



MB Metrobús

A Fast Lane

*The Rise and Stalls of BRT in
Mexico City and Beyond*

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Fire engine-red buses packed with commuters zoom past the cars and trucks gridlocked in rush hour traffic on Mexico City's *Avenida de los Insurgentes*. The buses travel in an exclusive lane, interrupted only by red lights and the station platforms where every day hundreds of thousands of riders board one of the world's highest-rated bus rapid transit systems.

This is **Metrobús** Line 1, a pioneering BRT line that runs 20 miles along one of Latin America's longest corridors, dividing the urban sprawl roughly in half. With its own dedicated lanes and low-emission vehicles, this cross-town BRT line, and the three others that followed it, have transformed the Mexican capital's often-debilitating traffic patterns and revolutionized public transportation.

Bus rapid transit is a relatively young species in the public transit kingdom, and the Line 1 Insurgentes represents some of the best features of what world-class BRT has to offer. Its energy-saving buses travel in a way that mimics the speed and efficiency of rail, but at a fraction of the cost.

Metrobús riders save an average of 40 percent in terms of the time spent getting to their destinations, according to the city. That's no small feat in a place where traffic delays cost residents up to \$580 a year per person, or 3 percent of annual per capita income, **according to the World Bank**. Metrobús riders also do their part for the environment, especially those 15 to 17 percent of users who own cars but leave them at home; by keeping vehicles off the road, the system prevents 110,000 tons of greenhouse gases from entering the atmosphere each year.

In Mexico City, Metrobús represents a 180-degree turnaround from the relative chaos created by a fleet of green-and-gray minibuses that BRT replaced on a few main corridors. Under that privately operated, market-based system — a system that still prevails across most of the region — buses compete to pick up passengers wherever they stand, offering bone-shaking rides at an affordable price but with no promise of safety or comfort.

“The city had lost control of its transit system,” Metrobús Director Guillermo Calderón says. “It had become anarchic. It had grown disorganized with the minibuses.” Calderón has headed up Metrobús since the birth of the organization in June 2005. He shifted over from the city's environmental agency, where the BRT plans originated.

The vision for this new generation of buses began to take shape in 2000, when planners frustrated with the city's “anarchic” transportation system began to look for models in other places. They found an answer in Curitiba, Brazil, where former mayor Jaime Lerner, a trained architect and urban planner, created the first BRT

system in 1974. The original Curitiba experiment pioneered some the practices that are considered essential to top-shelf systems today, including exclusive lanes and off-board fare collection. Lerner, who saw dense, active streets as critical for a city’s economic health, also upzoned the land along BRT corridors to foment development in a way that is still considered a model for transit-oriented development. Followed by Bogotá, Colombia, which initiated a “second wave” of BRT implementation with the launch of the **TransMilenio** system in 2000, Curitiba set a high bar for the emerging transit option.

Jumping numerous political hurdles — like Bogotá before it and later Johannesburg, Tehran and Guangzhou, China — Mexico City took a major political risk when it pushed for BRT, potentially alienating thousands of people who made their living working for the old system. Today, Mexico City has significant gains to show for the risk; Metrobús has expanded to four lines since the first one launched, covering 59 miles and relieving several of the metropolitan area’s most congested corridors.

Yet in the United States, where many cities lag behind international peers in the transit department, public officials have been reluctant to take similarly high-stake risks. And when they have opted to experiment with BRT, city planners have developed diluted versions, limiting its affects and ultimately degrading BRT’s reputation as a viable alternative to rail.

The National BRT Institute **lists dozens of systems** currently operating in the U.S. But “most of them are just slightly more express than regular buses,” says Annie Weinstock, U.S. country director for the **Institute of Transportation and Development Policy** (ITDP), an international think tank that got its start in the mid-1980s delivering bicycles to Nicaraguan villages during the war with the Contra guerillas, and now works with governments and other non-governmental organizations to build more sustainable and socially equitable transportation systems.

Earlier this year, ITDP created a pilot BRT standard that measures and weighs more than two-dozen criteria and assigns a LEED-like designation to a system’s individual

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3

With dedicated lanes and low-emission vehicles, Metrobús represents the best of what BRT has to offer.

corridors. The hope is that the rankings will clear up any lingering misunderstandings about what is truly rapid transit and what is just a bus by another acronym.

But in Mexico City it is the Insurgentes line, ranked “silver” by ITDP, which has already become the testing grounds for how the city will confront its increasingly vexing transportation puzzle.

