



Garbage for the Future

*As Mexico City Modernizes, A Debate Emerges:
Who Owns the Trash?*

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ISSUE
014

>FOREFRONT



VOLUME 1, ISSUE 14.
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Forefront is published weekly by Next American City, a 501c3 nonprofit that connects cities and the people working to improve them.

Next American City.
2816 West Girard Ave.
Philadelphia, PA 19130

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The clanging of a melon-sized bell heralds the arrival of a garbage truck at 7am in the Iztaccihuatl neighborhood of Mexico City. Residents dressed for work or still in their bathrobes scurry into the street carrying trash bags to the truck, where garbage men riding in the back rip open every bag to separate what's inside.

Elsewhere on the street, a *barrendero* pushes a low cart laden with two oil drums. As he moves down the street, the drums fill with trash people bring him. He doesn't carry a bell, but the swishing sound of his hand-tied stick broom on the pavement lets residents know he's near.

Across the city, in the posh La Condesa neighborhood, trash carries a higher value. There, several garbage trucks pass by more than once a day. A *señora* living in a stately white home with a broad front porch refuses to pay the sanitation workers the tip they expect. Only one of the trucks is willing to take the woman's garbage, a live-in maid said. The *señora* insists that she pays taxes for a reason.

There are places, too, where neither the garbage truck nor the *barrendero* pass, or where people are too impatient or too confused about Mexico City's intricate trash collection system to be bothered by it. In those places, trash bags are dumped on curbsides or corners, where they will sit indefinitely while rats feast.

"Perhaps all societies deserve to be judged by their garbage," wrote Héctor Castillo Berthier, sociologist and expert on Mexico City's sanitation system, in a journal article

This is particularly true of the large, heterogeneous community living in Mexico City. With nearly 9 million residents and no hard-and-fast system for disposing their trash, garbage is a perennial problem that, in many ways, accurately reflects the traditional Mexican political order. Here, sanitation services depend on a tangled intertwining of formal and informal markets — on which hundreds of thousands of workers and their families also depend, not to mention millions of residents. And like so many other elements of that wide-reaching political order, the city's sanitation system is now in flux, facing the pressures of modernization even while there is no clear path ahead.

Mexico's capital made history late last year by shutting down the last landfill it operated. Mayor Marcelo Ebrard touted the closure as the ongoing fulfillment of his government's **Climate Action Plan** and the execution of an accord a decade in the making between the federal government, which owned the land just outside city limits, and the city, which had operated the dump since 1985. Ebrard declared the closure a "miracle" given the complexity of the issues, politics and people involved.

The environmental benefits of shuttering the Bordo Poniente landfill were undisputed: Putting a lid on the dump will prevent 1.5 million tons of greenhouse



Miguel Santiago Chavez (right) and volunteer workers sort recyclables from the back of garbage truck No. 912.

gases from entering the atmosphere annually — Mexico City emits 36 million tons of CO₂ equivalents each year — while the methane produced by the dump could be harnessed to generate electricity and power public lighting.

Yet important questions were left hanging in the balance. What would happen to the volunteer waste pickers, known as *pepenadores*, who sift for recycleables at the Bordo Poniente? Or the volunteer garbage collectors? Where would the trash-filled trailers dump their cargo now? Within days of the landfill's closure, garbage started piling up on street corners and in clandestine dumps around the city.

The debacle threatened to sully the record of Ebrard's administration, which is in its sixth and final year and has won international kudos for numerous advances in public transportation, policing and the environment. It also laid bare the challenges of modernizing an ancient city where tradition often trumps the law, and where political costs often carry as much weight as economic ones.

But the closure also catalyzed and consolidated efforts to modernize. By the end of Ebrard's term, the city will have ramped up a state-of-the-art composting facility, contracted out the development of biogas at the landfill, and made headway on a pressing (and pricey) plan to upgrade the city's fleet of garbage trucks. At the same

time, much of the rest of the system remains delicately balanced on the labor of some of the city's most vulnerable workers, who toil for little more than their "right" to the trash and whose fate, in a modern system, remains uncertain.

