

bicycle account Bogotá 2014



in brief

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The Bogotá 2014 Bicycle Account provides timely data about the state of bicycle infrastructure and use in Bogotá, as well as the results of survey data on popular perceptions of bicycle use. Drawing on existing research and several surveys conducted over the past few years, the report seeks to provide a preliminary English-language study of trends, perceptions and needs for cycling in Bogotá.

This report primarily uses three mobility surveys and three opinion polls conducted between 1996 and 2014, as well as several studies of mobility and cycling in the city. Despacio conducted two of the opinion surveys, through both in-person and online outreach. The complete Bicycle Account can be downloaded from www.bicycleaccount.org

Bicycle use: then and now

Bogotá's reputation as a bike-friendly city dates to the late 1990s with two mayors that promoted bicycles as a viable mode of transportation and developed bikeways and other infrastructures. Although bicycle promotion and infrastructure construction have lagged since then, bicycle use in the city has steadily increased from around 0.5% of daily trips in 1996, before the construction of the first bikeways, to 6% in 2014. The figure below draws from three comprehensive mobility surveys as well as the annual Bogotá Cómo Vamos phone survey.

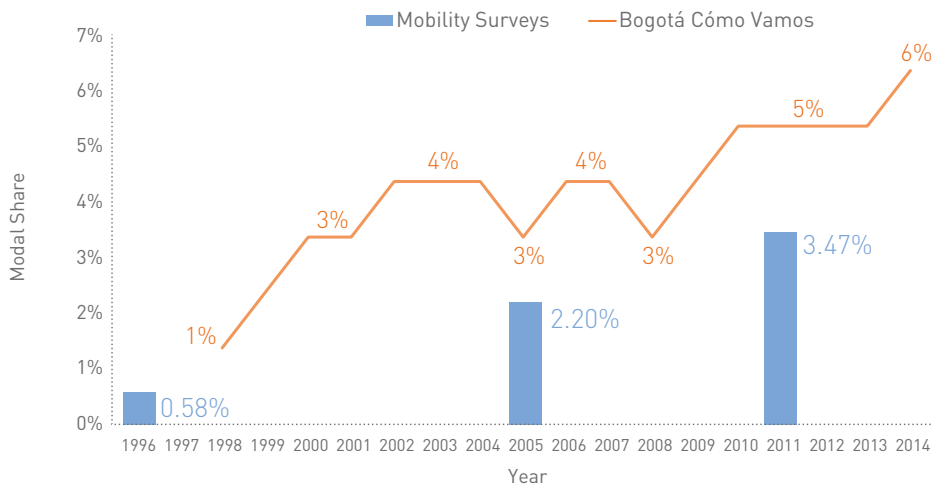


Figure 1 Bicycle use in Bogotá 1996-2014 [proportion of daily trips]
Data Source: [Steer Davies and Gleave & Centro Nacional de Consultoría, 2011] [Bogotá Como Vamos, 2014]

Cycling infrastructure and multimodal integration

Bogotá currently has 392 km [243 miles] of bikeways. The development of bikeways and other infrastructures is crucial to bicycle promotion. The pace of bikeway construction has slowed significantly since its peak under mayor Enrique Peñalosa, who built 232 km [144 miles] of bikeways during his three-year administration, 60% of the current system.

The current administration has laudably prioritized the construction of in-road bike lanes as opposed to placing them on sidewalks, which had been the norm. There has also been greater emphasis on integrating bicycles with Bus Rapid Transit. These recent actions have the potential to not only increase bicycle use but also shift mobility patterns in Bogotá more broadly.

As Figure 2 shows, the coverage of each station is much larger when a passenger can easily bike rather than walk there. Figure 3 shows the extent of bikeways built (in kilometers) during each mayoral term between 1995 and mid-2014.

