



Comune di Genova

POLICY INSTRUMENTS  
AND DEMAND MANAGEMENT TECHNIQUES  
FOR SUSTAINABLE MOBILITY  
AND POLLUTION REDUCTION

*WHO – UNECE*

*Sustainable and healthy urban transport and planning*

*Ciprus – 17 november 2003*

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## GENOA TRANSPORT SITUATION (per day)

\* DOWNTOWN : 276.278 INHABITANTS - 28 km<sup>2</sup>  
\* URBAN AREA : 603.896 INHABITANTS - 239 km<sup>2</sup>  
\* 1402 km ROADS LENGHT



300.418 CARS



20.490 LORRIES



91.256 MOTORVEHICLES



869 TAXIS



904 BUS  
(153 millions of passengers  
per year)

MOTORWAYS : 250.058.628  
VEHICLES TO/FROM GENOA

### MODAL SPLIT

#### ON PEAK HOURS ( 6,30 - 9,30 ) :

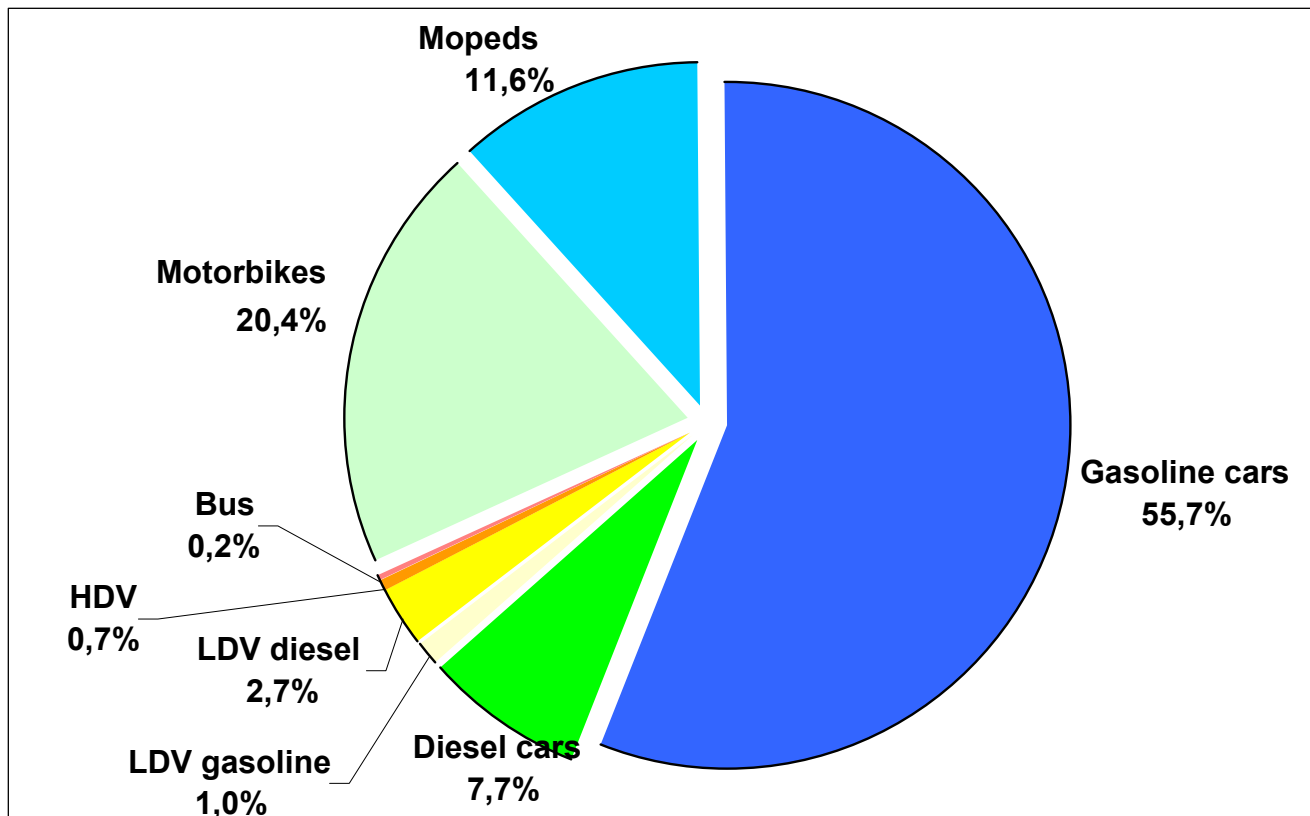
MOTOS	15,1 %
CARS	38,4 %
METRO - TRAINS	4,1 %
BUSSES	42,4 %



