

Available online at www.sciencedirect.com

ScienceDirect

Transportation Research Procedia 25 (2017) 4507–4517



World Conference on Transport Research - WCTR 2016 Shanghai. 10-15 July 2016

Negotiating territory: strategies of informal transport operators to access public space in urban Africa and Latin America

Dirk Heinrichs^a, Mirko Goletz^a, Barbara Lenz^a

Institute of Transport Research, German Aerospace Centre, Rutherfordstr. 2, 12489 Berlin, Germany

Abstract

Informal transport receives increased attention to improve mobility conditions mainly in cities in the global south. This article explores strategies by which informal transport operators seek to gain and maintain access to urban space necessary for their operation and discusses the lessons for policy related to informal services. It focuses on two cases of urban informal transport: bicycle rickshaw drivers in Bogotá, Colombia and motorcycle taxis in N'Djamena, Tschad. The results show that the kind and type of public space as well as the individual and collective responses to secure access to this public space differ between the two cases. To some extent this is attributed to the role and presence of actors from the 'local state'. Access to public space in Bogotá is the result of negotiation and 'co-regulation' by the associations of operators and government organizations, accompanied by a process of professionalization of informal operators. This is not the case in N'Djamena, where the use of public space is largely the result of self-regulation by the federations of motortaxi drivers.

© 2017 The Authors. Published by Elsevier B.V. Peer-review under responsibility of WORLD CONFERENCE ON TRANSPORT RESEARCH SOCIETY.

Keywords: Informal Transport; Mototaxi; bicycle rickshaw; Bogotá; N'Djamena; Public Space

1. Introduction

Informal transport receives increased attention to improve mobility conditions mainly in cities in the global south. This interest has perhaps two reasons. The first reason is that new public transport schemes are introduced. While these new systems such as bus rapid transit (BRT) and cable cars have significant effects on urban environments and mobility patterns (Brand and Dávila 2011, Behrens 2014) they also raise the question on how to integrate existing informal service. These services still provides a substantial share of public transport in many cities of the global south (Salazar Ferro 2015). Sometimes the implementation of new formal systems also evokes new informal services as the restructuring of public transport systems in some cases creates new demands if not all

mobility needs are being covered by formal modes (Arteaga 2012, Jirón 2013). The results of these developments are de facto hybrid urban transport systems (Salazar Ferro et al. 2013, Behrens 2014, 463). The second reason can be traced to those cities where informal transport is currently active and where it is likely to continue to be the single most important option of a public transport system in cities. Here the issues are more related to the question how the service can be incrementally improved to minimize some of its negative effects.

This article contributes to the emerging debate. It moves into perspectives the strategies by which informal transport operators seek to gain and maintain access to urban space necessary. Specifically: How do informal transport service providers organize their activities and what is their demand regarding urban space? How do informal service providers negotiate for gaining access rights, with whom and what is the outcome? What are the lessons for policy related to informal services? We will address these questions for two selected cases of urban informal transport: bicycle rickshaw drivers in Bogotá, Colombia (hereinafter bicitaxis) and motorcycle taxis in N'Djamena, Chad (hereinafter motortaxis). These two cases present extreme examples in terms of the interaction with the formal transport system: While the bicycle rickshaws in Bogotá operates in the context of a largely developed and partly already integrated formal public transport system, the motorcycles in N'Djamena basically are the only service in the absence of any form of formal public transport.

The article first establishes briefly the definition we adopt for informal transport and reviews the relevant literature (Section 2). It moves on to present the rationale for the case study approach and the methods of investigation (Section 3). We present the case evidence in section 4 on Bogotá and section 5 on N'Djamena, followed by a discussion of the two cases in section 6. In the concluding section 7, we summarize the findings and derive policy lessons.

2. Background: Definition of Informality and existing literature

Informal transport, also referred to as paratransit, has gained academic and practical interest in recent years. The existence of the two different words already indicates that definitions vary. Most authors agree that paratransit represents a privately developed service profiting from relaxed or non-existing regulatory frameworks (Salazar Ferro 2015). That means that paratransit also includes services that operate with permits issued by state authorities while their operations remain widely outside official regulatory frameworks (Salazar Ferro et al. 2012). Some authors also attribute aspects such flexibility of the operations, small and old vehicles, lack of fixed schedules and fragmented ownership to these services as further defining elements (Salazar Ferro at al. 2012, Salazar Ferro 2015). Informal transport on the other hand refers to "services [...] operating without official endorsement" (Cervero and Golub 2007).

