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Bogota's Bikeways: A Network Supported by Policies and the TransMilenio

Introduction

Just ten years ago, Bogota's citizens were calling it 'un enfierno' – a living hell. In 1995 alone, there were 3,363 murders, 1400 traffic deaths, and a transportation system infamous for being frustratingly slow with commutes from the south of the city to the wealthy north taking up to four hours. In 1998, the city had a change of plan. No longer would city planning focus on creating infrastructure for cars, which only about 20% of Bogotans own. Instead, the city focused on providing transportation for the city's poor and creating an egalitarian transportation system that would show a person with a \$30 bicycle the same respect as a person with a \$30,000 car (Montgomery). The city's focus on bicyclists and pedestrians has had a profound impact on city life and transformed Bogota into a "globally lauded model of livability and urban renewal" (Montgomery). It is, however, the policies to discourage private car use and a well-planned bus rapid transit system that have largely made the investment in bicycle ways worthwhile. In this paper, I seek to show how even though Bogota's bikeways are well-designed, it is the city's policies and public transit system that have made them successful.

Bogota's Bikeways

As one of the densest cities in the Western Hemisphere, Bogota is an especially appropriate environment for bicycle use. The mixed-land use patterns help make cycling attractive, and because three-quarters of daily trips within the city are less than ten kilometers, bikes are a practical alternative cars (Cervero). Because much of Bogota was largely undeveloped in the mid-1990s, introducing bikeways proved to be a simple and efficient way to use city finances to create a transport system that would benefit a majority of people. In the past, however, such ideas promoting transportation equality were not the norm as the elite car-owning classes received priority, often parking on sidewalks with little regard for the poorer classes.

Bogota's transportation system and ideology underwent massive and positive changes when Enrique Penalosa became mayor in 1998. Rather than give priority to motor-vehicles, he views safe-mobility for those without motor-vehicles a right, and believes that providing quality sidewalks and protected bikeways on all roads is a basic element of democracy (Penalosa). Today, Bogota has 350 kilometers of protected bikeways, the largest network of dedicated bikeways in the developing world (Penalosa, Walljasper). The project was funded largely by rejecting urban highways and an expensive rail system. For example, along one major creek where a highway was supposed to be built, the city instead built a 32km greenway with bikeways (Penalosa). Through recognizing that the majority of citizens either bike or walk, the city created a transportation network that catered to the needs of its people and gave investment priority to pedestrians and bicycle facilities rather than cars.

Throughout the city, bikeways are integrated with public transit stations which have parking facilities for bicycles. The city has made biking much more enjoyable for the poor who have no option but to bike to work, and in the process has even attracted those who would otherwise drive to work. Dedicated bike paths, called *ciclorutas*, are embellished with landscaping to make trips more pleasant and interesting. Since 1995, bicycle use has more than quadrupled from less than 1% of daily trips to 4%, showing that dramatic change in behavior can occur in a short period of time given that appropriate changes and improvements are made (Cervero). The paths are especially useful for those living in the poorer southern part of the city, where many use the bike paths to get to transportation hubs linking bike paths and pedestrian roads with the city's bus rapid transit system.

In the next thirty years, Bogota aims to have twice as many dedicated bikeways as it has now and its goal is to have 30% of urban trips made by bicycle with the next five years. Currently, it is not Bogota's extensive bike network that makes this goal feasible as bikeways still do not enable travel to all parts of the city, but rather the city's strong discouragement of private vehicles and a model public transit system that will make the change possible (Cervero, Green Connectors).

Encouragement and Support for Bicycles

Bogota's bikeways would not be successful without the city's many policies restricting private car usage throughout the week, thereby making it safer and more pleasant for people to bike in the city. One such policy is a license-tag system by which 40% of cars are banned from the central city streets during peak hours every day. Cars can drive into the city during rush hour no more than three days per week. Moreover, the city has raised taxes on gas and parking, and prevented parking on sidewalks and bikeways by installing bollards along the roads, further discouraging car use within the central city (Cervero).

Another important policy is Bogota's 'Car-Free Day', during which the entire 135km city is free of motorized vehicles. This occurs each year on the first Thursday in February and is the largest car-free day in the world. It is a day when presidents of companies and maids all commute to work through walking, bicycling, or taking public transportation (ITDP, Urban Revolution). It is, however, not only once a year that citizens of Bogota can enjoy car-free streets, but once every week and on public holidays. Every Sunday since 1982, main streets are closed for seven hours. In recent years, the closures have extended to over 120km of roads, creating a huge *ciclovia* – 'cycling way' for cyclists, skaters, and pedestrians (Penalosa, Cervero). Bogota's former mayor, Penalosa, called it a learning experience that enabled people to realize that they can live without cars and has been an effective way of promoting the use of the city's bicycle ways.