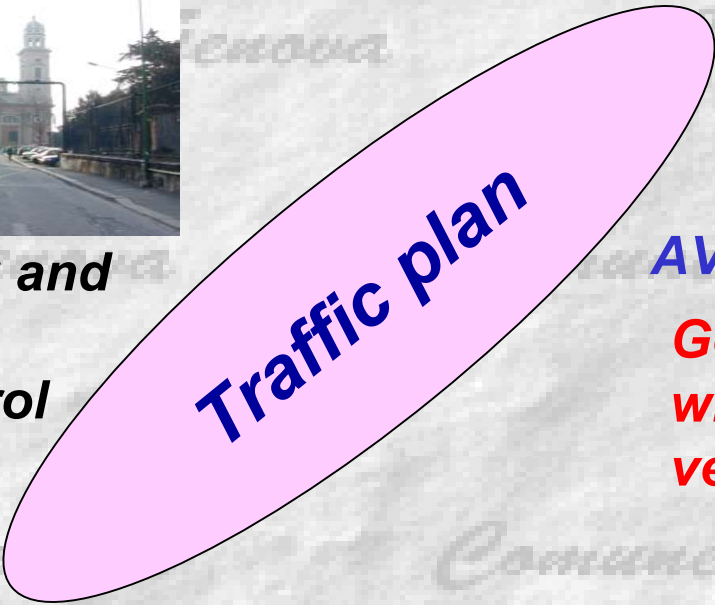
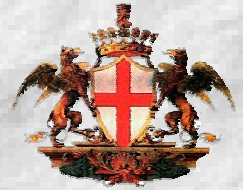
<b>Total annual emissions per sector (Genoa Urban area) [ton/year]</b>			
	<b>CO</b>	<b>COV</b>	<b>NOx</b>
Power plant	0.37%	3.69%	39.25%
Combustion-Service industry and agriculture	1.41%	0.80%	4.60%
Combustion - Industry	30.11%	0.45%	14.05%
Production process	0.00%	0.88%	1.28%
Mining and distrib. Fossil Comb.	0.00%	7.33%	0.00%
Solvent use	0.00%	16.59%	0.00%
<b>Road transport</b>	<b>60.12%</b>	<b>59.12%</b>	<b>29.01%</b>
Other mobile sources	7.43%	8.11%	11.81%
Waste Treatment and removal	0.00%	2.31%	0.00%
Agriculture	0.00%	0.33%	0.00%
Nature	0.55%	0.39%	0.00%



