

AN INTERNATIONAL REVIEW OF PARATRANSIT REGULATION AND INTEGRATION EXPERIENCES: LESSONS FOR PUBLIC TRANSPORT SYSTEM RATIONALISATION AND IMPROVEMENT IN SOUTH AFRICAN CITIES

H Schalekamp and R Behrens

Centre for Transport Studies, Department of Civil Engineering, University of Cape Town, Private Bag X3, Rondebosch, 7701, herrie.schalekamp@uct.ac.za, roger.behrens@uct.ac.za, Tel: 021 650 3168

ABSTRACT

Paratransit services form an integral part of passenger public transportation networks in many developing world cities. In some instances these entrepreneurial services deliver highly demand-responsive, affordable transport in settings not conducive to scheduled or 'formal' public transport operations. In others, they present problems in the form of ruinous and violent competition between operators for higher volume routes, 'cream skimming', and aggressive driver behaviour. As in contemporary South African Integrated Rapid Public Transport Network proposals, public authorities across a range of international contexts have responded to these problems by planning integrated public transport networks within which paratransit operators are given the opportunity to become contracted service providers alongside existing rail and bus companies. Despite some well-publicised successes in integrating paratransit operators into 'formal' public transport systems, the available evidence suggests that processes of paratransit integration are typically protracted and at times difficult to sustain. Even in relatively successful cases, many 'informal' operators have not been included in these processes, and their services have remained in parallel to the improved 'formal' networks. Managing the interface between the resulting 'formal' and 'informal' systems has often proved a complex and difficult task.

This paper reviews selected international cases in which interventions were made to either bring about greater regulation of paratransit services, or to integrate paratransit operations into 'formal' transport networks. The first part of the paper outlines the rationale for selecting specific cases for detailed review. The second part illustrates the nature and extent of the interventions in the selected case cities, the manner of interaction with paratransit operators, and the respective impacts on competition, service provision and institutional arrangements. The paper concludes by drawing lessons from these experiences for processes of paratransit integration in South African cities.

INTRODUCTION

In South Africa, ongoing concerns about vehicle roadworthiness, fragmented ownership and violent competition for market share in the paratransit industry, and a policy shift prioritising public transport, spurred the national government to embark on the (minibus) Taxi Recapitalisation Programme (TRP) in the early 2000s, and most recently the Integrated Rapid Public Transport Network (IRPTN) programme, which is currently being implemented. The former envisaged the upgrading of the paratransit industry through, amongst other interventions, the legalisation of operators' businesses and their consolidation into larger legal entities that could bid for public contracts, reforms to the awarding and conditions of operating licences and general labour practices, the introduction of standardised vehicle specifications and the scrapping of old vehicles in return for a fixed allowance for purchasing an approved vehicle or exiting the paratransit industry (Walters 2008: 106). The latter programme aims to integrate all modes of public transport in urban areas with the consolidation of all existing road-based services into core corridors reliant on bus rapid transit (BRT) technology, with feeder services provided by smaller vehicles (NDoT 2007).

enthusiasm, and the concern has been In reality, the recapitalisation programme has been met with little expressed that the programme has not addressed the economic and organisational weaknesses of the sector: few operators have seized the opportunity to trade in their old vehicles, and those that did have mostly exited the industry; stricter operational licensing mechanisms have

not eradicated fierce competition on routes; and there have been few, if any, reported cases where paratransit operators have merged their businesses or formed companies (Boudreaux 2006; Walters 2008). Ultimately, the accounts by Boudreaux and Walters broadly documenting developments in the minibus taxi sector suggest that the programme has lost much of its impetus and cannot achieve its initial aims in its current form. With respect to the implementation of the IRPTN programme, explicit official statements in Cape Town (City of Cape Town 2008) and Johannesburg (City of Johannesburg 2008) that existing operators would be accommodated in the new system would require significant changes to the paratransit sector's ownership and competition structure, and uncertainly as to whether TRP-compliant vehicles, in which many paratransit operators have invested large sums, will qualify as IRPTN feeder vehicles has added to an already disgruntled paratransit sector.

Considering paratransit's continuous opposition to change, as reported in the popular press, and the lack of a sufficiently constructive relationship between public authorities and paratransit, the successful implementation of IRPTNs is not a foregone conclusion. However, similar regulatory interventions have been attempted elsewhere in the developing world, and these have encountered problems that reflect a probable outcome locally: transitions to more formal operations do not take place without considerable difficulties in implementation, and the formalisation of paratransit is typically incomplete. This paper provides a case review of Bogotá, Mexico City and Santiago where interventions were made to either bring about greater regulation of public transport services, or to integrate paratransit operations into 'formal' transport networks. It offers a rationale for why these cases were selected, the nature, extent and effects of the interventions in each case, and it concludes by drawing lessons from these experiences for processes of paratransit integration in South African cities.

