

2nd BESTUFS II Conference

18 / 19 May 2006

*Urban goods distribution
in Italy*

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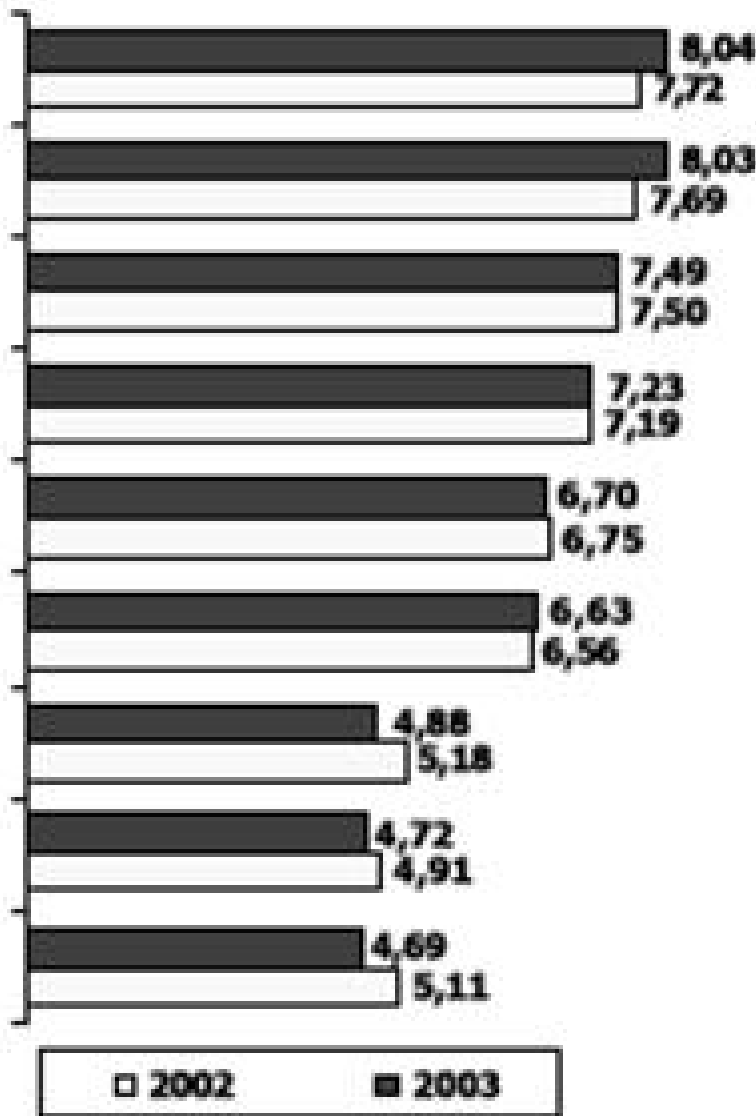
The evidence and one question

- Increasing **freight distribution** in Italian urban areas
- Increasing **negative externalities** produced by the distribution system in the urban areas
- But which is the **carrying capacity** of the Italian cities?

How many answers?

- They depend on:
 - the **urban structure** of the historical centre
 - the characteristics (services and infrastructures) of the urban **transport system** (both passengers and freight)
 - the **spatial organization** of the residential and the commercial activities of the cities' centre and of their suburbia
 - the **size** (SME) and the **location** (dispersion/industrial districts) of the manufacturing enterprises supplying the city
 - the **polarization** of the residential and the productivity activities of the region where the city is located (intensity of the commuting phenomenon)
- Potentially **8.000** answers!

Which policy should be implemented accordingly to the Italian citizens?



Subsidies to PT

No freight transport in LTZ

LTZ 0-24 all vehicles

Special lines for PT

Shops time windows

Car – pooling

Non residents parking charge

Access ticket to the historical centre

Access ticket to the city

Source: Isfort, 2003

How does the Italian policy maker deal with the problem?

- Mainly via **LTZ**, accessible depending on:
 - time windows (not overlapping with commuting schedules)
 - engine type (EURO, electric, hybrid, ...)
 - weight limits (< 3,5 ton.)
 - good typology (pharmaceutical, postal service, ...)
- and via **dedicated areas** for the **loading/unloading** operations to be done within time limits (15'-30')

How is this solution working?

- **Not** as it should/could
- because:
 - there are too many permits to get into the city centre
 - there is a lack of regulation enforcement
 - there is not enough information on the regulation implemented in each city
 - this policy approach does not stimulate virtuous behavior

...how is this solution working?

