FORGING THE PATH TO A SUSTAINABLE URBAN FUTURE

WRI ROSS CENTER FOR SUSTAINABLE CITIES

2018-19 ANNUAL REPORT
wrirosscities.org/annualreport
This report not only highlights progress over the past year but celebrates the achievements and impact of WRI Ross Center over the last five years. Since 2014, we have grown to become the go-to institution for solutions that make cities better for people and the planet.

Our journey, which began with a focus on mobility, has progressed to include holistic solutions on urban planning and development, energy efficiency, resilience, housing, water management, and more. The growing urgency to address climate change is shaping our new and expanding work around zero carbon cities, for example. We continue to build from the ground up and learn from hands-on engagements to bring solutions. Every year, we partner with more than 100 cities around the world and reach 300 more through knowledge sharing and capacity building activities.

In 2018-19 alone, we delivered a comprehensive plan for sustainable growth in Karnataka, India; a new national network for transportation professionals in Brazil; implementation of municipal energy efficiency regulations in Colombia and Mexico; and solutions for pedestrian-friendly streets in İzmir, Turkey.

We launched the WRI Ross Prize for Cities this year to focus on initiatives that have sparked transformational change. In its first year, we received almost 200 applications from over 120 cities around the world. The work of the winning project, SARSAI, and other standout applicants inspired us deeply, and we look forward to celebrating similarly visionary ideas during the next prize cycle.

Working in partnership with other organizations, we are making an impact in more places and in different ways. NUMO, the New Urban Mobility alliance, is now working to channel tech-based disruptions in transport to create more joyful, sustainable cities. Through the Coalition for Urban Transitions, we work with the C40 Cities Climate Leadership Group and more than 35 others to help change national urban policies.

This report highlights these powerful projects as well as many other gains for sustainable urban growth. Our staff has expanded to offices on five continents and projects in 41 countries. More than 400 million people live in cities where we are delivering transformative solutions.

Still, there is much to be done. We are at a crucial moment. How cities manage their growth today will impact how billions of people live over the next century and whether we surpass critical environmental thresholds. As we move forward, WRI Ross Center will investigate new strategies, align our actions and integrate our initiatives to meet the complex and daunting challenges before us.

Aniruddha Dasgupta
Global Director,
WRI Ross Center for Sustainable Cities
PHOTO CREDITS
p. 2, 3, 16, 50 Kyle Laferriere/WRI; p. 4, 31. Nafkot Gebeyehu; p. 7 Victor Moriyama/WRI Brasil, Kanika Jiindal/WRI India, Rodrigo Capote/WRI Brasil, EMBARQ Mexico, Daniel Kener Neto/WRI Brasil; p. 12, 19, 45 WRI Mexico; p. 17, 49, 53 World Resources Institute; p. 20 Daniel Hunter/WRI Brasil; p. 21 WRI India; p. 25 José Fernandes Jr./Flickr; p. 27 (top) Benoit Colin/WRI; p. 27 (bottom) Simone D. McCourtie/World Bank; p. 29. Claudio Olivares Medina/Flickr; p. 30, 39, 47 Mariana Gil/WRI Brasil; p. 32 sorkiin/Flickr; p. 33 Ben Welte/WRI; p. 37 (top) Franck Michel/Flickr; p. 37 (bottom) Charlie Ma/Flickr; p. 38 Bruno Campos de Souza/WRI Brasil; p. 41 Ted McGrath/Flickr; p. 47 Mariana Gil/EMBARQ Brasil; p. 55 Chuttersnap/Unsplash.
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TRANSFORMING CITIES
5 YEARS OF IMPACT

WRI Ross Center for Sustainable Cities is guiding governments and businesses as they reinvent the urban landscape. Our five-year anniversary is an exhilarating moment, full of promise for the future.

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WRI Ross Center began in 2014 with an extensive history of engagement in urban transport and development. With the support of Stephen M. Ross, we built on the EMBARQ network’s transportation expertise in Latin America, India, China and elsewhere to catalyze solutions in new sectors, including buildings, water, land use and energy. By combining our research excellence and real-world impact with our growing influence at the city, national and global levels, we have accelerated projects with the greatest potential for positive transformation. We have evolved our work, channeling what we have learned in transport to strengthen our strategy in other sectors and leverage opportunities for integrated solutions that deliver groundbreaking results.

Our support of bus rapid transit (BRT) systems is a case in point. Since 2002, our experts have helped develop, implement and improve BRT around the world. BRT systems grew exponentially over this period, from 45 cities in 2002 to 170 cities in 2019, and now serve more than 33 million passengers per day. For years, we have collaborated with decision-makers from dozens of cities to provide research and expertise that is both technical—advising on aspects such as safety, fare integration, and branding—and political—navigating relationships to create a common vision. This foundational work has established our reputation and gained the trust of cities, leading to deep engagement and influence at the local, national and international levels.

For many of our projects, the magnitude of our impact continues for years. For China’s Transit Metropolis program—the largest low-carbon urban transport demonstration program in the world—we have assisted the Ministry of Transport since 2015, scaling the program from 37 to 87 cities. Some 490 million people will benefit from improved bus systems. A WRI-assisted urban housing pilot in Rio Grande, Brazil, begun in 2013, focused on improving a single, 1,300-home development, but it grew to spark new federal housing standards with the potential to benefit more than 1.8 million residents. Collaborations in Bogotá, Colombia, and Mérida, Mexico, resulted in new regulations mandating municipal building efficiency—measures now being considered by additional
cities in both countries. Our partnerships to implement the Safe System approach have led to hundreds of evidence-based road safety interventions across Latin America, Africa and Asia that are saving lives every day.

In the past year, the debut of Cities4Forests has brought the power of 59 municipal governments to bear on protecting resources that are essential for water supply, air quality and green spaces. Our innovation accelerator programs, like STAMP, InoveMob and TheCityFix Labs, are supporting dozens of entrepreneurs as they strengthen their proposals, connect with decision-makers and investors, and see their solutions piloted in cities. And we are forging a path toward zero carbon cities by supporting governments with actionable building efficiency guidance, electric vehicle planning and e-bus procurement.

We look ahead with enthusiasm, ready to take the next steps in a journey filled with hope, dedication and discovery. We have grown from a staff of 177 to a team of 254, and our projects have impacted 422 cities. We have expanded our partnerships in China and deepened our work in Africa, which presents exciting opportunities to influence cities before they are locked into unsustainable development patterns. Our experience and technical expertise have grown tremendously, helping us deliver solutions that the world’s overstressed and growing cities urgently need.

From its early roots in sustainable urban mobility, WRI Ross Center for Sustainable Cities has grown many living branches. The flexibility to pursue new initiatives while expanding and scaling up existing ones has been game-changing. We are building on our successes to shape urban growth and mobility for the world, supporting a just, more equitable, more prosperous life for all.
WRI Ross Center for Sustainable Cities launched

2014

150+ kilometers of high-quality BRT corridors launched in three Brazilian cities, affecting 1.5 million people

2014

Millions in India join Raahgiri Day movement to reclaim city streets

2015

4 Chinese cities begin turning sludge into energy

2015

Mexico and Mexico City introduce energy efficiency standards for buildings

2016

170+ Brazilian cities begin to reshape urban areas through sustainable mobility plans

2016

WRI China contributes to expansion of National Transit Metropolis Program, potentially benefiting 490 million people

2017

Bhopal introduces India’s first fully automated bicycle sharing system with dedicated lanes

2017

More than 10 cities in Africa, Asia and Latin America create safer, more sustainable streets

2018

Shared Mobility Principles for Livable Cities adopted by more than 100 governments, companies and NGOs

2018

WRI Ross Prize for Cities established as a vehicle for celebration, research and thought leadership on urban transformation

2019
FROM 2014–2018:

HELPED CITIES AVOID **8.8 MILLION TONS OF CO2 EMISSIONS**, ROUGHLY EQUIVALENT TO REMOVING 1.8 MILLION CARS FROM ROADS FOR ONE YEAR.

LEVERAGED **$30.1 BILLION IN INVESTMENTS**, ROUGHLY EQUIVALENT TO THE GDP FOR THE STATE OF VERMONT.

SAVED **3,210 LIVES** FROM TRAFFIC INCIDENTS, ROUGHLY EQUIVALENT TO ALL TRAFFIC FATALITIES IN FRANCE FOR THE YEAR 2013.

