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ITDP


# Insurgentes Cycle Lane: From Pop-Up to Permanent


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Cover: The permanent cycle lane on Avenida de los Insurgentes, the main corridor of Mexico City, has helped grow cycling since the pandemic.

Photo: ITDP Mexico

Opposite page: In Mexico City, Eje Central Lázaro Cárdenas is part of a growing network of temporary and permanent cycling infrastructure.

Photo: ITDP Mexico


**Editorial**

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The Institute for Transportation & Development Policy (ITDP) works around the world to design and implement high-quality transport systems and policy solutions that make cities more livable, equitable, and sustainable.

ITDP is a global nonprofit at the forefront of innovation, providing technical expertise to accelerate the growth of sustainable transport and urban development around the world. Through our transport projects, policy advocacy, and research publications, we work to reduce carbon emissions, enhance social inclusion, and improve the quality of life for people in cities.

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# Climate and Pandemic Resiliency Found on Two Wheels

By Heather Thompson,
ITDP CEO

*Cycling is good for people and the planet. Regular cycling reduces the risk of cardiovascular disease and alleviates anxiety, diabetes, and obesity. Cycling options significantly expand access to jobs, schools, and other destinations 10 times compared to walking.*

Photo: ITDP

## One star that has shone through the darkness of the pandemic: the bicycle.

As the pandemic forced all of us into lockdown, the world of mobility changed. Without regular commuting schedules, more people took to the streets on foot and on bicycle. The initial reduction of car traffic, along with open streets and pop-up lanes, helped people feel more comfortable on a bike.

The bicycle became part of the 'new normal' in cities around the world. In fact, sales of bicycles are so high worldwide that there is a shortage of parts, and bikes are back-ordered.

In 2020, over 100 cities built more than 2,000 kilometers of temporary cycle lanes and other cycle-supportive infrastructure. Cities that built cycling infrastructure saw almost 50% more cycling trips than cities that did not. The pandemic has shown that cities can quickly, sometimes overnight, integrate cycling infrastructure into the urban landscape. It just takes making the political decision to move a city from a car-dominated space to a cycling-friendly haven.

Bikes make sense. They are an affordable, resilient means of transportation. For every pop-up lane a city builds, more cyclists take to the streets. Recognizing this pivotal moment, this year, ITDP has launched the global *Cycling Cities* campaign to provide governments, planners, advocates, and others the tools to make cycling a safe and affordable transportation option in cities worldwide.

With such success, cities are now moving to make these solutions permanent. Mexico City, Mexico, created over 40 kilometers of temporary cycle lanes along Insurgentes Avenue, one of the city's main transportation corridors and one of the longest urban streets in the world. The number of cyclists has increased 350% since implementing the temporary protected lane, and with its upcoming permanence, this number will continue to grow. In the spring of 2020, ITDP Mexico launched *Rodando Ayuda*, as part of a larger cycling campaign, *Ideamos*. With *Rodando Ayuda*, food and essential goods were delivered using bicycles to vulnerable groups during the pandemic.

In Jakarta, Indonesia, the municipal government committed to improving cycling to make the city more livable and accessible. Jakarta introduced a plan to build 500 kilometers of cycle lanes and integrate the cycling network with public transit. During the pandemic, Jakarta invested in pop-up bicycle lanes to meet the needs of the people. The results were dramatic, with cycling increasing by 500% and up to 1,000% on some routes.


Top photo: ITDP

Above: Rodando Ayuda is a program that has used bicycles to deliver food and other aid to people in Mexico City, during COVID.

Photo: ITDP Mexico

When given safe conditions, people opt for bikes. The pandemic's empty streets allowed people to feel safer to venture out and test new wheels, exposing them to the benefits of bicycling as a practical option. Bikeshare systems allow people to easily experience the benefits of cycling and encourage new riders. Cairo, Egypt, and Kigali, Rwanda, will soon launch some of the first bikeshare systems on the African continent, which ITDP helped create. In New York City, the Citi Bike bikeshare system, one of the largest outside Asia, has continued to set daily records this year, with 3.17 million monthly rides in June.

Cycling also makes sense for "last-mile" small freight delivery in urban centers. Companies—from small, informal outfits to large corporations—are increasingly using cargo e-bikes instead of cars and trucks, which are cumbersome on busy urban streets.

Most importantly, cycling is good for people and the planet. Regular cycling reduces the risk of cardiovascular disease and alleviates anxiety, diabetes, and obesity. Cycling options significantly expand access to jobs, schools, and other destinations 10 times compared to walking. Cycling is zero-emission travel, which is what our bedraggled planet needs.

The key to becoming a successful cycling city is scaled, safe cycle-lane networks. This infrastructure requires funding, which government funders and financiers, including multilateral banks, should prioritize. Policy support is also critical to make cycling a priority. This includes road safety laws like speed limits and safe school zones. Car-Free Days are another proven public engagement tool to support a bike-friendly culture.

For these reasons, I am thrilled to announce ITDP's global campaign, *Cycling Cities*, to help continue the momentum for better cycling in cities worldwide. This campaign provides governments, planners, advocates, and others the tools to make cycling a safe, affordable, and widespread transportation option. ITDP is influencing 250 cities to design, and implement plans like redesigning streets and adopting key policies so that by 2025, 25 million more people will live near safe cycle lanes.

Join the ride! Sign our campaign pledge at **cyclingcities.itdp.org** to help grow cycling in your city and build a healthier, safer, and more equitable planet!

# US Advisory Group Responds to Biden's Plan

**In late 2020, the United States elected Joe Biden as president after a fractured and polarized four years. After running a campaign to "Build Back Better," Biden came into office on the heels of a global pandemic and a weakened economy. One of Biden's first actions as president was to rejoin the Paris Climate Agreement and bring climate policy back into infrastructure discussions. As part of the American Jobs Plan, which the administration is still trying to push through Congress at the time of this writing, the president and his staff have focused on making climate policy a pillar of infrastructure policy. This proposal is a large infrastructure package meant to both employ Americans by reinvesting in necessary infrastructure that has gone neglected for years and bring the United States to competition levels with other strong economies with sustainable infrastructure and climate change solutions. Some of the proposed projects emphasize sustainable transportation. This proposal has not yet made it into law.**

**ITDP is lucky to have so many thoughtful leaders who advise our organization at large, and our program work in the United States. We have asked these advisors and board members to comment on their expectations, concerns, and hopes.**

**Janette Sadik-Khan, Principal, Bloomberg Associates, *ITDP Board of Directors***

Transportation policy is climate policy and economic policy. It's a key to achieving greater equity, racial justice, and increasing access to opportunity by bringing more people within reach of jobs, schools, and services. The Biden administration recognizes that there is no recovery without significant and sustained transportation investment, and that creating safer, more accessible and affordable ways for people to get around is as essential as restoring power lines, bridges, and roads damaged by natural disasters.

**Beth Osborne, Director, Transportation for America, *ITDP US Advisory Group***

The best indicator of future behavior is past behavior and past behavior makes me believe we will get a lot more money for the same thing we've already gotten. Advocates are trying to influence small amounts of money for the things they want to see, while much larger amounts are dedicated to the same old things. So far, this Administration has made statements but actions have yet to follow. It is early yet, so I haven't been loud about my skepticism, but I will get really loud about it if things don't change by the fall [of 2021].

**Tilly Chang, Executive Director, San Francisco County Transportation Authority, *ITDP US Advisory Group***

The historic American Jobs Plan infra-structure proposal is a transformative strategy for both the short-term and long-run, boosting job creation and our nation's competitiveness while investing in equitable access, safety and climate solutions for future generations. We are excited to re-imagine our infrastructure to re-knit communities and upgrade bus

*The Biden administration needs to enable and strengthen local government capacity across America by providing more direct aid to cities supportive of key priorities, with fewer strings attached.*

and rail transit, especially for those most reliant on public transportation.

