


Conference Sustainable campus Best practice and future challenges Science City / ETH Hoengberg Zurich 26 April 2007



## Methodologies of analysis and actions for sus-mobility

Fragments of sustainable mobility from the University of Bologna

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ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA



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## Methodologies of analysis and actions for sus-mobility

Fragments of sustainable mobility from the University of Bologna

Topics:

- Section I City of Bologna and the University presence
- Section II Commuter plan for workers and students - 2006
- Section III Aims and actions

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### City of Bologna and the University presence

## Alma Mater Studiorum University of Bologna

Overall number of students 108.853 Overall personnel: 6.043

● Bologna Resident population 373.743 inhabitants (31/12/2005) source: Municipality of Bologna  
 300.000 city users 2.000.000 total movements


● Cesena 5 different cities, with different urban models, history and scale  
 ● Forli ● Ravenna ● Rimini



Students in Bologna, about 85.000 Overall workers in Bologna, near 5.100

90.000 people move daily in Bologna with university destination

Alma Mater 's mobility problems involve different territorial scales: from urban spaces to regional dimension.




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### Focus on Bologna: main locations City integrated campus

Most University settlements are placed near the town centre of Bologna

In his town centre the city of Bologna has an urban medieval texture, characterized by narrow roads that create tough conditions of mobility (parking and moving)



- Town Centre: Faculty of Law, Economics, Statistics, Literature and Philosophy...
- Fair near town centre: Faculty of Engineering, Industrial Chemistry, Medicine
- Outskirt: Faculty of Agriculture, Lazzaretto - new settlement for engineering



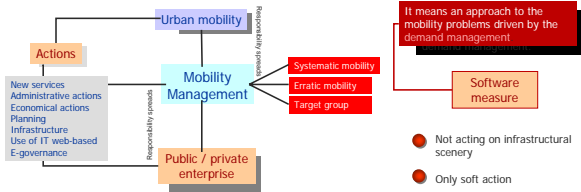
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## Mobility Manager Office


Legal source: Sustainable mobility in urban area Act - 27 march 1998  
 Public and private enterprises and departments with more than 300 units of personnel, or more than 800 based on different seats, have to define a mobility manager.

Mobility Manager Office defines conditions of accessibility to places of study and work, promoting sustainable mobility. According to the contents of the Sustainable mobility in urban areas Act of 27 march 1998, the office cooperates and shares with local agencies and authorities of Bologna actions and vision of sustainable mobility.



It means an approach to the mobility problems driven by the demand management

- Not acting on infrastructural scenery
- Only soft action



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## Software measures available for mobility management

- Basic services
- Providing of public transport tickets subscription (facilitated conditions)
- Improving of conventions and agreements with local agencies
- Sharing of information about traffic and transport
- Research applications in dynamic models of mobility development

### Strategies

- ▶ Persuasion → Communication, shared information oriented to create culture and conscience for the sustainable mobility, with aim to change life style (mailing list, e-paper...)
- ▶ Granting → New services (car sharing, car pooling, bike sharing, e governance applications for parking area...)
- ▶ Restriction → Park and road pricing, limited traffic zone, reducing use of private cars



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### Commuter plan for workers and students of Alma Mater Studiorum - 2006

**Critical matters**

- To define an omogeneous frame to the mobility management in University of Bologna → **Mobility** ↔ **Accessibility**
- To define general aims for all the campus → **Regional territorial (and not only)**
- To extend analysis and actions to any kind of personnel working in the campus → **Economical difficulties**

**Process:** Analysis phase → Objective phase → Actions phase → Evaluation phase

- Analysis phase: Analysis of external context → Urban locations; Analysis of internal context → questionnaire, interviews, focus group for homogeneous typology
- Evaluation phase: Feedback, evaluation grids, indicators

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### Example of internal context analysis: life style and mobility

The web based questionnaire [www.unibo.it/Mobility](http://www.unibo.it/Mobility)

- on line from June 2006: 1.100 applications
- No temporal limits – next upgrade June 2007
- Opportunity to extract/direct elaboration of data stream

Information about origin and destination  
Information about means and time of transportation  
Recognition on service quality in mobility

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### Life style and mobility in University of Bologna

Analysis by province of origin

**Workers**  
Tot. 6.043 80% from Province of Bologna

**Students**  
First daily movement  
Tot. 108.835 74% from Province of Bologna

Analysis by neighbourhood of origin in the city of Bologna

- Students: 22% resident out of Bologna, PHD students, collaborators 14% resident out of Bologna
- Professors and researchers: 22% resident out of Bologna, Administrative and technical staff 40% resident out of Bologna

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### Life style and mobility in University of Bologna

Used means to reach the place of work/study

- Professors and researchers:** 31% car, 11% motorcycle, 27% bicycle/foot, 21% bus, 10% train
- Administrative and technical staff:** 29% car, 8% motorcycle, 22% Bicycle/foot, 29% bus, 12% train
- PHD students and collaborators:** 12% car, 8% motorcycle, 45% bicycle / foot, 26% bus, 9% train
- Students:** 7% car, 4% motorcycle, 44% bicycle/foot, 30% bus, 15% train

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### Behaviour and motives

Main reasons for the choice of means of transportation

	Less stress	Economical	No space for parking	Time takes
Professors	44%	37%	21%	46%
Administrative and technical staff	45%	46%	21%	39%
Students	29%	60%	33%	38%

Multiple response fields

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### Aims and actions

**Aims**

- Share the culture for sustainability
- To reduce use of private cars → Increasing the use of public transportation for workers and students
- Promoting alternative means of transportation (car sharing, bicycle, ZEV) → Movements house to work, Mobility for duty (mission)
- Reducing level of pollution caused by traffic
- To introduce new mobility services and means of transportation (also based upon e-governance) → Shared information, better management for mobility

University of Bologna values the economical sustainability and manages the actions

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### Actions and actual state of progress

**Level of achievement**

- Promote public transportation (BUS + Train)**
  - Bus and Train ticket subscription (facilitated condition for workers and students)
  - Communication (mailing list, web site, newsletter)
- Incentive bicycles**
  - Promote bikesharing for foreigner students
  - Supplies of electrical bicycle for duty mobility
  - Increase space for parking
- Promote alternative new means of transportation**
  - Car sharing
  - Develop virtual notice book for car pooling management
- Communication** newsletter, mailing list, updates of web site
- Research applications in mobility management**
  - Develop dynamic models for pedestrian mobility
  - E-governance for parking area management

Legend: . Very effective, .. Fair effective, ... Not much effective

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### Take a look around the first results ..... basing upon experience

A balance between aims and actions

Objective	To develop connections	To promote public transportation	to promote sustainable vehicles	New mobility systems	To reduce the need of journey	To reduce the length of journey	To eliminate the traffic peaks
Infrastructures	...	..	...	..	.	...	..
Administrative measures	..	...	..	...	.	.	..
Economical measures	..	...	...	...	.	.	.
Innovative services	...	...	...	...	..	..	...
Planning	...	..	..	...	..	..	...
To use new technology	..	..	.	..	...	...	.

Legend: . Very effective, .. Fair effective, ... Not much effective

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See details:

**Mobility Manager Office** ■ General Administration  
<http://www.eng.unibo.it/PortaleEn/University/General+Administration/MobilityManager.htm>  
<http://www.unibo.it/Mobility>

**Physics of the city** ■ Research  
<http://www.physicsofthecitylab.unibo.it>

Thank you  
Roberto Battistini