SERVED **12.7 BILLION PEOPLE** CUMULATIVELY, ROUGHLY EQUIVALENT TO 4.5 YEARS OF TOTAL PUBLIC TRANSIT TRIPS IN NEW YORK CITY.

SAVED **2 BILLION HOURS** OF TRAVEL TIME, ROUGHLY EQUIVALENT TO ONE YEAR OF WORK TIME FOR ONE MILLION PEOPLE.
Our 17-year history in Mexico City testifies to the remarkable impact of our “deep dive” approach. This long-term, ongoing engagement is integral to WRI Ross Center’s strategy and allows us to pursue multi-year, multi-sector change in a select number of cities around the world.

In Mexico City, through flexible funding from Stephen M. Ross Philanthropies and others, we have quickly seized emerging opportunities, grown our influence and trusted reputation, and supported a range of dynamic on-the-ground initiatives that have improved quality of life for more than 21 million residents. By tailoring our approach to respond directly to local needs and emerging opportunities, we have built a record of effective action, beginning with public transport and evolving into holistic integrated solutions.

Since 2002, we have maintained a vigorous presence in the Mexican capital, collaborating with many partners: city and federal government, private businesses, academia, civil society and international organizations. Through this network, our involvement has expanded across the country and beyond.

TRANSPORTATION

Our work began with the creation of Metrobús, Mexico City’s acclaimed bus rapid transit (BRT) system. In the early 2000s, city administrators were looking for an opportunity to improve air quality in the capital while expanding public transit options. By August 2004, officials had announced an ambitious plan to launch Metrobús, the first BRT in the city and the first transportation project to be funded by the UN’s Global Environment Facility. It was fast-tracked for completion by 2005.

The city tapped our Mexico team for technical support, and we were well-placed to assist. Several factors helped us to a quick start: our strong relationships with the Shell Foundation and Claudia Sheinbaum Pardo, then secretary of the environment of Mexico City (and current mayor); a progressive vision and political support from mayor (and current president) Andres Manuel Lopez Obrador; and ties to BRT experts in Colombia and Brazil who had overseen similar systems. Our team tackled critical issues of planning, negotiations and oversight; provided training on operations, logistics and fleet maintenance; and supported the city’s communications strategy through tours for national and foreign media.

When the high-profile Insurgentes line opened on schedule in June 2005, it quickly delivered on its promise, providing efficient, low-emission public transportation to
a daily average of 250,000 riders. Surveys showed high customer satisfaction, as well as a surge in economic growth along the areas served by the line. The city continued its momentum, expanding the network to a total of seven Metrobús routes over the next 13 years, which now serves 1.24 million riders per day. Our Mexico team, from its days as CTS EMBARQ Mexico to its transition to WRI México Ross Center, was a partner throughout this process.

That success triggered further collaborations on transport issues with local and national governments: a 2011 mobility plan for the Metropolitan Area of the Valley of Mexico, new federal regulations on energy efficiency for vehicles, and new initiatives on road safety. As tech-driven modes of mobility such as ride-sharing gained traction, we launched Propulcity in 2016 to foster new ideas and technologies for sustainable transportation.

Over the years, our experience with Metrobús contributed to a wider vision of Mexico City's urban development and access to opportunities. As we deepened our expertise on transportation issues, flexible funding allowed us to pursue initiatives centered on improving equity for all city residents.

**URBAN DEVELOPMENT**

WRI México Ross Center’s pioneering work on public transit led to major public investments in Mexico City’s transportation network, setting the stage for collaborations on urban planning. Our approach was grounded in the principles of transit-oriented development (TOD), a strategy integrating mass public transport, housing, non-motorized mobility and public spaces. By avoiding sprawl and limiting dependence on cars, TOD encourages a connected city and a more unified social fabric.
Our multisectoral experience translated readily to TOD, and in 2015, we helped create Local Economic Development Action Plans to assist Mexico’s government with energy reform while diversifying economic activity. These plans were piloted in Ciudad del Carmen from 2015 to 2017. As our reputation grew beyond public transport, WRI México Ross Center was invited to participate in Mexico’s National Preparatory Committee for Habitat III, the UN’s vicennial urban development conference, held in October 2016.

Our contributions to creating parks and open spaces included consulting on the city’s pocket parks project in 2014. This initiative transformed neighborhoods by taking advantage of small, oddly shaped or unbuildable areas that could be renovated and enjoyed as public spaces. Many of these were concentrated in low-income neighborhoods that the city government had identified as lacking such spaces. WRI México Ross Center also guided the design for public space recovery in the city of La Pila (San Luis Potosi), and in 2018 delivered proposals for a National Agenda on Public Space and Public Life. As we established close relationships with regional and national planners, our reputation grew.

**ENERGY**

Our deepening understanding of challenges in Mexico City contributed to ventures in new sectors. In 2016, recognizing that energy-saving measures were vital to its future, Mexico announced adoption of a national building conservation code. Through the Building Efficiency Accelerator—a global network of businesses, governments and NGOs—we helped Mexico City to adapt the national

> What WRI presented...[gave] us a methodology that helps Ciudad del Carmen’s society to better organize and establish better actions.

EDUARDO REYES SÁNCHEZ, FORMER SECRETARY OF ENERGY AND SUSTAINABLE DEVELOPMENT IN CAMPECHE STATE
code to the local context and develop an energy efficiency program for its municipal buildings. By 2017, the city had formally adopted the new standards for private buildings and pledged to retrofit 30% of government buildings by 2030. The standards slashed energy costs and consumption. By implementing energy improvements in at least 20% of Mexico City’s 2,400 public buildings, the city is expected to save $2.5 million on energy costs, decrease its consumption by 36 gigawatt-hours and reduce GHG emissions by 16,000 tons of CO₂ per year.

**WATER**

Our consistent focus on sustainability in development supported our entry into urban restoration projects. In 2016, with the help of Mexico City’s secretary of housing and urban development, our team helped to create a plan to improve the troubled Tacubaya neighborhood, where a busy transportation hub links Metrobús, Metro, public transport feeder systems and informal transportation systems.

WRI México Ross Center was asked to conduct a review of Tacubaya’s previous development programs and offer an integrated new proposal. As the team explored options, staff members involved in a natural infrastructure project in Monterrey joined discussions on ways to solve urban water issues through development projects. The model for Tacubaya evolved to address hydrological challenges, such as water treatment, storage, the reuse of greywater and rainwater, and regulations for current and future water access for residents, through modifications to public spaces and green areas. The resulting design for community space was a win-win, catalyzing sustainable development in Tacubaya and influencing public policies for water management in other Mexican cities.

**RESULTS**

Long-term engagement has helped us to play a pivotal role in Mexico City, as well as at regional and national levels, despite shifts in government. Our transportation expertise has widened to encompass broader urban issues, allowing us to cross sectors and work in new areas, ultimately delivering stronger, better results for Mexico City and its many residents.

Over time, our relationships with public authorities and other institutions have deepened, increasing the level of trust between partners. WRI México Ross Center has established itself as an independent, knowledgeable, influential advisor. Our credibility allows us to act as a bridge between silos within city government, between city and national government entities, and between national and international experts. Our strength at effectively engaging a range of stakeholders has also given rise to an active group of urban coalitions and elevated our range of impact to more cities.

Finally, flexible funding has enabled us to make the most of unexpected opportunities along the way. We’ve capitalized on our knowledge, experience and relationships to create new integrated solutions for urban transformations—in Mexico City and across the globe.

**TARGETED IMPACT**

WRI México Ross Center helped launch and continues to support YoMeMuevo (“I Move”), a national coalition comprising more than 40 organizations that advocates for cleaner, safer and more accessible mobility. During the 2018 national elections, the two-year-old coalition effectively influenced public discourse with more than 250 candidates, including Mexico City’s current mayor and three state governors, pledging their commitment to the YoMeMuevo agenda.
A ROADMAP TO ZERO CARBON CITIES

Cities are currently both climate culprits and climate victims. They are responsible for 70% of global energy-related greenhouse gas emissions and 65% of global energy demand, but cities can also become climate solvers. Cities that use resources efficiently will be key components of a climate-resilient future. WRI Ross Center’s new initiative is working with cities to identify and implement actions that can lower energy use and reduce emissions to help cities achieve their climate goals.

