

Bus Reform in Developing Countries – Reflections on the Experience thus Far

Summary: In developing countries, buses are the backbone of public transit and critical for the poor to access employment and other urban services. The concern is that in these cities bus transit is either dominated by atomized informal or largely unregulated services, or by publicly owned inefficient operators, leading to undesirable consequences such as poor quality services, congestion, traffic-related accidents, pollution, and strain on public finances. The emerging consensus to tackle these problems is to pursue bus reforms where the public sector participates in planning, regulation and oversight, and the private sector provides services through corporatized operators which openly and transparently compete. In developing countries, these reforms have been mostly implemented in the context of mass transit bus-based solutions like Bus Rapid Transit (BRT) systems where significant travel time savings for users can be obtained; outside of BRTs a key challenge has been financial viability and user dissatisfaction. Notwithstanding, key challenges with this approach remain like lack of open competition and regular retendering of concessions, weak regulators, and financial risks and leveraging of private sector participation. Given these challenges, there is increasing interest in cities with atomized paratransit operators in ‘under-regulated’ settings to experiment with more gradual, cost efficient, flexible and technology-enabled reforms.

Importance of Bus Reform in Developing Countries

Buses are the most important form of urban passenger transport around the world. In developing countries, they are the backbone of public transit and critical for enabling lower income population access to employment opportunities, urban services, and commercial facilities, and for cities to become more productive. However, the reality in most developing countries is that bus-based public transit is either dominated by atomized informal or largely unregulated services, or by publicly owned inefficient operators. This coupled with a weak regulatory capacity from the public sector, yields a bus-based public transit that lacks quality service for the user, taxes city competitiveness or the city coffers and can ultimately be regressive for the poor. Reforming these services has become a key priority for policy makers and consensus has been reached on some elements of the reform. However, the lessons emerging from developing countries that have followed through with reforms suggest that this is still a work in progress, and there is a need to further tailor them to different local contexts.

Key Considerations and Innovative Approaches

The rationale for reform—perceived problems with bus-based public transit. In general terms, there are three reasons for policy makers to pursue reform.¹ First, “competition in the market” coupled with weak regulation and enforcement, which is generally associated with private, atomized markets where diluted ownership models and incentive structures result in route or permit owners luring as many buses to serve their routes, irrespective of demand patterns, which leads to competition for passengers on the street. This is the case in many Latin American and African cities, such as Bogota (pre-Transmilenio), Lima, Mexico City, Johannesburg, Nairobi and Dar e Salaam. This type of competition can have undesirable consequences such as traffic-related accidents, congestion, and pollution. The second problem arises when the existing provider is a publicly owned entity and the focus of the reform is to introduce private operations to increase efficiency and service quality. This is particularly true in Chinese cities, Hanoi, and in some Indian cities. Lastly, there are instances where there are strong and corporatized private operators, but the prevailing political economy does not subject them to the discipline of open and transparent competition and scrutiny, leading to inefficiencies and unattractive quality service. This is the case in places like Argentina and Brazil, where the market is quite consolidated and corporatized, but the sector is widely considered to be an oligopoly with contracts written to favor the incumbents. In Argentina this has led to substantial operating subsidies, and in Brazil weak cost containment that makes fares unaffordable for the poor.

Emerging consensus—hybrid system with public sector planning and regulation and private corporatized operators. The emerging consensus in both the developed and developing world is that the reform should encourage some sort of hybrid system, where the public sector participates in

planning, regulation and oversight, and the private sector provides services through corporatized operators which openly and transparently compete. This is the case in places like London (and elsewhere in Western Europe), where private operators are subject to continued retendering of bus routes, have short franchise duration (max. 5-7 years) and a penalty and reward system based on quality standards (up to 15% bonus payments; up to 10% in fines), and a strong planning and regulating entity, Transport for London (TfL 2014). Many cities in the developing world starting with atomized operators competing 'in the market' have embarked on similar reform processes, particularly as part of their efforts to implement mass transit bus-based solutions like BRT systems. On the infrastructure side they have implemented a centralized fare collection system based on the use of smartcards and a fleet control system; on the operating side they have reduced supply and reorganized services, contractualized bus services, require the formation of companies by incumbent players and formalization of drivers and maintenance personnel, and tried to apply stricter quality control, regulation and enforcement. In the cases where the reform has been part of the implementation of a BRT system, the infrastructure interventions have also included the development of exclusive bus ways and higher-capacity buses. The experience thus far suggests that these reforms have usually been considered a success when implemented in the context of a BRT system. In such cases--Bogota, Quito, Lima and Mexico city--, the travel time savings generated on the segregated ways combined with relatively high frequency post-reform have left users with a better experience (and more satisfied); enhanced economic viability for the operators (due to higher asset productivity) and left cities safer and cleaner.