The integration of informal into formal transport receives some attention in the literature. Salazar Ferro et al. (2013) for instance discuss potentials and obstacles regarding so-called hybrid public transport systems combining formal transport and paratransit (see also Salazar Ferro 2015) whereas others investigate formalization, regulation and substitution processes and the respective outcomes (e.g. Lomme 2008, Golub et al. 2009, Schalekamp et al. 2009, Venter 2013). A significant body of publications and empirical investigations exists on the forms of regulation and the role of different actors (Salazar Ferro 2015, 29, Al-Hasan et al. 2014, Graeff 2009, Finn et al. 2011, Kumar/Barrett 2008, Salazar Ferro 2014, 29, Cervero and Golub 2007).

A number of authors stress the aspect of self-regulation both with respect to market entrance (allocation of new routes, assignment of territory) and the practices of operation and organization (management of terminals, timetables, fares, dealing with accident situations etc.). Xavier Godard for example characterizes the paratransit sector as "mainly self-organized" (Godard 2013) referring to case studies in several cities West and North Africa. Kumar and Barrett (2008) who investigated urban transport systems in various cities in Sub-Sahara-Africa conceive the self-regulation of public transport through operator's associations "[...] as an industry response to the vacuum left by the failure of government to regulate the sector" (Kumar/Barrett 2008, 17). Other authors point out that formal regulation is not completely absent. For example, some kind of formal technical (i.e. vehicle inspection) requirements or fare regulations do exist (Finn et al. 2011, Salazar Ferro 2014). Finn et al. (2011) consider Accra's minibuses as self-regulated but show that public actors actually actively influence the system by negotiating the

fares with the sector's representatives. Investigating the informal collective taxis in Buenos Aires' outskirts the Argentinian geographers Susana Kralich and Andrea Gutiérrez bring into consideration that the absence of official regulation of informal transport cannot be understood as the complete absence of state regulation as some disciplinary action is still exercised in most cases by state actors such as the police. Thereby somehow also the services considered as informal are subject to official regulation (Kralich/Gutiérrez 2007, 51).

Based on this discussion, we chose as a hypothesis for this article that action and strategies developed and practiced by informal transport providers need to be conceptualized and analyzed as interaction with individual and collective actors representing the state.

3. Methodology

Informal services and their interaction with formal services cannot be understood and explained in a general manner. Rather they need to be considered in their specific context in which they operate. This is necessary because the conditions vary from city to city. Public transport systems, that set an important context for informal transport, vary from location to location. In some cities, the public transport system is well established already and informal transport providers take over specific complementary functions. In other cities instead, the informal services largely replace a non-existent government-organized public transport supply. Also, strategies by the national and local state to permit or prevent informal services are known. While in some locations, the police severely sanctions informal providers, there are more relaxed approaches in others. For these reasons, we adopt a context sensitive case study approach for our investigations.

The two case studies presented here have been selected because they represent extremely different cases with respect to the transport system in general, and the operation practices of their informal transport services in particular. Bogotá stands for the one extreme of an already highly developed and articulated public transport system on its main trunk routes, in which the integration of informal transport services has reached the inclusion of feeder services. In N'Djamena on the opposite, the public transport system fully relies on informal service operators throughout the whole city, who serve the city by mini busses and motortaxi. The selection of these maximum variation cases (Flyvbjerg 2006) intends to generate knowledge that can perhaps serve as benchmark for future case studies that are in between these extremes, and provide evidence on what to expect if systems are transformed from fully informal upwards.

The case of Bogotá explores bicycle rickshaws in Patio Bonito, a working class district located in Bogotá's south western periphery that evolved as through illegal land subdivisions in the 1970s (Beuf 2012). Patio Bonito is part of Kennedy, Bogotá's most populous locality with about one million inhabitants and the city's biggest bicitaxi population (SdM/OLMT 2013). The field work this article is based on was carried out in Bogotá in fall 2013 (Elsner 2014) and a follow up visit in summer 2015. It consisted of informal conversational interviews (Mikkelsen 1995) with members of one route association, in which 20 different persons own 34 bicitaxis. In addition, participatory observations were carried out in the neighbourhood of Patio Bonito, mainly at a plaza next to the Transmilenio station "Biblioteca el Tintal" where the drivers of the association wait for customers. Further interviews were conducted with representatives of other route associations in the same neighborhood and with representatives of NGOs, academia, Bogotá's city council and the city's transport authority.

For the case of N'Djamena, we study the motortaxi services, which are one essential part of the public transport services existing in N'Djamena. Motortaxi, essentially two-wheeled motorbikes serving as taxis, are common in Africa and their use has frequently been described (Diaz Olvera et al. 2012; Godard 2002). These motortaxis are widely available throughout the whole city. Together with the mini-buses (16 to 25 seats) serving N'Djamena's main routes and the ordinary taxis (4 to 6 seats) they are the only public transport mode available (Hemchi 2015). Compared to other cities in western Africa, motortaxis are a relatively new phenomenon in N'Djamena and have been established in the beginning of the 1990s.