## Vehicles on roads 2001



# An integrated policy for sustainable mobility in Genoa: from 1998 to 2003



**Road pricing and downtown access control**

**AVM information system**

**Goods delivery downtown with electric vehicles**



**Reorganisation of PT operators and launch of competitive tendering**

**Demand management actions**



**Emissions control**



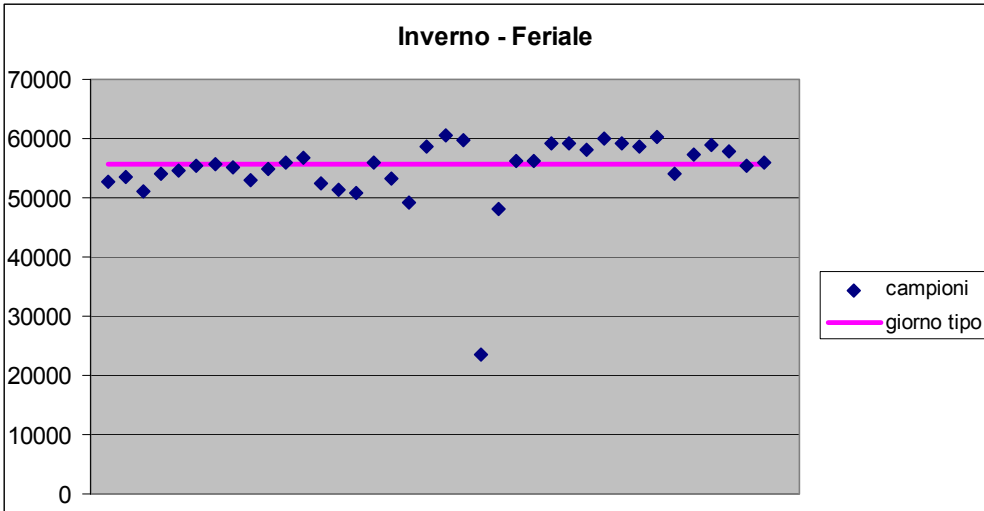


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## PROGRESS - ROAD PRICING CONTROLLED ZONE: FIRST AND SECOND PHASE

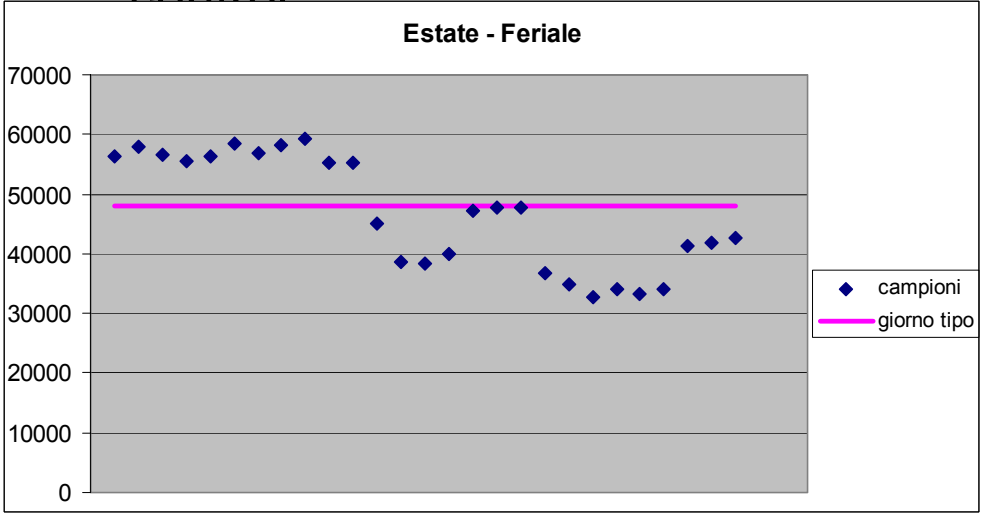


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Vehicles crossing before road pricing control: working days