RATIONALE FOR CASE SELECTION

Since the principles of the IRPTN programme overtly emulate the Transmilénio intervention in Bogotá as well as other similar cases based on BRT, the issues that have emerged from these cases where BRT was introduced into a system previously reliant on paratransit operations may prove informative to the manner in which IRPTNs are approached. In particular, these cases may serve to moderate the high expectations around what can be achieved in terms of integrating paratransit into BRT systems. In this section, aspects of public transport and paratransit operations in the case cities are described to explain the rationale for comparison to the South African context.

Bogotá

Bogotá is popularly recognised as the first city to demonstrate that public transport systems in developing world cities can, through implementing BRT, be revived within a relatively short timeframe and with a lower cost than traditional heavy rail-based technologies. Though BRT is commonly understood to have emerged in Curitiba in Brazil, that city's system developed as part of an extensive formal land use and transport planning programme over a number of decades (Gwilliam 2007), as opposed to the first and second phase planning and implementation of Transmilénio completed in five years (Ardila-Gomez 2004), by reassigning road space, reorganising operations into trunk and feeder services, and new competition and ownership arrangements. Many characteristics of Bogotá's BRT are reflected in the IRPTN programme's objectives: create a reliable, integrated public transport system run by incumbent operators; formalise and rationalise the businesses of public transport operators; increase and stabilise profit for operators; and improve working conditions for employees. The numerous visits by South African public officials and prospective operators to see firsthand how Transmilénio functions, and to engage (albeit through translators) with the system's employees, highlights the influence Bogotá has had on IRPTN proposals.

Transmilénio has, nevertheless, encountered difficulties that go beyond teething problems, including overcrowding, delays and pick pocketing, and the continued political influence of both pre- and post-Transmilénio ownership organisations (Gilbert 2007). Critically, the continued presence of paratransit operations overshadowing Transmilénio both in terms of fleet size and number of routes, and the lack of integration between the two systems (Munoz and Gschwender

2005), must temper expectations around it being a transferable 'silver bullet' solution in South Africa.

Mexico City

Metrobús, Mexico City's BRT system, was inspired by Transmilénio in Bogotá and similar systems in other Latin American cities (Metrobús 2009). Considerations that led to its implementation were a reduction in pollution by replacing a large number of old paratransit vehicles with a new, much smaller fleet of articulated buses, travel time and comfort improvements for passengers, and the opportunity for paratransit operators to formalise their businesses. However, what distinguishes Metrobús from Transmilénio is that it identified a single strategic corridor – that of Insurgentes Avenue – and focussed only on infrastructural and operational interventions in this corridor not previously served by a trunk mode. Although there was, and is, a general paratransit fleet renewal programme initiated by the city's government, the formalisation of paratransit's operations, ownership and fare collection was limited to this one corridor.

While there was some opposition from paratransit to the Metrobús project, the first line, running north-south, has achieved a public satisfaction rating of over 80% due to the frequent, rapid and safe service (Boman 2008, Metrobús 2008). The system was recently expanded through the completion of a second, east-west, line. This line has also encountered initial opposition as reported in the press at the time, but nevertheless started operating at the end of 2008.

The apparent success of Metrobús may to a certain extent be ascribed to its relative simplicity compared to systems like Bogotá and Santiago. It encompasses only trunk services, relying on physical integration with other modes of public transport in the city for feeder and distributor functions, as well as integration with the metro system at key points. Indeed, what sets Mexico City apart from Bogotá is that there are multiple modes in operation. In this respect it has greater similarity to the South African context than Bogotá: in Mexico City paratransit operates alongside a public bus operator, and there is also an underground rail network. Within the Metrobús project, competition between both road-based modes on the new corridors was formalised through separate concessions. These modes thus continue to operate side by side, but service quality has reportedly improved as well as operator revenue. Ultimately, Mexico City is of interest as a case study due to the manner in which BRT was initially implemented, that is, as a single corridor intervention that engaged with two relatively discrete groups of operators, one formal and the other informal.