ANARCHY TO ORDER

Calderón’s office overlooks a stop on Metrobús Line 3, on a street that separates the trendy Colonia Roma neighborhood from the seedy Colonia Doctores. Inside, a collection of model BRT buses sits on a shelf. Outside in the bustling street, riders walk through a sloped entrance to the station in the center of the street, press their red Metrobús card to the electronic turnstile and enter a wide, clean concrete platform. Every day, this system of four lines — Line 3 starts at the city’s northern edge and connects to a central terminal via a second line that runs from the city’s east side to a central point slightly west of Insurgentes; the fourth line built with smaller buses and slimmer stations runs a loop through Mexico City’s dense, tourist-

trafficked Centro Histórico — move some 800,000 people every day. On Insurgentes alone, 400,000 passengers board a bus every day, 140,000 more than engineers anticipated when they designed the corridor.

Metrobús “has set the standard for a change in mobility in the city,” Calderón says. It was no easy transition.

Today, 80 percent of Mexico City’s whopping 22 million total daily trips are made on public transportation, while only 20 percent of trips are made in private automobiles. But when the city began considering how to alleviate its growing traffic (and pollution) problems, the Mexican capital hadn’t seen a new mile of rail built in 40 years. And that wasn’t changing, as the city didn’t have the money to lay more track. Cars were becoming increasingly common and a growing middle class was rejecting the cramped and chaotic offerings of the existing minibuses. BRT offered a new promise: Transit at the speed and capacity of rail at a cost, in Mexico, of 15 times less.

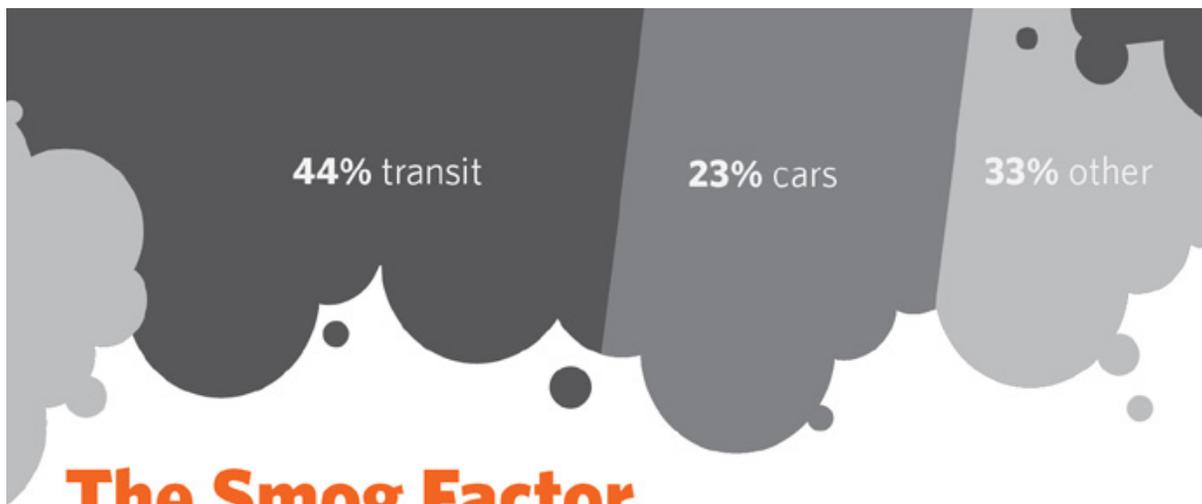
Yet like cities in many developing countries, the Mexico City government of then-mayor Andrés Manuel López Obrador faced the daunting task of bringing a veritable army of *transportistas* on board with the project. Ignoring the men who owned the private minibuses that made up the fleet was not an option; the Metrobús project threatened their livelihood, and they could easily paralyze the city with a strike.

4

WHO'S ON BOARD?

Jesús Padilla, 50, got his start as a *hombre-camión* — a minibus man — in 1986, and now directs one of the three companies that run the Insurgentes line, which is the most financially successful Metrobús line. The offices of Padilla’s company, **Corredor Insurgentes S.A. de C.V.**, are tucked into Mexico City’s Santa María la Ribera neighborhood, a tough area where squatters lay claim to run-down buildings and residents operate businesses out of their apartments. In the office entryway hangs a black-and-white still of Mexico’s beloved Pedro Infante in the 1948 film *We, the Poor Ones*.

Padilla hands three cell phones over to an assistant, sits back and recounts how he and 261 other individuals holding minibus concessions decided to give up their *peseros* — Mexico City’s colloquial term for minibuses — and become “investors” in the city’s first Metrobús line. Characteristic of their mistrust of the government, nearly every *hombre-camión* was against the project, he says.