Our strategy for achieving zero carbon cities relies on three pillars:

**Optimize:** Making urban energy use more efficient across all sectors, particularly buildings and transportation, is the best and cheapest option for lowering demand. In Bogotá, guidance from the Building Efficiency Accelerator (BEA), administered by WRI Ross Center, helped to troubleshoot and revise regulations on national energy standards for buildings, which are now in effect. The city added an updated building efficiency code to its master plan in 2018, and other Colombian cities are expected to follow. The policy is expected to reduce energy and water use in new buildings by 20% and 30%, respectively. In India, we assisted the Kochi Municipal Corporation in writing the first-ever Zero Carbon Buildings Roadmap, establishing shared knowledge with a diverse group of stakeholders. We are now helping Kochi implement policies to achieve its zero carbon vision.

**Electrify:** Switching from fossil fuels to electricity has the potential to reduce global carbon emissions dramatically, especially in the transportation sector. Shenzhen, China, is leading the way with the world’s first...
and largest 100% electric bus fleet. More than 16,000 electric buses are projected to reduce CO2 emissions by 48% and halve fuel costs. WRI Ross Center is now taking lessons from here and elsewhere to Latin America. In Bogotá, we are helping the government procure 594 electric buses in the largest single order outside China. These new vehicles will reduce emissions and noise pollution, improve air quality and are establishing a powerful model for widespread, rapid adoption.

The growing efficiency of electric vehicles makes electrification of transport an increasingly attractive option worldwide. We provide modeling tools to help cities and national governments predict charging infrastructure needs and forecast potential GHG reductions. Through the Coalition for Urban Transitions, co-led by WRI Ross Center, we have developed the E-Mobility Infrastructure and Impact Estimator to model how much new infrastructure will cost along with which benefits it will yield.

**Decarbonize:** Providing assistance and incentives for a transition to zero carbon energy sources, including solar and wind power, can decrease dependence on fossil fuels. Cities are currently evaluating many options for generating and purchasing renewable electricity, but decision-makers and technical staff face many hurdles when attempting to transition to renewable energy quickly. A series of forthcoming WRI Ross Center case studies on India, China, Mexico and Kenya identify policy pathways toward zero carbon buildings (ZCBs) that could be achieved now. This paper dispels the myth that ZCBs are only possible in the far future or in wealthy countries and examines how they can be implemented around the world now.

In September 2019, WRI Ross Center helped convene a coalition on Zero Carbon Buildings for All at the United Nations Secretary General’s Climate Summit in New York. Our goal is to galvanize countries and other actors to take ambitious action toward ZCBs. Working with our international network, we aim to raise country commitments to convert all building stock to ZCBs by 2050, prompt more ambitious nationally determined contributions to reduce national emissions and mobilize $1 trillion in financing from development banks for ZCBs by 2030.

Additionally, our Coalition for Urban Transitions launched its flagship global report with the underpinning message that national governments can achieve faster, fairer economic development by investing in zero carbon cities. Thriving cities make prosperous countries and investments in low-carbon measures in cities would be worth at least $23.9 trillion by 2050.
The WRI Ross Prize for Cities, an international award that recognizes change leaders in urban transformation, was presented for the first time in April 2019. For this inaugural prize cycle, we received nearly 200 submissions from governments, non-profits and private companies in 120 cities and 41 countries. After a rigorous evaluation, we announced five finalists in December 2018. A world-class jury of leading urban thinkers and practitioners then selected the first prize winner, SARSAI (School Area Road Safety Assessments and Improvements), inspired by its simple, evidence-based, highly replicable approach in Dar es Salaam and other sub-Saharan African cities. The $250,000 award was presented at WRI’s Courage to Lead dinner, hosted by CNN’s Sanjay Gupta at Hudson Yards, New York City’s newest neighborhood. The event was followed by an insightful, day-long roundtable, where the five finalists shared the stories of their journeys. These stories contained useful knowledge that will be applied practically and serve as building blocks for urban transformation—a reward that will have far-lasting impacts beyond the prize.

A child in Africa is more than twice as likely to die or be injured in a road crash than a child globally. In many African cities, navigating chaotic traffic on the way to school is the most dangerous part of a child’s day,
and primary school students in low-income areas are especially vulnerable. Through basic measures that reduce interaction with traffic, SARSAI ensures safer trips to school and a pedestrian-friendly design that benefits all community residents.

The non-profit Amend, which implements SARSAI, leverages limited resources for maximum impact, and the effects have extended far beyond school areas. SARSAI alleviates life-threatening conditions for pedestrians by pinpointing dangerous roads and intersections and installing zebra crossings, bollards, footpaths, speed bumps and other low-cost, high-impact infrastructure. This straightforward but data-driven approach separates children from vehicles, slows traffic speeds and catalyzes positive changes for other residents in some of the most dangerous areas of nearly a dozen cities.

Studies conducted with the U.S. Centers for Disease Control and Prevention found SARSAI reduced injury rates by 26% and traffic speeds up to 60% around the schools where it has been implemented. It is the first peer-reviewed methodology proven to prevent road traffic injuries in sub-Saharan Africa. The program has benefited 38,000 children in Dar es Salaam to date and has grown from just two schools in 2012 to more than 50 school areas in nine African countries today.

*People want to be educated. But you also need to be able to get to a school, and in many urban environments, that poses the single greatest difficulty,* noted one WRI Ross Prize juror.

SARSAI exemplified three of our characteristics for the prize: the project introduced big, bold ideas, had life-changing impact and had citywide ripple effects. What began as a project to protect at-risk schoolchildren in Dar es Salaam has sparked momentum for urban transformation across nine nations. It created roads and public spaces that are safer and more accessible, leading to cities that are better for everyone.

The WRI Ross Prize is continuing its five-year vision, kicking off the next prize cycle in 2020. Our aim is to reach more cities, discover revolutionary projects and build a global community of urban change-makers. With each prize, this community—the winners, finalists, advisors and jury—becomes a stronger network that will elevate learnings to a global platform and connect visionary solutions with cities ready to act.
Cities4Forests will help us, and other cities, share the best ways to prioritize, restore and protect the trees that make our communities vibrant and healthy,” explained Sacramento mayor Darrell Steinberg, one of the municipal leaders committed to the project. At the same time, the program will recognize and support the importance of forests far from urban areas. “Cities have invisible footprints on faraway forests that most people aren’t aware of. The commodities that we consume—timber, paper, palm oil, beef, soybeans—can be responsible for destroying forests,” said Frances Seymour, distinguished senior fellow at WRI. “The more we learn about how trees interact with the atmosphere, the more we realize how forests influence the climate on both a local and a global scale. Forests are an important source of climate resilience and stability for people, no matter where we live.”

A collaboration between WRI, Pilot Projects Design Collective and REVOLVE, Cities4Forests debuted in September 2018 with 45 member cities from across the globe and has since expanded to 59 member cities, including Mexico City. Participants share a common goal: to help
reduce deforestation, restore degraded lands—including those in cities—and manage woodlands more sustainably.

The international coalition will harness the enormous potential of cities to accelerate the conservation, restoration and sustainable management of forests. Many municipalities already protect forests in some way, from parks and urban forests to green infrastructure and watershed management programs. Fewer have efforts to assist faraway forests, which are also vital to their citizens’ well-being.

The Cities4Forests coalition unites city agencies such as mayors’ offices, public water utilities, environmental planning departments, urban forestry divisions and offices of sustainability. Its members get technical support from experts on forests, water, climate, communications, finance and policy issues, and collaborate with peers on shared concerns.

In Mexico City, for example, work is planned to build on the city’s pocket parks program, which has converted nearly 22,000 square meters of underutilized and abandoned area into green space. In California, WRI is assisting the San Francisco Public Utilities Commission to develop a Joint Benefits Authority (JBA), an innovative governance and financing mechanism that provides a new way to scale up green infrastructure in the face of climate change. Our pilot project through the JBA will focus on bringing the benefits of green infrastructure, such as reduced flooding and improved air quality, to traditionally underserved communities in San Francisco that are the most vulnerable to climate change.

Through Cities4Forests, WRI’s Forests Program and WRI Ross Center are empowering a city-based action network to grow, conserve and protect both urban and faraway forests. This work is particularly timely in Latin America and the Caribbean, where governments have pledged to restore 20 million hectares of forest by 2020. Initiative 20x20 parallels the Bonn Challenge, a global commitment by national governments to bring 150 million hectares of the world’s deforested and degraded land into restoration by 2020.