Vehicles crossing after road pricing control: working days





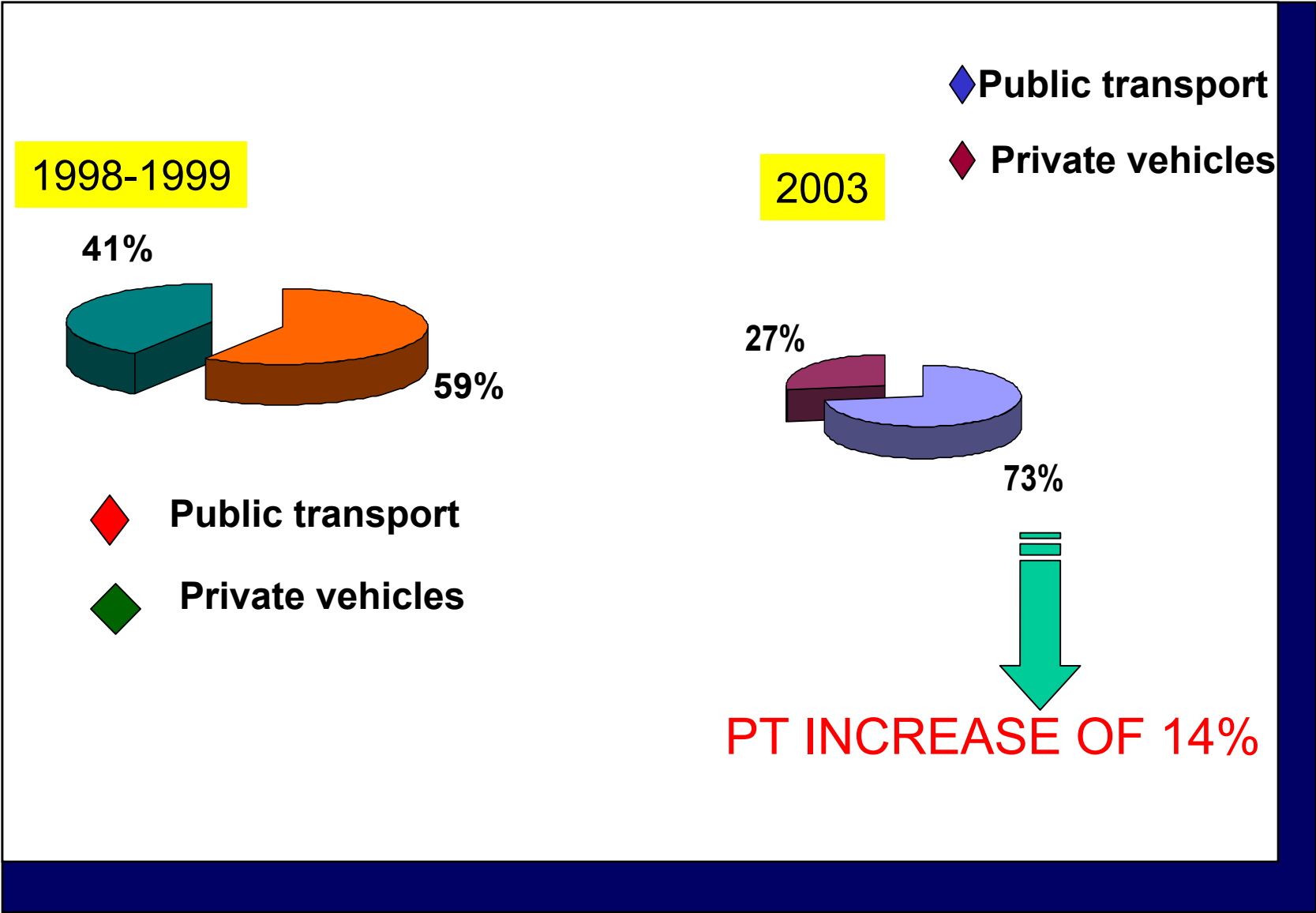
Cars entrances downtown: morning peak hour