The choice of N'Djamena as a case study follows mainly two considerations: (1) In N'Djamena, informal public transport is the only option for transportation within and to the city for those who do not own a vehicle. However, also a fully informal system operates with interfaces that require integration from any of the actors on the supply or the demand side or on both sides. Suppliers, i.e. motortaxi drivers, may explicitly offer their services at places where other transport modes end their service, or users find by themselves a way to combine different transport modes. It should be interesting to find which "concepts of integration" come up in a fully informal situation and understand how these concepts are organized and structured by the actors involved. (2) Although there is no direct involvement in the operation of transportation in N'Djamena by the city or the state, mechanisms exist to apply a certain degree of control. This leads to a kind of formalization on the supply side that implies at least some control or controllability of the motortaxi system. The particular interest then lies on how these mechanisms are put into place and which effects they wield on the system.

For N'Djamena, our results are based on research carried out on-site in 2013. As part of this, interviews were held with drivers of motortaxis and leaders from various syndicats, responsible for the organization of the motortaxi services, complemented by expert interviews with local researchers.

	N'Djamena (Chad)	Bogota (Colombia)
Vehicle type	Moto Bikes	Non-motorized Tri-cycles
Service Area (c.f. maps below)	City wide, specifically in the suburbs	Along BRT Stations, peripheral areas
Function	Fine distribution and accessibility to mini bus network	Mainly feeder services for the BRT
Trip distances	Mostly short, but also city-wide	Up to 3 km
Organisations	10 "Arrondissements", 2-3 Syndicates in each	More than 50 Associations, 4 Federations
Fees	Drivers: Membership & daily fee	Owners: single payment for license

Table 1: Characteristics of the assessed informal transport services

4. Bicycle taxis in Bogotá

Informal Bicycle rickshaws, so-called bicitaxis in Bogotá have been operating for more than 10 years now mainly in the city's peripheral districts. According to a study on the bicitaxis conducted by researchers from the National University of Colombia in 2013 nearly 8,000 people nowadays rely directly on income generated with the about 3,000 vehicles being employed in this sector (SdM/OLMT 2013, 76, 181). It is very likely that the actual current numbers are higher. In many middle and working class neighborhoods in the city's peripheries they represent an important mobility option. They provide services for short trips up to two kilometers and are mainly used as a feeder for the city's mass transit.

The public transport system has undergone massive change in the recent decade. The Transmilenio, a Bus Rapid Transit (BRT) System, started its operations in 2000. As part of the Bogotá's 2006 mobility master plan it was decided to develop a formal integrated public transport system, the SITP which incorporates Transmilenio and complements it with feeder services and further city wide bus routes operating in mixed traffic (Angel et al 2010). The ongoing process of its implementation began in 2012. When fully implemented it is supposed to meet all of the entire city's public transport demand (Hidalgo/King 2014, 170). This fundamental change in the city's transport system had a huge impact on operation. While previously the buses stopped everywhere on their route and also served smaller streets, the Transmilenio has fixed stops and only serves some of the city's main arteries.

As a consequence of this restructuring process, the bicitaxis assumed the role of a feeder transport carrying

passengers between their homes and the nearest Transmilenio station. The operations are mostly organized by local route associations (SdM/OLMT 2013) which basically fulfill the function that John Cross and Sergio Peña describe as informal sector organizations: they are central actors regarding the informal regulation for the sector which helps to avoid internal conflicts and they allow their members to face state actors in a collective way and to give them a bigger bargaining power (Cross 1998, Cross/Peña 2006). In this respect the so called "federaciones", umbrella organizations that unite a larger number of the local associations, are also highly relevant actors.

The bicitaxis are operated by private persons. The drivers are either the owner of their vehicle or they rent the vehicle from an owner. In some cases owners rent their vehicles without driving it. There are drivers who own more than the vehicle they drive and rent out the other one(s). Noteworthy, the license that permits to the operation in a specific area is attached to the vehicle and not to the driver (Table 2)

	Driver	Not a Driver
Owner	Drives himself regular/irregular; full time / part time,	Rents bicitaxi to drivers
	may own another bicitaxi to rent it out (c.f. left)	Contract type based on revenues daily fee,
Not an Owner	Rents motobike (c.f. above, left), Drives himself (c.f. above)	X

Table 2: Structures of ownership and operation in the motortaxi sector in Bogotá

Although there have been several initiatives to regulate the bicitaxi sector since 2004 an official regulatory framework is still missing (Arteaga et al. 2012, Corte Constitucional de Colombia 2013). As a result of a lawsuit initiated by representatives of the bicitaxi drivers in 2013 Colombia's constitutional court assigned the duty to define whether the bicitaxis can be allowed or not for public transport to the national ministry of transport and the duty to regulate the operations in Bogotá, still depending on the ministry's decision, to the city's transport authority (Corte Constitucional de Colombia 2013).