The Smog Factor

The Mexico City metropolitan area generated 51.5 million tons of greenhouse gases in 2008. BRT systems with their larger, cleaner and more efficient vehicles are part of an overall strategy to reduce the city's carbon footprint. Still, the transportation sector creates 44 percent of all emissions, with 23 percent coming from individual cars.

5

“It was fighting, fighting, fighting for two years,” Padilla says, remembering the bitter 2003 negotiations between the city and the *transportistas* that finally resulted in the creation of the Corredor Insurgentes company.

Before Metrobús, *peseros* sputtered and sped and jerked to sudden stops along the seemingly endless Insurgentes corridor, the old microbus Route 2, racing to pick up passengers whose pesos represented the busman's daily earnings. (As a concessionary, the *hombre-camión* rarely doubles as driver; he hires someone else to run the route.)

The system, still in play in the vast majority of Mexico City's corridors, undermined safety and offered no incentive for preventative vehicle maintenance.

“The interesting part was how to get them to trust [the project], get them to leave behind their business, which they supervised and controlled,” Padilla says.

Transportation guilds and unions wield substantial political power in Mexico City, and the *hombres-camión* represented a bloc of 2,300 operators who could paralyze the city if they chose to strike. But the city kept the Route 2 operators engaged through negotiations and offered an especially enticing carrot: stable earnings. All those who signed onto the Metrobús plan and agreed to unite formally as a partner in Corredor Insurgentes would be guaranteed a monthly dividend that amounted to roughly 80 percent of their average monthly earnings, or between 8,000 and 12,000 pesos (\$620 and \$930). In turn, the operators would turn in their microbus to be junked and recycled.

“We went through tough times,” Padilla says of the start-up in 2005. “It was a new experience for the city and a new experience for the *transportistas*.”

Not just Mexico City but the entire country is struggling with the question of formalizing informal markets. Employment in Mexico’s informal sector ranges between 50 percent and 62 percent of the country’s total employment, according to the World Bank’s **recent jobs report**, and is “considered high given the country’s development level.” In the capital, attempts earlier this year to **formalize a largely informal trash collection system** met with active resistance by the sanitation workers’ union, and plans were set aside.

Padilla cites the “determination and courage” of López Obrador in bringing the group on board. They didn’t like it at the time, he says, but today “everyone can see the benefits.” Among them: “A more orderly operation, a centralized administration, preference for preventative maintenance, and the professionalization” of the operators.

Padilla’s self-described right-hand man, Guillermo Hernandez, also a former *hombre-camiión* and today part of Corredor Insurgentes, says that the reorganization cut down earnings for the transit contractors, but also made their job easier.

“In the microbus scheme, you could earn a little bit more,” Hernandez says. “But we’re really bad administrators, so you earn more but you’re not better off.”

Yet the microbus culture isn’t easy to shake. When most of the company partners grudgingly handed over their Route 2 vehicles, Hernandez says, they simply bought a different *pesero* on another route. Every day, 22,000 *peseros* still rumble into the streets.

Whether commuters jump off a moving *pesero* as it swerves suddenly into traffic, or try to shove their way onto a packed Line 1 bus, or suffer in their cars the solitary frustration of gridlock, getting around the city at rush hour is especially challenging.

Daily commutes are also the largest source of smog in the metropolitan area.

The Mexico City metropolitan area generated 51.5 million tons of greenhouse gases in 2008, according to the latest data available from the city’s environmental agency. Some 44 percent of those emissions — the greatest of any sector — is due to transportation, with 23 percent attributable to individual vehicles.

ONE WILD RIDE

On a crisp, weekday morning in September, the doors to the Metrobús would not open. People on the platform — women at the front of the bus, men at the back — pried open the doors. One person squeezed out, another two pushed in, attempting to create space where there was none. The doors struggled to close.

The bus climbed an overpass and the mob inside swayed back, to the right then slammed against the doors on the left. A woman in a blue raincoat shoved another woman, as a favor, onto the packed bus.

Several jarring stops later, a small woman with a gray head of hair looked up at the taller women surrounding her and announced she needed to exit at the next station. Three feet from the door and she could not seem to penetrate the pack, until another woman on the platform grabbed her forearm and pulled her safely out.

Which is worse, this or the *peseros*?

“It’s all the same,” she said, shaking off the experience. “Metro, *pesero*, Metrobús, it’s all the same.”

The question is how to prevent the system’s issues from overshadowing all its successes — before the Metrobús image goes the way of the *peseros*’.