Once the wastebin is emptied, the trash becomes treasure. Policymakers here are wrangling with a critical question: To whom does the trash belong?

REFORM, ONE MESSY SECTOR AT A TIME

Ebrard addressed a crowd of a few dozen people — city officials, union leaders, academics, media — from a podium in front of a sprawling plateau of garbage. A cool wind lifted clouds of dust into a gray sky. The air was bad with the scent rising from the burial grounds of 76 million metric tons of trash. It was December 19, 2011, and Ebrard had come to officially shut down the Bordo Poniente.

In the audience were some of the people for whom Mexico City garbage politics hit closest to home: Horacio Santiago Ramirez, head of the "Cleaning and Transport" section of the union of city workers; Pablo Tellez, the leader for 37 years of the guild of *pepenadores* at the Bordo Poniente; Castillo Berthier, the sociologist who once worked as a *pepenador*; and Fernando Menéndez, the city's man in charge of making the closure happen. A representative of the Clinton Foundation was also there, providing tacit international backing for the project.

"I want to thank many people who are here who have accompanied us on this long road, in very complex negotiations, in complicated decisions," Ebrard told the gathering.

The closure was meant to be another feather in the administration's cap. Ebrard had worked for most of his single term — there is no re-election in Mexico — toward similar modernization projects. Among his proudest accomplishments were upgrading the city's services and infrastructure, including the expansion of a rapid-transit bus system; the replacement of smog-spewing, rattle-trap buses with cleaner, newer ones; renovating the historic downtown to recruit residents back to the area; as well as cleaning up corruption in the police forces and investing in a video security system that has made the city safer. All these initiatives have been largely viewed as successes: Ebrard came in second in his party's version of a presidential primary earlier this year, and is an early favorite for the country's next presidential race.

That day at the Bordo Poniente, Ebrard ceremoniously chained and locked a fence at the landfill's entrance. Beyond the telegenic posturing, however, sheer pragmatism underlay the closure; the city had no other choice. The federal government owns

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the land on which the Bordo Poniente sits, all 450 or so hectares, and the city had been operating the Bordo Poniente under a sort of lease agreement since 1979. The administration of former President Vicente Fox, the first opposition candidate to in 2000 win an election after 71 years of semi-authoritarian rule by the Institutional Revolutionary Party (or PRI), demanded the city government sunset the dump by 2008. Seen as a largely as an attempt to rattle the political power of a competing opposition party, the PRD, in Mexico City, the move nevertheless was touted by the Fox administration as a win for the environment. The city missed the first closing deadline. Ebrard finally renewed and executed

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the commitment three years later.

From the moment the lock clicked shut, problems began to rise to the surface like a stench. The city's fleet of 2,400 garbage trucks and hundreds of street sweepers waited in long lines at transfer stations to offload their trash onto long-haul trailers, which — normally headed to the Bordo Poniente — suddenly had nowhere to go. The administration was forced to temporarily reopen the landfill until it reached confinement deals with two smaller dumps in Mexico State.

"I don't think anyone, absolutely anyone, has a clear picture of what's going on," said Castillo Berthier. "It's a long story, a complex one, with many actors, many interests, much corruption... The government didn't have a plan A and it didn't have a plan B. Now all of a sudden, a plan C is appearing, which are the calls for privatizing services."

Ebrard has often repeated that his goal is, first and foremost, to reduce the amount of trash the city sends to landfills through conservation, recycling and composting. City officials have repeated that, beyond the upcoming biogas concession, no other services are on the private auction block.

The city published a 12-page, five-year plan in 2009 that briefly described 11 goals, among them increasing environmental education to help reduce what people throw away; improving the separation of organic and inorganic materials in homes, businesses and institutions; composting as much organic matter as possible; and augmenting the number and type of items that are recycled.



A barretero street sweeper nicknamed “Tejas” pushes a garbage cart and cleans the streets with a hand-tied stick broom.

At every hint of a policy change, the people on the ground getting their hands dirty have something to say about it. When talk of privatizing of any sanitation services comes up, as it has this year, a few voices rise above the clamor.