The studied route association is located in Patio Bonito. As many of the vehicles are being operated in two shifts the number of drivers is about twice the number of vehicles. They mainly provide feeder services between the Transmilenio station "Biblioteca el Tintal" and the surrounding neighborhood "Primavera" which is located about one kilometer northwest of the Transmilenio station. The central figure within the route association is the so called "líder" who coordinates the operations and acts as an intermediary between the bicitaxistas and other stakeholder such as officials, residents and rival associations.

The most important location for the operation of bicitaxis in the studied area is the place for waiting and parking vehicles and for picking up customers at the Transmilenio station. The location for this had been originally the road junction of Avendia Ciudad de Cali, which is an important gateway for the entire traffic entering neighborhood. When the bicitaxis started to use that streetspace, conflicts evolved with other traffic users, local residents and hence the police. As a consequence, the bicitaxistas moved to other locations

As a result of negotiations with the local government there is currently an agreement about which spaces can or cannot be used by the bicitaxistas also exists for the streets surrounding the Transmilenio station 'Bilbioteca el Tintal'. The arterial roads of the Avenida Cali for example must not be used and the drivers of the association state that it is clear (and accepted) that violating the rule would cause interventions by the transport police and confiscation of the vehicles. So the options for parking and picking up customers are smaller side roads and open spaces close to the roadsides. The studied association uses a small alley parallel to Avenida Cali bordering the plaza that was built in the context of the redevelopment project and which is hardly used by motorized traffic. With the redevelopment the square became a recuperated public space ("espacio público recuperado") (Berney 2013, Hunt

2009). Strictly speaking, informal economic activities are not tolerated in such spaces. However, small scale activities such as vending are tolerated and even coordinated by a municipal institution, the IPES, which also provides stands for a few vendors. While some minor conflicts with representatives of the IPES about the bicitaxistas 'invading' the plaza occurred, this is explained to be attributed to the special status of the square. There exists an agreement with the local authority that waiting for customers in the adjacent alley is allowed. In another nearby case, an association uses a space off the arterial road belonging to a shopping center. In this case, the association mainly negotiated the use and the conditions with the management of the shopping center. The result is a written contract that could even outlast the change of the shopping center's management. It provides the bicitaxistas' right to work in front of the mall but also defines rules concerning the drivers' behavior and their appearance when waiting for customers.

Aside from negotiation and agreements with the local authority and private owners about which locations/spaces they can use, the association practices a strict self-regulation of services to avoid conflict. To ensure this the association runs regular meetings with compulsory attendance by the drivers to discuss train drivers on 'rule conformity'. In addition, one association member takes the responsibility to ensure orderly service at the customer pick up point like avoiding driving in the wrong direction or on a sidewalk. As there are no official rules on how to deal with the bicitaxis, they do not appear in the traffic regulations. Therefore the association is constantly in dialogue with the local police about negotiating the rules for operation. This negotiation does not entirely eliminate the risk of arbitrary sanctions by the police, confiscation of the vehicle and high fees for the transport, storage and recovery of the vehicles and the accommodation of the vehicle and to get it back. However, it reduces such risk substantially.

In addition to local activities, the association engages in city-level and national negotiations. In 2013 a working group was initiated to elaborate on the possibilities and conditions of the regulation of the bicitaxis services. Besides public actors such as representatives of the ministry of transport, Bogotá's transport authority and some other public institutions representatives of the bicitaxistas were included in this working group. The majority of these are representatives of Bogotá's federations, mostly representing different localities of the city that already had been involved in various efforts to bring forward the legalization of their sector. So in this case public authorities accept the bicitaxistas as legitimate actors in the process of the development of Bogotá's official transport policy regarding the bicitaxi sector.

5. Motortaxis in N'Djamena

In N'Djamena, motortaxis have been known since the 1990s. At first they appeared mainly in the hinterland from where they started to establish over time throughout the whole city, at first in the suburbs and then in more central areas. Yet their increase has not been continuous, and the services were sometimes interrupted or lessened. During the last years, the total number of motortaxis increased dramatically and Hemchi (2015) estimates around 22.000 motortaxis for N'Djamena in 2013. Compared to other West African cities, however, this remains on a lower level per capita.