Lalao Ravalomanana, mayor of Madagascar’s capital city, wholeheartedly endorses the goals of Cities4Forests: “As Antananarivo is hit by cyclones and tropical storms every year, I fully understand the importance of protecting and restoring trees and forests inside and nearby our city. Green areas can reduce our risks from natural disasters, support climate action strategies, and contribute to a healthier and more resilient environment.”

**TARGETED IMPACT**

Nine Brazilian cities have joined Cities4Forests since its launch, five of which are state capitals from the Amazon region, where WRI Ross Center will help manage urban expansion and pressures on the surrounding forest. Cities4Forests will help Brazilian cities integrate green infrastructure into urban planning, implement and manage urban green spaces, and protect water resources.
In major cities in Brazil, India and Mexico, our accelerator programs provide a platform for entrepreneurs to pitch their projects to government officials, investors, industry experts and private customers. WRI Ross Center offers mentorship, networking and technical learning, as well as assistance in crafting business plans and connections to investors. The goal is to target long-standing urban problems in mobility, housing, energy, water and waste, provide new answers from the private sector, and support their implementation in real-world settings. As new solutions are developed and refined, they are also evaluated for their potential to scale up for greater impact.

In Brazil, the 2018 InoveMob Challenge, supported by the Toyota Mobility Foundation, attracted more than 80 proposals for transportation improvements, with five finalists in five cities receiving financial and technical support for pilot projects. The grand prize winner, Bynd, launched a creative carpooling solution that allows companies in Juiz de Fora to hire and offer ride-sharing for employees. In India, the 2018 Better Bus Challenge, supported by FedEx, sought ideas that would enhance service quality for public transit riders, reduce emissions and increase fuel efficiency. Twelve semi-finalists participated in an intensive three-day bootcamp.

A new generation of urban innovators is ready and willing to shape solutions for sustainable cities. What they need are opportunities to develop their proposals and present them to decision-makers who can put them into action. WRI Ross Center is connecting these entrepreneurs in the private sector with cities that need their expertise.
camp, and three winners were awarded cash prices to implement pilot projects with select cities: Cell Propulsion with Bengaluru, Cityflo with Mumbai and Small Spark Concepts with Karnataka state. In 2019, the Station Access and Mobility Program (STAMP) Data Innovation Challenge, supported by the Toyota Mobility Foundation, sought innovative solutions and visualizations to improve first- and last-mile connectivity to metro transit in Kochi, India. Kochi 2019 is the third iteration of the STAMP Challenge, previously held in Hyderabad 2018 and Bengaluru 2017, and it focused on incentivizing the use of public mass transit and enabling innovative solutions for integrated mobility. All six finalist teams received mentorship to design and implement last-mile solutions, and the two winning teams—Hyperpro and Sukriti—received research grants to demonstrate their solutions in the city.

TheCityFix Labs are a new partnership with the Citi Foundation to explore innovative ways to finance urban projects on strategic, locally specific issues in India, Mexico and Brazil. In India, TheCityFix Labs sponsored a 2019 competition that gave 10 enterprises in energy, water and waste management a means to pitch their innovations to top government officials, investors and industry experts. The projects received pilot opportunities in Hyderabad, Bengaluru and Delhi. In Mexico in 2019, TheCityFix Labs selected seven public- and private-sector-led projects to mentor and pilot, focusing on buildings, water and waste in 22 cities across the country. A third lab is currently underway in Brazil, and its first competition will be launched in fall 2019.

By encouraging innovative solutions and providing a direct link between entrepreneurs and government officials, the accelerators demonstrate how WRI Ross Center shapes and elevates new ideas from both the public and private sectors to solve urban challenges.
WRI Ross Center engages with cities across the globe at different levels of intensity and duration as part of our strategy for supporting city-level change for people and the planet. We have grouped our levels of overlapping engagement: deep, targeted and catalytic. Through this strategy, we have influenced 422 cities since 2014.
5-YEAR GOAL: improve sustainability in 200+ cities via three tiers of engagement

Deep city engagement is characterized by the Center working closely with key stakeholders in a city over several years, from project inception to implementation, in multiple sectors.

Targeted engagement includes technical assistance on a key solution in one or more sectors. The objective is to establish or replicate a good practice via precedent-setting projects.

Catalytic influence involves broader efforts that can impact several cities. Approaches include short-term technical assistance, disseminating tools, and transferring knowledge and expertise through research, capacity building or conferences.
WRI Ross Center maintains long-term, ongoing engagements with five cities chosen for their demonstrated commitment to multi-year, multi-sectoral change. In each, we tailor our approach to local needs, focusing on projects with the greatest potential to improve quality of life for all by delivering holistic, integrated solutions. Highlights of our work in deep engagement cities in 2018-19 include:

**GUADALAJARA, MEXICO**
*Guadalajara is the second largest city in Mexico, with a population of over 5 million people. Our long-term partnership with the government of the surrounding Jalisco state has led to new gains in urban planning and mobility, as well as a commitment to forest conservation. Notable impacts include:*

**ROAD SAFETY POLICY**
WRI México Ross Center worked with government authorities and the private sector to develop a comprehensive road safety agenda for Jalisco state. Through this plan, we helped to redesign sidewalk extensions and roundabouts to lower speeds, which provides safer infrastructure for cyclists and pedestrians while reducing the risk of traffic injuries or fatalities.

**CITIES4FORESTS**
Guadalajara joined Cities4Forests, the international network supported by WRI, and pledged to protect tree cover both within and outside of the city and create a municipal urban forestry institution. The city government has requested WRI’s assistance to develop and measure environmental indicators to show the importance of Guadalajara’s metropolitan forests, as well as to advise the fledgling institution on technical assistance, planning instruments and guidelines for best practices.

**MEXICO CITY, MEXICO**
*For more information on WRI Ross Center’s deep engagement in Mexico City, please refer to pages 10-15.*

**BENGALURU, INDIA**
*Bengaluru, the center of India’s high-tech industry, is its third largest city, with a population of more than 8.4 million people. WRI Ross Center has been working with public and private stakeholders in Bengaluru since 2008 on resource management, land use and infrastructure, including transport and energy.*

We have supported Bengaluru as it moves toward a sustainable, integrated transport system for 5.3 million commuters. Major achievements include securing multiple funding sources, financing 3,000 additional buses, developing a network of new feeder routes linking the city’s rail metro service, adopting cashless fare payment systems and establishing open data policies for the new transportation system.
**RIO DE JANEIRO, BRAZIL**

Rio de Janeiro is the second largest city in Brazil, with a population of more than 13 million people. We are contributing to Rio’s integrated urban development plan and fostering the implementation of safer, more accessible streets. Notable impacts include:

**ELECTRIC BUSES IN NITEROI**

WRI Brasil Ross Center helped Niterói, a neighboring city of Rio de Janeiro, to evaluate the technological and environmental benefits of electric buses in its BHLS (Bus with High Level of Service) corridor, launched in 2019. The new, 9.3-kilometer system serves 80,000 passengers per day and reduces average travel times from one hour to 20 minutes.

**NEW MASTER PLAN**

WRI Brasil Ross Center worked with Rio’s municipal government in the development of a new urban master plan to be launched in 2020. With our technical assistance, the city is incorporating transit-oriented development as a core strategy and devising innovative financing mechanisms.

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**BELO HORIZONTE, BRAZIL**

Belo Horizonte is the sixth largest city in Brazil, with a population of nearly 6 million. Through an eight-year relationship with its urban planning and mobility secretaries, we have helped improve public transport and service quality. Notable impacts include:

**ROAD SAFETY AUDIT**

Continuing its investment in transit systems, Belo Horizonte is planning to implement Expresso Amazonas, a nearly 44-kilometer network of bus-only lanes. To reduce the high incidence of crashes and injuries along the corridor, WRI Brasil Ross Center carried out a road safety audit of the project, assessing crash risks, identifying critical hotspots and recommending measures for mitigation.

**UNIVERSAL ACCESS AND ROAD SAFETY FOR BRT**

Belo Horizonte is planning the implementation of universal design solutions to reduce barriers for passengers using its bus rapid transit (BRT) system, MOVE. With technical advice and assistance from WRI Brasil Ross Center, the city identified key actions to make station access safer and more convenient for all pedestrians. Three pilot projects will be implemented in 2019, with a target of making 50% of MOVE’s stations more accessible by 2020.
Our work in Karnataka began in 2008, when our India team was invited to provide technical inputs on planning and governance for Bengaluru. Our in-depth knowledge of the region’s challenges positioned us to make key contributions to a mammoth undertaking: the state government’s long-awaited, comprehensive plan to promote equity and balanced economic growth, Vision 2025 for Nava Karnataka.