Santiago

As in South Africa, ownership of road-based public transport in Santiago became highly fragmented in the 1980s due to the privatisation and deregulation of bus services. In terms of large scale public transport, the resulting paratransit buses competed only with a metro system consisting of three lines. Successive measures to formalise paratransit, including the rationalisation of bus numbers and the introduction of a 10 year limit on the age of vehicles failed to wrest control of routes from the industry's owner cooperatives and led to demonstrations and blockades by the sector. However, high operating costs brought on by an oversupply of services and long, direct routes (averaging 60km) spurred public intervention in the form of the Transantiago trunk and feeder system.

Transantiago was envisaged to link into the metro, with a modal shift from private to public modes encouraged through specific travel limitations on private vehicles where necessary. Its fleet of primarily new buses would replace all paratransit vehicles across the city on a single day, with routes being bundled into trunk and feeder 'packages', with foreign operators being favoured for the former. This placed great demands not only on the local operators, planners and implementers of the system, but also on the bus manufacturing capacity available on the South American continent. Nevertheless, the changeover from direct routes to interchanging trunk and feeder routes occurred on 10 February 2007. There was a lack of user information and smart card recharge points, and widespread confusion about the new route structure ensued. Funds were not available to construct dedicated lanes for the buses since the decision was made to rather expand the metro and, counter-productively, the city's freeway system. This undermined the reliability of

the system and reduced the potential for travel time improvements. It is notable that it is primarily negative sentiment from the travelling public, rather than from the operators, that has shaped the poor image of Transantiago, in turn leading to overloading and travel time reductions on the metro system (Muñoz and Gschwender 2008). The large scale of the intervention in Santiago, and the accompanying system-wide impacts on infrastructure, operators and institutional capacity, may be instructive in understanding the scale of intervention, and expected impacts, in South African cities.

INTERVENTIONS IN CASE CITIES

Paratransit in developing world cities share a number of characteristics, as described by Bayliss (2002), Gwilliam (2002), Meakin (2004) and others. Services are typically unscheduled and demand responsive, filling gaps in the formal system, and are often rendered by individually-owned vehicles smaller than traditional buses. Paratransit functions outside the taxation and formal labour systems and transactions are in cash, thus making it difficult to distinguish between legal and illegal operations or to speculate on the actual extent of the sector. In the case cities presented in this paper, paratransit operations have many, if not all, of these characteristics in common, and in each case public agencies have embarked on paratransit formalisation programmes similar to the TRP and IPRTN programme locally. This section details the nature, extent and effects of the interventions on paratransit, as well as on formal public transport, in each case.

Bogotá

Ardila-Gomez (2004) and Gilbert (2007) provide accounts of the planning process, as well as responses to this process, leading up to the introduction of Bogotá's Transmilénio BRT and feeder system, revealing a number of similarities to the characteristics of current minibus taxi operations and the planned IRPTNs in South Africa. Before the commencement of the planning and negotiations in 1998 leading up to the introduction of Transmilénio, public transport provision was led by the market: the 64 bus companies operating in the city at that time would request the city government to assign routes to them, after which individual vehicles' owners (of which there were more than 25,000 at that stage) could provide services on these routes in exchange for a 'membership fee'. The bus companies' primary form of income was these fees, thus leading to competition between companies to obtain the rights for the most profitable routes, while bus owners derived their income from the fares collected from passengers and paid their drivers per passenger carried, encouraging strong competition for passengers (or a so-called "penny war") from within the then fleet of close to 21,000 vehicles.

As the above illustrates, the bus companies' were the *de facto* regulators in their role as brokering agents for public transport services in the city, and were therefore threatened by the changes heralded by the new regulatory regime emerging alongside Transmilénio. Other concerns voiced by bus operators and companies were that the typically one owner-one driver bus operations would not be able to finance new, larger vehicles; that the planned centralised fare collection would take cash out of the hands of operators; and that the timeline for implementation was very tight. This state of affairs is not dissimilar to the role and response of South African minibus taxi associations at present.

Besides seeking to improve public transport services for passengers, the introduction of Transmilénio is, at the strategic level, an attempt by the city government to formalise public transport from the paratransit sphere to counteract the destructive competition between associations and individual operators. However, while the two-year timeframe (Jan 1999 to Dec 2000) for the planning and construction for the first part of the first phase of the system is an attractive prospect for such a major intervention from a political point of view, the intense processes of negotiations with the public and with operators that preceded Transmilénio's implementation is not often publicised. Ardila-Gomez (2004) reveals that there were more than 300 meetings with the public on the Transmilénio project alone; that the preliminary planning and funding alternatives were in progress early in 1998, but that the complete 42 km first phase was only finished four years after that; and that negotiations and consultation with bus companies to implement busways had already been underway as early as 1990. At the same time, an underground railway was, and still is, being seriously contemplated (and lobbied for) as an alternative to Transmilénio. Ultimately, the persuading arguments on which operators and the

public authority chose Transmilénio were on financial grounds – the former being convinced that revenue would be more secure and profits greater, and the latter that construction and operating costs would be more manageable than the *status quo* or other modal alternatives.