**Chrystal Kornegay, Executive Director, MassHousing, *ITDP US Advisory Group***

Public transportation is essential to keeping our economy going as evidenced by the past year. While work patterns changed for many, essential workers supported folks who were working from home, and these essential workers mostly relied on public transportation. Investing in public transportation such that it is sustainable, particularly to the people that were deemed essential during this pandemic, is a way to have a lasting, equitable impact.

**Michael Repogle, Founder, ITDP; Former Deputy Commissioner for Policy, New York City, Department of Transportation; *ITDP Board of Directors***

This past year has demonstrated the value of creating more nimble administrative procedures. In New York City, in the wake of COVID, thousands of parking spaces were dedicated to Open Streets and Open Restaurants programs. This quick reallocation saved businesses, jobs, and brought life back to the streets in a dark time. By removing the usual red tape, these programs happened quickly and with much success. The new administration could learn from this approach.

The Biden administration needs to enable and strengthen local government capacity across America by providing more direct aid to cities supportive of key priorities, with fewer strings attached. Some of this can be done by executive agency action, but to take it to scale will require authorization of new flexible programs in the American Jobs Plan and transportation reauthorization bills.

The administration in early 2021 secured vital congressional support for funding that kept many transit agencies and cities from collapse in the wake of great economic disruption due to COVID. The Senate's infrastructure bill has many good things, but its vastly expanded highway funding is likely to reinforce car-dependence and spur sprawl, while falling short on funding needed to improve public transportation, walking and cycling, infrastructure for electric vehicles, and reconnection of communities severed by highways. The House of Representatives needs to ensure the American Jobs Plan sent for President Biden's signature will support a true shift in transportation, climate, and economic policy, not just more of the same with new twists. We cannot afford to wait any longer for change.

# Shared Electric Two-Wheelers Are Booming in Chinese Cities

By Qiuyang Lu,
ITDP China

**China is the world's largest market for electric two-wheelers, with over 85% of the global market share in 2019.[1] At the end of 2020, there were approximately 325 million e-bikes in China, and the figure is expected to continue to grow. In most large cities, although privately owned e-bikes are allowed on the road, shared e-bike systems are not permitted. In contrast, shared e-bikes and e-mopeds are gaining popularity in small to mid-sized Chinese cities. According to a 2019 report by iResearch, among 1 million shared e-bikes nationwide, over 98% of users are from small and mid-sized cities.[2] In many Chinese cities, shared e-bikes offer a low-cost and easily accessible mobility solution.**

*"I started to use shared e-bikes after the outbreak of COVID-19 because they are as cheap as public transit and, more importantly, I can avoid the crowds."*

— Shared electric two-wheeler user

## SAFETY

As restrictions have eased, and with the perceived low risk of infection outdoors, people have been more willing to choose new active transport modes. In China, shared electric two-wheeler systems have been better able to adapt successfully to safety and other regulations than private vehicles. Shared electric two-wheelers are also controlled by operators and officials who are involved in standardized purchasing, charging, and maintenance. This state control has been attributed to keeping vehicles safer.

## ACCESSIBILITY

Like shared bikes, most shared electric two-wheelers are dockless in China. Customers can find and park the e-bikes in

[1] https://finance.sina.com.cn/stock/stockzmt/2021-01-01/doc-iiznctke9706109.shtml
[2] https://www.iimedia.cn/c400/72366.html

any designated safe place, like sidewalks and roadsides. They also do not need to worry about battery charging and maintenance problems, because the shared electric two-wheelers providers will send ground staff to swap batteries and check vehicle conditions.

### AFFORDABILITY

The payment method is flexible for shared electric two-wheelers. While customers often opt for a single ride pass, which is calculated by distance, subscriptions are also available. If the customer pays for a single ride, fees are calculated based on the minimum fee and the amount of time the customer uses the vehicle. Most shared electric two-wheelers providers offer both limited and unlimited ride passes with a contract period ranging from a few days to a year. The price of using these vehicles is approximately the same as taking buses and subways.

### COMFORT

Compared with pedal bikes that require human power, electric two-wheelers are fully or partly powered by electricity. This allows riders to travel a longer distance with less effort and greater speed, which creates a more efficient and comfortable travel experience.

### PROFITABILITY

*"The profit of launching 1 shared e-bike is equivalent to launching 20 shared bikes. This means less investment could also bring better travel experience for citizens."*

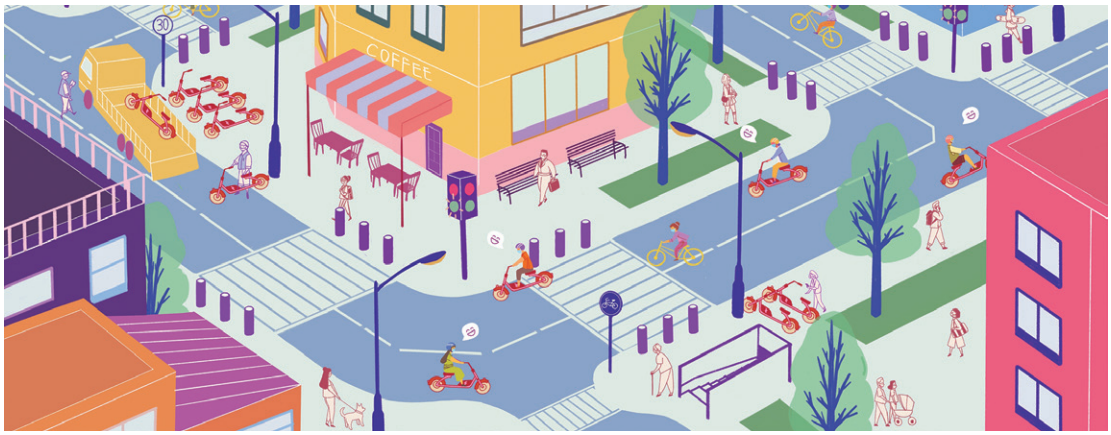
— Ningbo regional manager of a shared e-bike company

From the operator's perspective, despite the initial costs, investing in shared electric two-wheelers could increase profitability more quickly than shared bikes. The following table shows 2019 riding data from Ningbo, a mid-sized city in southeast China.


In Wenzhou, China, a small county in Shanxi Province, people ride shared two-wheelers.
Photo: ITDP China

**2019 Ningbo shared bike and e-bike riding data**

| | Shared bikes | Shared e-bikes |
|---|---|---|
| Quantity (per one thousand vehicles) | 260 | 20 |
| Average turnover rate per day (in thousands) | 35 | 56 |
| Average daily turnover rate (%) | 13.29 | 340 |
| Average number of rides per vehicle per day | 0.14 | 3 |
| Active vehicles (%) | 2.68 | Over 75 |




Top: Shared e-bike systems can integrate easily into people's lives and built environments.

Illustration: Qiuyang Lu, ITDP China

Bottom: Personal e-bikes, pedal bikes, and shared e-bikes in Beijing.

Photo: ITDP China

The average turnover rate of shared e-bikes (340%) is significantly larger than that of shared bikes (13.29%).[3] Although this may be due to the small number of shared e-bikes launched in Ningbo, it is clear that if citizens have the opportunity to choose between bikes and e-bikes, shared e-bikes are more popular. People will accept the slightly higher price of e-bikes to have faster service.