Developing Vision 2025 was an intensely participatory process. From 2017 to 2018, our team conferred with technical experts, civic organizations, government agencies, and citizens at state and local levels to help establish strategic objectives and goals, plan the implementation process, map key actors and build a road map. This approach, though time-
consuming, built trust among the participants and ensured buy-in on the proposals by all stakeholders. Our contributions focused on four areas: comprehensive regional economic development, resilient growth strategies in harmony with natural resources, good governance and equal access to physical infrastructure and services.

In March 2018, the state government released Vision 2025, aided by the experts at WRI India Ross Center. The document is now helping Karnataka implement a blueprint for a sustainable future. Now, city and state officials have begun to enact several of the vision’s most important proposals, including creation of a central repository for government data across all departments; organization of an apex planning authority; development of a new ring road connecting nine satellite towns around Bengaluru; reviews of water use and reuse; revision of the Bengaluru Master Plan; and preparation of development plans for 6,000 villages in the state.

As Vision 2025 becomes a reality, we continue to contribute in key areas, sharing recommendations on implementation and providing technical support and other resources from our global network.
WRI Ross Center’s targeted engagement delivers solution-specific technical assistance to cities around the world. This strategy allows us to enter new geographies in meaningful ways, establishing or replicating good practices through precedent-setting projects. Highlights from our targeted engagement work in 2018-19 include:

**CHINA**

In **Beijing**, WRI China Ross Center designed road improvement projects in the city’s Central Business District to improve conditions for pedestrians and cyclists. Specific measures in the Chaoyang neighborhood included installing bike lanes, widening sidewalks, providing on-street parking facilities for bikes, adding pedestrian crossing islands, and removing on-street parking for cars. The design was adopted by the district’s Management Commission and implemented in 2019.

In **Shanghai**, we worked with officials from the Yangpu District to install 4.2 kilometers of safe pedestrian infrastructure and 7 kilometers of protected bike lanes, as well as train 80 participants in workshops. Our recommendations helped strengthen the district’s bicycle network master plan and its bicycle and pedestrian plan to provide safer non-motorized transport.

Following a commitment by Shanghai’s Changning District to join the Building Efficiency Accelerator (BEA) in 2018, WRI China Ross Center and Local Governments for Sustainability (ICLEI) convened local meetings and workshops, presenting a framework of eight actions for urban leaders.

**THAILAND**

WRI Ross Center worked with officials in **Bangkok** to incorporate design changes to conform with new speed limits, including protected pedestrian waiting areas, new road signs, flashing crosswalk lights and zigzag road markings.

**VIETNAM**

With our assistance, **Ho Chi Minh City’s** Department of Transportation and Public Works made improvements to more than 200 intersections and increased safety features, such as fences and raised crosswalks in 70 school zones, with potential to be scaled to other cities.
INDONESIA
We worked with the city of Bandung to redesign two major intersections, adding medians and refuge islands for pedestrian safety. In recognition of its efforts, the city received Indonesian government funding and was recognized at the 2018 Indonesian Road Safety Awards. It has presented workshops for other cities to learn from its experience.

INDIA
Following the successful 2017 launch of India’s first viable bike-share program in Bhopal, WRI India Ross Center supported the expansion of this model to more than 10 additional Indian cities in 2018. Widespread adoption of the public bike-share systems has led to more than 6,000 trips made by bicycles every day in five of the cities. Raahgiri Day, a temporary closure of city streets to encourage sustainable, car-free transport, has reached more than 70 cities in India since its debut in the state of Haryana in 2013. By the end of 2018, Haryana directed each of its districts to conduct a Raahgiri Day, and 800,000 people took part in WRI India Ross Center-supported events. The scale-up of the Raahgiri campaign provides an immense platform for raising road safety awareness and helping to create popular demand for pedestrian and cycling infrastructure.

In Mumbai, we assisted in designing new pedestrian infrastructure for the city and were invited to collaborate on a Vision Zero road safety plan in 2019.

MEXICO
The city of Colima worked with WRI México Ross Center on implementing street design changes that enhance walking, bicycling and access to public transport.
COLOMBIA
We provided the city of Medellín with key technical assistance to upgrade its bus rapid transit (BRT) system, advising on equipment purchases, operations and financial models. The 64 battery-powered buses procured comprise the first electric vehicle fleet in Colombia.

Bogotá adopted a formal Vision Zero road safety policy and new measures to reduce traffic speed on 83 kilometers of five major arteries. We helped to identify critical locations for low-speed zones, assisting implementation of traffic-calming and speed enforcement measures.

BRAZIL
São Paulo became the first Brazilian city to launch a road safety plan, guided closely by WRI Brasil Ross Center and based on the concepts of Safe System and Vision Zero. The plan, called Vida Segura, will guide the implementation of public policies and projects to reduce road traffic fatalities and injuries over the next decade.

WRI Brasil Ross Center is supporting Fortaleza as it develops its road safety plan, expected to launch in late 2019. The city has already seen dramatic results from improvements to public transit and cyclist pedestrian infrastructure: injury crashes and pedestrian crashes are
down by 41% and 83% on two dangerous thoroughfares, and bus crashes have dropped by 44%.

As the city of Teresina reviews its master plan for future growth, WRI Brasil Ross Center is providing research and recommendations to promote sustainable development through urban codes and regulations that allow the implementation of land value capture and transit-oriented development. The city council will vote on the plan this year.

**UKRAINE**

WRI Turkey Sustainable Cities is supporting Kiev in developing a safer, people-oriented neighborhood through speed limits, intersection improvements, bicycle infrastructure, parking, public transport and more. In 2018, we trained 100 city officials and hosted eight participatory workshops to demonstrate the need for new approaches to planning in Rusanivka, an island neighborhood of 25,000.

**GHANA**

WRI Ross Center assisted in planning, policy and design to create new pedestrian infrastructure in Accra. These measures included barriers to protect pedestrian spaces, revision of signal timings, updated pedestrian crossings, sidewalks, guardrails, road signs and speed bumps in school zones—all based on the Safe System approach to road safety.

**ETHIOPIA**

In Addis Ababa, we supported new traffic-calming measures as well as creation of a digital database on public transportation, a key resource for transit planners. Addis also held its first car-free day, an idea adopted by eight other cities. The city has also implemented bicycling policies based on the Safe System approach.
İzmir is Turkey’s third largest city, with a population of 4.3 million. Its lively and historic bazaar district, Kemeraltı, is an intricate web of narrow, winding streets—a traveler’s dream, but a headache for 21st-century residents.

In 2016, the İzmir Metropolitan Municipality asked WRI Turkey Sustainable Cities for assistance in providing safe, affordable public transport, accessible public spaces and walkable and bikeable areas in Kemeraltı and İzmir to relieve congestion and build a healthier, more sustainable city.

Working with the İzmir Metropolitan Municipality, WRI Turkey Sustainable Cities developed a suite of solutions that retain the unique character of the city, while delivering a compact, vibrant historic center free of congestion and air pollution. Our approach focused on improving local mobility and a sense of neighborhood by highlighting pedestrian and cyclist safety and identifying underutilized public spaces.

To find solutions that work for residents as well as officials, our team consulted with civic organizations, citizens and stakeholders from many backgrounds. We also drew on key international resources, including those of WRI’s global network, FIA Foundation and UNICEF Turkey. The
result was the İzmir Sustainable Transport Project, a 2017 study aligned with the İzmir Transport Master Plan 2030 and the “Livable City İzmir” vision. Over the past two years, İzmir has put our recommendations into action, and the interventions have delivered a healthier, less congested city with a revitalized street life.

Today, in keeping with the project’s recommendations, more than 70 streets in Kemeraltı have been pedestrianized. Traffic-calming hydraulic barriers have been installed in some areas to ensure safer conditions, and cameras and improved street lighting are being installed to foster greater security. Construction of bike lanes is also underway, in keeping with the city’s recent announcement of a bicycle action plan.