1998 / 9.815      2003 / 4.832

the reduction is about 50%



# Entrances into controlled area: morning peak hour



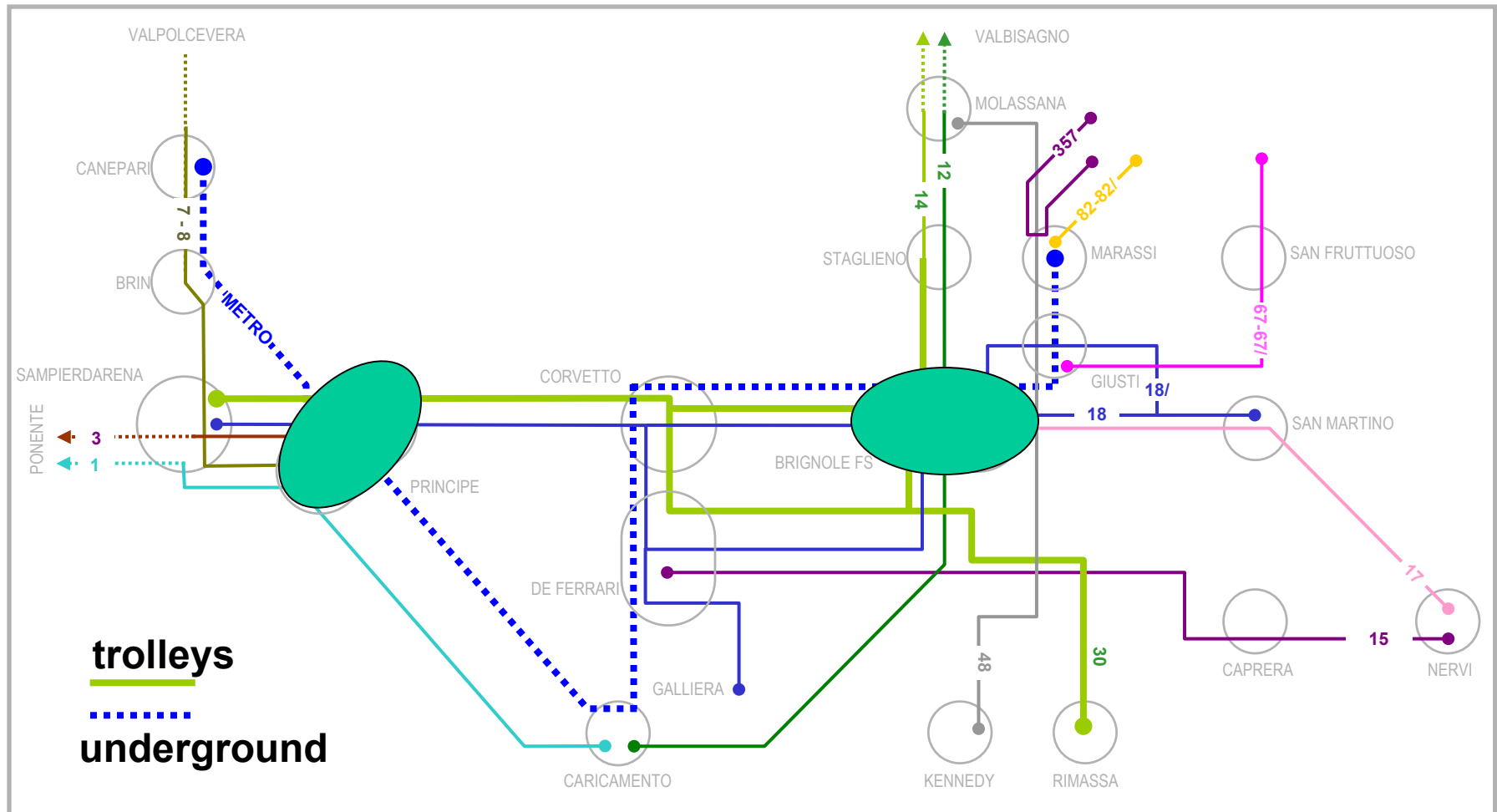
## **PUBLIC TRANSPORT FORECASTS**

	2002			2009		
<b>INHABITANTS</b>	<b>626.000</b>			<b>604.200</b>		
	<b>URBAN AREA</b>	<b>CITY CENTRE</b>	<b>OTHER AREAS</b>	<b>URBAN AREA</b>	<b>CITY CENTRE</b>	<b>OTHER AREAS</b>
<b>QUOTA PT</b>	<b>40%</b>	<b>44%</b>	<b>31%</b>	<b>45%</b>	<b>50%</b>	<b>33%</b>
<b>QUOTA CARS</b>	28%	25%	34%	25%	22%	32%
<b>QUOTA MOTOS</b>	12%	13%	9%	10%	10%	9%
<b>QUOTA WALKING</b>	20%	18%	26%	20%	18%	26%
<b>PT PASSENGERS</b>	<b>154 MILLIONS</b>			<b>170 MILLIONS</b>		



# 2009: PT network in central area

## Scheme of main routes, with trolleys and underground



## Air quality: a positive result

SITO	1999	2002
XX Settembre	21,07	7,44
Brignole	15,11	9,27
Quarto	9,39	9,39
Firenze	10,65	6,98
Bolzaneto	15,57	9,85

**Concentrazione CO valore max orario (mg/mc)**

SITO	1999	2002
XX Settembre	212,18	203,71
Brignole	190,55	179,78
Quarto	199,1	148,07
Firenze	283,17	183,37
Bolzaneto	190,55	183,77

**Concentrazione NO2 valore max orario (mg/mc)**

Periodo	Via Gessi	Via XX Settembre	Brignole	Quarto
01.01.1998÷31.12.1998	61	61		36
01.01.1999÷31.12.1999	59	67		38
01.01.2000÷31.12.2000	59			34
01.01.2001÷31.12.2001	57		72	32
01.01.2002÷31.12.2002	44		66	32

