Tools and Methods for assessing the health and environmental impacts of urban transport in France

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Outline

Purpose:
To present environment assessment tools used for Urban Mobility Plan in France.

- CERTU
- Urban transport planning in France
- Environmental diagnosis: methodological aspects
- Example and results
What is Certu?

Agency of the French Ministry of Ecology, sustainable Development and Spatial Planning. 170 employees in Lyon

Capitalizes, develops and disseminates knowledge and methodologies on a wide variety of urban issues: Town Planning and Travel, Housing, Accessibility...

For local government agencies, local authorities, institutes and companies which are involved in public service activities.

www.CERTU.fr
Urban transport planning: how to reduce traffic environmental impacts?

French ministry SD:

New laws

- “Grenelle de l’environnement” (2008)

Development Plan for Public Transport
- 1500 km (2020)
- 2.5 billion euros

Agencies: Certu, Ademe...

Local authorities

Environmental diagnosis: MED

Urban Mobility Plans (PDU)

Reduce car traffic in cities
Focus on Mobility Environmental Diagnosis (MED).

- Since 1996, Urban Mobility Plans are compulsory for each city (> 100,000 inh., every 5 years).
- Environment assessment must be done.
- “Mobility Environmental Diagnosis” (MED) have been developed by researchers, agencies, ministry engineers,….

**MED Objectives:**
- to determine the overall pollutant emissions generated by the traffic
- to estimate and relate the inventory of mobility-related energy consumption and pollutant emissions to the individual mobility behaviours,
- to simulate the variations of these environmental impacts as a result of changing individual behaviour depending on socio-economic determinants and political actions.
Focus on Mobility Environmental Diagnosis” (MED).

Methodology in 3 Steps:

- Mobility Data: survey and analysis
- Urban trips Modeling
- Impacts environment assessment
1. Standardized and consistent travel surveys

*Local travel surveys in urban areas, with the « Certu standard » method:*

<table>
<thead>
<tr>
<th>Category</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big towns</td>
<td>EMD</td>
</tr>
<tr>
<td>Large areas</td>
<td>EDGT</td>
</tr>
<tr>
<td>Medium size towns</td>
<td>EDVM</td>
</tr>
<tr>
<td>National Transport Survey</td>
<td>ENT</td>
</tr>
</tbody>
</table>
1. Standardized and consistent travel surveys

- More than 70 surveys in 60 different cities since 1970 with Certu methodology
- More than 30% of the French population.
1. Standardized and consistent travel surveys

A guidebook has been published, sold on our website: www.certu.fr

• All the material needed is on a Cd Rom joined to the guidebook (questionnaires, letters, list of controls required, etc.)
2. Urban transport modeling

→ To estimate traffic flows, traveled distance, speed and cars characteristics

Multimodal model for urban transport planning,

3. Impacts environment assessment

- *Emissions equation models are* based on Copert 4, a software aiming at the calculation of air pollutant emissions from road transport. Financed by the EEA (European Environment Agencies). Download: [http://lat.eng.auth.gr/copert](http://lat.eng.auth.gr/copert)

- A software, *Environment Energy Assessment of Trips (DEED)* adapted to the French surveys, has been developed by Ademe: [www.ademe.fr](http://www.ademe.fr).

- A adapted tool (Ademe /Certu) will be finished for the end of this year.
Results: car use is decreasing...

Car modal share (%)

Public transport, walking, cycling are increasing....
Example: Lille

Lille, a city in North of France
1.1 Million inhabitants
Example: Lille, evolution 1998-2006

- Main pollutants emissions (carbon monoxide, hydrocarbons, nitrogen oxides and particles matters) are decreasing.

- Technology improvements and car use decreasing.
Example: Lille, evolution 1998-2006

Average individual CO2 emissions in 2006

Urban sprawl is a main factor to explain the pollutants emission → large area of analysis is needed.

Evolution average individual CO2 emissions 1998/2006
Example: Lille, transport goods

The next mobility plan have to be more focus on good transports.
Conclusion

- “Mobility Environmental Diagnosis” (MED) seems to be essential to succeed in urban transport planning and in car environmental impacts decreasing.

- Tools exist and can be adapted for different contexts of cities.

- Key Factors:
  - Good data quality
  - Harmonized methodologies
  - National/local levels interaction
  - Benchmarking
  - Transparency
Thank you for your attention....

www.certu.fr
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Certu’s missions

 Statistics, observation, standardization

 Developing methodologies

 Information letters

 Articles in the specialized press

 Web site

 Technical recommendations

 Training sessions, conferences

 Publications

 Studies

 Capitalizing knowledge

 Experimentation and innovation

 Disseminating
Fields of activity

- Sustainable Development
- Cities accessible for all
- Town Planning and Travel
- Road access for all
- Risks and Urban Planning
- Energy

- Road Traffic and safety
- Systems of Transportation
- Environment
- Cities and Public Facilities
- Horizontal projects
- CERTU
- Geographical Information
- Urban Planning and Housing
- Roads and Public Space
- Mobility and Transport