benefits of transport services using shared taxis

Expert Group Meeting on Sustainable Urban Transport:
“Modernizing and Greening Taxi Fleets in Latin American Cities”
18-19 May 2011
Rido de Janeiro, Brazil
Agenda

- Shared-transport services
- Shared-taxi services
- Benefits
- Santiago de Chile
- Success factors / obstacles
- Summary
Shared-transport services

Urban shared-transport services that enable using smaller and medium-capacity vehicles (automobiles, vans and mini-vans) shared by several passengers with greater or less flexibility of itineraries and stops depending on the type of service that is required.

• Local substitutes for regular public transport in areas of low density, at off-peak hours or specific services (airport, industrial centers, school transport, etc.).

• A little-used resource in transport planning.

• Efficacious services in answer to the demand.

• Positive environmental and social results.
Shared-transport services

• All set to become open services integrated with the urban-mobility system rather than a service for specific users.

• Aspects and tendencies to take into account as regards design or characterization of the specific shared-transport services:
  
  o Degree of flexibility (trade-off between flexibility of itinerary and grouping of passengers).
  
  o Tendency to door-to-door services: the client decides on the start, destination and time of the service; the service is excellent, similar to taxis but these are difficult for combining journeys, which calls for more vehicles (an opportunity for innovation in the use of mobile communications systems).
  
  o Services have fixed itineraries and pre-determined stops, and follow a timetable to facilitate grouping demand; similar to public transport, the service is also seen as being close to the regular line of public transport.
Shared-taxi services

- Possible variations:
  - Flexible service in a broad area defined with some fixed stops.
  - Driver has the flexibility to stop at intermediate points or make short deviations to the established corridor.

- The final design is purely technical but the criteria as to performance of these services should be defined by the policy priorities (kilometers, average occupation, timetables, waiting periods, etc.)

- The potential demand is difficult to quantify, but the estimated priority segments will be:
  - Young people
  - Night-shift workers
  - Low-income groups
  - All those who do not have a car (by option or for economic or health reasons)
Key benefits of shared transport

• More efficiency in transport services:
  o Less vehicles needed to attend to the total demand for journeys.
  o Lower total number of journeys.
  o Less infrastructure needs (parking).
  o Less journeys with just one passenger.

• Lower total costs of mobility for automobile / regular-taxi users.

• Less environmental impact of transport services:
  o Less emissions
  o Less energy consumed
  o Less traffic congestion

• Improvements in the integral public transport system.
Santiago de Chile

Car ownership expected to increase even more: Automobiles per inhabitant

Tasa de motorización aun debe crecer

<table>
<thead>
<tr>
<th>City</th>
<th>Automobiles per inhabitant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belo Horizonte</td>
<td>0.22</td>
</tr>
<tr>
<td>Buenos Aires</td>
<td>0.1</td>
</tr>
<tr>
<td>Caracas</td>
<td>0.32</td>
</tr>
<tr>
<td>Ciudad de México</td>
<td>0.26</td>
</tr>
<tr>
<td>Córdoba</td>
<td>0.29</td>
</tr>
<tr>
<td>Guadalajara</td>
<td>0.27</td>
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<tr>
<td>León</td>
<td>0.33</td>
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<tr>
<td>Lima</td>
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<tr>
<td>Montevideo</td>
<td>0.16</td>
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<tr>
<td>Porto Alegre</td>
<td>0.18</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
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<tr>
<td>San José</td>
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<tr>
<td>Santiago</td>
<td>0.23</td>
</tr>
<tr>
<td>São Paulo</td>
<td>0.14</td>
</tr>
</tbody>
</table>

Fuente: CAF, 2009

Supporting efficient and sustainable development of transport
Santiago de Chile
Comparative mobility indicators: Journeys – inhabitant per day (2007)

Indicadores comparativos de movilidad

![Graph showing comparative journeys per inhabitant per day for different cities.]