A notable difference to the South African paratransit industry is that public transport operations pre-Transmilénio were more consolidated, and well-represented, by way of the bus companies, than is the case in the minibus taxi sector. Once one company convinced some of the others to collectively bid for a Transmilénio concession, the others were soon to follow. In the end all but four of the bus companies merged into four bidding groups. Once the concession contracts were signed, in effect guaranteeing cash flow to the operators, it simplified access to finance facilities for the new vehicles. A further measure to ensure that the vehicle fleet was renewed and, indirectly, that operators were consolidated, was the scrapping arrangement for old buses operating legally: in the first phase of Transmilénio, concessionaires had to buy and scrap 2.7 old buses for each new articulated bus that entered into service, rising to 7.7 old buses in the second phase. Scrapping has, however, proceeded slowly, partially due to there only being one scrapping company (Ardila-Gomez 2004: 367).

The introduction of Transmilénio in Bogotá has reportedly had both positive and negative effects. The new bus companies' profits have certainly increased, but Gilbert (2007) points out that these companies once again exhibit cartel-like practices to exert political pressure to guard against change and prevent the total eradication of the old buses, whether operating legally or illegally, in which they still have a stake. As reported in the press and official sources (Gilbert 2007: 26), it emerged that Transmilénio has indeed not eradicated illegal operations – as at mid-2006, only around 10,000 buses should have been on the road legally, as opposed to an actual fleet in circulation of just under 21,000. From the public's point of view Transmilénio has also achieved mixed results. Overcrowding in the new system has sustained the traditional bus industry and deterred some users, especially due to the prevalence of pickpockets (Gilbert 2007: 23-24), but overcrowding may also be indicative of some level of public acceptance of Transmilénio. In addition, Transmilénio seems not to have realised its initial aims of alleviating the plight of the poor, as routes are primarily in higher income areas, and the new system is unable to compete with the lower fares offered by paratransit in this cost-sensitive market (Gilbert 2007: 27)..

Mexico City

Amongst the case cities, Mexico City is unique in that a publicly owned bus company still operates, although with a small fleet of vehicles compared to paratransit – 1,400 at the time that Metrobús was introduced in 2005 (Lobo 2005). The paratransit sector's minibuses and vans, operating under individual route concessions to the city, are the dominant road-based public transport mode in Mexico City with a fleet size of around 28,000 vehicles serving 60% of daily travel demand in the city (Boman 2008). The remainder of public transport trips are catered for by the underground rail network with an extent of 200km.

An ongoing initiative introduced prior to the BRT project to improve paratransit service in the city, is the road-based public transport fleet renewal programme. It is expected to be complete in 2011, and aims to replace all minibuses that were manufactured before 2006 with new, larger buses (GDF 2009). Similar to the TRP, old vehicles are scrapped, and the owner paid out a sum of MXN100,000 (approximately ZAR73,000) from dedicated public funds towards the purchase of a new bus, provided previous operations were legal (Metropoli 2009, GDF 2009). The primary motivations behind the programme also include emissions reductions and service quality improvements, but as in South Africa, there does not appear to be a clear link between the fleet renewal programme and the introduction of BRT.

The city embarked on its BRT system – Metrobús – in 2005, with the primary aims of reducing emissions, improving passenger service quality and, corporatising paratransit businesses practices. The first line implemented was in a corridor with high passenger demand, in the order of 250,000 passengers per day (Lobo 2005). This corridor was a critical link running north-south through the city, yet unserved by underground rail. The Metrobús service on this line was opened

in mid-2005, 18 months from when it was first announced (Boman 2008). A subsequent second line linking east and west was opened at the end of 2008 (Metrobús 2009).