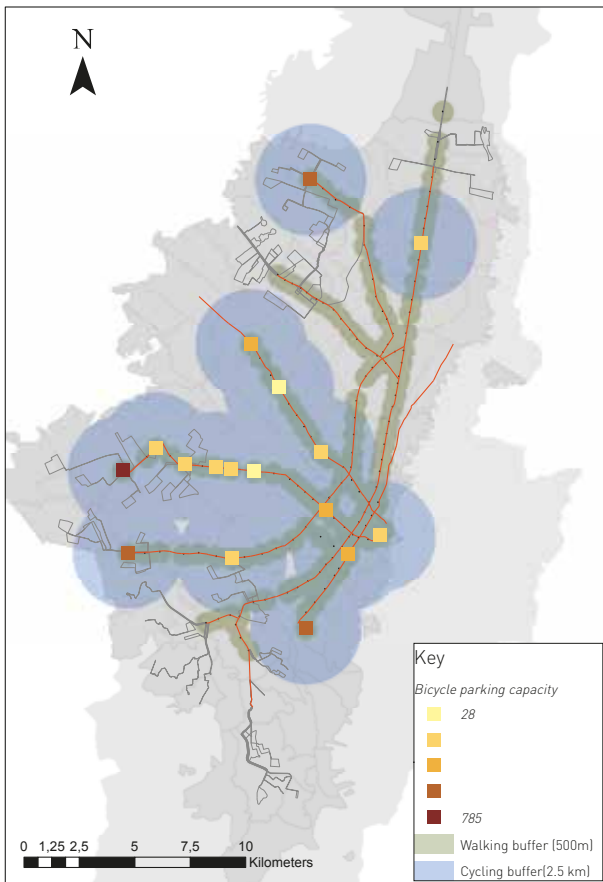
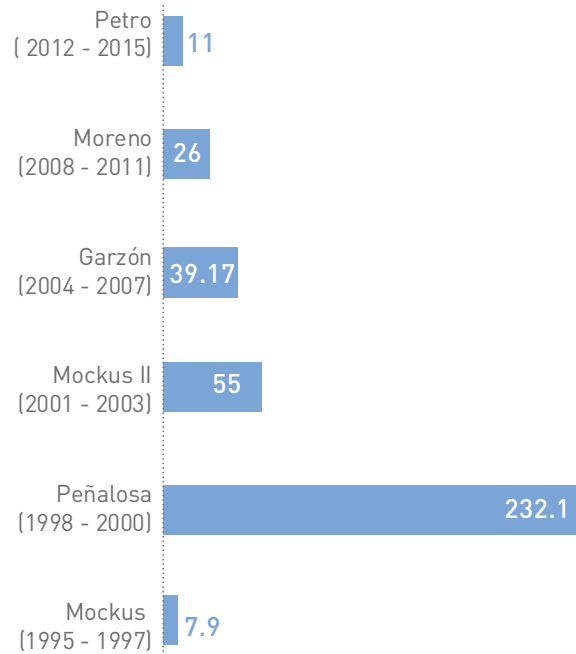


Figure 2 Coverage of Transmilenio with walking and cycling buffers
Data Source: (Pardo & Calderón, 2014)



Kilometers of bikeway built per mayoral term

Figure 3 Kilometers of bikeway built per mayoral term
Data Source: (Bogotá Como Vamos, 2014) , IDU, Secretaría de Movilidad

Who uses bicycles in Bogotá?

According to survey data, the composition of cyclists in Bogotá is as follows:

- 75% men
- 85% under 44
- 80% from the lowest three socioeconomic groups (out of six)

It is interesting to note that men on average take longer trips than women. Overall, residents in districts farthest from the center, predominantly from the lowest socioeconomic groups, take the longest trips.

What do bogotanos think about bicycles?

A review of recent survey data indicates that the main positive perceptions of biking in Bogotá have to do with fitness, health, passing car traffic, and the recreational Sunday carfree event (Ciclovía). Road and personal safety, weather, and driver behavior are the main negative factors. Measures that would increase the likelihood of bicycle use include an expanded and enhanced bikeway network with particular attention to intersection safety, integration of bicycles with mass transit, a public bicycle system, and campaigns to improve driver behavior.

Table 1 Positive and negative factors associated with cycling in Bogotá

Rank	Positive Factor (Response %)	Negative Factor (Response %)
1	Fitness (44%)	Being attacked (56%)
2	Health (28%)	Being hit (53%)
3	Trip duration (28%)	Weather/rain (46%)
4	Environment (25%)	Car behavior towards cyclists (42%)
5	Reliability (22%)	Pollution from motor vehicles (39%)
6	Trip cost (21%)	Bikeway design & obstacles (37%)

Data Source: [Despacio, 2014]

Safety in numbers holds true in Bogotá

There appears to be a clear relationship between bicycle use, bicycle infrastructure, and cyclist casualties in Bogotá. Bikeway construction has led to increased bicycle use over the past decades, which is itself inversely associated with cyclist casualties. This follows what Peter Jacobsen defined as “safety in numbers,” a phenomenon seen in many other cities as well (Jacobsen, 2003).