Public transport in N'Djamena is completely "informal" as the state (national state or city government) remains widely inactive in organizing and/or running any service. Accordingly, the motortaxis are fully run by private persons consisting of two major groups: two-wheeler owners and drivers, sometimes being both – owner and driver – at the same time. In both respects – property situation and operation – N'Djamena's motortaxi business is highly fragmented and shows a variety of organizational structures (Table 3).

Table 3: Structures of ownership and operation in the motortaxi sector in N'Djamena

	Driver	no Driver
Owner	Driver runs the motorbike himself	rents motorbike to drivers for
		daily fee
		long term contract with driver for a fixed fee
		long term contract with driver to purchase
No Owner	Rents motorbike (c.f. above, left), drives himself (c.f. above) on a regular / irregular basis,	х
	full time / part time	

All motortaxi drivers are men. For many of them motortaxi driving is their only resource of income. Ndadoum (2015) reports that motortaxi drivers who do not own the vehicle are mostly young jobless men, sometimes students. Motortaxi driving creates revenues of about 10 to 15 Euros per day (Ndadoum 2015).

Rules that give a common framework to the motortaxi business are weak. Two decrees from the national Ministry of transportation provide a very limited statutory basis for the operation of motortaxis. These decrees specify the conditions and modalities for the operation of motortaxis and oblige drivers to pass through a driving school. It is noteworthy that recent initiatives came from the side of associations to prompt the state to implementing a pricing system. Fixed prices would allow drivers to operate on a more reliable calculation base and to avoid conflicts with customers who often negotiate the price or the conditions of the trip (Ndadoum 2015).

The only formal obligation that motortaxi drivers have to accept is their affiliation to one of the local so-called "associations" or "syndicats". These are in charge of organizing and regulating the motortaxi sector in N'Djamena. The syndicats usually correspond to one of the ten arrondissements, but some may only regulate smaller areas. In total, there are about 10 to 15 syndicats in N'Djamena, for a total number of ten arrondissements. They usually have an office on site with some administrative staff, but also other employees that control their respective areas and sometimes regulate access to the semi-official stations, which can be found at big intersections. Besides regulating their service areas, they also claim to take care of their drivers, for example in case of accidents or conflicts with the police or passengers.

The affiliation to the respective syndicat has to be obtained by the driver each day he wants to offer his service. To be easily recognized as an "entitled" driver, he gets a vest in the color of his specific syndicat. The syndicats receive a fee from each driver that in turn allows the driver to operate in a certain area of the city. While he might leave this area to bring a customer beyond the syndicat's territory, the driver is not allowed to accept new customers there.

Motortaxi drivers are expected to follow the traffic rules for driving a two-wheeler, but there is little control whether drivers stick to these rules. Accidents amongst motorbikes in general and motortaxis in particular are frequent and a major problem in the transport system.

Motortaxis in N'Djamena offer a door-to-door service. There is no specific infrastructure for them, although several places exist within the network of urban road space where motortaxis are permanently available – in particular at important intersections of urban business areas or at markets. These taxi stands, however, are not equipped with facilities available to the drivers like a shelter or water supply, but may be called "dedicated" areas anyway as they are easily to recognize by the (potential) customers. Although the syndicats also play a role for marking of territory, they are not implemented by its members, but on order of local mayors who use them to

receive fees from operators. As a result, the syndicats regulate the spaces where motortaxis are placed, and they also, and furthermore, also define other rules on the operation within these areas.

6. Discussion

The case of Patio Bonito shows that the bicycle operators in Bogotá employ several strategies to gain and maintain access to public space. Providing a feeder service for the Transmilenio, they require access to space for parking the vehicles and picking up customers within close physical distance to the Transmilenio station. As road space itself is highly contested and its use has led to fierce conflicts with the transport police and the local government in the past, the associations have resorted to move to other available nearby spaces: minor roads branching off the main arterial roads or even semi-private spaces. The strategies to secure access can be characterized as a highly consensus oriented networking approach in which the associations seek to reach agreements that are as much as possible 'formal' in nature. As a complementary strategy, the associations internally practice a strict policy and activities to ensure that the operation does not cause any violation of rules in order to avoid any kind of conflict with the authorities. A third strategy is the upscaling to city wide negotiation by forming federations.

It turns out that these strategies have been quite successful in bringing some degree of stability into the daily operation of drivers. It also has led to a professionalization and standardization of informal services and the qualification of drivers. And beyond the local level, the strategies have established the associations and the federations as a legitimate actor in discussing the development of public transport.