Both Metrobús corridors impacted the existing paratransit and public bus services. However, the existing operational structures of these entities, and the ultimate ownership and competition arrangement under Metrobús, allowed for a relatively simple formalisation process. The public bus company, RTP (Red de Transporte de Pasajeros del Distrito Federal), was already a formal entity, which in effect limited the impact of the transition on the company to it having to renew its fleet and train its staff in BRT operations. In the case of paratransit, the vehicles and operators affected by Metrobús were already organised into route concession 'federations' ("Ruta 1" and "Ruta 2") that operated along the same respective alignments as those in which both BRT lines were implemented (Metrobús 2009). In the case of the first line, 262 former paratransit vehicles were scrapped and replaced with 68 articulated buses, while a further 30 articulated buses replaced 90 PRT buses.

In the case of both lines the transition to BRT did not proceed without problems, as reported in the local press at the time (El Universal, 4 August 2004 and 31 May 2008). Paratransit operators indicated a lack of sufficient information on which to base their decision to formalise while Metrobús was still being planned, and drivers protested due to the possibility of a loss of employment opportunities and insisted that they wanted to be included in the system after the transition. Despite these problems, some progress has been made towards the initial aims of the project: gas and particulate emissions have been reduced substantially, all paratransit operations on the BRT lines have been formalised and benefit from increased financial security and improved working conditions, and the public response to the service has been positive (Metrobús 2009). However, in the city-wide context, these gains are fractional: the number of paratransit concessions that have been corporatised in the first phase of Metrobús represent less than 1% of the city's (legal) paratransit sector. Transferred expectations that may be raised regarding the short timeframe within which implementation occurred, should therefore be tempered accordingly.

Santiago

In contrast to the Mexico City case, where the implementation of BRT had a relatively small impact on the city's overall paratransit operations, in Santiago the Transantiago road-based trunk and feeder system was an intervention in the public transport system that affected paratransit and formal transport operations across the entire city. Also in contrast to the former city, Transantiago suffers from a lack of public approval, which has led to political repercussions even at the national level.

Road-based public transport before the introduction of Transantiago resembled paratransit in South Africa, except that the vehicles in use were buses rather than the typical local minibus. According to Muñoz and Gschwender (2008) bus ownership was highly fragmented with an average of two vehicles per operator, with owners organised into cooperatives which coordinated members' tenders for routes. Route structures were inefficient, although convenient for passengers – as at the end of 2004 many of the 380 routes in Santiago frequently started at one side of the city, passed through the centre and terminated at the other side of the city, thereby reducing the need for transfers. As a consequence, however, routes averaged 60km in length, operational costs were high, and there was an oversupply of services. A fleet of 8,000 buses competed on the road for passengers, utilised informal terminals and suffered from a lack of maintenance. While limited regulation in the 1990s rationalised the number of buses on the road to a small degree, this did not affect the industry's structure. Other attempts to modernise the industry in 2001 led to operators blocking major intersections, bringing the city to a standstill. These conditions underscored the need for a regulatory intervention, which came in the form of the Transantiago system. Successes in Bogotá and Curitiba also served as inspiration, although it was recognised that each of these cases was a solution within a unique context and not without fault (Muñoz and Gschwender 2008: 46).

The preliminary design of Transantiago envisaged a road-based trunk and feeder network with the Metro underground rail system as the backbone. In total it was envisaged that the total vehicle fleet would comprise 4,600 buses, a reduction of nearly 43% compared to the original paratransit fleet. For the feeder network the city was divided into 10 areas, with a new company to be formed that would operate services to the trunk and Metro lines in each of these areas. Trunk lines were to be on major corridors, grouped into five units each also to be run by a new company and aligned with two of the feeder areas. Though segregated bus corridors were initially planned, in a widely criticised move the government postponed this step in favour of extending the Metro from 43km to 83km during 2004-2006 and constructing four new urban highways in the same period (Muñoz and Gschwender 2008: 47-8). However, even without the segregated corridors, the plan was still highly ambitious: the entire new system was to become operational on the same day (as opposed to the more common phased approach). Custom specification for the buses and limited manufacturing capacity on the South American continent added to the complexity of this approach.

The business model for Transantiago relied on a mixture of new (foreign or local) and incumbent operators, allowing for the gradual replacement of the fleet, augmented by rented buses in the interim period. It is notable that the public were against the inclusion of operators from the paratransit owner cooperatives, but no legal grounds could be found for excluding these operators. Successful operators were guaranteed a minimum income and a concession period of at least two years, with various determinations to stabilise fare levels and revenue (of which one was an agreement to introduce measures to limit car use to increase ridership, contrasting sharply with the additional freeways constructed during the implementation period). It was the common expectation at the time that the trunk route concessions were being aimed at foreign operators, with feeder services falling to existing local operators, i.e. the paratransit sector. This proved not to be the case in reality: a perusal of the current operators in Transantiago suggests that the majority of operators are local (Transantiago 2009).

