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Motivations for motorcycle use for Urban travel in Latin America: A qualitative study

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ABSTRACT

Motorcycle use for utilitarian trips in Latin American cities has grown significantly in recent years. The researchers used qualitative methods to understand the motivations of motorcycle users that might contribute to this growth in six cities: Barranquilla, Bogotá (Colombia), São Paulo, Recife (Brazil), Caracas (Venezuela), and Buenos Aires (Argentina). Researchers used semi-structured interviews and focus groups to gather data from six categories of motorcycle users: motorcycle taxi drivers, motorcycle taxi users, motorcyclists for delivery, motorcyclists for private use, owners in the process of selling their motorcycles, and potential motorcyclists (those seeking to buy motorcycles). Common themes emerged across the six cities, including the time advantage that motorcycles offered versus deficient public transportation and congested auto traffic, the low cost of motorcycles versus other transport modes, the vulnerability of motorcyclists to traffic injury and death, and cultural aspects of motorcycle use. Policy implications include the need to make motorcycle travel safer and improve public transportation in Latin American cities.

1. Introduction

Motorcycle use has grown dramatically worldwide in recent decades (Haworth, 2012), with considerable increases in Latin American cities. This mode provides large mobility gains for users but also has important drawbacks, including elevated traffic casualties. Despite the increased health risks associated with motorcycles, they are increasingly popular in the region.

The researchers gathered data from motorcycle users in six Latin American cities: Bogotá and Barranquilla (Colombia), São Paulo and Recife (Brazil), Caracas (Venezuela), and Buenos Aires (Argentina) (Fig. 1). This includes South America's largest city (São Paulo), three capital cities that are the largest in their respective countries (Bogotá, Caracas, Buenos Aires), and two state capitals (Barranquilla, Recife). The data was collected for a qualitative study on motorcycle users' perceptions of this mode that the authors completed for the Corporación Andina de Fomento (CAF) – Development Bank of Latin America (Pardo et al., 2012), and that is included in a book on the topic (Rodríguez et al., 2015).[1]

Instead of addressing a specific hypothesis, the authors set out to achieve the broad objective of developing a better understanding of the motorcycle user perceptions fueling the growing use of motorcycles in six Latin American cities. To achieve this goal, researchers conducted interviews and focus groups with motorcycle users and potential users. In the analysis, the authors employed a 'bottom-up' approach, where the themes of analysis emerged from the data collected.

2. Literature review

While leisure use of motorcycles predominates in developed countries, use for utilitarian trips is more prevalent in developing countries (Rogers, 2008). Recent increases in ownership rates for motorcycles, as for all motorized vehicles, are particularly pronounced in emerging markets (Dargay et al., 2007). Although most growth has occurred in Asia, motorcycles have become increasingly ubiquitous in Latin American countries. For example, while auto sales in Brazil increased four times between 1992 and 2007, motorcycle sales increased by a factor of 12 during the same period (Eduardo A. Vasconcellos, 2008). The Brazilian city of São Paulo witnessed an increase from a fleet of 50,000 motorcycles in 1990 to 500,000 in 2007. In Colombia, motorcycle sales increased by 38% from 2010 to 2011 (Asociación Nacional de Empresas de

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[1] Rodriguez, Santana and Pardo (2015) include the data presented in this paper and a survey with motorcycle users in five Latin American cities.

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Fig. 1. Cities where data was gathered.

Table 1
Trips by mode for metropolitan regions.
Data Source: Urban Mobility Observatory (Corporación Andina de Fomento, 2010), except São Paulo (Metr,ô São Paulo, 2008).

Trips by mode	Bogotá	São Paulo	Recife	Barranquilla	Caracas	Buenos Aires
Motorcycle (%)	0.8	2.1	1.8	NA	0.6	4.1
Auto (%)	15.8	28.5	18.9	NA	23.8	42.1
Public transport (%)	60.5	29.0	35.0	NA	53.7	40.5
Taxi (%)	3.8	0.3	1.0	NA	2.5	4.3
Walk (%)	16.2	37.2	41.8	NA	18.2	8.5
Bicycle (%)	3.0	0.9	1.5	NA	1.3	0.5

Colombia, 2011).