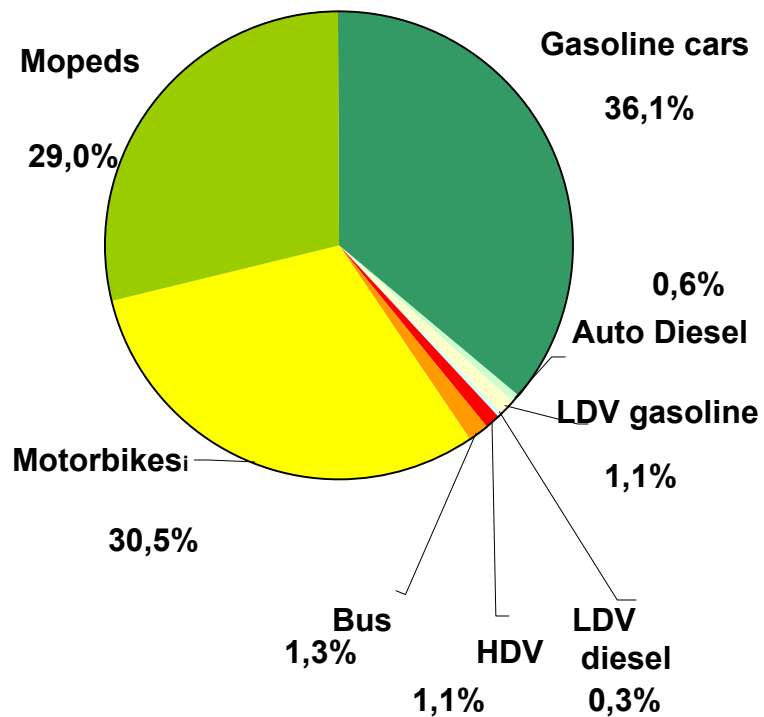
**Medie mobili mensili PM10**

	LIMITI ATTUALI	Limiti dal 2005
CO	media di 8 ore: 10mg/m3	10 microgr/m3
No2	media oraria da non superare più di 175 volte l'anno : 200 microgr/m3	media oraria da non superare più di 18 volte l'anno dal 2010: 200 microgr/m3
PM10	media annuale: 40 microgr/ m3	media annuale: 40 microgr/ m3

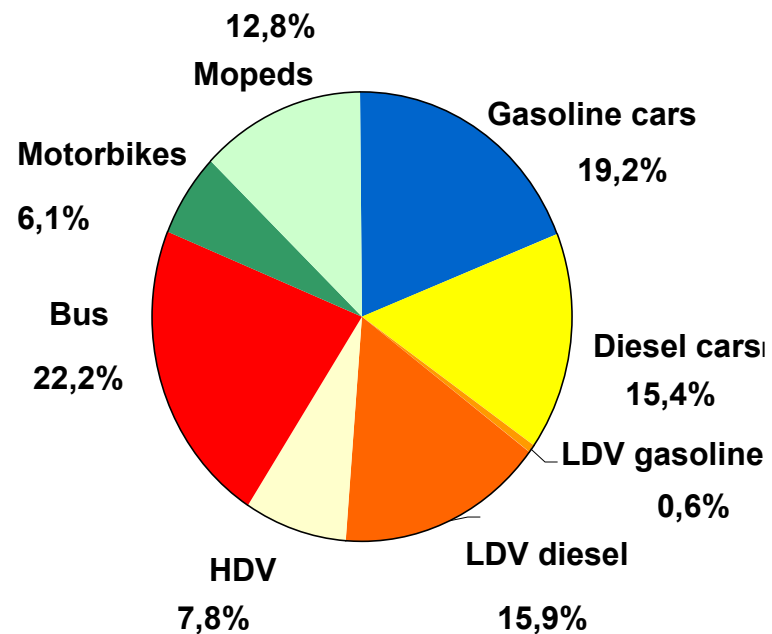
**Limiti sugli inquinanti da normativa**