‘GETTING OUR HANDS DIRTY’

“The trash is property of the city once citizens toss it,” said Horacio Santiago Ramirez, head of the 14,000-strong Section 1 “Cleaning and Transport” division of the Union of Government Workers of the City of Mexico, founded in 1935. “But we’re the ones who put our hands in it. That is how it has been for many years. We will defend what is ours.”

Section 1 offices share a space with the 39 other sections of the government workers union on the same street as the protest-prone Mexican Union of Electricians. Circus tent-yellow curtains cover the windows and posters of the Virgin of Guadalupe decorate the walls, announcing a pilgrimage to the basilica of Mexico’s venerated patron saint. Ramirez, who climbed to the top of the union’s hierarchy after starting out as a street sweeper in 1983, sits behind a large desk. A nearly life-size portrait of Benito Juárez, Mexico’s beloved indigenous president, provides a backdrop.

Ramirez says the union is on constant alert for rumors that the city may choose to exercise its right to privatize trash collection or take away the *pepena*. The changes afoot at the Bordo Poniente have raised alarm bells for the union.

“It’s always going to be a risk for us as an organization,” he said, as he counted what appeared to be a few thousand pesos in cash and then clipped his fingernails.

A 2003 “Law of Solid Waste” outlines the government’s rights and responsibilities regarding waste management — several tenets of which have gone ignored ever since, as lawmakers and subsequent mayoral administrations have instead allowed historical practices to persist.

MEXICO CITY’S POPULATION

9,000,000

SIZE OF MEXICO CITY’S
GARBAGE TRUCK FLEET

2,400

THAT’S **ONE**
GARBAGE TRUCK
PER **3,750** PERSONS



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Article 25 of that law prohibits the *pepena*, or the separating of trash, during collection and transport. It would be a severe understatement to say the prohibition is ignored; Mexico City’s entire system of waste disposal is in fact based on this fundamental activity, which “pays” the more than 6,000 “volunteer” sanitation workers who pick up the trash and supports the work of the 4,500 or so *pepenadores* at three trash separation plants across the city. Additionally, Article 6 grants the city the right to privatize waste management, a right that has not been widely exercised, save for a handful of private concessions that include the cleaning of the colonial center, the Reforma Avenue business district and upscale La Condesa neighborhood.

An attempt by a group of city assembly representatives earlier this year to legislate enforcement of the prohibited-but-tolerated *pepena* met with active resistance by the union and was dropped after just three months of debate. Ebrard's progressive-left party counts the powerful sanitation workers union among its staunchest supporters and has indicated its intention to maintain the status quo.

The workers have never walked out in mass protest, unlike the 7,000 New York City sanitation workers who, in February 1968, brought the city to its knees with a nine-day general strike that had then-Mayor John Lindsay threatening to call in the National Guard. (The New York City sanitation workers demanded pay equal to police and firefighters' salaries and higher pensions; the dispute was eventually settled by Gov. Nelson Rockefeller. That same year, Memphis sanitation workers also engineered a similarly debilitating general strike.)

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"The government wants [the trash collection] to be first-world, but without the tools to make it work."

So far, Mexico City's sanitation workers haven't been pushed that far. But should the city consider further privatization, Ramirez is adamant: The union is prepared to incorporate and bid for the contract.

"We should be the first to win the concession," he said, adding that Ebrard promised the union that he wouldn't privatize during his six-year term, which ends this year.

The union proposes the elimination of Articles 6 and 25 and favors formalizing "the figure of the sanitation worker" to provide the many volunteers with legal protection and city benefits. But, Ramirez said, as far as he knows, "there is no clear, long-term strategy."

'FIRST WORLD TOOLS'

The only light on Culiacan Street at 6am on a Monday morning shined from the inside of the back of a 1984 white Famsa garbage truck. Miguel Santiago Chávez tightened a couple of oversized screws and organized the empty sacks hanging from the truck's flanks. He waited for his volunteers to show up and the day's work to begin in the cold predawn.