Outside of BRTs (and even with some of the BRT systems) a key challenge has been financial viability. Cities that have implemented this package of policy change assuming (based on the performance of the most successful BRTs) that the reforms would pay for themselves have been ill-prepared for the ensuing financial liabilities. In many cases this has led to contract volatility: renegotiations (Santiago de Chile); bankrupt operators (Bogota SITP citywide reform) and outright cancellations of the concession (Monterrey, Mexico). In other cases (such as the medium-sized cities of Colombia and the BRTs of South Africa) the financial liabilities have put the sustainability of the entire system in doubt. Moreover, there are a number of other challenges common to most of the reform efforts:

- *Dissatisfied users.* Outside of the highest capacity BRT corridors, the reforms have generally left users no better off: travel time savings (when available) have not compensated for lower frequencies and often more transfers needed to make a formalized system economically viable. This emphasizes the need for more flexible operating models and good and continuous service planning to adjust routes, schedules, fleet, need for dedicated lanes, etc.
- *Lack of open competition & regular retendering.* Initial reform has often been designed to safeguard the interest and livelihood of the incumbents. The experience of Mexico and Bogota are typical; the concession process incentivized incumbents to corporatize and modernize by explicitly requiring their participation in the concession. While such a policy has many social and political benefits a truly "competitive" and open tendering process is ultimately the best guarantor of efficiency. This suggests the need to ensure that initial contracts are of a reasonable duration and that once they expire they are followed by open competitive bidding processes as in London. Thus far, such a truly competitive open tender has not been achieved; most notably in the first phase of Bogota's Transmilenio, incumbents have been able to extend their original 12 to 14 year contracts by a further 3 to 4 years as part of a broader negotiation with government.
- *Weak Regulators.* Weak institutional capacity at the city has hindered the public sector's ability to effectively plan, manage and regulate these systems. In places where concession contracts have been used as the key arrangement with private operators and other agents in the system, lack of capacity to design, tender and manage these contracts has also generated substantial higher costs of the reform. This has led to suboptimal contracts that have inadequate incentive structures, risk allocation, and durations.^{ii,iii,iv} Moreover, technological investments related to fare collection, a component expected to be one of the biggest benefits of the 'public' role in the hybrid model have had some high profile problems: inflexible

proprietary systems (for a while users in Bogota had to use 2 different fare cards on different elements of the 'reformed' system); and higher than expected costs (in Johannesburg, operational expenses related to fare collection and management technology alone are higher than passenger ticket revenues).

- *Financial risk and private sector participation.* Lower than expected demand, weak governance and corporate structures, have all hindered access to commercial financial for operators, which is a key element for the procurement of the new fleet.

Future areas of work—How to implement more gradual and flexible reform for atomized, informal services. All-in-all the hybrid model still remains the near uniform aspiration as a result of successes across Europe and with some of the initial BRT systems in the developing world. However, given the challenges discussed above, there is increasing interest in cities with atomized paratransit operators in 'under-regulated' settings to experiment with initiatives with the potential to improve service quality incrementally; without some of the challenges of a 'big-bang' formalization reform. Many of the initiatives that have been piloted (though not all of them) make innovative and interesting use of widespread mobile telephony.

- *Capacity enhancement for operators.* Using sensors to increase efficiency of dispatching in la Paz and training on financial and technical issues in South Africa – to help informal operators professionalize their operations.
- *Mapping informal routes with smartphones and crowdsourcing.* In cities such as Durban, Nairobi, and Mexico crowdsourced maps of 'informal' routes has made paratransit much more visible and accessible to users as well as to regulators.
- *Incentivizing better behavior from drivers.* In Nairobi, a pilot is underway whereby users rate matatu drivers, by using accelerometers in their smartphones to record driver behavior. The pilot is meant to assess how these user ratings can serve as the basis to establish arrangements with insurance providers that reward good driver habits. Other pilots have looked at the possibility of using user ratings to identify the most dangerous drivers/vehicles.
- *Using smartphones to schedule and pay for services.* In Nairobi, an app called Magic Bus, enables travelers to use smartphones to schedule matatu rides and pay for them without using cash via their phones. A public transport equivalent of Uber-type ride hailing services, the app addresses the informal inefficiency in para transit by matching supply (matatu drivers) to demand (passengers).

While there is neither a coherent vision yet that ties these initiatives together in a way that can provide a viable alternative to formalization; nor any example of a city that has implemented these initiatives successfully at scale; these pilots could well herald a new paradigm in bus transit reform.

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References:

ⁱ Public Private Infrastructure Advisory Facility (PPIAF) Bus Reform Toolkit.
<https://ppiaf.org/documents/toolkits/UrbanBusToolkit/assets/home.html>

ⁱⁱ Andrés Gómez-Lobo & Julio Briones (2013). Incentive structure in transit concession contracts: The case of Santiago, Chile, and London, England. Washington, DC: Policy Paper prepared for the Clean Air Institute.

ⁱⁱⁱ Andrés Gómez-Lobo & Julio Briones (2014) Incentives in Bus Concession Contracts: A Review of Several Experiences in Latin America, *Transport Reviews: A Transnational Transdisciplinary Journal*, 34:2, 246-265, DOI: 10.1080/01441647.2014.895451

^{iv} European Commission (2008). Contracting in Urban Public Transport.
http://ec.europa.eu/transport/themes/urban/studies/urban_en

Photos:

Pre-Reform photos of Rio de Janeiro, Bogotá, México City, and Nairobi.



Source: World Bank, EMBARQ, Reforma, Magic Bus.

Post Reform photos of Rio de Janeiro, Bogotá Transmilenio (BRT), Bogota SITP (city-wide reform), México City Insurgentes BRT, and elements of the reform (formalization bus drivers, fleet control, and smartcards).



Source: Flickr, EMBARQ, El Espectador, EMBARQ, World Bank.