## ENVIRONMENTALLY FRIENDLY

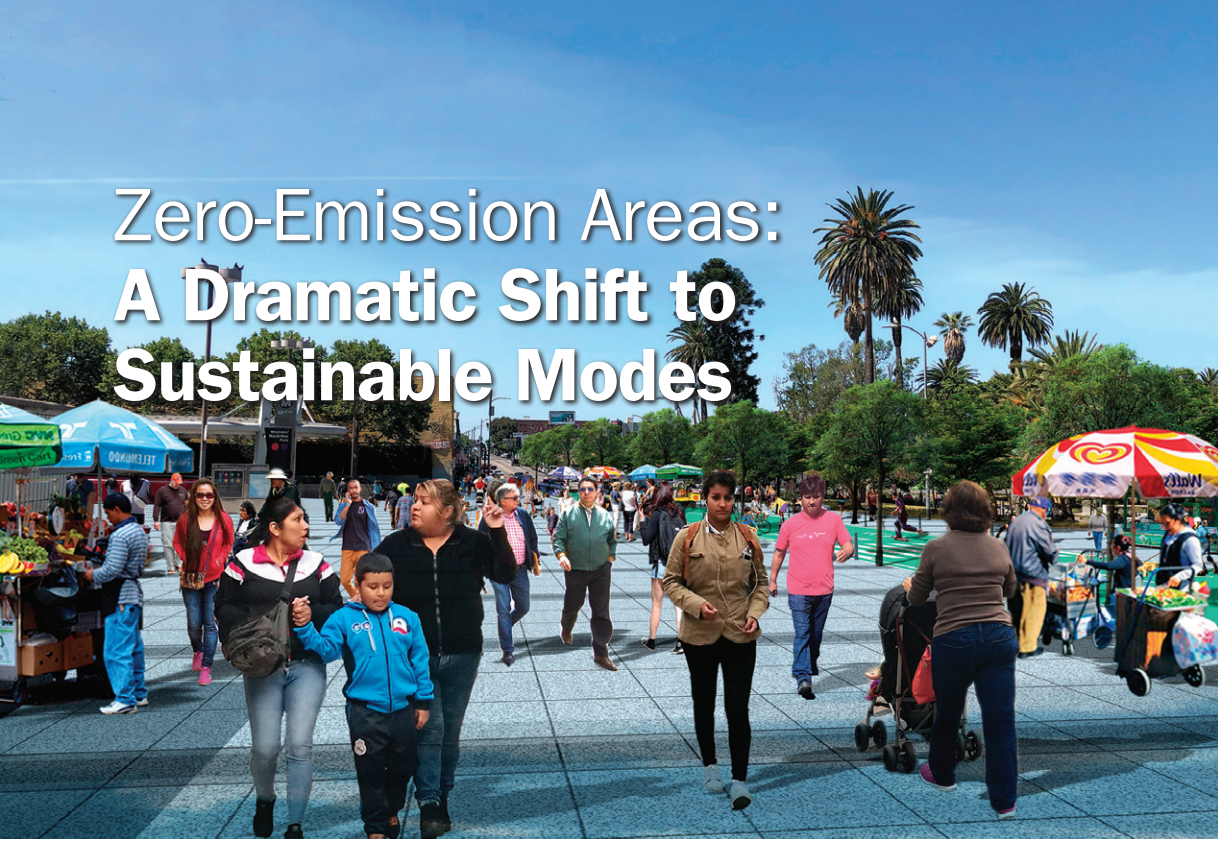
In smaller cities in China, where the public transit system is not well developed, people rely on motorbikes and private cars for medium- and long-distance travel. The affordability and accessibility of shared electric two-wheelers provide an attractive alternative to cars. According to a user survey by Hello Bike, shared electric two-wheelers replaced 25% of shared-bike trips, 23% of bus trips, and 18% of walking trips. As a result, such a mode shift has enormous potential to reduce emissions and improve air quality.

## ECONOMIC GROWTH

Shared electric two-wheelers could improve people's mobility efficiency, leading to more frequent long-distance travel. Impacts of COVID-19 have driven cities to look for catalysts to spark economic activity. Many smaller cities in China are encouraging the launch of shared electric two-wheelers to help people move around quickly and easily, potentially igniting economic activity.

While shared bikes aim to close the first-last mile gap, shared electric two-wheelers could effortlessly take people from 3 kilometers to up to 10 kilometers. The affordable price and accessible features make this type of transportation mode more popular in many smaller cities in China. From the operator's perspective, the higher price and turnover rate make shared electric two-wheelers more profitable than shared bikes. For the local government, shared electric two-wheelers have the potential to improve air quality and drive economic growth.

[3] http://news.cnnb.com.cn/system/2020/04/24/030146989.shtml



# Zero-Emission Areas: A Dramatic Shift to Sustainable Modes

By Carolynn Johnson, ITDP US

**Zero-emission areas are an emerging urban planning tool that help reduce carbon emissions and improve mobility in public spaces by limiting all non-zero-emission transportation from a defined geographic area. These areas are ambitious investments by cities to promote sustainable modes of transportation like public transit, walking, and cycling. Cities need these models more than ever as climate change, air pollution, and unsafe streets are affecting millions of people's health and daily lives. ITDP has been working with four cities—Los Angeles, Rio de Janeiro, Mexico City, and Jakarta—to support their unique efforts to plan clean mobility areas for their residents.**

Zero-emission areas originated with low-emission zones. Hundreds of cities in Europe and Asia use them to reduce air pollution by penalizing or restricting polluting vehicles from entering city centers. Low-emission zones create impressive results. Seoul's Green Transport Zone decreased polluting vehicles by almost 70%. In Stockholm, four years after the start of its low-emission zone, particulate matter from heavy-duty vehicles decreased by 40% across the city. For many cities, low-emission zones are a starting point to address a lack of national or regional vehicle emission standards in heavily populated areas.

Many cities are moving forward with ambitious efforts to create lasting reductions in air pollution and greenhouse gas emissions. Some cities with low-emission zones are seeking more impactful reductions of air pollution and scaling up to stricter zero-emission standards. For example, Amsterdam currently has five low-emission zones that ban polluting vehicles. Their commitment to a zero-emission area will expand these zones to the whole city and gradually restrict all cars that use diesel or gas. Other cities with low-emission zones saw the early benefit of reduced congestion. However, over time, traffic returned to previous levels as the still banned polluting vehicles were replaced with cleaner vehicles. These cities are now looking to zero-emission areas to further reduce vehicles in specific areas.

The C40's Green and Healthy Streets declaration has inspired over 30 cities

This rendering of South Alvarado Street demonstrates the potential of a pedestrian street in the neighborhood of Westlake-MacArthur Park, where public transit usage is six times higher and walking rates are three times higher than the Los Angeles County average.

Rendering: ITDP


Top: This rendering of Hollywood Boulevard in Los Angeles shows a portion of a proposed people-first street with key connections to public transit, space for micromobility in designated green lanes, and larger sidewalks for street vending. This area typically has heavy pedestrian traffic from tourism and residents accessing the entertainment and shopping amenities.

Rendering: ITDP

Middle: This shared trolley-bike lane along Eje Central in Mexico City's central district is part of the city's efforts to implement a low-emission zone.

Photo: ITDP Mexico

Bottom: In Rio de Janeiro, Avenida Rio Branco was pedestrianized to prioritize sustainable mobility, making the street calmer and more relaxing without the movement of traffic vehicles.

Photo: Stefano Aguiar

from around the world to "ensure a major area of our city is zero-emission by 2030." This declaration is a commitment to reduce air pollution, but also supports the Paris Agreement and acknowledges the role fossil fuel vehicles play in greenhouse gas emissions globally. In the fall of 2020, California Governor Gavin Newsom ordered all new cars and passenger trucks in California to be zero-emission by 2035.

In Los Angeles, the site of ITDP's newest office, ITDP is working with the mayor's office to develop a zero-emission plan that adapts the zero-emission area model to the local context. California has emerged as a global leader in setting vehicle emission standards. If a zero-emission area in Los Angeles only transitioned vehicles to cleaner fuels, it would have little impact beyond the already high state standards. If a zero-emission area just focused on accelerating an electric vehicle transition, it would not solve one of Los Angeles' largest challenges: traffic. A successful zero-emission area in Los Angeles would need to shift people out of cars and toward walking, cycling, and public transit. An iconic and transformative people-first street in Los Angeles would restrict vehicle access but also create a safer space for pedestrians, strollers, skateboards, longboards, and scooters to move around, while also providing opportunities to stop and talk with a neighbor. The zero-emission area is the start of this idealized, but possible, future.