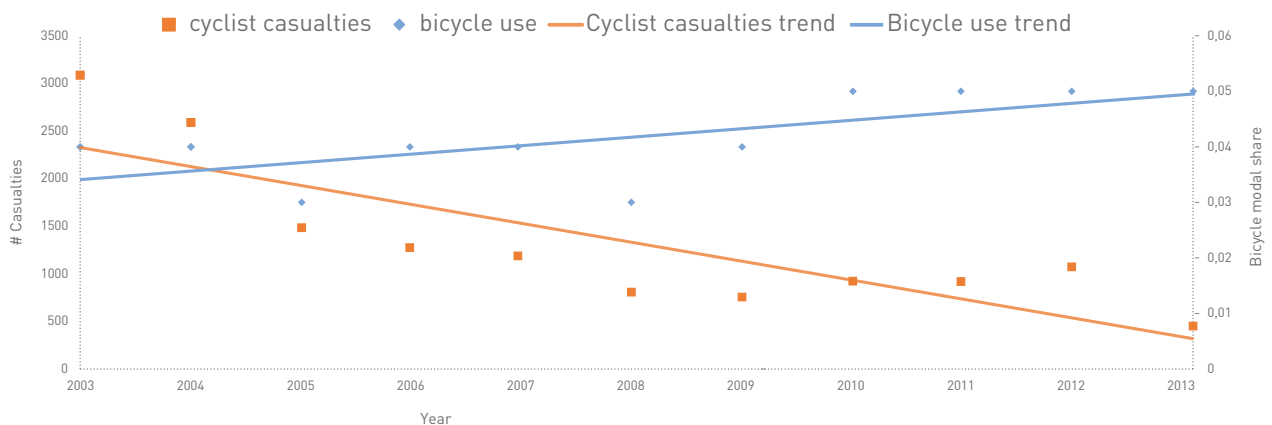


Figure 4 Cyclist casualties and bicycle use, 2003-2013
Data Source: (Bogotá Como Vamos, 2014) and [Secretaría Distrital de Movilidad, 2014a]

What are the (estimated) benefits?

This report also provides approximations of the environmental and economic benefits of bicycle use in the city. It indicates the carbon dioxide equivalent and particulate matter emissions avoided due to cycling. Applying the 2011 motorized modal distribution, it calculates what would have been emitted had cyclists opted for other modes. The economic gain calculated takes into account various positive and negative externalities related to cycling, including the reduction of road congestion and parking, improved road safety, and energy savings. (see Table 2)

Table 2. Estimated annual benefits of cycling

CO ₂ eq. emissions avoided	86,431 tons
PM emissions avoided	8.0 tons
Economic gain	820 million USD

Methods and data source: (Litman, 2014; Steer Davies and Gleave & Centro Nacional de Consultoría, 2011)

From car to bicycle

There is a tremendous opportunity in Bogotá to shift from cars to bicycles. Per capita, there are more bicycles than cars in the city (171 bicycles versus 98 cars per 1000 inhabitants) (Steer Davies and Gleave & Centro Nacional de Consultoría, 2011). Significantly, bicycles are evenly distributed across socioeconomic groups, unlike cars, which are concentrated in the upper classes. Our findings showed that people in the lower socioeconomic groups make fewer trips but travel longer distances during the day while those in the upper groups on average make more, short-distance trips. Given that bicycle use in the higher groups is low, this would imply that wealthier people in Bogotá own bikes but primarily use cars for transport, even for short trips that could be easily accomplished by bicycle.

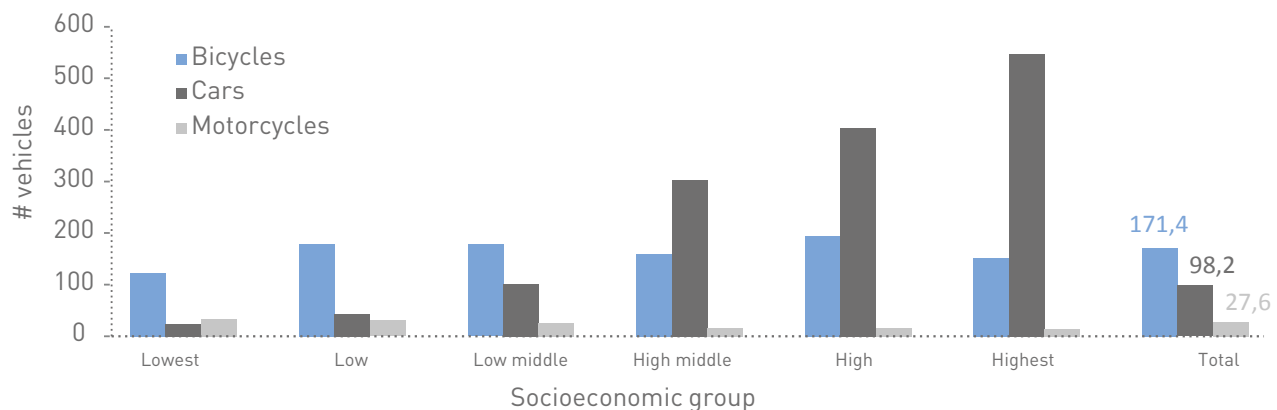


Figure 5 Number of vehicles per 1000 inhabitants according to socioeconomic group
Data Source: (Steer Davies and Gleave & Centro Nacional de Consultoría, 2011)

Conclusions and next steps

The preliminary research and analysis conducted in this report indicate the strengths and weaknesses of cycling in Bogotá. There are many recreational users, and bicycle transportation in the city continues to grow. However, improved road safety through bikeway investment, upgraded intersection design, and public awareness campaigns for drivers are needed to better the perceptions and realities of bicycle use. Complementary infrastructures, such as more bike parking in BRT stations and in private and public destinations, are also key. Developing these elements could encourage a mode shift to bicycle, especially among people from social groups that currently do not use them regularly.

The Bogota 2014 Bicycle Account is just the beginning; more research and monitoring is needed. Despacio hopes to produce printed editions in the future with more thorough data collection and analysis, and would therefore be grateful for any assistance in making this a reality. Can you help out?



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All photos by Carlosfelipe Pardo

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