Mobility management, a solution for urban congestion regarding EU best practices

Muriel Mariotto
Mobility management (MM), a solution for urban congestion regarding EU best practices


- Mobility management principles & examples of measures

- What can mobility management? How can MM solve congestion troubles? Regarding the spacial, the temporal, the modal dimension.
THE PEP workshop in Moscow – Sustainable development of urban transport: challenges & opportunities

07/06/2012
Limitations of transport policies based on a car offer

Space occupancy

75 people can choose 60 cars for travelling or only 1 bus:

http://epomm.eu/terms/index.phtml?Main_ID=2928
Pollution

Figure 1: EU-27 greenhouse gas emissions by sector, 2008 (percentage of total)

Comparison between 2004/1990:
- Energy
- Transport
- Industries
- Agriculture
- Waste

Environmental issues

Health issues

Number of months of life expectancy lost due to PM2.5
International Institute for Applied Systems Analysis

Source: EEA, also available at Eurostat (online data code: eicr2160)
In France, roads in 2010 have entailed:
- 67,000 accidents
- around 4,000 killed people
- cost: more than 23 billions of euros = 1.3 pts of GDP

Lack of activity is growing:
- More than 25% of American people have an obesity tendency
- The obesity tendency has increased of 1 pt every year in the Luxembourg for the last 10 years
- 1/3 of French people do not practice the 30 mins of exercise recommended by the WHO

Obesity can make 7.1 et 5.8 years of life expectancy lost for non-smoking 40-years old women and men (Peeters & al. en 2003)

- In France, households spent in 2004, 15% of their money for transport, around 5140 euros/year
- 83% of these expenditures are linked to car trips

Consumption expenditure of households on goods and services, EU-27, 2006 - Source: Eurostat
Economic effects

- Congestion for EU countries ~2 pts of GDP /year (COMPETE project)
- In 2007 the negative impact of urban roadway congestion on the US economy:
  - ~ 87.2 billions of dollars (Texas Transportation Institute TTI, 2009)
  - with + 50% between 1997 - 2007
- Lack of awareness of how much it’s cost (in time spent, in money)
  - Individually,
  - In the enterprises,
  - At the collective level.

- In Montreal, in 2003, 22% of trips duration was due to congestion.
- That means 76.7 millions of hours lost and was valued to 1.42 billions of dollars (Quebec transport ministry, 2009)
Solution = ? More capacity offer & technology

- Limitation of the Zahavi's law
  - Time lost now
- Technology can help
- It won’t be enough!
- Structural problems
Objectives: make the offer and the demand better fit & increase the effectiveness of infrastructural investments

Means: In promoting sustainable transport and managing the demand for car use by changing travellers’ attitudes and behaviour

With soft measures, to foster the solutions mixing incentives, constraints, explanations

Based on:
- tailor-made travel information
- marketing/promotion/awareness raising
- organisation/coordination/planning
- education & training
- fiscal & economic

Further more on:
### Examples of MM measures

<table>
<thead>
<tr>
<th>Travel types</th>
<th>Means of transport</th>
<th>Type of measures</th>
<th>Information, awareness raising</th>
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</thead>
<tbody>
<tr>
<td>Home to work travel</td>
<td>Public transport, company bus</td>
<td>Direct access and short distances from the public transport stop to the company ground; etc.</td>
<td>On-site ticket sale, Job-Tickets; company bus service; shuttle-bus service to main public transport stops; guarantee ride home; etc.</td>
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<td>Bicycle</td>
<td>Protected bike stands; lockers; showers; etc.</td>
<td>Cycling subsides on expenses associated with cycling to work; subsidies on bicycle purchase; on-site bike repair service; provision of rain gear; etc.</td>
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<td></td>
<td>Parking management</td>
<td>Rationing of parking spaces (or at least not extend the actual offer); etc.</td>
<td>Parking charges; parking allowances management adopting accessibility criteria; parking cash out</td>
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<td>Car-Pooling</td>
<td>Dedicated parking space for car-poolers; etc.</td>
<td>Reduced parking charges for car-poolers; on-site matching service; etc.</td>
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<td>General</td>
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<td>Teleworking; compressed work week; etc.</td>
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<td><strong>Infrastructure</strong></td>
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<td>Business travel</td>
<td>Public transport</td>
<td>Same measures as for home to work travel</td>
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<td>Business travel regulations in favour of public transport use, etc.</td>
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<td>Bicycle</td>
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<td>On-site bicycle pool for short distance business travels; etc.</td>
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<td>Car-Sharing</td>
<td>Participation on Business Car-Sharing schemes of Car-Sharing provider</td>
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<td>Information on offer; etc.</td>
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<td>General</td>
<td>Teleconferences</td>
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<td>Information on offer; etc.</td>
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<td>Energy efficient car use</td>
<td>Energy efficient driving</td>
<td>Participation in courses for Eco-driving</td>
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<td>Information on offer; on-site action days with course provider</td>
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<td>Energy efficient Fleet management</td>
<td>Rationing vehicle fleet (or at least not extending the fleet); energy efficient company cars</td>
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<td>Customer travel</td>
<td>Public transport</td>
<td>Same measures as for home to work travel</td>
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<td>Information on accessibility of the site with public transport; etc.</td>
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<td>Parking management</td>
<td>Same measures as for home to work travel</td>
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<td>Parking charges</td>
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<td>Information on parking management at the site; etc.</td>
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</tbody>
</table>
### Examples of MM measures

**organisation:** public authority  
**target:** companies  
**location:** urban area  
**size:** more than 500 employees

The following list gives you guidance on the mobility management measures likely to be appropriate for the kind of user, target group, target location and size that you have selected. The green bar next to each measure listed shows its relevance to your precise context, as estimated by MAX experts.