When it did, two men noisily rolled oil drums filled with refuse, heaved them over their shoulders and emptied the contents into the back compartment, where two other men sifted through the garbage with their bare hands, feeling for anything of value: Recyclable plastic bottles, glass, paper and aluminum cans — anything which, at that moment, could cease to be “garbage” and regain value as a marketable commodity. The clanging of glass and rustle of plastic bottles damped the sound of Adele singing “Set Fire to the Rain” from speakers rigged to one side of the truck. A can for tips hung from the other.

Most of the men on truck No. 912 had been working together for years. The men all have stories of discovering a silver chain, or a gold ring, or something someone probably spent hours digging through the trash at home to find and never did. They have able fingers and a keen eye for such treasures, they say, and they like their route in La Condesa for the quality of the trash. The well-to-do consume more and, hence, throw away more — less organic material and more recyclables. That’s good for business, said Chávez.

The men worked hard together. They had to, because there would be no city wage for them, no check to cash at the end of the *quincena* on the 15th and 30th of every month. Certainly no social security or health insurance. They earned their cut of whatever materials they can separate for recycling — the *pepena* — and culled their share of whatever tips they collect from their route. That, and the precious things they hoped to find.

A week before, truck No. 912 had parked along with a dozen other garbage trucks at a park in La Condesa. They stayed put all day while residents mused about their absence. There was a rumor, Chávez said, that the city wanted to take away their right to the *pepena*, the lucrative separation of garbage into recyclables. The union told them not to go to work, so they didn’t.

It wasn’t a large-scale strike by any means, just a flexing of sanitation worker muscle to remind the city, as it evaluates next steps, that the trash collection doesn’t happen on its own.

“This government wants [the trash collection] to be first-world but without the tools to make it work,” Chávez said.

‘LEJOS Y FUERA’

Héctor Castillo Berthier wears his long black hair in a thick ponytail, keeps a bushy mustache and chain smokes. The academic of Mexico’s Autonomous University, or UNAM, is critical of the city’s trash strategy. Although the city is recycling and



A view of the conveyor belts at the separation plant at the Bordo Poniente landfill, where trailers temporarily haul the trash for a final hunt for recyclables before what's left of the garbage is hauled to dumps outside the city. The city shut down the Bordo Poniente in December.

composting more than ever before, there is no comprehensive plan for depositing the rest, other than driving the trash as “far and out” of the city as possible.

Mexico City hasn't reached the dire straits of 1968 New York — yet. Since the closure of the Bordo Poniente, Mexico City is hauling its trash up to 80 kilometers outside the city, while New York has been forced to go much farther, some 300 kilometers to Virginia and other states. But, he says, “lejos y fuera” is neither an efficient nor long-term strategy for waste disposal. Today, Berthier says, cities have to think of the garbage as something that circulates in a closed environment, where what we throw away will find its way back to us at some point, possibly in another form.

When the administration shut the Bordo Poniente, the city ultimately resolved the problem of where to dump Mexico City's garbage by shipping its waste farther away to bedroom communities in Mexico State, despite local opposition there.

Castillo Berthier has worked on master plans developed by the city over the years — none of which ever came to bear, as one administration handed the problem off to the next. (Mexico doesn't permit re-election; mayoral terms last six years.)

A 1985 plan proposed a truck-to-rail system. In 1998, a Japanese consultant company proposed formalizing and privatizing trash collection. When the sociologist explained that some 250,000 people in the city and metropolitan area, including their families, depended on the trash to make a living, it became clear that no company would hire that number of people and still operate efficiently. The project fell apart.

Castillo Berthier estimates that the whole collection and disposal process runs between 6 million pesos daily, or about \$430,000. Fernando Menendez, head of the city's Commission for Solid Waste Management, said the city is working on calculating the figure. He declined to provide a ballpark but said he believes the cost of disposal has doubled since the closure of the Bordo Poniente, largely due to the cost of hauling the garbage to dumps farther away.

Yet any discussion of system overhaul is complicated by the fact that the city government does not pay the whole bill for the daily collection of Mexico City's trash — not really.