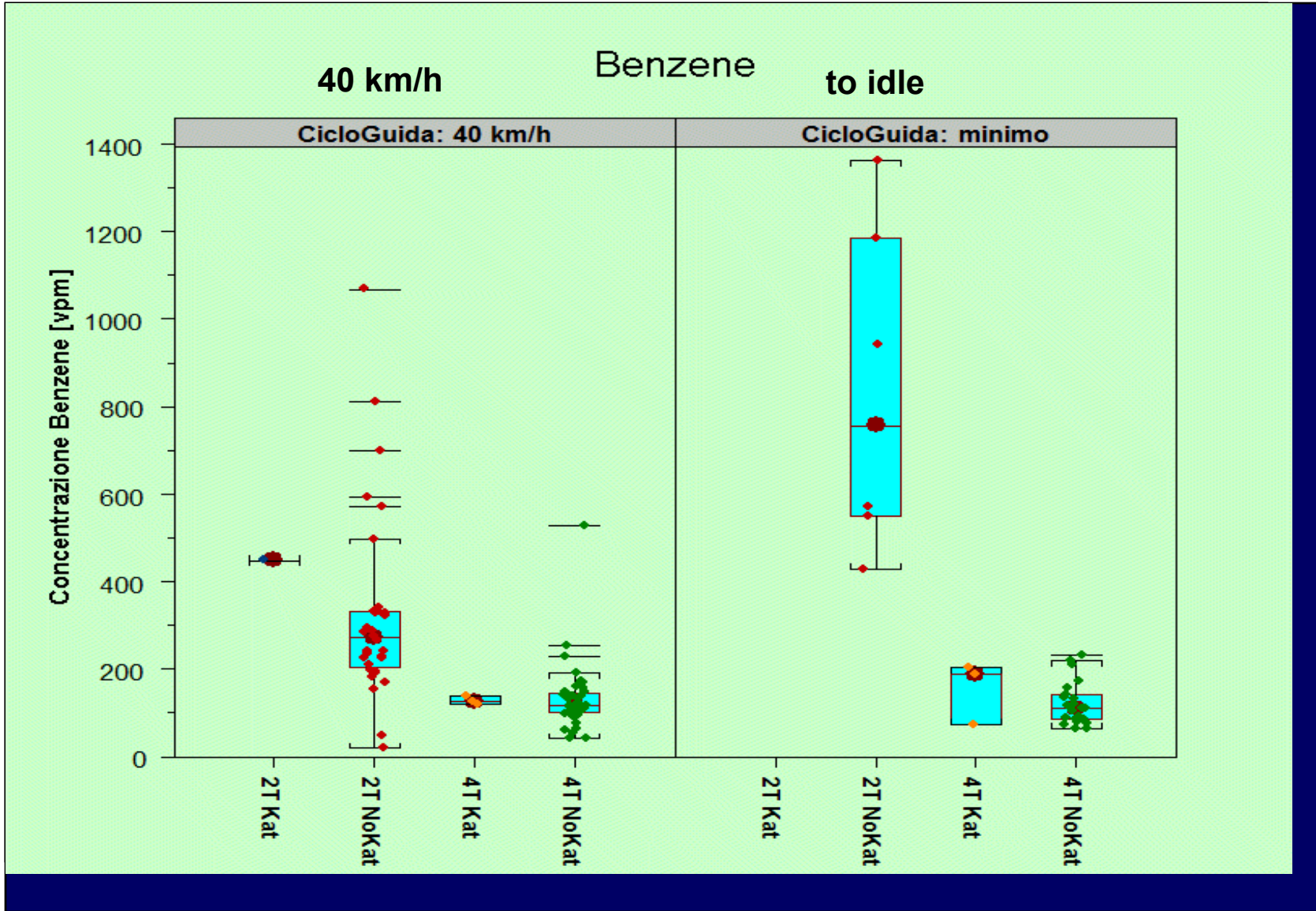
## Emissions by vehicles - 2003

HC



PM





## ***Genoa integrated plan: final results***

- the reduction of pollutants and the increasing of PT use, from 1998 and 2003 are the clear sign that Genoa City Council policies and actions for the central area are correct;
- these results allow the Council to make another effort to reach the turning point time toward a more clean and liveable city;
- new actions proposed by the department are:
  - an extension of the controlled area, the improvement of the pricing policy and of budget balance principles
  - the transformation of the Department into Authority, to have a new public transport integrated plan, with railway and underground and to launch a competitive tendering to manage PT services
  - circulation forbidden to “EURO 0” and two strokes vehicles in the urban area