ITDP is also working with Rio de Janeiro, Mexico City, and Jakarta to advance clean mobility area commitments. In Rio de Janeiro, city officials are in the first phase of designating an area in the central business district. Currently, Rio de Janeiro is working to ensure strong alternatives to driving—like a connected cycle network and reliable bus rapid transit service—are in place. In Mexico City, calling their area a low-emission zone, the city is bringing together many efforts to reduce demand for private vehicles, including bus electrification, parking management, and street improvements in the city center. Much of this work is similar to that of zero-emission areas. In Jakarta, city officials are piloting a zero-emission zone in Kota Tua, the city's old town, by limiting car access to the area. Buses are allowed, but some traffic lanes have been repurposed to create a safe and popular environment for walking, cycling, and bike taxis.

As ITDP moves forward with these efforts, we're also learning and sharing across cities. Challenges around equity, implementation, and political turnover echo across each region. For these projects to succeed, they must find champions at the ground level by improving the lives of residents in the city. ITDP believes that clean and safe streets and walking environments, high-quality public transit, and community car-free spaces will not only make cities more enjoyable places to live but make it easy to sustain local excitement and support.

# Why Transit Inequality Persists in Brazil

By Mariana Brito
and Juan Melo,
ITDP Brazil

*Called a fundamental right, in reality, transit operates with inequality, especially for Black and low-income people.*

Above: One of the crowded subways of Brazil.
Photo: ITDP Brazil

**Access to transportation and mobility is not equal for all people in Brazil. Structural racism affects the access and provision of public transport services. Even though 56% of Brazil's population identifies as Black or Brown, white people are often the main residents of city centers, with connections to opportunities, services, and transit stations. Black and low-income people often live farther from transit systems, pay more for fares, face overcrowding, and lack transit options. Since Brazil's data collection tools do not include race, there are no easy policy options in place to improve transportation across racial lines.**

Last year, ITDP Brazil launched *The Color of Mobility (A Cor da Mobilidade)*, a series of articles published on ITDP Brazil's blog, addressing structural racism in Brazil's public spaces, particularly public transportation. These interviews explained just how much Brazil does not adequately meet the needs of Black people in urban mobility. This is due to a lack of representation at the decision-making levels of public transportation planning and management, which leads to a lack of forethought and appropriate planning for the unique needs of non-white Brazilians.

To understand structural racism, it's important to explore Brazil's history. In 1888, Brazil was the last country in the


Top: Many cyclists are not served with adequate, safe, and protected cycling infrastructure.

Photo: ITDP Brazil/Uirá Lourenço

Above: Many Black Brazilians suffer from poor, disconnected, and inadequate mobility infrastructure. This forces them to take longer commutes in occasionally dangerous conditions.

Photo: ITDP Brazil

Western Hemisphere to abolish slavery. Upon liberation, less than 135 years ago, former slaves did not receive any type of financial support despite their extreme and oppressive living and working conditions. This lack of compensation, or acknowledgment, bore a system of inequality between Black former slaves and the white slave owners that still exists in other forms today. Even though not all white Brazilians owned slaves, they have still benefited from this form of racial hierarchy. Socio-territorial exclusion has forced these minorities to concentrate in regions far from urban centers and without adequate infrastructure.

Throughout Brazil, regions with large Black populations suffer from a lack of buses and stations. This is the case of Salvador, found on the northwest coast of Brazil, and the country's fourth-largest city, with 2.8 million people. While over 80% of the population identifies as Black, neighborhoods with the largest Black and Brown populations have fewer bus lines than neighborhoods with the highest white populations. Similarly, in Rio de Janeiro, most of the non-white people live in the metropolitan area but study and work in the central region without robust infrastructure: they spend 67 minutes, on average, traveling in each direction. This is the longest commute time in the whole country.

Cycling is also a challenge for Black and low-income people because there is such poor infrastructure on city peripheries. A study of Brazilian cyclists undertaken this year by a Brazilian organization, Observatório da bicicleta, shows that 57% of cyclists are Black. The survey, "Sensitivity of Sociodemographic Variables in Urban Mobility," launched by ITDP Brazil this year, analyzes the profile of residents living near cycling infrastructure and highlights that fewer Black people and low-income people are living near bike infrastructure compared to the number of these people in Brazilian city centers. What is clear from this study is that building cycling infrastructure near those who use it most will greatly impact the quality of life and opportunities for these residents.

Black women in Brazil suffer from double inequality: racism and sexism. This structural discrimination affects their

*We must demand that public authorities produce qualified and intersectional data which can influence important policy decisions. Additionally, representation matters, and transportation staff need to reflect the demographics of Brazil, not a minority, ruling class.*

Top: Some commuters travel over an hour in each direction to arrive at their places of work or other destinations.
Photo: ITDP Brazil

Bottom: Commuters fill up crowded transit stations.
Photo: Tomaz Silva/ Agência Brasil

mobility options as they suffer from a limited supply of transport near their homes. Women's travel patterns are more complex than those of men. They have more frequent, but shorter, trips and are often traveling with children, essential goods, or relatives. Therefore, when women's complex needs are not addressed adequately, this causes significantly more harm. MobiliDADOS, a data platform designed and maintained by ITDP Brazil, shows that only 11% of Black women live close to a medium or high-capacity station in the capital cities researched, compared to 19% of white women. This difference requires Black women to move more to access transport services and travel for longer periods. Black women are also vulnerable to gender-based violence in public spaces and on public transportation.

"Those who manage, decide, think, organize and run the transport and mobility system in Brazil are white. Even among workers, there are more whites in higher-paid jobs, serving upscale areas." — Paique Duques Santarém, Ph.D. in Architecture and Urbanism at the University of Brasíli, in her *Cor da Mobilidade* interview.

In Brazil, Origin-Destination surveys are the main instrument for transportation planning. These surveys investigate the commuting patterns people make in a region, including the reason and mode of transport for trips. Despite being used since the 1960s, these surveys have never collected data related to race, even though non-white people comprise most of the population.

Amanda Corradi, an architect and urban planner, states, "The Origin-Destination Survey focuses on the analysis of commuting and does not take into account the issue of care, which is generally in the women's realm. Black women have, on average, lower incomes than Black men and white women and men. This means that the cost of commuting is even more crucial and detrimental for Black women."

The lack of racial data means that racism is not considered in urban planning. Today, the census, a survey that defines Brazilian demographic, economic, and social information, also provides data about where Black people live. But there is no information about the quality or frequency of their public transport, mobility options, or even the most common commuting modes. This allows existing problems to perpetuate. We must demand that public authorities produce qualified and intersectional data which can influence important policy decisions. Additionally, representation matters, and transportation staff need to reflect the demographics of Brazil, not a minority ruling class.

By bringing attention to this issue and making more data available to policymakers, ITDP Brazil is working hard to promote transportation and mobility equity in Brazil.

Check out all the reports and interviews:
**https://itdpbrasil.org/a-cor-da-mobilidade/**

# Insights from Cairo: **Improving Mobility Through Bikeshare**

By Carolyne Mimano,
ITDP Africa

**Amid the global bikeshare boom, the call for bikeshare systems in African cities is gaining momentum. The unprecedented rate of urbanization and increased vehicle usage has continued to exacerbate traffic congestion conditions in these emerging cities. However, with the continent's growing young urban population, the majority of whom often walk or use public transport for their daily commutes, the potential for bikeshare is enormous.**

To promote cycling among women, Cairo plans to offer bikeshare membership discounts, hold educational cycling events, and involve women in decision-making.
Photo: ITDP Africa

Cairo, Egypt, is one city spearheading the implementation of bikeshare systems. Greater Cairo is a dense, sprawling metropolis known for its daunting traffic jams. The urban agglomeration comprises two governorates, Cairo and Giza, and has a population of approximately 20 million. A lack of sufficient rapid transit options and increasing ownership of private cars has led to daily traffic snarls in the metropolitan area. The soaring fuel prices across the country are also driving many daily commuters to explore alternative transport options. Cairo is on course to implement its first bikeshare system, with an initial fleet of 250 bicycles and a coverage area of 6.4 square kilometers covering downtown Cairo, El-Sayeda Zainab, Garden City, and Al Attaba.

