An evaluation of policy approaches to upgrading and integrating paratransit in African urban public transport systems: Results of the first round of a Delphi survey

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Definition:

- ‘paratransit’ is defined as a flexible mode of passenger public transportation that does not follow fixed schedules, typically in the form of privately-owned small- to medium-sized buses.

- A common operating feature is a ‘target system’ in which vehicle owners claim a fixed daily revenue target from drivers, who in turn keep the balance of the daily fare box, less fuel expenses, as income.

Minibus-taxis: Cape Town  
*Dala Dalas*: Dar es Salaam  
*Matatus*: Nairobi
in the ‘developing world’ paratransit services are usually provided at a large scale for the general population, often by unregulated or illegal operators within the informal sector
1. Introduction

Background:

• most problems commonly associated with paratransit operations can be linked either to (1) an inability of public authorities to formulate and enforce regulations, or to (2) the ‘target system’ fare strategy

  o un- or under-restricted market entry can lead to overtrading on more lucrative routes, attempts to violently remove competitors, and unfair labour relations

  o strong incentives exist for drivers to compete aggressively for passengers in the road space, drive dangerously, and overload vehicles

  o poor business viability can result in the withdrawal of services from less lucrative routes or during less lucrative times of the day
• in Sub-Saharan African cities that are heavily reliant upon paratransit services there is a clear case for improving the quality, reliability and availability of public transport systems.

• over the past decade, a number of Sub-Saharan African city governments (most notably in South Africa) have embarked upon the initial phases, or at least proposed the installation, of BRT as a means of reforming public transport and replacing paratransit services.

BRT-Lite: Lagos (’08)  Rea Vaya: Johannesburg (’09)  MyCiTi: Cape Town (’11)
• to aid the spread of BRT systems international agencies have disseminated considerable technical guidance, and ‘best practice’ standards
Aim:

• the motivation for this study was a starting proposition that there are path dependencies and constraints that limit the extent of possible public transport system reforms (BRT is not a panacea, and alternatives analysis has been weak)

• as an extension of this proposition, it is argued that (beyond a ‘do-nothing’ scenario) two public transport reform outcomes are likely:
  
  o hybrid scheduled-paratransit service systems in cities that have the capacity to install formal high capacity services; and

  o upgraded paratransit service systems in cities that do not

• the aim of this study was (1) to test this proposition and forecast, and if valid (2) to explore which approaches to upgrading services and managing hybridity hold greatest promise in the Sub-Saharan African context
3. Research method

• the method pursued to address this aim is an two-wave web-based Delphi expert panel survey (forecasting through expert consensus)

• the selection of this method was motivated by a concern that the views of experts with local experience in paratransit reform are under-represented in current debates on public transport reform in Sub-Saharan African cities

• a (n=17) panel of experts was therefore selected on the basis of their experience in designing and preparing paratransit upgrade and integration projects in Sub-Saharan African cities generally, and in relation to three case cities more specifically (Cape Town, Dar es Salaam and Nairobi) which reflect a diversity of institutional and socio-economic contexts

• the survey is anonymous to avoid ‘bandwagon’ and ‘halo’ effects
Countries in which panellists have experience interacting with paratransit operators

Benin
Democratic Republic of the Congo
Ethiopia
Ghana
Guinea
Ivory Coast
Kenya
Malawi
Mozambique
Nigeria
Republic of the Congo
Senegal
South Africa
Tanzania
Togo
Uganda
Accra
Cape Town
Dakar
Dar es Salaam
Johannesburg
Lagos
Nairobi
Port Elizabeth
Nature of experience in working with paratransit operators

- Official or consultant in public transport system planning or design: 32%
- Implementing policy and regulations: 18%
- Intermediary in negotiations between operators and transport authorities: 12%
- Official or consultant in public transport system financing: 12%
- Researcher: 10%
- Business development consultant: 10%
- Paratransit operator association leader: 6%
- Official implementing policy and regulations: 18%
4. Findings

• Panel views on contemporary policy outcomes

• Panel views on policy alternatives for paratransit service improvement

• Panel views on policy alternatives for paratransit service integration
Panel views on contemporary policy outcomes

• the panel was unanimous that existing paratransit services are in need of significant improvement – across all contexts, unsafe and illegal driver behaviour (resulting from the ‘target system’) and safety (resulting from unroadworthy vehicles) were identified as major concerns

“Virtually all of it needs improvement … The system is largely self-organized and self-regulated by the suppliers. The relationship with government varies from adversarial to corrupt. As a result the ability of government to project public concerns on to route structures and fares is severely limited.” (Panellist #14, referring to Nairobi)

• the panel was unanimous that the primary barrier to paratransit reform is institutional (more specifically, weak regulatory frameworks, weak institutional capacities to implement them, and weak political will)

“[D]espite the commitment at political level to restructure the [minibus] taxi industry, the process has proved very cumbersome … [There is a] lack of commitment of officials to the project and belief that the taxi industry can be reformed … Most officials and politicians have no understanding of the taxi industry, [and] … officials are not willing to engage in new and innovative ways of engaging with the taxi industry.” (Panellist #1, referring to Johannesburg)
Proposition:

‘Gold standard’ BRT is being promoted by its international proponents, and is being perceived by local decision-makers, as a panacea in Sub-Saharan African cities without adequate consideration of mode alternatives.