This is where the ITDP and its standards come in.

The Insurgentes line in Mexico City earned its silver ranking — 75 out of 100 total points — largely due to its forward-thinking development. The corridor earns top scores for things like universal access, platform-level boarding, off-vehicle fare collection, segregated right of way and bus lanes in the central verge of the road, with stations that are centered and shared for both directions of service. Where it falls short is with daily operations. The Insurgentes corridor earned low scores for things like poor system controls, including a lack of automation, no passing lanes for express service, limited interconnect between corridors and poor passenger information. The bus driver, for instance, doesn’t announce current or upcoming stations. On the “point deductions” side, the Insurgentes line gets only one deduction, and it’s the maximum: for overcrowding.

Despite its bruising crowds, Mexico City’s adherence to best practices is a major reason why the system has succeeded in attracting and keeping riders — no easy task given Mexico’s U.S.-style car culture.

“Asking people to leave their car at home is a step back [for them], or it was,” Calderón says. “With Metrobús we dismantled this myth: That public transit is only for those with few resources. We got rid of it by providing quality transport, with modern, comfortable buses, with comfortable stations.”

Next year, Weinstock’s group at ITDP plans to release its first report measuring how other systems stack up against the Insurgentes line. So far, they expect a BRT in Lima, Peru, to earn gold along with the Bogotá and Guangzhou corridors. Meanwhile, only five U.S. cities have created BRT systems that meet minimum standards, and these appear poised to earn bronze, Weinstock says. Those systems are Cleveland’s



Mexico City's Metrobús system has four BRT lines that move about 800,00 people every day.

HealthLine; the Emerald Express in Eugene, Ore.; three BRT corridors in Pittsburgh; the Orange Line in Los Angeles and the Strip Downtown Express in Las Vegas.

“Some cities call it BRT and it doesn’t even meet the minimum requirements,” Weinstock says. Among the imposters: Los Angeles’ Metro Rapid system, Boston’s Silver Line, Seattle’s RapidRide and New York’s Select Bus Service.

Luckily, there are outliers. San Francisco is on its way to a possible silver-standard BRT line with its Van Ness corridor, Weinstock says. Pittsburgh is gathering public feedback about a promising proposed BRT system. Nashville has a bold proposal on the table, if the city can assuage critics and Chicago is flirting with the idea of a potentially gold-standard BRT system, which could be the first U.S. system to reach the bar set by Bogotá’s TransMilenio and BRT in Guangzhou.

But cities across the U.S. are studying Cleveland’s success.

CURITIBA TO CLEVELAND

Cleveland jumped on the BRT bandwagon during the second wave of global BRT projects, following Bogotá and Johannesburg. After some 40 years of inconclusive talks about how to revive the depressed corridor between Downtown and University Circle, a somewhat forlorn section of the city anchored by Case Western Reserve, Cleveland sent a delegation down to Curitiba in the 1990s. Soon after the visit, the city applied for Federal Transit Administration's **New Starts** funding for a BRT project.

Following Jaime Lerner's lead in Curitiba, the city coupled the ambitious transit project with a vision for broader city revitalization. In addition to supporting a BRT line with many of the trimmings of the world's best, including buses that, like in Mexico City, run in segregated center lanes and feature off-board fare collection, the project funds would pay for infrastructure repairs all along the corridor. Not only would Cleveland get a new, modern bus line, it would get underground electric lines, new water pipes and repaired sidewalks. That, crucially, got local developers on board. Like in Curitiba, BRT was sold as a part of more active, pedestrian-friendly city center.

"That was part of the packaging," says Mike Schipper, deputy general manager of engineering and project management for **Greater Cleveland RTA**, which serves 1.2 million people in Cuyahoga County where the city of Cleveland resides.

And like Mexico City, Cleveland also marketed the BRT line fiercely, trying to convince middle-class commuters accustomed to turning up their nose at buses to give the new buses a chance. "A lot of the advance work was telling people, 'It's a rail line on wheels,'" Schipper recalls.

Cleveland took another big rebranding step as well. It offered naming rights for the line to the Cleveland Clinic and University Hospital, both of which are on the corridor, a nine-mile route that had been in a state of permanent decline since the 1950s. Now the BRT is called the **HealthLine** and in exchange, the businesses together pay \$250,000 a year for the operation and maintenance of the line, which cost \$200 million to develop and has seen \$5 billion in additional development since it began operations in 2008. The Cleveland Clinic and University Hospital are committed under the pact for 25 years.