Supporting efficient and sustainable development of transport
Santiago de Chile
Comparative mobility indicators: Time spent (hour/inhabitant/day) (2007)

Indicadores comparativos de movilidad

![Chart showing comparative mobility indicators for different cities in 2007.]

Supporting efficient and sustainable development of transport
### Santiago de Chile

**Airport minibuses/School transport/Shared taxis/Urban buses/Regular taxis**

<table>
<thead>
<tr>
<th>Type</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minibuses Aeropuerto</td>
<td>97</td>
<td>0%</td>
</tr>
<tr>
<td>Transporte Escolar</td>
<td>7,638</td>
<td>15%</td>
</tr>
<tr>
<td>Taxi Compartido</td>
<td>10,654</td>
<td>21%</td>
</tr>
<tr>
<td>Buses Urbanos</td>
<td>6,315</td>
<td>12%</td>
</tr>
<tr>
<td>Taxi Básico</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Transport System Fleet / Total: 50,934**

Supporting efficient and sustainable development of transport
Santiago de Chile

Average age of fleet: Airport minibuses/School transport/Shared taxis/Urban buses/Regular taxis

Antiguedad promedio

- 3.4 years
- 4.5 years
- 4.4 years
- 8.8 years
- 1.9 years
Santiago de Chile
(shared taxis)

- Shared taxis / “Collectives”:
  - Authorized services contributing to a less than optimal situation.
  - Excess supply (+contamination, +congestion, +empty journeys).
  - Atomization (thousands of owners of 1-2 vehicles grouped together in Associations of Micro Owners who operate specific “lines” (specific services).
  - 330 “lines” – Services with an average fleet of 32.3 vehicles
  - Low entrepreneurship – low productivity – low level of technological application.
  - Very little integrated to the TP System: Bus-Metro (for example, use of exclusive corridors).
Santiago de Chile
(shared transport at the airport)

• Shared-transport services to and from the airport
  - Entrepreneurship.
  - More efficiency and application of technology.
  - Services:
    ✓ Accident insurance
    ✓ Communication with central office
    ✓ Air-conditioned
    ✓ Professional drivers
    ✓ Maximum waiting time at airport (15 min.)
    ✓ GPS-controlled vehicles
Success factors – shared transport

System:
• Mobility problems in cities require a wide variety of services.
• Growth in population density facilitates developing shared-transport options.
• Transport systems should include and integrate as many modalities as possible.
• Greater citizen consciousness and flexibility to seek innovative mobility solutions (Shared Taxi, Car-sharing, etc.).
• Government support.
• Penetration of Information and Communications Technology (TIC).

Operators:
• Concentration / Professionalization.
• Improve the capacity to apply technology in processes.
• Energy Efficiency / Carbon Footprint Certification.
• Innovation in services.
Possible obstacles

• Operators lacking the capacity and management structures to improve productivity and apply and exploit technologies.

• Low cost of current mobility.

• Urban transport systems with high levels of informality in their operations.

• Lack of government support to integrate shared-transport services with the overall design of urban mobility.
Complementary ideas

• Carbon Footprint Certification or transport operations:
  1. Measuring emissions = exhaustive and verifiable control of fuel consumption (40%-60% of total operation costs).
  1. Reduction Plan (Eco Driving, itinerary optimization, maintenance strategies, configuring fleets, selecting technologies, etc.).

Energy Efficiency = Reduction of Emissions = Operational Excellence = Productivity

• Technologies for coordinating services and attending to customers, as well as designing innovative services.

• Car-sharing: the optimization tendency that appeals to higher awareness and the need of the population to move toward sustainable models of transport.
Summary

• Sustainable mobility in Latin America cities calls for:
  o More variety and flexibility of services.
  o Greater integration of the different services.

• Shared-transport services are an alternative that offers flexible and efficient mobility to many cities in the world, to the extent that they are duly integrated with the public-transport system and comply with standards of operational excellence.

• Shared-transport systems should be designed customized and adapted to the needs and particular characteristics of each city.
many thanks!

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