The garbage truck drivers receive a city wage, about 5,600 pesos (\$402). The city's 16 boroughs pay for the trucks — part of an antiquated, exhaust-spewing fleet whose age averages more than 20 years; the boroughs also pay for fuel. (The city is purchasing 100 new trucks this year; Ramirez estimates that just 20 to 30 percent of the fleet has been replaced during the current administration). The city rents the trailers that haul the garbage to the separation plants and then out of town.

But the city doesn't pay for the roughly 6,000 volunteers who actually do the work of picking up and sorting the trash on the trucks. The boroughs may own the equipment, but Chávez, and two other brothers who also manage routes in La Condesa, essentially operate as a family business. There is no plan to formalize the actual work of collecting and sorting the garbage.

That means the true cost of Mexico City's sanitation system remains obscure.

"We need to pay for our trash," said Guillermo Velasco, coordinator of strategic energy and environmental studies at the [Centro Mario Molina](#), a think tank and civil watchdog group.

Velasco argues that the real cost of the trash needs to be formalized as a tax included in the *predial*, or property tax. While city officials say property taxes do indirectly pay for sanitation, Velasco said he believes the real cost needs to be broken out and taxed separately — an argument in the same vein as energy-minded Americans who advocate paying the "true" cost of oil. Currently, Mexico City residents don't really know what they're paying for.

Meanwhile, the recycling gathered by the sanitation workers and the *pepenadores* yields an estimated 5 million pesos monthly (\$359,000), according to Ramirez. The

city may lose out on the business recycling represents, but the informal workers accomplish by default the city's primary goal: To reduce the amount of solid waste that ends up in local dumps.

"The more they separate, the more we can recycle," said Menendez. "The better off the country will be, the better off the environment will be. It benefits everyone. If I get rid of [the volunteers], the separating is going to be more expensive for the city."

Menendez added: "I have always insisted that we need to take care [of the volunteers] every time we make a change."

Privatization isn't the end-all, Velasco said, nor is it necessarily the most efficient option for Mexico City. However, Velasco argues that formalizing elements of the current system could be the answer, including establishing more formal garbage routes (so that each truck is more energy efficient) and organizing the *pepenadores* into egalitarian worker cooperatives.

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THE GREEN EFFECT

For now, the major transformation underway — and the only current plan for privatization — is not in the streets but at the Bordo Poniente, where a dozen Mexican and international companies are preparing bids to develop biogas, and where the city has launched a composting plant touted as the largest of its kind in Latin America.

The latter is already up and running. The composting area, roughly 30 hectares, receives some 2,400 tons of organic waste daily, roughly half of the organic waste generated by the city. Organic waste makes up 40 percent of the city's refuse — a higher percentage than in more developed countries — given that many Mexicans continue to cook traditional meals and consume fewer packaged goods, said Ricardo Estrada, undersecretary of recycling for the city's Public Works Department.

The city pays 50 pesos per ton of organic waste to make it worth the while of the sanitation workers, who would otherwise be more inclined to make a trip to a recycling plant. The composted waste is currently being used to fertilize public spaces, including parks and medians, to cover the now-defunct Bordo Poniente with a layer of soil. Eventually, the city hopes to sell the compost at a low rate to nearby agricultural areas.

Then there is the biogas.

The city and federal government plan to grant a contract for sealing the landfill and producing biogas-based electricity, which would be sold back to the city, ostensibly at a cheap price. Biogas is created when organic material decomposes in an airtight place,



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Some 4,500 *pepenadores* work at three Mexico City separation plants. They receive no city wage or benefits; they earn only what they glean from the garbage

and the result is a mix largely made up of methane, or CH₄, which as a greenhouse gas is up to 25 times more potent than carbon dioxide. The wild card is how much biogas is actually available in the Bordo Poniente.

The concession is worth a total 762 million pesos (\$55 million), half to be paid by the federal government and half by the city. The contract is scheduled to be awarded in late summer.