The changes offer real economic benefits, increasing tourism and attracting shoppers to the commercial district. Accessibility has improved, and the area is more appealing to citizens of all ages. Other neighborhoods in the city are now following suit, improving local public spaces and bike infrastructure. The city of İzmir received recognition for the project, including a national “Sign of the City” award, and the WRI Turkey Sustainable Cities team has won additional funding for a study to evaluate bicycles as a tool for sustainable urban development in İzmir.

The central component of our İzmir study was transportation, but the ripple effect has been impressive. The project highlighted the relationship between Kemeraltı’s residents and the built environment, and, in doing so, heightened awareness among local decision-makers about the importance of creating safe, sustainable spaces that enhance the urban experience in a comprehensive way. Public spaces, lighting and intelligent transportation systems are key improvements that enhance quality of life for all.
Catalytic engagement involves broader efforts that can impact several cities. Through short-term technical assistance, tools, research and capacity building, WRI Ross Center boosts the capacity of local, national and international officials and the people they serve to meet a range of urban challenges.

**CHINA**

WRI China Ross Center has scaled up circular economy approaches in six Chinese cities—Beijing, Zhenjiang, Jingmen, Chengdu, Qingdao and Xiangyan—by transforming their water and waste systems. Previously only energy consumers, these utility systems have been upgraded and are now providing both resources and energy. We helped the Beijing wastewater treatment system to increase its self-sufficient energy supply and become carbon neutral, for example. Now we are supporting the city as it identifies a business model that helps link the wastewater treatment plants’ energy supply with buyers of renewable energy. This model has been shared and scaled to cities in India, Pakistan, the Philippines and Vietnam by WRI teams.

**BRAZIL**

Since 2017, WRI Brasil Ross Center has led the Network for Financing Sustainable Infrastructure in Cities, which focuses on increasing foreign investments in sustainable urban solutions. With participants including the World Bank, Development Bank of Latin America, Japan International Cooperation Agency, Agence Française de Développement, Inter-American Development Bank, and Brazilian Development Bank, the network is developing an action plan to overcome barriers that hinder such investments in Brazilian cities.

In partnership with the National Front of Mayors, we created a complete streets webinar series in 2018. The eight-part series presented best practices, methods and case studies that foster development of safer, more livable streets for everyone. It reached 792 online participants from 164 cities and received more than 3,000 views on YouTube.

**INDIA**

Through MOVE, the first global mobility summit of its kind, the Indian government encouraged Indian and global automakers to move in the direction of electric and shared
mobility. WRI India Ross Center was a key member of the planning team for the 2018 event, which focused on the future of mobility and promoted dialogue on clean, safe and equitable transport. “Mobility is a key driver of the economy,” said Prime Minister Narendra Modi, who attended.

We contributed planning and research to accelerate adoption of new construction technologies for 12 million homes being built as part of a national housing program. Our program for the Global Housing Technology Challenge - India highlighted new approaches for affordable housing and provided technical assistance on location guidelines.

**TURKEY**

WRI Turkey Sustainable Cities organized a workshop on bicycling for cities as part of its Livable Cities Symposium 2018. Representatives from 15 Turkish municipalities, the Ministry of Environment and Urbanization, and the Bank of Provinces discussed best practices, regulation and financing for bike networks.

WRI Turkey Sustainable Cities also organized a week-long training event in November 2018 on energy savings in buildings and transportation. Representatives from 10 Mediterranean countries, from Israel and Jordan to Morocco and Tunisia, gathered in Istanbul to learn more about solutions for their contexts.

**MEXICO**

Through extensive outreach, WRI México Ross Center has built an active network of 109 cities in Latin America and is scaling strategies and tools through multi-stakeholder groups, such as the Mexican Association of Mobility Authorities and Cities4Forests. Urbanists from 76 of these cities, representing both government and the private sector, have participated in our courses and workshops, with 4,000 professionals trained through TheCityFix Learn webinars in 2018. Specific tools, strategies and shared case histories have further enhanced the capacity of city planners.

**DOMINICAN REPUBLIC**

In collaboration with the Partnership for Healthy Cities, WRI México Ross Center helped the city of Santo Domingo, Dominican Republic, develop a new municipal policy to encourage bicycle use. The resulting Safe Bicycle Action Plan, published by the central mayor’s office and Acadia del Distrito Nacional in May 2019, is the first phase of the project; the next will focus on specific cycling infrastructure and road design.

**AFRICA**

In 2018, WRI Ross Center and the French Development Agency launched DigitalTransport4Africa, which leverages digital mapping resources to support Africa’s complex and decentralized transit networks. Privately owned minibus taxis, or “paratransit” services, are the predominant form of public transit in sub-Saharan Africa. However, only a handful of African cities have mapped their public transport and even fewer have made their data open. Through convenings and an upcoming paratransit learning guide, we are helping cities access mapping resources and share lessons learned from pilots. This year’s workshop convened participants from cities such as Accra and Kumasi, Ghana; Cairo, Egypt; Cape Town, South Africa; Kampala, Uganda; and Nairobi, Kenya. We are working with the Addis Ababa Transport Authority and Addis Ababa University to digitize its paratransit, bus, light rail and bus rapid transit networks toward the goal of open data and integrated transit planning.

**GLOBAL**

WRI Ross Center launched NUMO, the New Urban Mobility alliance, in 2019 to leverage the momentum of three technology revolutions—shared, electric and autonomous mobility—to build cities that are sustainable, livable and just. In its first year, NUMO has established strong partnerships and working groups and completed a proto-pilot delivering micro-mobility deployment recommendations to Bogotá, Colombia. Work has also begun on a pilot in Pittsburgh whereby NUMO will liaise between the city and a coalition of service providers for an all-in agreement to provide more sustainable, accessible transit to city residents.
That’s why the Building Efficiency Accelerator (BEA), an international partnership of businesses, NGOs and multilaterals coordinated by WRI Ross Center, helps local governments take action to improve their buildings. Between 2015 and 2017, the BEA reached 253 cities and secured 47 commitments on building efficiency actions. In recognition of its impact, the UN’s Global Environment Facility (GEF) awarded WRI Ross Center a $2 million grant to further local government implementation of building efficiency policies and programs.

“Improving energy efficiency in buildings is a proven way to drive down emissions and generate cost savings for consumers and businesses,” explained Naoko Ishii, CEO and Chairperson for the GEF. “[BEA] is delivering results that benefit people in developing countries and support the necessary transition to low-carbon urban infrastructure.”

Latin America is responding to the challenge. In recent years, both Colombia and Mexico issued national guidelines to promote resource-efficient buildings. But until several months ago, these guidelines were merely suggestions, with no requirements for adoption or implementation. In 2018, with the assistance of the
BEA, Bogotá, Colombia, and Mérida, Mexico, became the first cities in their countries to incorporate national recommendations into official municipal regulations.

In Mérida, WRI México Ross Center and the BEA worked with the city government to adapt and adopt the 2016 Energy Conservation Code for Buildings in Mexico (also developed with our support). We organized technical workshops, convened multi-stakeholder working groups and established a steering committee to build the national code into mandatory local regulations. In December 2017, Mérida became the first city in Mexico to do so.

In Bogotá, the protocol for applying municipal building energy standards was developed by our in-country partner, the Colombia Green Building Council, with the support of WRI grant funds and in WRI-funded convenings. Although the city had committed to implement efficiency standards locally in 2017 as part of its construction code, it found that existing national recommendations were not feasible as written. Months of collaboration between the Colombia Green Building Council and national ministries yielded a document that cleared a pathway for implementation. It was approved by the Colombian legislature and president in the spring of 2018.

The building efficiency standards now in place in Mérida and Bogotá solidify gains in sustainability that will endure for decades. They reduce energy and water consumption, lower expenses for public and private owners and operators, increase comfort and productivity for occupants, and reduce local pollutants and greenhouse gas emissions. They also demonstrate a realistic pathway for local governments, especially smaller ones, to implement national sustainable development goals—a critical issue for cities and countries around the world.
Levels of engagement are not static and often overlap. Our strategy relies on learning from our on-the-ground interventions, identifying successes and scaling our solutions to new contexts. Through scaling, our deep, targeted and catalytic work reaches far beyond the scope of the original project.

Buses account for almost 90% of public transport in Brazil and are lifelines for millions of citizens. Yet they share a common barrier to improvement: a widespread lack of information on operations and user experience. It’s one of the main problems affecting planning, regulation and decision-making for bus transit services across the country.

