

²¹ United Nations Development Program. 2008. *Examples of Successful Public-Private Partnerships (Vol. 15)*. Special Unit for South-South Cooperation, UNDP. Accessed July 3, 2019. <http://tcdc2.undp.org/GSSDAcademy/SIE/Docs/Vol15/10Colombia.pdf>;

Global Mass Transit Report. 2011. "TransMilenio Bogotá." Global Mass Transit. Accessed July 3, 2019. <http://www.globalmasstransit.net/archive.php?id=7392>; CEPS. 2015. "Bus Rapid Transit: TransMilenio." Pocacito. Accessed July 3, 2019. https://pocacito.eu/sites/default/files/TransMilenio_Bogota.pdf;

Ardila, Arturo. 2015. "Study of Urban Public Transport Conditions in Bogotá, Colombia." PPIFA. Accessed August 10, 2019. https://ppiaf.org/ppiaf/sites/ppiaf.org/files/documents/toolkits/UrbanBusToolkit/assets/CaseStudies/summy/sum_bogota.html#2;

GDI. 2017. "Bus-Rapid Transit Systems as Cost-Effective Transportation Alternatives: The Case of TransMilenio, Bogotá." Global Delivery Initiative. Accessed August 10, 2019. https://www.globaldeliveryinitiative.org/sites/default/files/case-studies/sabatino_delivery_note_1_v2_10-23-17_0.pdf;

Leal, T. Monica, and Robert L. Bertini. n.d. "Bus Rapid Transit: An Alternative for Developing Countries." Robert L. Bertini. Accessed August 10, 2019. <http://bertini.eng.usf.edu/papers/brt.pdf>;

Hidalgo, D. n.d. "TransMilenio: A High Capacity – Low Cost Bus Rapid Transit System Developed for Bogotá, Colombia." Codatu. Accessed August 10, 2019. <http://www.codatu.org/wp-content/uploads/Transmilenio-A-high-capacity-low-cost-bus-rapid-transit-system-developed-for-Bogota-Colombia-D.-HIDALGO.pdf>.

10. Transmilenio Bus Rapid Transit Project, Bogotá, Colombia



Photo Credit²⁰

Background

Colombia has experienced a dramatic population increase in its urban centers. Bogotá, the capital city, has absorbed a large proportion of the people migrating to cities from more rural areas. This population shift led to heavy congestion of roadways due to the increase in the use of private vehicles as well as the particular structure of bus transport operations in Bogotá. Specifically, under Colombian law only bus companies can provide public transportation services, which means, in principle, that they should own the buses. In reality, however, the bus companies owned less than ten percent of the bus fleet. Their primary operating method was to rent their routes to bus owners, which by law had to be affiliated to a bus company, in return for a monthly fee plus an upfront, lump sum payment for the right to operate specific routes. As the bus companies were naturally incentivized to establish, and thereby lease, more routes and the local transportation authority lacked the capacity to evaluate the real need for them, the number of routes and buses increased exponentially. The resulting competition among bus operators, which derived their revenues from the actual fares collected, led to dangerous and notorious practices, including reckless driving and mistreatment of passengers.

In 1999, the city of Bogotá established TransMilenio S.A., with representation from several public agencies, to manage a Bus Rapid Transit (BRT) system in the city to alleviate these problems and provide the city with a better transportation system, one that aimed to be cost-effective and help reduce the level of air pollution in the city. The city had initially considered constructing a metro system to meet its public transit needs. During the planning phase, however, the city found that the capital investment needed for the metro would more than double that of the BRT and that the metro would cover only 8 percent of the city, as compared to the

85 percent offered by the BRT. Accordingly, the city elected to pursue the delivery of a high-quality BRT system instead.

Project Structure

TransMilenio S.A was given responsibility for designing, planning, and monitoring the BRT system in Bogotá, which operates under the same name as TransMilenio, as well as coordinating all the other stakeholders involved in the operation of the BRT system. TransMilenio S.A awards competitively tendered contracts for the provision of bus services to private sector operators, which must own their buses. Payment is linked to kilometers operated, instead of passengers serviced, which is meant to help curtail the dangerous prior practices of reckless driving and mistreatment of passengers.

The private sector operators are consortia of traditional local transport companies and national and international investors, which own the buses and hire drivers and maintenance personnel. The private operators are also involved in the larger BRT system's operation and maintenance, as well as ticketing and fare collection. As there are no operating subsidies from public authorities, the private operators recover their investments through the collection of fares paid by passengers. Accordingly, the private partners assume the demand risk, but also stand to retain the full the benefit if fare revenues are higher than expected.