Agree: “Lobby-groups … are certainly promoting 'gold standard' BRT – and are gaining traction with governments as providing a 'solution' to their urban transport problems … Fortunately some sector specialists … recognise that BRT must be appropriate to context, and is only ever likely to affect a minority of travel in the city. As such, they place greater emphasis on regulatory reform and lower-scale infrastructure investments for improved bus operations.” (Panellist #16)

Neutral: “There is nothing wrong with identifying the ‘ideal’ as long as it is understood that … it as a reference point, perhaps unattainable in full … Experience with so-called BRT in the cities of Indonesia is a salutary lesson in why someone needs to set a standard.” (Panellist #13)
Proposition:

With notable exceptions, most BRT-based public transport reform strategies in Sub-Saharan Africa envisage, explicitly or implicitly, the comprehensive replacement of paratransit services as an outcome of the reform process, albeit gradually or in phases.

- the reasons advanced for disagreeing with the proposition included:
  - a view that francophone city authorities had not embraced BRT in the same way as their anglophone counterparts had (Panellist #17)
  - while there might be an objective to comprehensively replace along BRT corridors this is not necessarily true throughout entire urban areas (Panellist #13)
Proposition:

The prospect of achieving comprehensive replacement of paratransit services in the short- to medium-term seems remote. There are two likely common outcomes. The first is that complex negotiations with existing operators and budget constraints will result in comprehensive paratransit replacement occurring only after a much extended period of time. The second is that paratransit replacement will simply not occur. In either case, cities will depend, for decades, on a hybrid public transport system that combines both scheduled and paratransit services.

Agree: “Implementation of [the] BRT system … may face political resistance due to the fact that … the current paratransit operators will provide some resistance to the implementation of the project. Due to the above … implementation of [the] BRT system should take into consideration [the] existence of paratransit operators and incorporate them in the reforms. In this case reforms will take longer … than expected … and paratransit operators will … continue providing services.” (Panellist #5, referring to Dar es Salaam)
Panel views on policy alternatives for paratransit service improvement

Proposition:

Some large cities in Sub-Saharan Africa lack the capacity and resources to install networks of formal scheduled public transport services, so in these contexts the most appropriate path to reform will be through the upgrade of existing paratransit services.

Disagree: “[The proposition] should be split into two [parts]. … I strongly agree with the first [relating to a lack of capacity and resources to install networks of formal scheduled public transport services]. I disagree with the second [relating to the most appropriate path to reform being through paratransit service upgrade]. This is just as dependent on the capacity of the authorities, albeit requiring different skills. I consider that it is no less certain than the first part.” (Panellist #13)
Nested Delphi panel ranking of the most important first priority in public sector intervention to upgrade paratransit services (n=14)

- quality regulation (e.g. roadworthiness, driver competence) 31.5%
- road space prioritisation (i.e. dedicated lanes) 21.4%
- operator business training 12.5%
- subsidisation of paratransit services 10.7%
- strengthened enforcement of traffic laws 9.5%
- quantity regulation (i.e. operating licences for market entry) 6.5%
- vehicle renewal incentives 3.6%
- franchising 2.4%
- pricing regulation (i.e. fare setting) 1.8%
- customer service training 0.0%
- rank/terminus facility provision 0.0%

- many panellists were unable to select a single priority intervention however, reflecting a common view that service upgrade strategies need to be multi-faceted
Panel views on policy alternatives for paratransit service integration

Proposition:

In those Sub-Saharan African cities with the capacity and resources to install formal scheduled public transport services, complementing these services with paratransit is more likely to benefit a large proportion of city residents than reform strategies that set out to comprehensively replace paratransit.

Agree: “Paratransit will always be the most appropriate form for responsive local services affecting a high number of passengers (though not necessarily a high number of passenger kilometres), especially as cities continue to grow in spatial as well as population terms.” (Panellist #16)
Nested Delphi panel views on which modal interactions hold the greatest promise in achieving complementarity (n=14)

- Connecting corridors (1.) 26.2%
- Feeder area licensing or concessioning (2.) 24.4%
- Feeder reward schemes (3.) 23.8%
- Peak-lopping (4.) 11.3%
- Interlining (5.) 10.1%
- Parallel services (6.) 4.2%

Salazar Ferro 2012
5. Conclusion

- in summary, the Delphi panellists were broadly, but not unanimously, in agreement with a proposition that:
  - there are path dependencies and constraints that limit the extent of possible public transport system reforms
  - the likely outcome of attempts to comprehensively replace paratransit with BRT systems is emergent or continuing hybridity
  - attempts to eradicate paratransit may be neither pragmatic nor strategic
while noting that upgrade and integration strategies should be multi-faceted in nature, the Delphi panel identified:

- quality regulation, road space prioritisation and operator business training as particularly important in strategies to upgrade existing services
- connecting corridors, feeder area licensing and reward schemes as particularly promising for strategies to integrate paratransit with formal scheduled services

the next round of survey will need to explore

- the barriers to, and prospects of, implementing these interventions
- how they should fit together in a multi-faceted strategy
• drawing final conclusions, or claims of expert consensus, at the mid-point of a study of this nature would be premature

• for now, it is perhaps most appropriate to conclude with the following tentative and cautionary commentary:

  o the prospect of achieving the sometimes explicitly stated, or implicitly implied, ambitious objective of total paratransit replacement in Sub-Saharan African cities in the short- to medium-term seems remote

  o cities will depend, for decades, on a hybrid public transport system that combines both scheduled and paratransit operators – possibly in an optimum state of ‘delicately balanced chaos’

  o therefore Sub-Saharan African city governments formulating much-needed strategies to reform their public transport systems should recognise the enduring presence of paratransit services, not ignore it
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