To promote cycling as a safe and healthy transport alternative, the city is constructing 15 kilometers of physically separated bike lanes. The investment in high-quality cycling infrastructure is expected to make a significant difference for cyclists in Cairo and ultimately contribute to the growth of a dynamic cycling culture. Better cycling lanes increase the number of cyclists in the city and ridership for the bikeshare system.

Bikeshare stations will be placed strategically, close to metro stations, bus stations, and public spaces to ensure easy access and promote multimodal options. Bicycle sharing has the potential to improve accessibility in central Cairo by creating first- and last-mile options which will extend the reach of the metro and bus systems. Approximately 500,000 commuters use the metro stations within the bikeshare coverage area. The Cairo Metro network, operated by the National Authority for Tunnels, spans 78 kilometers with three lines. The system carries around 4.1 million passengers per day and is reported to have the highest number of boardings

per kilometer of any metro system in the world. The Greater Cairo bus network has approximately 450 official numbered bus and minibus routes, along with many informal microbus services. The largest operator, the Cairo Transport Authority, operates a fleet of over 3,000 buses and 950 minibuses.

Improving first- and last-mile accessibility for these commuters is expected to ease congestion and encourage more people to switch to more sustainable modes of transport, especially for shorter trips. Highly directional movements, in which commuters emerge from metro stations and cycle to their destinations in the morning and follow the opposite pattern in the evening, may lead to challenges in maintaining an even supply of docks and cycles. The city plans to offer financial incentives for users to travel in the off-peak direction.


A promotional event held in Cairo, one of the many campaigns highlighting the various benefits of cycling, including health and environment.

Photo: ITDP Africa

To encourage participation in the bikeshare system, the city will be embarking on an intense campaign focusing on the economic, environmental, and physical benefits of cycling. At present, cultural barriers prevent many women from cycling in Cairo. The efficiency of public transport services places different burdens on women and men, with the costs of poor public transport often being borne disproportionately by women who are less likely to have personal means of travel, making them more dependent on public transport. As women

Top: Some of the protected cycling infrastructure on view in Cairo.

Photo: ITDP Africa

Bottom: Treacherous walking and cycling conditions are common in Cairo. This new bikeshare system is working to improve mobility across the city.

Photo: ITDP Africa

tend to chain trips, travel with goods or accompany relatives in a caregiver function, their needs in mobility differ from those of men, who often travel to commute. By providing another accessible mode of transit, the Cairo bikeshare system has the potential to expand women's public transport options and make trips faster, thus saving time.

To explore how the Cairo bikeshare system can better meet the needs of women, ITDP held a focus group with women cyclists in Cairo in collaboration with UN-Habitat. The focus group revealed that women cycle for leisure or fitness and to run errands. However, many women avoid cycling due to a lack of safe infrastructure and public physical and verbal harassment. To promote cycling among women, the city plans to offer bikeshare membership discounts, hold educational cycling events, and involve women in the decision-making process.

There are unique challenges expected in the bikeshare rollout plan. In many African cities, motor vehicle users are not used to sharing the road with non-motorized transport users, and sometimes motorized traffic elements encroach on dedicated cycling infrastructure. Public information campaigns and traffic police serving as road safety ambassadors will help motor vehicle drivers to give right-of-way to all non-motorized transport users, including cyclists.

Cairo demonstrates that African cities can efficiently implement bikeshare systems. ITDP is looking forward to the first phase of the bikeshare opening with an initial fleet of 250 bicycles, by the end of the year. The success of this system will lead to more people getting out of their cars and shifting to bicycles.

# Cycling Is Booming

## and Not Just Where You Think

By Jacob Mason
and Dana Yanocha,
ITDP Global

**For many years, cycling has been overlooked as a viable transportation option outside of a few European cities. However, this perspective is finally starting to shift. Cities around the world—from Pune to Jakarta and Santiago to Addis Ababa—are investing heavily in cycling as they recognize its value as an important tool to improve public health, the climate, and urban access. Worldwide, over one-third of all trips are under 5 kilometers (<20 minutes by bicycle) and over half of all trips are under 10 kilometers (<30 minutes by e-bike). If even half of these trips were made by bicycle, the world could save 300 million tonnes of $CO_2$ per year, and $25 trillion in cumulative transport expenses by 2050.**

The COVID-19 pandemic has been a boon for cycling with many people embracing it as an effective and safe means of transportation. Bicycle sales are soaring worldwide, and cities are responding by building new bicycle lanes to accommodate the influx of cyclists. In the first weeks of lockdowns, over 45 cities offered free or reduced bikeshare to essential workers. In addition, cities worldwide expanded existing cycling networks or built temporary cycling infrastructure. Cities that added temporary cycling infrastructure during the pandemic saw up to 48% more cycling trips than cities that did not add cycle lanes. The pandemic has shown that by prioritizing cycling and quickly adding low-cost infrastructure, cities can transform their streets.

### WHY CYCLING

Globally, one in four adults and four out of five adolescents do not get enough physical activity, putting them at high risk for cardiovascular disease. Regular cycling reduces this risk, as well as the risk for other conditions like anxiety, diabetes, and obesity. It also expands access to jobs, schools, and other destinations by 10 times compared to walking. Cycling is zero-emission travel. Like walking, it is human powered, which keeps the air clean and ultimately leads to a healthier and more equitable planet.

Better cycling infrastructure leads to more people cycling. A safe, connected network of cycle lanes dramatically improves access to destinations by expanding the coverage of public transport and helping people make trips that are too far to walk. For example, in Jakarta, bicycle lanes around Harmoni BRT station increased, by five times, the number of people who could access the station within 15 minutes.

Electric-assist bicycles can further increase the range of cycling, and diversify those who cycle by making previously physically strenuous activities easy. Delivery companies are increasingly using e-bikes instead of expensive cars and trucks that require costly maintenance and repairs, and which are much less agile on a busy city street. Major companies, including IKEA and Amazon, have invested in cargo e-bikes for deliveries in urban areas.

Top: Cycling is a significantly important transportation mode, particularly in combating climate change by reducing GHG emissions.

Photo: Gail Palethorpe/ Shutterstock.com

Bottom: Across the city of Silvassa, India, students engage in a month-long cycling festival, Cycling Palooza.

Photo: Silvassa Smart City Ltd

Cycling is a powerful transportation option because cities can quickly and inexpensively build the infrastructure to support it. In the last 15 years, cities have created bicycle lanes and bicycle-friendly streets using low-cost, temporary materials that can be installed and modified in a matter of hours. Using this quick-build approach, often called tactical urbanism, cities can create entire bicycle networks in a matter of weeks, while previous approaches took years. Additionally, tactical urbanism allows cities to watch how people use the infrastructure and quickly modify it as needed. Calgary, Canada, did this in 2016, installing an entire network of protected bicycle lanes across the downtown in a matter of months. While there was heavy opposition at first, once the lanes were in place, bicycle use in the downtown doubled, support grew, and the lanes became permanent. The following year, Edmonton, a nearby Canadian city, adopted the same approach with unanimous government support.

## CYCLING BOOM WORLDWIDE

The car-centric model of development has left most people in polluted, congested cities that are expensive and difficult to get around. Cities are now looking to other models, and cycling is emerging around the world as an effective means of connecting people to where they need to go. While many people associate cycling with the Netherlands and China, cities in South Asia, Africa, and Latin America are planning major investments in cycling with clear benefits already becoming visible.