	Enforcement costs	Carrier's costs	Shipper's costs	Expected effects
Vehicle type	+++	+++	+	? air pollution, noise, monuments and historical buildings
Time windows	+	++	+++	? congestion
Routing	+	+	++	? congestion

(1) What about the other implemented or hypothesized solutions?

- Urban distribution centres (UDC):
 - both for big (Florence and Genoa), medium (Ferrara, Parma, Vicenza, Padua, Forlì) and small cities (Siena);
 - financed entirely (Genoa, Parma, Vicenza) or partly (Florence, Padua) with public subsidies, or financed mainly with private capitals (Ferrara);
 - using low-emission or zero-emission vehicles;
 - with no (or looser) access restrictions to get into the LTZ;
 - hypothetical (Rome, Florence, Siena, Forlì), experimental (Genoa), operational (Ferrara, Padua, Vicenza, Parma).

UDC costs and benefits

<i>COSTS</i>	UDC owner /manager	Carriers	Shippers/ consumers	Residents
Land, infrastructure, maintenance, management	X			
Transaction costs		X	X	
Transshipment		X		
No customer assistance		X	X	
New logistic organization of each supply chain stakeholder		X		
Higher negative externalities about the UDC				X
<i>BENEFITS</i>				
Lower urban negative externalities				X
Lower interurban delivery time		X		
Lower transaction costs		X		

How is the UDC solution working?

- Its (economic) **sustainability** depends on:
 - Public acceptance (bottom up process)
 - Freight flow size
 - Goods typology
 - Third party / own account transport services
 - Willingness to pay to use the UDC
 - Quality and type of services supplied by the UDC
 - UDC efficiency
 - Network externalities
 - Regulation

(2) What about the other implemented or hypothesized solutions?

- Payment of a **cordon charge**:
 - to get into the LTZ
 - implemented: Bologna (12 May 2006!), Genoa (experimental)
 - project: Florence, Genoa, Messina, Bolzano, Trento
 - against: Rome, Turin, Naples, Bari, Cagliari, Ancona
 - or to use the dedicated areas for the loading/unloading operations

Will the road pricing solution work in Italy?

- It depends on the following questions:
 - will it be applied identically both to the passengers and to the freight transport?
 - how much will it cost to enforce the system?
 - will it be able to substantially reduce congestion?
 - who will end up paying the fee:
 - the carriers, the shippers or the consumers?
 - will it reduce the attractiveness of the city?
 - will it be accepted?

The Genoa pricing hypothesis

- **Genoa: mobility credits**
 - max level of pollution and congestion ? Tot. # credits
 - individual credit budget = $f(\text{engine type, time window, working day, city zone, ...})$
 - credit charge
 - possibility to exchange credits with discounts for PT or other public services

A totally different approach

- **Piacenza** (www.piacenzamerci.it):
 - virtual “consolidation market” via web
 - freight transport demand and supply can post their needs-offers in a dedicated web site
 - carriers can exchange shipments to get a higher loading factor

