The concept of Buses with a High Level of Service in France (BHNS)

TranSUrban International Seminar
Valdemoro - 27/28 November 2006
Certu’s mission

Statistics, observation

Studies

capitalizing knowledge

Experimentation and innovation

disseminating knowledge and methodologies

Information letters

Articles in the specialized press

Web site

Technical expertise

Training sessions, conferences

Standardization

Publications
1. Context of urban public transport in France that led to BHNS

2. The concept of BHNS

3. Different kinds of BHNS - Examples
1. Context of urban public transport in France
Until the 70’s, the Paris metro stood alone

Transport Tax (« Versement Transport » in french) introduced in Paris (1971), then in others regions (1973)

Incentive for construction of metros in the largest cities
70’s – 90’s : the era of metro (2/2)

City Creation Population Lines
Marseille 1977 1 350 000 2
Lyon 1978 1 350 000 4
Lille 1983 1 000 000 2
Toulouse 1993 760 000 1 (1)
Rennes 2002 272 000 1
From the end of 80’s : the re-birth of tramways (1/2)

• More adapted to the needs
  – lower capacity
  – lower costs

• Also an urban tool
  – Sharing streets
  – Urban enhancement tool

<table>
<thead>
<tr>
<th></th>
<th>Capacity (pass./hour)</th>
<th>Cost (M€/km)</th>
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<tbody>
<tr>
<td>Metros</td>
<td>12 000</td>
<td>70</td>
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<tr>
<td></td>
<td>32 000</td>
<td>80</td>
</tr>
<tr>
<td>Tramways</td>
<td>1 300</td>
<td>15</td>
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<td></td>
<td>6 400</td>
<td>28</td>
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From the end of 80’s : the re-birth of tramways (2/2)

• Results :
  – 321 km of tramways in 15 cities

• At the planning stage :
  – 128 km of extension in the 15 cities
  – 87 km in 7 « new cities »

• Real change of mentalities
And now? What’s happening in France?

- Tramways are no more adapted
- Buses are suffering from a negative image
  - Increase of congestion
  - Lack of investment
- How to fill the gap between traditional bus and tramway with limited financial resources?
  - Image, level of service, quality of service
2. The french concept of BHNS
Level of Service – Quality of Service

- **Level of service** → rule, planned
  - Frequency, Capacity
  - Speed
  - Comfort
  - Security and safety
  - Barrier free, Interchanges
  - ...

- **Quality of service** → carrying out

- BHNS integrates the 2 points
From BRT to BHNS

- Concept inspired by BRT
  - It’s not a label
  - It’s adapted to french context

- Not to be opposed to tramways
A gap in terms of capacity

Débits horaires usuels, avec une densité de 4 pers/m²

- Train RER (3 min)
- Métro (3min à 90s)
- Métro automatique léger (60s)
- Tramway de 40 m (3 min)
- BHNS (3 min)
- Autobus (1) en site banal (6 à 8 min)
- Mini/midibus en site banal (6 à 10 min)
- Navette automatique à câble (20s à 3min)
- Trottoirs roulants

Passagers/heure/sens (échelle logarithmique)
A global system approach

Vehicle

Infrastructure

Stations

ITS

Running, networking
Adapt the recipe to the need

Bus Line 1 Grenoble  
Busway Nantes
Identification of the BHNS (1/2)

• The name and the logo

Certu

Teor

Bus Way

Le Triskell

L1 L2 L3 L4 L5 L6 L7

Divia
Identification of the BHNS (2/2)

- The place within the network
3. Different kinds of BHNS

![Map of France with BHNS locations]

- BHNS in service
- BHNS under construction or planned
Main lines for smaller cities: Nimes

- 150,000 inhabitants
- 13.5 km

- Dedicated lanes in the dense centre
- Ticketting at the station (not in the bus)
- Park and Ride policy
- A progressive system
Main lines for smaller cities: Lorient

- Possibility to be linked with urban redevelopment
- Give space back for walking and cycling

120,000 inhabitants
Major lines for big cities: Lyon (1/2)

- C1 = 7.8 km
- C2 = 10.5 km
- 23,000 trips/day
- 24 Iribus Cristalis, 18 m
- 60 M€

1st stage (2006)

2009

Map showing the routes and stops of the buses.
Major lines for big cities: Lyon (2/2)

- 1 bus/10 minutes
- Regular and easy-to-remember schedules
Major lines for big cities: Grenoble (1/2)

- Line 1 in 1998:
  - 9 km
  - 1st route but also the slowest \( (V = 15 \text{ km/h}) \)
  - 12,000 trips/day
  - Decrease of customers
Major lines for big cities: Grenoble (2/2)

- Improvements:
  - 20% to 70% of dedicated lanes
  - Priority
  - Stations with safety areas
  - Better accessibility

- Line 1 in 2005:
  - 20% faster
  - Frequency 5 min. instead of 7 min.
  - 19 000 trips/day (+58%)
Suburban lines : Toulouse

- 760,000 inhabitants

- Major rapid transit lines:
  - 2 lines Metro (A, & B in 2007)
  - Regular & High frequency railway C & D
  - Tramway (E in 2009)

- High Quality Bus Corridor linked with metro

- Interchange hubs
Suburban lines: Strasbourg (1/2)

- 430,000 inhabitants
- Far from rail network
- 2 lines of intercity coaches (3,500 trips/day)
- Congestion on RN4 when going through the towns
2001:
- 1.1km of dedicated lanes between Furdenheim & Marlenheim
- 20% more passengers

2006:
- Coaches priority when crossing towns
Express line on highways: Grenoble

- 2002: dedicated lane on the access road
- 2007: 4 km on the emergency lane
For more information

http://www.bhns.fr

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Last minute: COST action on Buses with a High Level of Service

• Proposed by CERTU and Nantes Metropole
• Accepted by European Committee last week

• Purpose:
  – Create a group of european experts
  – Identify best practices
  – Carry out recommendations

• 4 working groups:
  – Infrastructure
  – Vehicles
  – Operating issues
  – Socioeconomic issues and networking
Thank you for your attention