### INDIA

Several cities in India recently invested in cycling. In 2014, Chennai adopted a walking and cycling policy that prioritized the construction of cycle infrastructure around the city to increase the use of bicycles. The policy led to the creation of the Chennai Complete Streets Design Manual in February 2020. The document creates clear guidance for the design of cycle-friendly streets in Chennai. Pune followed in 2017, adopting a Cycling Master Plan. This plan identifies nearly 300 kilometers of streets for bicycle lanes, creating a citywide network.

Top Left: New Dehli, India rerouted vehicular traffic to create a cycling plaza for children.
Photo: New Delhi Municipal Corporation

Top Right: A dedicated cycle lane was launched in Warangal as part of the India Cycles4Change Challenge.
Photo: Greater Warangal Smart City Corporation Ltd

Bottom Left: India's Cycles4Change Challenge kicked off in 2020 to bring cities together to transform streets for cycling.
Photo: Gurugram Municipal Development Authority

Below: In Addis Ababa, Ethiopia, Car-Free Days have demonstrated the power of opening the streets to pedestrians and cyclists.
Photo: ITDP Africa

In 2020, the Indian government launched the Cycles4Change Challenge. Over 100 cities across the country took part and developed their own programs to improve cycling. This national program supports locally-driven projects to build safer infrastructure, including pop-up bicycle lanes, speed reduction measures, and community-led bikeshare programs. Cycles4Change is bringing tremendous visibility and excitement for cycling across the country.

## ETHIOPIA

Ethiopia's government has embraced a strategy for walking and cycling that prioritizes safety through a complete streets approach. This strategy calls for traffic calming measures to reduce speeds on smaller streets and protected bicycle infrastructure on larger streets. Addis Ababa, the largest city in, and capital of, Ethiopia, has also adopted an ambitious walking and cycling strategy, to construct 200 kilometers of protected bicycle lanes across the city by 2028.

Both strategies aim for women to account for half of all people on bicycles toward the end of the decade, a strong statement for gender equity. These strategies also aim to halt the growth of car and motorcycle traffic in the city and reduce traffic injuries and deaths. Public education events, like Addis Ababa's Car-Free Days, are helping to show people what their streets could look like if they give less space to cars. These ambitious goals will reshape Ethiopia and create a model for cycling in African cities. Other cities in East Africa—including Kigali, Rwanda, and Mombasa and Nairobi, Kenya—are also strengthening their commitments to improving cycling conditions, adopting cycle-supportive policies, and expanding priority and space on the street for cyclists.

Top: Jakarta has been home to significant bicycle advocacy, particularly in the past year. The temporary cycle lane was a major success for many Jakartans.

Photo: ITDP Indonesia

Bottom: Gender parity is often challenging to reach in cycling, but women cycle in higher numbers with improved infrastructure.

Photo: Socialtruant/ Shutterstock.com

## INDONESIA

While Jakarta, Indonesia, is consistently named one of the world's most congested cities, the city has worked closely with ITDP Indonesia to implement many public transit and cycling initiatives. In 2019, the city introduced a plan to build 500 kilometers of cycle lanes, with a focus on integrating the cycling network with public transit. During the pandemic, Jakarta developed temporary cycle lanes to boost cycling. The results were dramatic, with cycling increases seen from 50%-500% in different routes. The pop-up lanes were based on an interest in cycling promoted by community outreach and Car-Free Days that were held before the pandemic. The city went from being a difficult place to cycle to one with a large number of cyclists in a very short amount of time. Jakarta has also launched a new bikeshare program, which expands access to bicycles for all. ITDP Indonesia is currently working with the city to make it easier for people to use bikeshare as a first-last mile solution, piloting wayfinding signage, and improving connections between public transit and bikeshare stations.

## LATIN AMERICA

During the pandemic, cities in Latin America embarked on some of the most extensive expansions of cycleways. Bogotá added nearly 80 kilometers to its 550 kilometers bicycle network along the Transmilenio pathway by converting car lanes on wide streets into bicycle lanes. Much of this expansion occurred in a matter of hours, often literally overnight. Because the lanes used temporary materials, the city could quickly change the lanes as necessary. According to advocates and practitioners, the network was modified three times in three days as different locations were tried and amended. This type of experimentation allows for cities to make modifications on the fly, leading to a long-term, more successful cycle lane network.

## BUILDING ON THE MOMENTUM

The momentum for better cycling is growing in cities around the world. To build on this, ITDP has launched a global campaign, *Cycling Cities*. This global campaign provides governments, planners, advocates, and others the tools to make cycling a safe and affordable transportation option in cities. Through the *Cycling Cities* campaign, ITDP will work with cities to redesign streets permanently and adopt key policies to support cycling, so that 25 million more people live near safe cycle lanes by 2025.

Sign our campaign pledge at **cyclingcities.itdp.org** to grow cycling in your city and build a healthier, safer, and more equitable planet!

Contributions to this article were made by Aishwarya Soni and Keshav Suryanarayanan.


# Insurgentes Cycle Lane: **From Pop-Up to Permanent**

By Sonia Noemi Medina Cardona and Santiago Fernández Reyes, ITDP Mexico

**The global COVID-19 pandemic put urban cycling at the center of the public health debate. To prevent the spread of the virus, cities designed strategies and implemented actions to keep people safe and healthy. One of these actions was the implementation of pop-up bike lanes, to give people socially distanced, reliable, and equitable alternatives to move around the city. In Mexico City, over 40 kilometers of temporary cycle lanes were created along Insurgentes Avenue, one of the city's main transportation corridors.**

Above: Woman on the soon-to-be permanent cycle lane on Avenida de los Insurgentes.
Photo: ITDP Mexico

Avenida de los Insurgentes has historically been one of the most important streets in Mexico City as well as Latin America. Spanning 28.8 kilometers, it is one of the longest urban streets in the world. Insurgentes connects Mexico City from south to north, traversing the economic and cultural core.

Throughout the years, Avenida de los Insurgentes has undergone many transformations. In 2005, the first bus rapid transit (BRT) line in Mexico City was constructed there. The BRT provided the city with a more sustainable and efficient public transit option and also made the street safer as crosswalks were redesigned to give pedestrians priority. Throughout these transformations, there have been several proposals to make Insurgentes a truly "complete street" by allocating dedicated space to cyclists. Complete streets are designed to prioritize and protect some of the most vulnerable road users: pedestrians and cyclists, and those who might struggle to move quickly, like the elderly, children, or people traveling with goods. Complete streets are different based on the communities that they are built in but have one thing in common: prioritizing people, not cars. In 2007, the civil society group Bicitekas, along with ITDP, created a cycling network proposal to prioritize a cycle lane on Insurgentes. The 2010 Bicycle Mobility Strategy and the 2018 Bicycle Mobility Plan of


Top left: The cycle lane has not only increased cyclists, but has led to more diversity among those cycling.

Photo: ITDP Mexico

Top Right: Mexico City's cycle network has been popular among people cycling for a variety of reasons: delivering goods, commuting, traveling to various destinations, and cycling for recreation.

Photo: ITDP Mexico

Above: Making the cycle lane permanent will help solidify the cycling gains made in the past year by Mexico City.

Photo: ITDP Mexico

the city's Ministry of Environment also proposed a cycle lane on Insurgentes. All these efforts, however, never moved beyond the planning phase. It was not until the COVID-19 pandemic hit, that the city finally implemented a temporary cycle lane. Without the pandemic shutdown, this cycle lane would not have happened as quickly or become permanent.

Ten months after the temporary cycle lane was built, the number of cyclists increased by 353%. Other types of users were also seen with more frequency, like families with children, people exercising, and people with disabilities moving smoothly in their wheelchairs.