However, these achievements cannot make up for the situation where the service is still 'informal'. The process to develop a policy regarding the bicitaxis which could result in a regulation and a fully legal service in the future started in November 2013 is not finished as of September 2015 (Source: personal communication). Bicycle taxi drivers and association in Bogotá operate under conditions that can be described as 'permanent temporariness' (Yiftachel 2009, Avni/Yiftachel 2014). They face day-to day uncertainties in the form of arbitrary sanctions, but also more fundamental uncertainties about what their role could be in a future fully integrated public transport system in Bogotá might be. Put theoretically in the concept of Oren Yiftachel, they find themselves in a "gray space", located between the legal, safe, and approved sphere of the "whiteness" and the "blackness" that associates with eviction and destruction.

The case of N'Djamena shows a quite different situation to the one in Bogotá. As public road space does not provide any room explicitly for motortaxis. One strategy of motortaxi drivers is to cycle around to find customers spontaneously; another is to wait for customers at places where many people pass. To this purpose drivers "occupy" areas where they expect to find enough customers. This approach of putting one's services into public space is generally not put into question from any side – neither other urban road users nor administrative institutions. It is even welcome that motortaxis can be found at major intersections where they mostly find convenient space to wait for customers or to detect customers in one of the roads that lead towards the intersection. In contrast to this, however, the lack of regulation of public space for motortaxis is leading to conflictual situations in particular at markets where (mostly female) market traders want to offer their products to passing customers while motortaxi drivers are standing in front of their stands to offer their services to passing customers, too, thereby hiding the market stands. The upcoming conflicts cannot really be solved, as neither the market traders nor the motortaxi drivers have an explicit right to use the space she or he needs to offer products or services.

Yet some regulation is implemented by the syndicats who control the larger sites where drivers wait for their customers. But syndicats do not control the actual utilization of these public areas. Rather their task is to inspect the affiliation of drivers who operate in a service area for which the syndicat is in charge, and who gather at these sites.

Obviously there is almost no consideration of the need for public road space on behalf of administrative institutions. This is also visible for the case of the minibus. While "minibus stations" exist at the end of the different lines, there are no defined stops along the lines. Ndadoum (2015) reports that the city of N'Djamena installed "stops" by simply putting a signpost along the road indicating "stop" without any additional infrastructure. Both

drivers and customers ignore the proposed sites for bus stop, as they do not suit either their needs or their routines to operate and use the bus.

Unlike the case of Bogotá motortaxis represent a part of the urban public transport system in N'Djamena that is accepted also by the state – although motortaxi services were inhibited in the recent past several times, also for political reasons, in particular for fear of terrorist attacks. Motortaxi drivers, however, continued to deliver their service, but then did no longer present themselves easily recognizable as what they were (Hemchi 2015). Therefore they act in a "grey area" only for particular periods. However, they are also exposed to arbitrary and short term decisions on behalf of the state.

7. Conclusion

Our study proves the importance of 'regulation' of urban space for the operation of informal transport. In both cities public urban space includes 'infrastructures' on different levels of formalization to allow for informal transport. While transport operators in Bogotá organize themselves within associations to secure access to public space, associations are compulsory in N'Djamena. This makes both systems work, but has different implications for further development: In Bogotá a new level of organization with federations comes up at city wide level and feeds back knowledge into the local organizations; in N'Djamena there is no motivation on any side to advance the existing system.

Nevertheless, the formation of associations in both cases also shows similarities. In both cases, associations are they responsible for the control over their territories and for building up market entry barriers for drivers. By doing so, they gain control over their market participants.

Particularly the case of Bogotá offers some instructive insights for policy dealing with informal public transport. Firstly, the service offered by the bicycle rickshaws addresses a demand that is and will not be covered by the integrated public transport system SITP even when fully implemented. The operation as a feeder service to and from the Transmilenio stations thus can be seen as a complementary service that closes a gap, addresses a legitimate demand of users and helps to further improve the overall system with respect to accessibility for users. Secondly, the strategies of the informal transport operators and their associations to minimize 'uncertainty' for their service has significantly promoted a process of professionalization. Associations of informal bicycle rickshaws demonstrate that they can be regarded as highly organized service providers with established standards for operation. Thirdly, the presence of 'state' actors who themselves seek to improve transport services, in particular the SITP, or other local conditions like the square recuperation programme contributes to this 'professionalization'. It appears that state actors can not only assume the role as a source of uncertainty and risk. Instead, they can create a 'conducive' climate for informal service providers to develop competences and degrees of organization by negotiating rules for informal service operators.