TransMilenio operates as a PPP, in which the public sector provides fixed capital investments, funded through fuel and other local taxes, while the private sector provides and operates the bus fleet and high-technology ticketing systems within an agreed framework. The system consists of a trunk-and-feeder route grid with 9 core routes serving 114 stations, and buses with capacities of 160 or 270 passengers. The core routes (trunk lines) have four exclusive-use lanes (two in each direction) located

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Ardila, Arturo. 2015. "Study of Urban Public Transport Conditions in Bogotá, Colombia." PPIFA. Accessed August 10, 2019. https://ppiaf.org/ppiaf/sites/ppiaf.org/files/documents/toolkits/UrbanBusToolkit/assets/CaseStudies/summy/sum_bogota.html#2;

GDI. 2017. "Bus-Rapid Transit Systems as Cost-Effective Transportation Alternatives: The Case of TransMilenio, Bogotá." Global Delivery Initiative. Accessed August 10, 2019. https://www.globaldeliveryinitiative.org/sites/default/files/case-studies/sabatino_delivery_note_1_v2_10-23-17_0.pdf;

Leal, T. Monica, and Robert L. Bertini. n.d. "Bus Rapid Transit: An Alternative for Developing Countries." Robert L. Bertini. Accessed August 10, 2019. <http://bertini.eng.usf.edu/papers/brt.pdf>;

Hidalgo, D. n.d. "TransMilenio: A High Capacity – Low Cost Bus Rapid Transit System Developed for Bogotá, Colombia." Codatu. Accessed August 10, 2019. <http://www.codatu.org/wp-content/uploads/Transmilenio-A-high-capacity-low-cost-bus-rapid-transit-system-developed-for-Bogota-Colombia-D.-HIDALGO.pdf>.

in the center of the city's streets, while the feeders operate without exclusive lanes and assess no additional fare for their use.

In November 1999 Transmilenio S.A. began the bidding processes for trunk line operations by requesting proposals. All the commercial risks, including passenger demand, were assigned to the private operators. The bidding process proved to be a success as, in April 2000, four different companies were awarded concession contracts to provide and operate 470 new buses. At the same time, the tender for the concession for the fare collection system was ultimately won by a local company operating jointly with an experienced fare collection system provider. Separately, a Spanish technology group won the bid to operate the system's control center, and tenders were also conducted for the feeder service contracts.

Over a 24-month construction period, the new infrastructure for TransMilenio's first phase was completed under the direction and supervision of the local public works agency, the Institute for Urban Development (IDU), and delivered by local companies under traditional public procurement contracts. The infrastructure consists of 38 km of trunk lines and seven feeder zones covering 100 km; 4 terminal stations, 4 intermediate integration stations; 53 stations; 17 pedestrian facilities, plazas and sidewalks; and facilities for parking and maintenance. The total investment for Phase I infrastructure was USD 213 million, funded by a local fuel surcharge (46%), general local revenues, largely from a capital reduction of the partially privatized power company (28%), a credit from the World Bank (6%), and grants from the national government (20%). The infrastructure was completed through 58 construction contracts with national firms and 48 supervision contracts.²¹

Lessons Learned

Bogotá's TransMilenio has been regarded as among the global best practice cases for PPP in BRT and the model has been adopted in more than 100 cities worldwide. With three phases in operation, it covers 114,4 km; has 9 terminals and 11 parking facilities; includes 143 regular stations and 12 service corridors; offers 22 bike-parking sites with 5,260 parking spaces; and provides 5,017 external points to add credit to fare cards. In addition to operating buses, TransMilenio recently opened a 3.3 km gondola lift system (cable cars) connecting a specific area in the south of Bogotá with poorer neighborhoods on the Bogotá hills, which further connects these communities with the rest of TransMilenio system.

With the BRT development, reports have indicated that average travel time has decreased by 32 percent, property values along the main line have increased by 15-20 percent, tax revenues have increased, air quality has improved along the BRT routes, and road fatalities have decreased by 60 percent from 1,299 in 1996 to 551 in 2007.

This project highlights the following:

- Stakeholder engagement was key to delivering the TransMilenio project, aided by strong municipal leadership that helped promote interest in and support for the project, despite the diversity of interests and initial skepticism of some of the parties involved. This engagement included key knowledge exchange activities that sought lessons from other international examples of cities that had successfully implemented BRT systems; an objective timeline that helped generate political support from local officials; and close engagement with local bus operators during the project development process, many of which ultimately took part in the project.
- Even in a generally successful project, problems can arise. TransMilenio has received some recent criticism domestically due to concerns over pricing. Since the PPP operates wholly without subsidies from the government, the private operators depend on fares to maintain BRT operations and recover their investments. The flat fare (currently fixed at approximately USD 1) appears to have increased faster than some riders' income levels, making it susceptible to criticism for being unaffordable to low-income users (with average daily incomes of USD 3).²²