In March 2021, Mexico City's mayor, Claudia Sheinbaum, announced that a permanent high-quality cycle lane along Insurgentes would become a reality. This experience also encouraged the city to implement and accelerate the construction of safe infrastructure for cyclists in other areas and streets. Now that 14.25 kilometers of the cycle lane is finally set to materialize, Insurgentes will truly become a street for all.

# Mexico City Public Transport Resilience:

## Responding to the Pandemic and Other Challenges

By J. César Hernández Muñoz,
ITDP Mexico

**In the past half a year, Mexico City's public transportation system has encountered two major crises: an explosion, causing a fire in the subway control system, and the collapse of an overpass bridge carrying a subway car filled with passengers. These two events are tragedies in their own right, but they have offered Mexico City's transit system an opportunity to respond in innovative ways and increase overall resilience.**

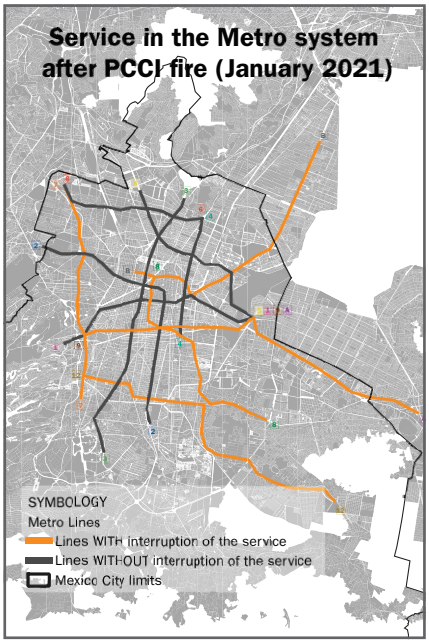

Above: A double-decker tourist bus as emergency public transport service.
Photo: Secretary of Mobility, Mexico City

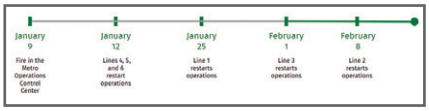
The Valley of Mexico includes most of the Mexico City Metropolitan Area, with a population of 22 million across 76 municipalities and three states. The Mexico City administered public transport system includes 12 metro lines, 7 bus rapid transit (BRT) lines, 1 light rail corridor, 2 cable car lines, 9 dedicated lane trolleybuses, and a fleet of buses. This past year brought unprecedented challenges to public transit in the Valley of Mexico. During the pandemic, private car use surged as people became wary of public transit. This left city streets clogged with cars and pollution and put pressure on transit operators to stay safe and distanced while continuing to work despite decreased ridership. In response to the pandemic and its traffic challenges, Mexico City implemented a permanent bike lane on Avenida de los Insurgentes, created more pedestrian spaces in its city center, and managed parking to provide more open space for restaurants.

### NEW CHALLENGES

On January 9, 2021, an explosion and ensuing fire at the Operations Control Center of the Metro caused service suspension on six of the twelve lines. As the Metro is fundamental to city transport, several emerging services were deployed to cover the needs of passengers. These included public and privately operated buses, school buses, and double-decker tourist buses. In an interview with ITDP Mexico, Andrés Lajous, the Secretary of Mobility of Mexico City, discussed the unique challenges public transit faced this year. He explained, "The main success factor is that now there is an institutional framework that didn't exist in the past. Need might be the mother of invention, but for us, the invention led to all of these new functions: we created an integrated transport system [that had not existed before]." Some of the new suspension-induced inventions included:

- The creation of a BRT network of corridors that extended Mexibús 4 service into the Metrobús 1 lanes and stations.
- The extension of trolleybus lines, using new units that charge their batteries while connected to the wires, and operating articulated new buses for the first time.


Top: Express BRT Service in Tlahuac, Mexico City.

Photo: Secretary of the Mobility, Mexico City

Middle: Metro system map and lines affected by the control center explosion.

Photo: ITDP Mexico

Bottom: Timeline of the reestablishment of operations of the Metro System.

Photo: ITDP Mexico

*A key lesson from Mexico City is that integrated systems allow for resilience and faster responses in times of crisis.*

Since February 25, 2021, when the service was restored to all of the lines, Metrobús reported a 12% increase in travel compared to before the emergency; the trolleybuses reported a 20% increase in ridership. As a result of this success, some services became permanent. Lajous explained that a large part of this success was the coordination at various levels. He said, "Coordination escalated from planning to operational, bringing people from different agencies and systems together to work. A control center was established for all of the services." This lesson would be applied again later in the year.

## MORE CHALLENGES MEANT BIGGER SOLUTIONS

On May 3, 2021, the elevated track of Metro line 12, in the southeast of the city, collapsed while a train was running; 26 people were killed and nearly 100 were injured and as a result. The entire line was shuttered. While the line remains inoperable, the response from the operations has been a largely positive outcome. Quickly after the collapse, the city government responded with services to keep the passengers moving—using a mix of public and private bus operators, including even tourist buses and trolleybuses. Lajous explained that the lessons learned from the explosion earlier in the year were applied to this crisis, "since it was the same actors, [that helped] but the route was more difficult to manage particularly as the corridor ran along a street with limited capacity." The existing car traffic was so bad that adding more vehicles led to increased congestion. To manage this, the city proposed an express BRT service, connecting to another busy metro route. By May 26th, less than a month after the collapse, this special BRT service began running for free with articulated buses, provisional platform stops, dedicated lanes, and real-time passenger information. By creating a dedicated BRT lane, the project was successful and expedient. Using a tactical urbanism approach, the city acted quickly. Lajous said, "The segregation of dedicated lanes was made with recycled materials existing in storage, similar to the implementation of the emerging bike lanes."

A key lesson from Mexico City is that integrated systems allow for resilience and faster responses in times of crisis. The city's ability to react quickly was thanks to its strong institutional framework encompassing many operations, which allowed it to pull from various resources quickly and without interference. The pandemic remains an ongoing crisis in the world and very much in Mexico City. While this past year has been a challenge for the city's public transport system, its adaptability, innovation, and responsiveness to new crises have demonstrated its robust resilience and solidified its ability to serve its many passengers as an essential service.

# Indonesia: **Racing to Net-Zero**


By Asih Radhianitya,
I Made Vikannanda, and
Mizandaru Wiccaksono,
ITDP Indonesia

In 2019, Indonesia pledged to reduce its greenhouse gas (GHG) emissions by a minimum of 29%, with a goal of reaching a reduction of 41% by 2030 as part of the Paris Agreement. With 28% of energy-related GHG emissions coming from the transport sector, the adoption of electric vehicles, e-bikes, e-scooters, and electric buses, is fundamental to reaching this goal. Following in the footsteps of many countries that have started to electrify their transport systems, Indonesia is moving towards electric vehicle deployment across infrastructures. In its National General Energy Plan, the Indonesian government has targeted 2,200 electric passenger cars, 2.1 million electric motorcycles, and 10% electrification of public transport by 2025. In 2019, a presidential regulation was issued to accelerate electric vehicle deployment, specifically to provide a legal framework for the development of various types of battery electric vehicles (BEV). The regulation encompasses several aspects of BEV adoption.

## OPPORTUNITIES AND CHALLENGES ABOUND

Despite the government's commitment to BEVs, a myriad of challenges await. At the strategic level, electric vehicle implementation has not been tied to the national GHG reduction plan and national environmental goals, so a clear strategy that includes electric vehicles is not yet available. Many policies at the national level are not yet released or are

Above: Transjakarta tested the electric bus for Jakarta City Hall - Blok M route, last year.
Photo: ITDP Indonesia


Above: Ride-hailing service drivers, like this one, have begun using electric mopeds. Here is the Viar Q1.

Photo: ITDP Indonesia

*Motorcycles are one of the most popular transport modes in Indonesia. They have the highest growth rate by mode, a dizzying 6.2% annually. The colossal number of motorcycles makes these vehicles a major contributor to air pollution and carbon emissions, as well as a major opportunity for electrification.*

still being developed. This lack of clear policy impedes the ability of local governments to take action.