In March, the city officially opened the preliminary bidding process, and 12 companies — including global conglomerates and Mexican players with a variety of expertise — expressed interest. They include **Proactiva Medio Ambiente**, a partnership of Spanish and French companies; Gami Ingeniería e Instalaciones, the Mexican company behind the construction of Mexico City's latest rapid transit bus line known as the **Metrobus**; a Mexican energy solutions company called **SEISA** that already produces biogas at a shuttered landfill in Monterrey in Mexico's north; and a Mexican industrial engineering and construction group called **Abengoa**. Velasco, of the Centro Mario Molina, said he expects some of the bidders to partner on a proposal.

Menendez said he believes the transformation of the Bordo Poniente will ultimately be Ebrard's legacy.

“We are going to leave the Bordo Poniente program resolved,” he said from an office that overlooked Mexico City’s Zocalo plaza and the ruins of a temple of the old Tenochtitlan. “We opened the options. We’re working quickly to evaluate all the technologies. And we’re going to leave a road map for the next administration.”

THE LAST LINK IN THE CHAIN

The *pepenadores* execute the penultimate stage in the city’s trash cycle, the waste’s last stop before its final resting place.

Of the trash that is hauled to the city’s plants — Santa Catarina, San Juan de Aragon and Bordo Poniente — the *pepenadores* skim off a final 10 percent of recycleable or reusable materials. Like the sanitation workers, they work only for what they can find in the piles of garbage that float down a conveyor belt at a government-owned facility. The city’s closure of the Bordo Poniente and the upcoming biogas deal have cast the *pepenadores*’ future into doubt.

Pablo Tellez, 75, has led the Bordo Poniente *pepenadores*’ United Front guild for 37 years. He worked the trash from the time he was a boy, collecting and separating refuse alongside his parents, who came to Mexico City from neighboring Hidalgo state in 1930. He reminisces about growing up in the city’s dumps. He never learned to read or write. But pictures of Tellez and half a dozen Mexican presidents of the era of the long-ruling PRI hang on his wall in a small office space at the Bordo Poniente — pictures of Carlos Salinas de Gortari, Miguel de la Madrid, José López Portillo and Luis Echeverría Alvarez.

The *pepenadores* fit snugly into the old PRI system, under which the party co-opted nearly every social group through patronage, thereby guaranteeing its hold on power.

But Mexico’s shift toward democracy has upended many of those power structures over the past 12 years and, according to Tellez, the *pepenadores* haven’t received the same preferential treatment as before. Their claim on the trash and territory at the Bordo Poniente has weakened; their informal work is an anachronism frequently at odds with efforts to modernize. Although Ebrard and his left-leaning government have promised that the workers will be able to continue in the *pepena* at the Bordo Poniente for the next 25 years, Tellez said he is still concerned, in part because the land belongs to the federal government and the decision is not entirely up to the city.

Mexico elected a new president on July 1, Enrique Peña Nieto, ushering back in the party that ruled the country for 70 years — the PRI, whose presidents all shook hands with Tellez in public photo-ops. Peña Nieto has declared that the party has



MEXICO CITY GENERATES
4,800 TONS
OF ORGANIC WASTE A DAY

been reformed. Whether the PRI will choose to co-opt worker unions or challenge them, however, remains to be seen.

Tellez declared that he would like to see the *pepenadores* benefit from whatever contract gets awarded at the Bordo Poniente, given the guild's history there.

"Being Mexican workers, being those who maintain a part of the economy, being all this, why do they look down on us and sideline us?" he asked.

He leaned back in a black chair, a Virgin of Guadalupe standing on the locker behind him, and added: "Here, one day they are going to fight us for the land."

What will the detonator be? One day the hidden costs of Mexico City's sanitation system may leak to the surface — the cost of depending on volunteers to collect the garbage, of hauling it to be specially separated by the *pepenadores*, of driving the trash farther and farther away — and then, and only then, when the delicate balance tips will the city confront the realities of its system. Or perhaps when one day the workers and volunteers decide not to do the jobs they have always done, and they leave the garbage to bake under the burning sun of the Valley of Mexico. >

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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.