In 2012, we recognized a growing demand for better mobility in Brazil’s congestion-choked cities, a pressure that culminated in the street riots of June 2013, which mobilized more than one million protestors. Without any data on public perception of transit systems, cities were ill-prepared to respond. Most of the country’s bus services are run by private companies, which further complicated efforts to acquire transit data.

Step one was to establish a standardized survey that would address the views of bus users, based on international best practices. At the same time, our experts incorporated local concerns, such as personal security. Since 2013, surveys have been applied in 13 Brazilian cities and results analyzed and shared with city administrators. Besides the Brazilian application of the transit survey, it has also been used in Mexico City and Zhuzhou, China.
In August 2017, our engagement took a new turn, broadening from city-specific data collection to a new national transportation movement. We conceived and catalyzed the creation of a nationwide community: eight municipalities, one region and one private service provider who would come together to share challenges and solutions. Today, the QualiÔnibus Benchmarking Group, a network coordinated by WRI Brasil Ross Center, is the country’s main forum for transportation professionals, with monthly online meetings and biannual in-person convenings to discuss current transit issues and approaches. With member cities representing more than 40 million residents, the Group holds enormous potential.

The QualiÔnibus Benchmarking Group focuses on how to incentivize the use of public transit—what works, how to establish baselines for service and how to expand best practices across the country—through the use of WRI Ross Center tools like the User Satisfaction Survey and Quality Indicators. Recent discussions have explored how agencies could increase clientele through ride-share apps like Uber, which provide crucial “last mile” connectivity to move customers from their homes to bus stations.

With its shared communication platform, the QualiÔnibus Benchmarking Group is leading the charge for improved public transportation by collecting and analyzing data, setting standards, understanding problems and sharing solutions. Brazilian cities now have the facts they need to improve public transit quality and performance. The benefits for cities and citizens go far beyond a more efficient daily commute—they include fewer GHG emissions, cleaner air, enhanced road safety and more time to spend with their families.
Transforming the ways cities move people, consume energy and water, and provide opportunities to their citizens is at the heart of WRI Ross Center’s mission. But infrastructure and funding alone are not enough to meet the challenges ahead—cities need help making better decisions, too. WRI Ross Center meets this need by actively sharing our expertise through reports, training, online resources, publications and tools for policymakers, businesses and civil society organizations.

**WORLD RESOURCES REPORT**

In 2015 the World Resources Report, *Towards a More Equal City*, posited a new approach to urban transformation, stating that equitable access to core urban services—water, sanitation, transportation, energy and land and housing—is critical for economically productive, environmentally sustainable cities. The world’s population is rapidly growing, and the urban population is projected to increase by about 60% by 2050. Already, 880 million residents, about 1 in 7 people, live in informal settlements with limited access to core services like water, electricity and sanitation. With 90% of growth occurring in under-resourced cities, we have a critical window of opportunity to alter the development trajectory of cities toward equity and high quality of life for all. This outcome is not guaranteed, and poor decisions made today could lock cities into cycles of reduced productivity, poverty and environmental degradation that last for the rest of the century and beyond.

Achieving equitable and sustainable urban transformation requires a new vision. The World Resources Report has been much more than a report and is increasingly recognized as a process and a movement toward more equal cities. It not only comprises robust solutions and evidence-based research, but also extensive engagement with leading urban change agents at the global, national and local scales. At the global level, the Global Commission on Adaptation—led by Ban Ki-Moon, Bill Gates and Kristalina Georgieva—engaged WRI Ross Center to develop its work on cities, recognizing that urban climate adaptation efforts need to be equitable, inclusive and
mainstreamed into broader development processes. The C40 Cities Climate Leadership Group has sought our expertise in developing guidance integrating inclusivity and equity concerns into climate action planning for its member cities around the world. At the national level, we are supporting the Government of India’s Global Housing Technology Challenge, ensuring that guidance on housing location and availability of services is considered alongside lower costs and energy efficiency.

The final phase of Towards a More Equal City will offer a synthesis and portfolio of high-priority actions for cities to implement. WRI Ross Center will convene a series of stakeholder roundtables with government decision-makers, private sector actors, civil society representatives and experts to initiate country engagements to advance the solutions of the report and identify discrete areas for capacity building to support implementation.

WORLD RESOURCES REPORT PAPERS:

- UNAFFORDABLE AND UNDRINKABLE: Rethinking Urban Water Access in the Global South
- FROM MOBILITY TO ACCESS FOR ALL: Expanding Urban Transportation Choices in the Global South
- UPWARD AND OUTWARD GROWTH: Managing Urban Expansion for More Equitable Cities in the Global South
- INCLUDING THE EXCLUDED: Supporting Informal Workers for More Equal and Productive Cities in the Global South
- POWERING CITIES IN THE GLOBAL SOUTH: How Energy Access for All Benefits the Economy and the Environment
- CONFRONTING THE URBAN HOUSING CRISIS IN THE GLOBAL SOUTH: Adequate, Secure, and Affordable Housing
- TOWARDS A MORE EQUAL CITY: Framing the Challenges and Opportunities
UPWARD AND OUTWARD GROWTH: MANAGING URBAN EXPANSION FOR MORE EQUITABLE CITIES IN THE GLOBAL SOUTH

The fifth paper of the World Resources Report delivers new analysis on urban expansion in 499 cities, confirming that the challenges of rapid outward expansion are greatest in lower-income cities. It highlights strategies cities can take to manage urban growth in a way that ensures more equal and productive cities.

FROM MOBILITY TO ACCESS FOR ALL: EXPANDING URBAN TRANSPORTATION CHOICES IN THE GLOBAL SOUTH

The sixth paper of the World Resources Report argues that in improving access to opportunities, cities stand the best chance of solving the problems of deteriorating environmental quality and economic competitiveness that result from traffic congestion and urban sprawl. Authors highlight three key action areas for cities to improve access: rethinking the role of streets and who they serve, shifting to integrated transport systems, and tempering the demand for private vehicle use.

UNAFFORDABLE AND UNDRINKABLE: RETHINKING URBAN WATER ACCESS IN THE GLOBAL SOUTH

The seventh paper of the World Resources Report explores what cities can do to ensure more equitable access to safe, reliable and affordable water, while facing down major trends affecting water access, including population growth, degraded and depleted water sources, and climate change. It highlights four key action areas for cities to improve water access.

BARRIERS TO ADOPTING ELECTRIC BUSES & HOW TO ENABLE ELECTRIC BUS ADOPTION IN CITIES WORLDWIDE

These twin reports identify the main barriers that cities face when implementing electric buses, especially in the global south, and provide actional guidance to overcome them. Based on analysis from 16 case studies, they provide clear steps and illustrative adoption paths.
THE EVOLUTION OF BIKE SHARING: 10 QUESTIONS ON THE EMERGENCE OF NEW TECHNOLOGIES, OPPORTUNITIES, AND RISKS

This working paper gives municipal decision-makers objective information on the adoption and implementation of bike sharing. It is designed to help city officials navigate through new and improved technologies, data and business models.

EVALUATION OF AIR POLLUTANTS REDUCTION EFFECTS OF BEIJING LOW-EMISSION ZONE AND CONGESTION CHARGING POLICIES

Faced with severe congestion and air quality issues, the Beijing Municipal Government has issued a series of transport demand management measures and energy conservation and emissions-reduction policies. In this research study, the Beijing Transport Institute and WRI Ross Center compared various emissions reduction efforts and provided guidance to the government on designing effective low-pollution measures.

SHIFTING CURRENTS: OPPORTUNITIES FOR LOW-CARBON ELECTRIC CITIES IN THE GLOBAL SOUTH

This paper discusses how to identify cities in the global south that are the best candidates for electrification—replacing fossil fuel-powered vehicles, stoves, furnaces and other devices with electric alternatives. Based on an analysis of factors affecting success, it found that electrification could be a good strategy in 34 countries.

PREPARED COMMUNITIES: IMPLEMENTING THE URBAN COMMUNITY RESILIENCE ASSESSMENT IN VULNERABLE NEIGHBORHOODS OF THREE CITIES

Climate change affects poor and marginalized communities first and hardest. Yet strategies focused on reducing these people’s vulnerability often overlook crucial differences in their needs and situations. In response, WRI has developed the Urban Community Resilience Assessment (UCRA), a tool for city planners to measure differentiated needs for climate resilience. This report examines results from UCRA pilot projects in three low-income and vulnerable communities: Rio de Janeiro, Brazil; Surat, India; and Semarang, Indonesia.