The HealthLine's success shows that BRT is a viable option, even for a midsize, car-friendly city like Cleveland. Both Schipper and Mexico City's Calderón offer cities considering a BRT corridor the same advice: Do it on your most trafficked corridor — despite drivers' complaints — and don't skimp.

“This is an important point,” Calderón says. “People always prefer to ride above ground than in tunnels, but you have to make the decision to dedicate a lane exclusively to public transit, and punish the automobile.”

“Doing it right cost more,” Schipper says. “[We] could have done it for \$50 million by investing in nice vehicles,” stations, and nothing more. By making the leap to true BRT, Cleveland avoided the disappointment that poorly planned corridors have caused in other cities.

“With Metrobús we dismantled this myth: That public transit is only for those with few resources. We got rid of it by providing quality transport, with modern, comfortable buses, with comfortable stations.”

10

“They were sold a bill of goods and what they got didn’t measure up,” Weinstock says. “We’re seeing that in a lot of cities. It’s easy to tell the public they are getting something high quality and paint the buses a different color and then not do the other things.”

If a city’s so-called BRT system doesn’t measure up, it can hamstring planners’ ability to introduce world-class proposals later, Weinstock says.

This much is true on Mexico City’s Insurgentes line. The average speed on the thoroughfare before the Metrobús was 7.5 miles per hour; after the Metrobús it rose to 11 miles per hour, an increase Calderón attributes to the order the system brought to one of the city’s most chaotic corridors.

“What happens on Insurgentes today?” he asks. “The cars are all in a line and they see the Metrobús passing. They are envious!”

BUS OF THE FUTURE

Mexico City's Metrobús created formal corridors where public transportation was once a barely regulated mess. That's one of the great things about BRT: Modernizing the structure of the operators, says Bernardo Baranda, Latin America director of ITDP in Mexico.

Still, behind the façade of well-maintained stations and clean vehicles, the Metrobús system retains a measure of the *hombre-camión*'s former informality.

In the ITDP scoring system, Metrobús scores low on system control. ITDP defines a full-service control center as one that monitors bus location with GPS or other technology, responds to incidents in real time, controls the spacing of buses, knows the maintenance of all buses in the fleet and collects data on the flow of passengers in order to make informed service adjustments. Out of three options — “full service,” “most services” or “some services” — Mexico City falls in the final category.

11



On the streets where it runs, Metrobús replaced the minibuses known as *peseros* that raced along Mexico City's corridors, creating a major safety hazards. *Peseros* continue to operate in many areas of the city.

To start, the companies that operate the different lines obey different criteria in how they hire and train drivers, and in how they maintain their vehicles.

“There is no regulating organism,” says Maite Ramos, spokeswoman for Movilidad Integral de Vanguardia S.A., the company that operates Line 3. For example, Movilidad Integral de Vanguardia provides its drivers 260 hours of training, according to Ramos. Drivers on the Insurgentes corridor receive 120 hours of training, Padilla says.

All this points to how incremental progress can be, even on the rapid line.

“I think it’s a success story, but there are always areas of opportunity for improvement,” Baranda says.

As part of its work with Mexico City, ITDP has created plans for another 65 miles of Metrobús, for a network of 10 corridors total. Although the plan sounds ambitious given the continued resistance on the part of the *transportistas*, the city has proved it can strike the necessary accords to transform mobility.

“Historically, it’s a city that changes a lot,” Baranda says, pointing to the capital’s wrenching recovery from the destructive 1985 earthquake and its rapid evolution toward modernizing transit in recent years. “The city is starving for good public transportation.”

The past two city administrations run by the Party of the Democratic Revolution Party, or PRD — led first by López Obrador and currently by Marcelo Ebrard — have taken numerous political risks over the past 12 years to prioritize public transportation and make drastic improvements. In addition to Metrobús, the city has launched a successful bike share program and is nearing the end of construction on a new Metro line, which will improve east-west connections across the city.

The bets on public transit have apparently paid off: Mayor-elect Miguel Ángel Mancera won the PRD another six-year term, which begins in December. That’s giving planners like Baranda hope that the pace of transformation will continue.

In a metropolis of 20 million, the vast number of carless commuters appears to be perpetually hungry for more. >



ABOUT THE AUTHOR

Lauren Villagran has written for the Associated Press, *Dallas Morning News* and *Christian Science Monitor*, among other publications. Based in Mexico City, she has covered the Mexican capital's renaissance and the country's struggle with an ongoing drug war, all while marveling at Mexico's millennial culture. She holds a degree from the Medill School of Journalism at Northwestern University.