Transantiago was launched early in February 2007, to coincide with a drop in public transport ridership demand during the peak holiday season. From the outset, the lack of dedicated rights of way, as well as poor enforcement when these were introduced, significantly limited operating speeds. The transition from a direct to a trunk and feeder route structure, along with too few smart card recharge stations (mainly located at Metro stations) caused widespread confusion amongst passengers. As a consequence Metro ridership increased and operating speeds dropped by 25%. From the operators' perspective, a positive outcome was that almost all objectives for improving drivers' working conditions were achieved. However, even though operators were guaranteed their income level, Transantiago was initially running at a deficit of 35% due to low fares, a long free transfer period, the insufficient number of recharge points and fare evasion amongst disgruntled passengers (Munoz and Gschwender 2008:50). The biggest problem, though, remains the so-called 'Big Bang' approach of the planning authorities: the cost and risk of a single, system-wide transition requires large-scale institutional, technical and operator capacity and commitment. In the case of Santiago, as is likely elsewhere, this proved unrealistic, suggesting that a more balanced, phased approach is more desirable.

CONCLUSION

The review of the three cases of interventions in paratransit regulation and integration into formal public transport systems presented in this paper reflect three very different approaches to regulatory transition. Similarly, each of these cases holds different lessons for the regulatory interventions currently unfolding in South Africa.

The city-wide scale of the intervention in Santiago had an impact on all stakeholders in the system, compounded by the fact that the change-over from the old system to the new took place on a single day. Consequently, the intervention affected all paratransit operators at the same time, and consultation with this sector as well as other prospective operators was an extensive and fraught undertaking. The challenge to provide a new fleet of vehicles and implement the necessary infrastructural changes by a single 'due date' stretched institutional planning, skills and financial capacity. Whereas the initial aims with Transantiago were to improve the passenger experience, shortcomings in operational and infrastructural planning had the opposite effect: users were

inconvenienced, had to transfer more often, and, in some cases, even experienced increased travel times. In sharp contrast to Santiago, the intervention in Mexico City only affected a single corridor at a time. The process of change could thus be piloted, and the transition was ultimately more manageable. From these cases, it appears that successful implementation depends on the scale of the intervention being appropriate to the needs and capabilities of the involved institutions, operators, and public at large.

The case studies indicate that the organisational configuration of existing operators is also key to the level of complexity involved in the transition. In Mexico City the paratransit operators affected by the first and second Metrobús corridors were already consolidated into two distinct federations, each of which operated on their own corridors. Similarly, even though the intervention in Bogotá was city-wide, almost all of the bus companies in control of awarding operational licences to paratransit operators were aligned into four groupings. In both these cases, it is evident that operator engagement could thus proceed more rapidly to contractual and operational considerations. By comparison, the paratransit sector in South Africa is much more fragmented. Individual operators and associations are represented at numerous levels, with different alliances complicating the process of negotiation and reaching a final agreement. This key difference may imply that, until greater consolidation is achieved in, or disaggregated negotiation can take place with, the local paratransit industry, it may be very difficult to reach agreement on the regulatory and integration regime that will be put in place.

A last observation, perhaps trite in South Africa at this stage, is that there are significant contextual differences that preclude transferring a paratransit regulatory and integration intervention without adaptation to local conditions. In the case of Bogotá, paratransit was the only public transport mode prior to Transmilénio; in order to improve public transport, engagement with this sector was thus an imperative. In Mexico City, Metrobús introduced a new mode into the public transport system to fill gaps in the network left by other modes, affecting paratransit operations only to a limited extent. The intervention in Santiago, on the other hand, had a system-wide impact: the confusion that ensued after the transition to Transantiago led to a pronounced shift in passengers from road to rail as they opted for the system that was more familiar and convenient. Clearly, a context-specific approach is required in South African cities as local experiences of, and reactions to, regulatory and integration interventions may differ radically from those in the case cities.

In conclusion, the investigations presented in this paper were based on an initial review of literature documenting the transitions in the case cities, and are consequently not exhaustive. Little evidence was uncovered about the actual processes that were followed in the engagement processes between regulatory authorities and incumbent paratransit operators. In view of the difficulties that have been encountered in the cities in South Africa that have embarked on paratransit rationalisation and integration processes, further research is planned into processes of paratransit engagement both in South Africa and abroad.

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