries

- **Vehicles of historic interest** will have 25 days/year free entries

- **All the others** will have 5 days/year free entries

- 50 days to regularise after the first violation

- **No entry for bulky vehicles (with length longer than 12 meters)**
  Monday - Friday from 7:30 to 19:30 excluding holidays

- **Monitoring of vehicles carrying dangerous goods**
  Monday - Sunday - from 0:00 to 24:00

Control infrastructure

Interchange parking

GO SUMP training on financing sustainable mobility - 12 June Barcelona
AREA B - The system

CONTROL SYSTEM
185 Electronic gates and G-mobile

Connection to the DVLA database
Technical vehicles data check

ROAD SIGNAGE
Variable message signs

WEB Portal
Residents and exemptions

OFFICE
Back-office Front-office

GO SUMP training on financing sustainable mobility - 12 June Barcelona
**AREA B – Expectations**

- The measure concerns the **65% of the annual atmospheric emissions** produced by vehicular traffic.

- **Reduction of PM10:** acceleration is immediate - 14% emissions in 2019; - 24% in 2020, - 21% in 2021. In the first 4 years PM10 emissions are reduced by half (15t).

- **Reduction of NOx:** acceleration occurs between 2023 and 2026 with - 11% each year. Between 2019 and 2022 the decrease is - 4% -5% per year.

- From 25 February 2019 Area B **takes away from Milan vehicles** transporting people and goods with Euro 0 **petrol**, the Euro 0, 1, 2 and 3 **diesel** vehicles and the Euro 0 and Euro 2 two-stroke mopeds.

- From 1 October 2019 the ban will extend to Euro 4 diesel vehicles.

**MILAN WILL BE A “DIESEL FREE” CITY BY 2030**
20 AREA B – Citizen engagement and support

• **FUNDING:** Incentives 7 million euros have been allocated, 6 from the Municipality of Milan and 1 from the Metropolitan City, to encourage the replacement of the most polluting work vehicles

• **AGREEMENTS:** Agreements with stakeholders (based on the previous congestion charge experience)

• **CITIZEN ENGAGEMENT:** Public Debates
THANK YOU FOR YOUR ATTENTION

valentino.sevino@amat-mi.it