To manage the traffic of up to two million people who use the car-free roads on Sundays, the city has an organization called Mission Bogota that helps direct the high volume of non-motorized traffic on these days, in addition to helping people who are new to transit and cycling and answering questions about public transport and bikeways every day (ITDP, People Power). A recent traveler to Bogota noted that on these days, he saw many happy families out on open streets and "although there were many people, there was never a Sunday or holiday when it felt too crowded" (Henry). The traveler also noted that these days brought a completely different feel to the city and it seems that Penalosa's goal of providing well-designed public spaces for the poor "who have no where else to go" has succeeded (Walljasper).

These policies that restrict private car usage make Bogota's TransMilenio bus system all the more important. Modeled after the system in Curitiba, Brazil, the TransMilenio buses currently carry one million passengers a day on a 66 km system with a capacity of up to 45,000 passengers an hour in each direction, a number that matches any rail system in the world

(Cervero, Green Connectors). Buses drive in dedicated lanes in boulevard medians where there are double lanes in some segments to enable buses to pass each other. Stations are weather protected and attractive, surrounded by civic plazas and parks, as well as connected to pedestrian and bike paths. The system provides a viable alternative for those who can no longer drive to work every day because of the city's policies, and in fact, 21% of TransMilenio riders are those who used to commute to work via car (Walljasper, Cervero, Green Connectors). To further promote use of bicycles pathways, car parking is limited to end-of-the-line stations, whereas all other stations have facilities for bicycle storage. The design strategy appears to be effective as 70% of riders reach TransMilenio by foot or bike. This combination of dedicated busways, feeder bikeways and pedestrian ways, coupled with Bogota's car-restricting policies, have made Bogota a much more livable city, though there are still many more improvements to be made (Penalosa).

Future Improvements and Applications

While Bogota's bike network is perhaps the most successful in the developing world, it is still a far cry from those in European countries such as Denmark and the Netherlands. In peripheral areas where there is limited public transport due to steep terrains and rutted roads, bike paths are either non-existent or unconnected and interrupted by buildings and other obstructions. While bikeways are common in the flatlands where the central city is located, those who live in the hillsides have little access to such paths. In some areas, "world-class bikeway facilities on the periphery of the city parallel rutted unpaved roads and open sewage channels" (Cervero). These are indeed characteristics that would make bicycling unappealing. Even in the central city, bikeways do not provide access to every part of the city and much expansion is still needed. Unlike in Europe, where bike paths have their own set of traffic lights, Bogota's bikeways do not have traffic lights and in some cases, accidents occur when cars are unaccustomed to the concept of a cyclist's right of way.

Because Bogota's bicycle system is still relatively new in the process of expansion, there is still much hope that the city's bikeways will one day rival those in cities like Copenhagen and Amsterdam. The city is currently a model of development for many cities in developing

countries including Beijing, Dakar, Jakarta, and Mexico City. In developing worlds where two-thirds of cities are often unbuilt, it is especially possible to take advantages of the mistakes and successes in the developing world, recognize the needs of a population without modern vehicles, and focus on building pedestrian walkways and bikeways instead of costly highways which only support a wealthy few. In developed nations, however, it will be much harder to change reliance on automobiles given that billions of dollars have already been invested in infrastructure to support them. When Enrique Penalosa met with planning leaders in New York City, however, he boldly proposed turning Broadway into a pedestrian street and noted that converted to a different system does not have to be expensive – it simply involves make a choice. To this idea, New Yorkers applauded and their acceptance of this attack on private cars suggests that American cities may be on the verge of a massive change as traffic and pollution become increasingly unbearable (Cervero).

Conclusion

Much of Bogota's transportation planning was focused not on protecting the environment, but on making people happy and promoting social equality. In the end, the method had a similar environmental impact as the TransMilenio system is credited with reducing up to 250,000 tons of carbon dioxide emissions a year. It is important to note that the many components of the city's transportation system (the bikeways, the pedestrian walkways, the bus system, and the city's policies) are all necessary to ensure that the system runs smoothly. Ever since the system was built, the country's murder rate has fallen 40%, traffic moves three times faster during rush hour, and the streets have become a generally more inviting and safe place to be. With this transportation network, Enrique Penalosa sought to foster positive interaction amongst people to build trust and a sense of equality, which appears to have dramatically decreased the city's crime rate due to income discrepancies (Cervero). Bogota's transportation system has done much more than decrease commuting times for its citizens – it has created a hope for a better future and a new model for development.

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