Coping with paratransit in developing cities, a scheme of complementarity with institutional transport by Dr Xavier Godard, Inrets, France godard@inrets.fr
A first question of definition and terminology

• informal transport
• paratransit
• illegal or clandestine?
• *artisanat* in French, artisans?
• small size operators
• micro-operators
Types of Vehicles used by micro-operators

Some cases of non motorized vehicles
A set of small size motorized vehicles
• individual taxis, metered or not
• motorcycle-taxis (1-2 seats),
• shared taxis (4-5 seats), sometimes 6 seats, exceptionally to 8
• micro buses (9-15 seats)
• minibuses (16-24 seats)…
• midibuses (25-45 seats) : under the 50 passengers capacity beyond which one considers usually the vehicle as a bus.
Diagnosis of an important role of micro-operators in many developing cities  
Sub-Saharan African cities  
Table: Share of public transport modes (%)  
source: Godard 2005, from many sources

<table>
<thead>
<tr>
<th>City</th>
<th>Institutional transport</th>
<th>Motorcycle taxi</th>
<th>Metered taxi</th>
<th>Shared taxi</th>
<th>Minibus</th>
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<th>Total public transport</th>
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Diagnosis of an important role of micro-operators in many developing cities, other regions

Table: Share of public transport modes (%)
source Uitp or other (*)

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<tr>
<th>City</th>
<th>Institutional transport</th>
<th>Shared taxi</th>
<th>Minibus</th>
<th>Other</th>
<th>Total micro-operators</th>
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A parallel crisis of large companies of public transport in Africa

• Case of Sub-saharan cities:
  – disappearance of bus companies in a majority of cities
  – Examples of KBS in Nairobi or Sogetrag in Conakry presented as success in 1990:
    • loss of influence for KBS
    • Disappearance of Sogetrag
  – Attempts for new private or mixt companies, not yet convincing

• Case of Maghreb:
  – difficulties of State owned companies in Algeria and Morocco,
  – New emerging companies
  – Resistance of stateowned companies in Tunisia
Advantages of paratransit, factors of success

- Unfair competition with bus companies
- Adaptable and flexible operation
- Operation rule favouring high vehicle occupancy
- High length of driving daily time
- Low level of investment
- Better risk management
- Vehicle industrial production cost and price
- Lobbying power
- Arrangements with the Police
- Employment
The Employment dimension

- A large bus operator: Sotra in Abidjan in 90s: 6000 jobs
- Artisan micro-operators in Dakar: around 30 000 jobs
- Motorcycle taxis in Cotonou: 60 000 jobs at minimum
- Another example outside Africa, Dakka in Bangladesh, around 500 000 jobs…
Collective external costs of transport operated by artisans

- External cost of congestion
- Unsafety
- Pollution
- The energy consumption and Green House effect they depend on the urban density.
The extreme example of motorcycle taxis

Factors of success:
• crisis in the institutional public transport (political strikes in Douala or in Lomé)
• quality of service: door to door service
• flexibility of operation
• low cost of manpower
• very rapid mode, specially in congested areas
• bad state of roads: motorbikes can go where buses and minibuses cannot go in peripheral areas
• low cost of fuel distributed by smuggling networks (from Nigeria in Cotonou and in Lomé)
• low cost of investment: imported second hand vehicles from Asia are very cheap; furthermore there is a new local Chinese industry of motorcycles located in Douala.

This success is obtained despite of important shortcomings of motorcycles taxis according to the modalities they are used:
• pollution due to: 2-stroke engines, too much oil in mixture, bad engine maintenance
• accidents, with a danger due to different factors: driver behaviour, no use of helm, vulnerability of two wheels, state of the roads…
The classical evolution of Authorities attitudes concerning small size operators

- ignoring them
- minimising their weight
- fighting them
- recognizing their role
- formalizing and regulating their operation
- helping them to evolve towards modernisation inside an integrated scheme
Organising the complementarity

• A scheme of complementarity, is it realistic or an illusion?
• It is a necessity!
• Avoiding the mistakes in the transfer of large companies model
Need for an organizing authority

• Coordinating the multiple actions on the field of urban transport and eventually urban roads and traffic management
• Focusing at minimum on regulating public transport operators and managing their complementarity
• Interesting experiences in Africa:
  – Dakar: Cetud created in 1997
  – Abidjan: Agetu created in 2000
  – Many difficulties, nevertheless a progress
Conclusion: towards an adaptation of the public transport scheme in developing cities

- Designing responsive PT companies
- Pushing micro-operators toward more efficiency, organisation and respect of environment and safety requirements
- Managing complementarity of operators
- Organizing Authorities acting first in coordination of public bodies
- Finally the challenge is to manage the complexity of multiple components. That is modernity
References

• Cervero R (2000), Informal transport in the developing world, UNCHS, Nairobi
• Godard X (2002), Public transport in developing cities in the face of globalisation, Public Transport International, Vol 51
• Godard X (2004), Re-exploring some reasons of the low capacity vehicles success in public transport production in developing cities, WCTR Conference proceedings, Istanbul,
• Godard X (2005), Kyoto and the double trap for public transport, RTS Review, Lavoisier
• Talvitie A (2004), Does urban transport have future? Proceedings of Codatu XI conference, Bucarest
• World Bank (2002) Cities on the move, Urban transport strategy