Reasons for growth in motorcycle ownership and use include ease of acquisition and use, efficiency/economy, and enjoyment (Rogers, 2008). In Paris, people using motorcycles and scooters benefited from higher travel speeds: 46% and 127% faster than car and bus, respectively (Kopp, 2011). According to Vasconcellos (2008), the advantages of motorcycles in Brazil come from their ability to travel between lanes of automobiles, the ease of parking, and the low operational costs. Chang and Wu (2008) showed that younger motorcyclists with lower incomes registered the highest levels of dependence on that mode in Taipei. They suggest that a significant portion of users would choose motorcycles over public transportation, despite recent investment in Taipei's mass transit system. Chen and Lai's (2011) study of two major cities in Taiwan (Taipei and Kaohsiung) show that travel time is more important than travel cost when choosing the motorcycle mode. In Kuala Lumpur, Yamamoto (2009) found income to be negatively associated with motorcycle ownership and public transit accessibility, while distance from city center had a positive association. The lower cost of the motorcycles was also associated with increased demand for this vehicle in the UK (Duffy and Robinson, 2004). Vasconcellos (2005, 2013, 2008) suggests that supply and quality problems of public transport lead to increases in automobile and motorcycle use in Brazilian cities, and that motorcycle taxis function primarily where public transportation services are absent.

Much of the research into the use of motorcycles as delivery and taxi vehicles examines African cities. Kumar (2011) suggests that the collapse of state-run or contracted bus services in the 1990s led to the growth in motorcycle taxis in the in the capital cities Douala (Cameroon), Lagos (Nigeria), and Kampala (Uganda). Motorcycle mode share on selected road links was as high as 59% in Lagos, and 42% in Kampala. Guézéré (2015) shows how motorbike taxis came to dominate three secondary towns in Togo since appearing in the early 1990s After surveying motorcycle taxi growth in West and Central African cities, Diaz Olvera et al. (2012) conclude that public authorities must increase regulation of all transport modes. In Akuri, Nigeria, motorcycle taxis are very popular among users and highly profitable for operators (Fasakin, 2001). Motorcycle taxis are also popular in many Asian cities, including Jakarta and Bangkok, functioning despite their illegality in the latter city (Cervero and Golub, 2007).

Because of reduced travel times in urban areas versus public transport, and lower costs and greater mobility versus the automobile, income-generating activities of motorcycle taxi and urban delivery have grown in recent decades in Brazil (Silva et al., 2011). While Silva et al. maintain that growth in these activities have increased income and quality of life in Brazilian cities, Vasconcellos states that populist politics in Brazil emphasize job creation related to motorcycles while ignoring the social costs of this mode (2008). He also says urban delivery services on motorcycle have flourished in cities that have high rates of traffic congestion. Vasconcellos further notes that because well-paid work opportunities for young people with low education levels are scarce, motorcycle delivery work has become increasingly attractive. Sánchez Jabba (2011) examines motorcycle taxi activity in the Colombian city of Sincelejo, where motorcycle taxis are increasingly prevalent despite their illegality. His study concludes that although motorcycle taxi drivers engage in this activity because of higher earnings versus similar jobs, they would prefer jobs in the formal sector that have lower safety and health risks.

Deaths of motorcycle users represent a growing proportion of all road user deaths globally (World Health Organization, 2013), and motorcyclists are overrepresented in totals of traffic injuries and fatalities compared to other modes of travel. For example, while motorcycles represented 12.9% of the total fleet of motorized vehicles in São Paulo in 2011, motorcyclists accounted for 37.5% of all traffic fatalities, or 512 deaths of a total of 1365 (Companhia de Engenaria de Trânsito CET, n.d.). Further, while traffic deaths for all road users decreased in São Paulo by 23% from 2005 to 2013, with reductions ranging from 31% to 62% per mode, traffic deaths from motorcycles increased by 17% during the same period (Borges De Paula, 2014). One reason for this overrepresentation is the increased likelihood of injury or death of motorcycle users versus other mode users (Li et al., 2009). Vasconcellos notes that motorcycle traffic casualties in Brazil are treated fatalistically, as 'destiny' or 'the inevitable price of progress' (2005, p. 139).

In addition to the above research, at least one literature review on acquisition and use of motorcycles has been completed (Estupiñan et al., 2012). While most of the studies reviewed here use quantitative methods, a number of studies on motorcycles employ qualitative approaches (Huth et al., 2012; Tunnicliff et al., 2011). To