ACCELERATING BUILDING DECARBONIZATION: EIGHT ATTAINABLE POLICY PATHWAYS TO NET ZERO CARBON BUILDINGS FOR ALL

While zero carbon buildings have previously been assumed to be attainable only by technologically advanced or wealthy countries, new research finds there are policy pathways to reach zero carbon buildings regardless of location or development status.
CAPACITY BUILDING

To build the capacity of cities to respond to rapid growth and the effects of climate change, WRI Ross Center offers live trainings and online resources to increase both institutional and individual capacity of urban decision-makers worldwide.

Combining effective in-person training with online resources, such as webinars from TheCityFixLearn.org, we have reached thousands of policymakers in Latin America and the Caribbean, and we expect similar trends in coming years in South and East Asia. This unique, blended approach to capacity building positions WRI Ross Center as a thought leader for 1,900+ rapidly urbanizing and underserved cities around the globe.

Our in-person training reaches key technical personnel and decision-makers engaged in policy, project design and delivery: 78% of our users are public officials, and 36% are responsible for project management. Participants report that the sessions provide pivotal learning experiences. “When you showcase studies where cities fail or succeed and you have a lively discussion about why that happened, it completely changes people’s attitude towards learning. It makes it much more engaging,” noted Solomon Kidane, deputy mayor of Addis Ababa.

To complement our live training, we debuted online learning guides through TheCityFixLearn.org in April 2018. These online tools present information on a concept or discrete question in easy-to-digest modules that grow in complexity as the learner progresses through the series. To date, we have developed segments on climate action planning, paratransit, trip reduction ordinances and transportation demand management. These have received more than 13,000 views from users in 94 countries. Todd Litman, founder and executive of the Victoria Transport Policy Institute and a leading expert on urban transport, praised the new format and shared it on social media, saying, “Here are terrific new guides by WRI Ross Center. They succinctly describe why and how cities can implement transportation demand management policies and programs.”

Our Cities Research Seminar Series, conducted in parallel with the World Resources Report, has engaged experts and expanded our network since 2016, with seminars and video interviews available at www.citiesforall.org.
Public officials involved in economic development and urban infrastructure learn how to make better and more informed decisions.

CLAUDIA DIAZ, DEPARTMENT OF FINANCE, MEXICO CITY
Tools and methods, such as accessibility analyses, digital transport mapping and co-benefits calculators, harness the immense power of data to help citizens, administrators, policymakers and financial planners respond to a host of urban issues—mobility, accessibility, safety, health risks, resource use, pollution and more.

In İzmir, Turkey, WRI Ross Center and WRI Turkey Sustainable Cities conducted accessibility analyses following transportation infrastructure improvements. The data showed enormous change. Jobs accessible within an hour of travel from some neighborhoods increased from 32,000 to 137,000. Accessibility analyses, previously difficult to conduct, are improving thanks to global data standards, but many cities still lack critical data. In many major African cities, like Nairobi, Kenya, semi-formal transport like minibuses provides 70-100% of transit rides at no cost to the city, but the data needed to map routes, integrate transport and upgrade safety and emissions is lacking. In collaboration with the French Development Agency, WRI Ross Center
launched DigitalTransport4Africa.org, a collaborative digital commons and global community to scale up and support urban mobility projects through open data and peer-to-peer knowledge sharing. DigitalTransport4Africa documents existing mapping efforts, such as mapping of Nairobi’s transit routes by Digital Matatus, and provides resources for cities and universities looking to jump-start new projects. Already, data on Addis Ababa’s paratransit, bus, light rail and bus rapid transit (BRT) networks will soon be openly available on DigitalTransport4Africa. Using new data tools, cities can use transit data not just for mobility, but to increase accessibility and equity for residents. Our cost-free and user-friendly tools are supporting new awareness, decisions and policies that will drive a better future for millions of people.
We are privileged to have a very active Advisory Group, composed of globally recognized city leaders and urban experts from across the spectrum who contribute their expertise and influence. Members meet annually to provide advice on the overall program, including high-level strategic guidance and connections to key partners. During 2018-2019, they strengthened and advanced our initiatives across the world.

We want to thank Rohit Aggarwala, Morten Kabell, Marcio Lacerda, Eduardo Paes, Patrick Phillips, Shirley Rodrigues, Janette Sadik-Khan and Sara Topelson.

In addition, the following members have supported specific projects:

Stephen M. Ross served as the Honorary Chair of WRI Ross Center, providing strategic guidance and philanthropic support to enhance our visibility. He also served as chairman and host of the jury for the inaugural WRI Ross Prize for Cities, hosted the award ceremony at Hudson Yards, and chaired the WRI Ross Prize learning workshop with finalists and other leading urban thinkers. He was instrumental in developing and funding NUMO, the New Urban Mobility alliance, launched by WRI Ross Center in 2019.

Melinda Bohannon advised on strategy and support for the synthesis phase of the World Resources Report, Towards a More Equal City.

Robin Chase provided key support for the creation and successful launch of NUMO, the New Urban Mobility alliance, and serves as executive chair of the NUMO Secretariat. She also participated in Transforming Transportation, co-sponsored by WRI Ross Center and the World Bank, as well as in Blue Sky workshops in New York City and San Francisco. In collaboration with ClimateWorks and Energy Foundation, she assisted in a funding proposal to TED.

Jamshyd Godrej was a keynote speaker at Connect Karo, WRI India Ross Center’s annual flagship event, and moderated a panel discussion with Shuresh Prabu, India’s minister for commerce and industry.

Ede Ijjasz-Vasquez led the World Bank in its close partnership for the GEF-supported Global Platform for Sustainable Cities, among other projects.

Dirk Messner co-authored a successful proposal for funding from the German Climate Ministry, resulting in a grant to support an initiative on transformative government.
Clay Nesler is a senior advisor for our building efficiency initiative. He serves as a steering committee member for the Building Efficiency Accelerator and was instrumental in developing the BEA technical assistance offer, strengthening regional action in Latin America.

Sam Parker visited WRI México Ross Center to discuss current projects and the Propulcity platform.

Parks Tau advised on potential partnerships with metropolitan areas in South Africa as well as initiatives on mobility and housing.

Gino Van Begin led ICLEI’s participation as part of the Resource Team on the GEF-supported Global Platform for Sustainable Cities partnership.

Mark Watts continued his role as co-chair of the Coalition for Urban Transitions. He represented the Coalition at the 6th Global Environment Facility’s Assembly Roundtable on Sustainable Cities and presented key findings from Financing the Urban Transition at a session attended by government representatives from India and Rwanda and featuring a keynote address from UN Habitat Executive Director Maimunah Mohd Sharif.
**CURRENT FISCAL YEAR:**
We have planned a $29.3-million budget for FY19 for various activities that support further development of WRI Ross Center. As of June 2019, $30 million has been committed and raised from various donors.

**FUTURE:**
We are refocusing fundraising efforts on nurturing long-term partnerships with strategically aligned donors, including European governments and foundations, to unlock large scale, multi-year funding for our strategic priorities. At the same time, we are redoubling efforts to diversify our funding base to expand corporate and individual giving. Our goal remains to raise $40 million annually by 2022.

**STRATEGY:**
Building trust with donors is key to achieving our fundraising goals and setting WRI Ross Center on a sustainable growth path. Toward that end, we have integrated the core functions of Strategy, Partnership and Development to ensure alignment between how we focus and prioritize internally and how we engage and fundraise externally. The integration of these three core functions is key to driving greater program discipline and sharpening our value proposition in a crowded and rapidly evolving field. Our goal is to ensure planned institutional growth and development—including expansion to new geographic areas—is supported by robust strategies, partnerships and funding support.
Total budget

Contribution and total budget (%)

*In-country direct grants include: PROTRAM, Qualcomm, British Embassy, Godrej, ICS, Energy Foundation, Transantiago, Scotiabank-Optimo, Danfoss, Botnar, Shakti, Ford Foundation

**Other funders include: Swedish Fund, McKinsey, EC, Arconic, EcoDIT, Energy Foundation, ODI, Cities Alliance, FIA Foundation, PUC, NREL, Climateworks, Uber
In addition to the donors and partners listed here, WRI Ross Center is also supported by in-kind contributions from numerous partners.

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