The current policies do not address the elephant in the room: the high price of electric vehicles (EVs). As of now, EVs are foreign to the general public. The existing tax incentives are not enough to make EV prices competitive with conventional vehicles and, to make matters worse, few financial institutions are interested in offering credits or insurance for EVs.

There are also challenges with the availability of charging infrastructure, which is critical to mass EV adoption. Although the National Utility Company (Perusahaan Listrik Negara) was mandated to provide the initial charging facilities, investments from other private stakeholders will be necessary to create a charging infrastructure network extensive enough to meet demand. Between high capital costs and long payback periods, investors are wary of taking on too much risk without a standard charging interface.

Although electrification targets may be daunting, a window of opportunity does exist. The electrification of motorcycles and public transport may be key for Indonesia to break through the initial market for BEVs. Motorcycles are one of the most popular transport modes in Indonesia, with a mode share of over 84%. They also have the highest growth rate by mode, a dizzying 6.2% annually. The colossal number of motorcycles makes these vehicles a major contributor to air pollution and carbon emissions, as well as a major opportunity for electrification.

The motorcycle growth rate is also fueled by the popularity of motorcycle-based ride-hailing and delivery services. The Ministry of Transportation estimates that there are around 2.5 million ride-hailing motorcycle drivers in Indonesia. One important tool to help Indonesia reach its lowered GHG target is to begin to electrify ride-hailing service fleets. Not only would this be more easily scaled than electrifying private motorcycles, but it would also create a demand for EVs that would incentivize a stronger charging infrastructure network. Additionally, these fleets would familiarize the public with EV vehicles, which could shift perceptions and build awareness about them.

However, there are challenges ahead for ride-hailing motorcycle electrification. Vehicles used for passenger transport are owned by drivers, often from lower-income groups, who rely on financing institutions to acquire their vehicles. Between the high upfront costs of EVs and a lack of financing options, ride-hailing drivers are discouraged from purchasing electric motorcycles.

Public transportation is a very promising vehicle segment for electrification in Indonesia. In Jakarta, Transjakarta's Bus Rapid Transit (BRT) services can run around 237 kilometers per day, with a fleet of approximately 4,000 buses. This makes the electrification of urban bus services a potential boon for EV implementation. Public transport fleet electrification can meet the enormous demand of the domestic bus manufacturing industry and achieve economies of scale while also reducing GHG emissions. For instance, the commitment from

Transjakarta to operate only e-buses by 2030 will reduce their CO2 emissions by 925,757 metric tonnes.

Despite the potential benefits, the electrification of urban bus services also faces financial issues and an uncertain future for technology development. The high upfront cost of electric buses is a barrier for bus operators. Even though the operators will receive a subsidy to cover the total cost of running bus services, an effort to incentivize the capital cost of procuring electric buses is still essential to enter the ecosystem and partake in the public tendering process. Choosing the right technology is also important as it will affect the financial and operational aspects of the deployment process. The goal is for electric fleets to be more financially sustainable than conventional fleets, but this payoff occurs over time and with high up-front costs.

Still, the need to electrify is clear and urgent. With climate change an ever-present reality, especially with sea levels rising and impacting Indonesia, cutting back on GHG emissions must be prioritized now. For this reason, ITDP Indonesia is working with national and local Indonesian governments to enact policy that will support increased adoption of EVs.

Above: In Jakarta, a driver displays her electric bicycle.
Photo: ITDP Indonesia

## TRANSITIONING TO E-MOBILITY

Together with the UN Environment Programme, ITDP Indonesia proposes these recommendations to lower the barriers of electric vehicle adoption in Indonesia:

1. Create national and city-level BEV roadmaps and targets tied to GHG reduction goals.
2. Develop national and city-level charging infrastructure roadmaps, followed by supportive infrastructure policies.
3. Establish a national task force, followed by city-level task forces to enable pilot projects that can be replicated on a larger scale.
4. Institute demand creation policies.
5. Create subsidies to promote equitable BEV adoption by reducing the cost difference between BEV and non-electric vehicles.
6. Formulate policies targeting and supporting the BEV industry.
7. Establish fleet-specific targets that dictate mandatory electrification milestones.
8. Offer nonfinancial government incentives like special lane access or low-emission zones.

To achieve its electrification goals by 2025, national and local governments must address policy gaps. Although the acceleration of BEV adoption is a national goal, Indonesia will only achieve its target with bold commitments and actions on municipal and local levels. Through several ongoing projects with the World Bank, UK Partnering for Accelerated Climate Transitions, and the UN Environment Programme, ITDP Indonesia is providing technical assistance for electric mobility stakeholders from public and private sectors to support the acceleration of BEV adoption in Indonesia.

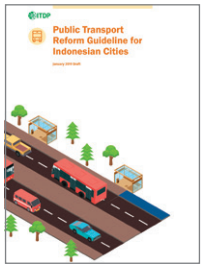
# New Resources from ITDP

**Check out these and more for free at itdp.org**

## Public Transport Reform Guide in Indonesian Cities

**Indonesia, January 2019**

This guide provides a comprehensive overview of the steps involved in reforming public transport in Indonesia.




## The Grow Cycling Toolkit

**Global, February 2020**

The Grow Cycling Toolkit helps cities think through barriers that prevent people from cycling, and provides a tailored action plan to quickly grow and improve cycling.

## Primeiros Passos: Mobilidade Urbana na Primer Infância

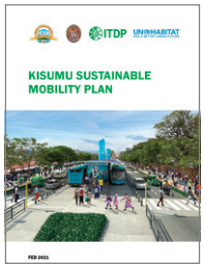
**Brazil, March 2020**

Through a study based in Recife, Brazil, this guide explores the impact that urban mobility has on early childhood development and quality of life.


## Kisumu Sustainable Mobility Plan

**Africa, February 2021**

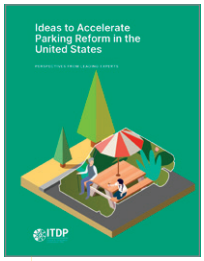
This guide challenges the motorist-centered conventional planning solutions and focuses on the integration of land use and sustainable transport planning.




## Ideas to Accelerate Parking Reform in the United States

**US, February 2021**

This paper demonstrates how well-managed parking can support walking, cycling, and public transit use.




## Ranking Ciclociudades 2020

**Mexico, June 2021**

This ranking makes visible actions that could inspire other cities to design better public policies in favor of cycling mobility.


## Taming Traffic

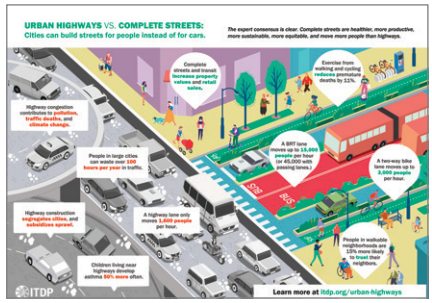
**Global, March 2021**

This report outlines the post-pandemic challenges of increased motor vehicle usage and different steps cities and municipalities can take to mitigate traffic.


## Urban Highways vs. Complete Streets

**Global, April 2021**

This infographic portrays how urban highways are tied to low-occupancy vehicles, high-stress travel, reduced walkability, erased communities, segregation, and climate change. (Also available in Spanish and Bahasa)




## Rapid Transit Database

**Global, May 2021**

This interactive, online tool provides data dating from 1985 to present for all rapid transit systems worldwide.

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Top: Improved and protected cycling infrastructure supports caregivers and families in their mobility needs.
Photo: Uirá Lourenço, ITDP Brazil

Middle: In India, the Cycles4Change Challenge has been a powerful initiative to transform city streets for people on foot and on bicycle.
Photo: ITDP India

Bottom: The temporary cycle lane on Avenida de los Insurgentes has recently been announced to become permanent, a major win for the years of cycling advocacy in Mexico City.
Photo: ITDP Mexico

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