This situation where active state' actors appear not only as a threat to informal transport providers but play a vital role for incremental development of informal services is perhaps the biggest difference between the two cases. The kind of 'co-regulation' found in Bogotá does not happen in N'Djamena. The situation here is characterized by the absence of the state with the consequence that conflicts of interest over the use of public space are not settled and that there is neither the challenge nor the opportunity for the informal transport operators and their organizations to develop.

Acknowledgements

We are grateful to Lucas Andres Elsner for conducting the interviews in Bogotá and to the German Academic Exchange service (DAAD) for financial support. The German Research Foundation (DFG) supported the work in N'Djamena by funding the research project 'Mototaxi'.

References

Al-Hasan, Abubakar Zakariyya; Shaka Momoh; Lucky Eboreime (2015): Urban poverty and informal transport services in a Nigerian intermediate settlement: a synthesis of operativemotives and satisfaction. In: Urban, Planning and Transport Research: An Open Access Journal, 3/1, 1-18

Angel, Tatiana; Germán Galindo; Juan Felipe García, Juan David Reyes, Daniel Wills (2010): Implementación del SITP: gran desafío de movilidad para Bogotá. In: Revista Económica Supuestos, 2, 12-16

Arteaga, Isabel. (2012): Bogotá: bicitaxis, un complément informel du BRT. In: Urbanisme, 2012/7-8, S.52

Arteaga, I., F. Roa Montañez, L.M. Pedraza Sanchez a. M.F. Villalba Muñoz (2012): Bicitaxis: Nuevo transporte informal en Bogotá. Bogotá (unreleased research report by the Facultad de Arquitectura y Diseño and the Facultad de Ingenieria, Universidad de los Andes)

Avni, Nufar; Oren Yiftachel (2014): The new divided city? Planning and 'gray space' between global north-west and south-east. In: Parnell, Susan; Sophie Oldfield (eds.): The Routledge Handbook on Cities in the Global South. Routledge, London/New York, 487-505

Behrens, Roger (2014): Urban Mobilities. Innovation and diffusion in public transport. In: Parnell, Susan; Sophie Oldfield (eds.): The Routeledge Handbook on Cities in the Global South. Routeledge, London/New York,

Beuf, A. (2012): De las luchas urbanas a las grandes inversiones. La nueva urbanidad periférica en Bogotá. In: Bulletin de l'Institut Français d'Études Andines, 41/3, 473-501

Berney, Rachel (2013): Public Space Versus Tableau: The Right To The City Paradox In Neoliberal Bogotá, Colombia. In: Samara, T., S. He u. G. Chen (eds.): Locating the Right to the City in the Global South. Routledge, London, 152-170

Brand, Peter; Julio D. Dávila (2011): Mobility innovations at the urban margins. Medellín's Metrocables. In: City, 15/6, 647-661

Castells, M. u. A. Portes (1989): World Underneath: The Origins, Dynamics, and the Effects of the Informal Economy. In: Portes, A., M. Castells u. L.A. Benton (eds.): The Informal Economy. Studies in Advanced and Less Developed Countries. Johns Hopkins University Press, Baltimore, 11-37

Cervero, Robert; Aaron Golub (2007): Informal transport: A global perspective. In: Transport Policy, 14, 445-457

Corte Constitucional de Colombia (2013): Sentencia T-442 de 2013

Cross, John C. (1998): Informal Politics. Street Vendors and the State in Mexico City. Stanford University Press, Stanford

Cross, John. C. a. Sergio Peña (2006): Risk and regulation in informal and illegal markets. In: Fernández-Kelly, Patricia a. John Shefner (Eds.): Out of the shadows: Political action and the informal economy in Latin America. Penn State University Press, University Park

Diaz Olvera, Lourdes; Plat, Didier; Pochet, Pascal; Maïdadi, Sahabana (2012): Motorbike taxis in the "transport crisis" of West and Central African cities. In: ECHOGEO 12, https://echogeo.revues.org/13080#text

El Tiempo, 6.2.2012, Nuevas denuncias ciudadanas por invasión de espacio público. Defensoría del Espacio Público habló del tema tras la publicación de la sección 'Con nombre Propio', http://www.eltiempo.com/archivo/documento/CMS-11074382

Elsner, L. A. (2014): Informeller Verkehr und städtische Governance: Multiskalare Verhandlungs- und Absicherungsstrategien des Bicitaxisektors in Bogotá. Masterarbeit. Technische Universität Berlin

Finn, Brendan; Amal Kumarage, Samson Gyamera (2011): Organisational Structure, Ownership and Dynamics on Control in the Informal Local Road Passenger Transport Sector. Paper presented at the 12th Thredbo Conference, Durban, South Africa

Flyvbjerg, B., 2006. Five Misunderstandings about Case Study Research. Qualitative Inquiry 12 (2), 219 - 245.Godard, Xavier (2013): Comparisons of urban transport sustainability: Lessons from West and North Africa. In: Research in Transportation Economics, 40, 96-103

Godard, Xavier; Ngabmen, H. (2002): Zémidjan ou le succès des taxis motos, Paris, Karthala-INRETS.