<http://www.transpobank.it/borsanoli.html>

<http://www.teletransport.it/newweb/ita/pagine/servizi-tt.asp>

<http://www.clubtrasporti.it/>

<http://www.trasportale.it/servizio/registrati.php>

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Conclusions

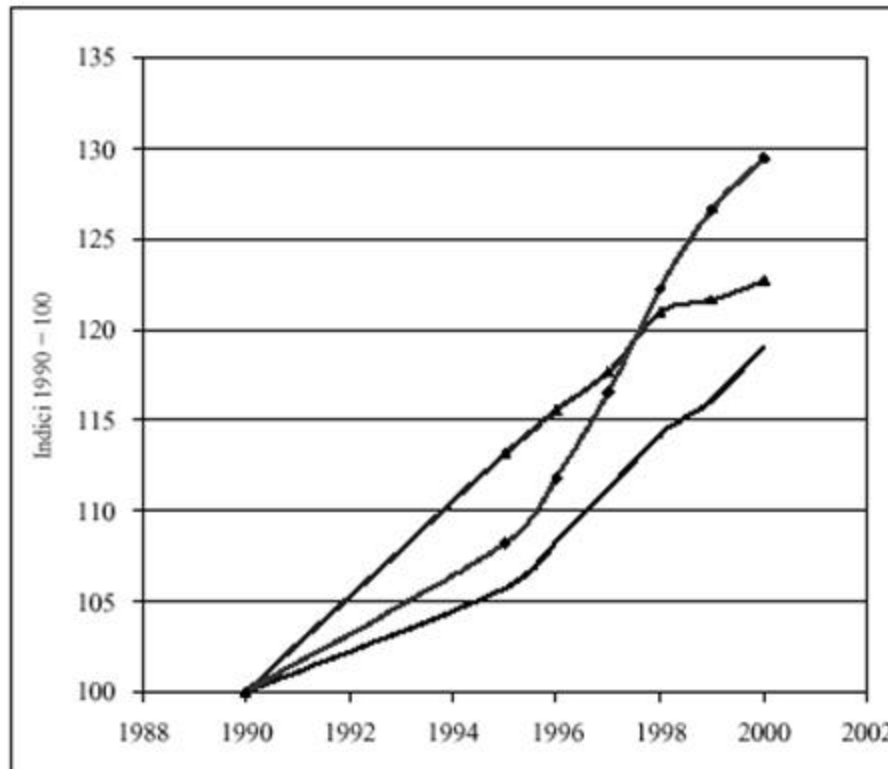
- Freight transport in Italy:
one problem with no one solution!
- Main policy adopted:
regulation ... but
 - high heterogeneity of solutions not clearly and diffusely publicized;
 - contingency solutions, rather than planned ones;
 - missing:
 - ex ante cost and benefit analysis;
 - auditing of the effects of the implemented solutions;
 - analysis of the logistic chain changes caused by the regulation.

...conclusions

- Are we looking in the right direction?
- What's missing in the supply side of the market in order to
 - (1) reach higher efficiency standards?
 - (2) meet the needs of the “own account side of the market”?
- We should better analyze:
 - (1) who drives the logistics chain and which policy would better address its characteristics;
 - (2) which are the reasons why the “own account side of the market” is not supplied by the “third party side of the market” and which policy would reduce the gap

Thank you very much!

Freight transport in Italy (1)



Muffii, S. and Malgieri, P. (2005) Lo stato della pianificazione dei trasporti in Italia, TRT Trasporti e Territorio Srl

22 km

average distance covered by 46% of freight shipments and by 60% of third party freight shipments (ISTAT)

88%

percentage of vehicles transporting goods within the urban areas weighting less than 3,5 ton

25%

loading factor of 30% of the vehicles serving the urban areas

GDP; Pax-km; Ton-km

Freight transport in Italy (2)

City	% vehicles used for freight transport
Roma	22%
Milano	15-20%
Bologna	25%
Basilea	18-24%
Hannover	12%
Norimberga	15%
Londra	11%

Curi S. e Dallari F. (2002) "City logistics: la logistica a supporto della distribuzione in ambito urbano"

Negative externalities

7.808 - 12.617 mil. €/year (Isfort, 2003)

City	Days with PM-10 exceeding max limits (gen. - march 2006)	Average PM-10 concentration 2005	Average NO2 concentration 2005	% check > 55 dBA 2003
Turin	77	77	79	20
Milan	64	66	70	100
Bologna	51	50	94	-
Venice	49	47	44	75
Rome	45	53	86	-
Palermo	40	49	73	89
Bari	32	66	57	-
Florence	14	52	86	-
Genoa	13	66	89	19

Source: Economy (3 May 2006; Ecosistema urbano 2005, Legambiente)²⁰

Own account preferences for UDC/regulation

<i>Optimum</i>	<i>Actual</i>
UDC €1/consignment 1 day UDC-shop track and trace storage	Own account € 100/y 10 km/h 8 h access TLZ L/U curbside 3,5 ton. Limit
All	
56%	44%
Food	
40%	60%
Home appliance	
69%	31%

<i>Realistic?</i>	<i>Actual</i>
UDC €3/consignment 2 day UDC-shop no track and trace storage	Own account € 100/y 10 km/h 8 h access TLZ L/U curbside 3,5 ton. Limit
All	
41%	59%
Food	
17%	83%
Home appliance	
43%	57%

LTZ accessibility for commercial vehicles

City	No access for commercial vehicles	Weight limits	Permits
Brescia	10-13; 17-6	3,5 ton	x
Ferrara	0-24		x
Milan	zonal		x
Padua	9:30-13; 16-19	3,5 ton	x
Parma	zonal	3,5 ton	x
Genova	zonal	3,5 ton	x
Roma	10-14; 16-20	3,5 ton	x
Siena	0-24		x