<table>
<thead>
<tr>
<th>Measure</th>
<th>not relevant</th>
<th>fully relevant</th>
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</thead>
<tbody>
<tr>
<td>Site-based Parking Management</td>
<td>1</td>
<td>3</td>
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<tr>
<td>Travel Awareness Campaign &amp; Events</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Car Sharing</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Advertising &amp; other promotion actions</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Pool Bikes</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Mobility Consultant / Mobility Manager</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Multimodal information &amp; trip advice</td>
<td>8</td>
<td></td>
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</tbody>
</table>

To get detailed information on the recommended measures please click on the corresponding link.
**Travel/mobility plans for working places - e.g. the French experience**

Travel plans is a long-term management strategy used by an organisation to promote more sustainable transport amongst staff, visitors and deliveries to its site.

In France, in 2009, 7% of salaries were working in a working place involved in such an approach.

**RESULTS:**
Around 10 pts of modal shift, i.e. 30 pts gained vs 20 pts lost for car modal share.
Integration of all information within a mobility office – e.g. Mobility Centre in Graz; Mobidesk in Belgium; French centres (Nantes, Toulouse…)

Mobility offices aim to:
- establish mobility plans for companies and schools
- propose new forms of sustainable travel to users
- integrate the different information systems for the traveller for providing them comprehensive information
Awareness campaigns and education – e.g. « School Traffic Snake Game » in Belgium

- mobility management for children
- encourages children to travel to school using environmentally friendly transport means
- long term effects expected, educational means
- snowball effects for the parents
- dissemination of this game to other countries
- can be part of a school mobility plan
The integration of infrastructural measures and mobility management – ex. Corporate Cycling in Italy (Bolzano)

Action plan, started in the beginning of the 2000:
- coherent cycling network (hierarchy, highways…)
- attractive cycling parking areas & safe parking places
- information (signposting)
- marketing (campaigns, cycling barometers, one unique brand…)

RESULTS:
From 2002 to 2005, cycling share went from 17.5% to 22.7%
Evaluate the impacts of MM

- Not an easy task
- But start of an EU data base on the costs/benefits of MM measures:
- Max Sumo & Max Eva tool
**Examples of MM efficiency**

*Solving congestion problems:*

- It’s not only about capacity and new routes!
  - « The fundamental Law of Road Congestion » (Downs)
  - « Bottleneck concept »
- Recommendation: a global vision with an hierarchical network, mix the uses of space, « sharing spaces », Low Emission Zones…
- Fight the sprawling
  - Less urban density, more fuel consumption (Newman&Kenworthy)
    - Cornerstone: an integrate approach mixing land-use planning and transport policies –
    - SUMP: Sustainable Urban Mobility Plans
    - Targets: decision makers
THE PEP workshop in Moscow – Sustainable development of urban transport: challenges & opportunities

07/06/2012

Sustainable development of urban transport: challenges & opportunities
Education, awareness for all

Max Lupo tool

- When is site-based MM effective?
  - choice of modes for site-users
  - location of the site / quality of accessibility
  - integration of land use and transport planning

How can public authorities enhance consideration of MM at the site-actors?

- requiring MM directly
- influencing number of parking spaces

MAXlupo: policy recommendations

- advise
- negotiation
- condition

The real costs of car use
Solving congestion problems:

- It’s not only about rush hours!
  
  Existing capacity out of rush hours  
  => manage the offer/demand  

- Economical incentives: congestion charging schemes

Stockholm or London examples: show a demand elasticity to price with an impact on the travel hours

RESULTS:
Decrease of 26% of the congestion in charging zone
Little or no change in number of trips to central area
50 – 60% moved to public transport, 20 – 30% divert round zone, 15 – 25% other adaptations
Estimated ratio for benefits/costs=1.7
Dynamic traffic management: flexible dedicated lane in concordance with the situation, the schedules…:
e.g. the reversible Madrid system of BHLS with its entry to Madrid in the morning and its departure from Madrid the afternoon

RESULTS:
Before/after speed for the buses: *2 with a modal share having increased from 17% to 28%
An example of a dynamic traffic management: The London Olympic Games action plan

Online travel planner showing rail ‘hotspots’...

Impacted areas - Day2
Estimation of these behaviour changes on the hotspot hours in the London Bridge Tube station:
Solving congestion problems:

- It’s not only about incentives!
  - Also for PT: offer oriented strategy => capacity troubles

- Then, besides a better PT offer for a seamless and more appealing offer to users
  - ITS are efficient solutions with a good ratio benefits/costs ~ 15€/t. CO2 economised
  - The key action is: not providing free parking!
    - Easy its use by mobility centres, make the signposting also for pedestrians and cyclists!

In Le Havre (France) in 2007:
- When you have a free parking at your office, car share is 80%
- When you have difficulties for parking, car share is 50%

Cooperation between the transport authorities
CONCLUSION

- Provide a reliable alternative PT system, space for pedestrians and cyclists
- Make the alternatives easy, visible and seamless
- Strengthen the constraints on car parking
- Have an integrated approach of town planning & transport
- Foster carsharing & mobility services to pull behaviour changes
- Put in place MM measures to make your transport investments and policies more efficient!

Which future regarding lessons learnt?
To go further

EPOMM (www.epomm.eu) can help

One unique portal
Support to national networks on MM
An annual conference (the coming one: next week)
A monthly thematic enews
Trainings
Capitalisation of EU projects on MM
The EU data base on MM projects and their evaluation
Max Tools & urban modal splits data base
Support to policy transfer
Thank you for your attention!

Спасибо за внимание!

Muriel Mariotto

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