Golub, Aaron; Ronaldo Balassiano; Ayres Araújo; Eric Ferreira (2009): Regulation of the informal transport sector in Rio de Janerio, Brazil: welfare impacts and policy analysis. In: Transportation, 26, 601-616

Graeff, Jennifer (2009): The organization and future of the matatu industry in Nairobi, Kenya. Paper prepared by Center for Sustainable Urban development, earth Institute, Columbia University, New York

Hemchi, Mahamat, (2015: Mototaxis ou clandos entre adaptation citoyenne et refus politique au sein de la ville de N'Djamena. CODATU Istanbul 2015, Conference Paper. Available at http://www.codatu.org/wp-content/uploads/Hassane-Mahamat-Hemchi.pdf

Hidalgo, Dario; Robin King (2014): Public transport integration in Bogotá and Cali, Colombia – Facing transition from semi-deregulated services to full regulation citywide. In: Research in Transportation Economics, 48, 166-175

Hunt, Stacey (2009): Citizenship's place: the state's creation of public space and street vendors culture of informality in Bogotá, Colombia. In: Environment and Planning D, 27/2, S.331-35

Jirón, Paola (2013): Sustainable Urban Mobility in Latin America and the Carribbean. Thematic study prepared for Global Report on Human Settlements 2013. UN HABITAT, Nairobi

Kralich, Susana; Andrea Gutiérrez (2007): Más allá de la "informalidad" en el transporte de pasajeros: reflexiones sobre los servicios de charters en al RMBA. In: Lavboratorio, 8/20, 51-57

Kumar, Ajay; Fanny Barrett (2008): Stuck in traffic: Urban transport in Africa. The World Bank

Lomme, R, (2008). Should South African minibus taxis be scrapped? Formalizing informal urban transport in a developing country. Proceedings of the CODATU XIII Conference. Ho Chi Minh City.

Mikkelsen, B. (1995): Methods for development work and research. A guide for practitioners. New Dehli

Ndadoum , N. (2015): Möglichkeiten und Grenzen der Bereitstellung von nutzergerechten Mobilitätsoptionen in Entwicklungsländern. Das Beispiel von N'Djamena, Hauptstadt der Republik Tschad. Diisertation, Humboldt Universität zu Berlin

Salazar Ferro, Pablo (2014): Paratransit: A key element in a dual system. Report prepared for the Agence française de développement, available at http://www.codatu.org/wp-content/uploads/transports_collec_artisanal_Vecran_EN.pdf

- Salazar Ferro, Pablo (2015): The challenge of finding a role for paratransit services in the global south. CODATU Istanbul 2015, Conference Paper, available at http://www.codatu.org/wp-content/uploads/Pablo-Salazar-Ferro.pdf
- Salazar Ferro, Pablo; Roger Behrens; Aaron Golub (2012): Planned and paratransit service integration through trunk and feeder arrangements: An international review.
- Salazar Ferro, Pablo; Roger Behrens; Peter Wilkinson (2013): Hybrid urban transport systems in developing countries: Portents and prospects. In: Research in Transportation Economics, 39, 121-132
- Schalekamp, Herrie; David Mfinanga; Peter Wilkinson; Roger Behrens (2009): An international review of paratransit regulation and integration experiences: Lessons for public transport system rationalisation and improvement in African cities. Proceeding of the 4th International Conference of Future Urban Transport, Goteborg, 19 April 2009
- Secretaría Distrital de Movilidad, Bogotá (SdM), Observatorio de logística, Movilidad y Territorio, Universidad Nacional de Colombia, Bogotá (OLMT) (2013): Censo de la población que trabaja prestando el servicio informal de transporte a la comunidad como "bicitaxista" y el inventario de cada uno de los vehículos que operan (bicitaxi) en la ciudad de Bogotá D.C.. Bogotá
- Venter, Christoffel (2013): The lurch towards formalisation: Lessons from the implementation of BRT in Johannesburg, South Africa. In: Research in Transportation Economics, 39, 114-120
- Yiftachel, O. (2009): Theoretical notes on ,gray cities': The coming of urban apartheid? In: Planning Theory, 8/1, S.88-100