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# Enabling Quality Transit, Impacting Lives

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MOBILITY AND ACCESSIBILITY PROGRAM 2020

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# 10 Years of Improving Cities and Impacting Lives

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More than ever before, cities and their surroundings are centers of opportunity and innovation. As humanity urbanizes in record numbers, challenges of enhancing access, mitigating congestion, elevating safety, and improving air quality become essential needs to provide access to opportunities.

For the past 10 years, FedEx and WRI Ross Center for Sustainable Cities have been working to help cities overcome these challenges. By building on mutual expertise, the Mobility and Accessibility Program, sponsored by FedEx, delivers results that enhance the overall quality of transport systems. **This focus on quality means faster journeys, more reliable systems, fewer emissions and safer practices.** This all adds up to a program which has directly impacted over 10 million people to date, with even more on the horizon.

# Project Snapshot

COUNTRY	APPROACH	FEDEX EXPERTISE	IMPACT
<b>Brazil</b> Quality of Service	Use Quality of Service Metrics to make transit more appealing and sustainable to 20 million people daily in 20 cities	Customer Satisfaction, QDM process	Currently reaching 17.5 million people in 14 cities
<b>Mexico</b> Day One of Operations	Mobility Contingency Plan for emergency events and disaster response	Operational & Contingency Planning	Created an Action Protocol with municipal stakeholders and trained bus drivers about earthquake response
<b>India</b> Better Bus Challenge	Enable BBC winners to produce results that improve transport operations using innovative technology	Entrepreneurship	Conducting pilot projects with three contest winners
<b>India</b> Bus Karo	Use Route Rationalization tools to enable more useful & reliable bus service	Operations Planning	In areas using the tool ridership increased by 17% and earnings per km increased by 19%
<b>China</b> E-bus adoption Tool	Support e-bus adoption by identifying ways to evaluate efficiency and improve service quality	Fleet Management	Published a national framework that shows how using e-buses, operational efficiency of systems can improve by up to 70% compared to diesel
<b>China</b> Vehicles & Fuels	For cities worldwide, create an enhanced tool for e-bus fleet selection	Fleet Management, Environmental Sustainability	Created a methodology to demonstrate to potential e-bus operators the Total Cost of Ownership, including costs and benefits to society
<b>Global</b> FedEx-WRI Fellowship	Rising WRI employees learn directly from FedEx expertise at a week-long course at FedEx World HQ	Communications, Customer Satisfaction, QDM process, Fleet Management, Operations Planning, Business Strategy	Seven WRI-FedEx Fellows visited FedEx WHQ for a week of training and engagement that will help improve sustainable transport projects



# Letter from the Director

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Through the Mobility and Accessibility Program, a collaboration with FedEx, WRI Ross Center for Sustainable Cities has helped cities across the world implement sustainable public transit solutions for 10 years. The COVID-19 crisis, which struck at the end of this annual report period, is putting unprecedented strain on public transit. The cascading implications for cities will be many and we are only beginning to understand the full impact. But we do know that working with cities to reduce congestion and pollution, improve the quality of people's lives, and make local economies more productive is just as valuable as ever. The Mobility and Accessibility Program will continue to find innovative ways to bring change to people's lives and build resilience in public transport.

Over the last year, for example, we have optimized the operation of public bus systems in Mumbai and Mexico City so they are more efficient, more convenient, more affordable and more available during times of crisis. Our international workshops, seminars and conferences attract hundreds of representatives from transportation ministries, technology and service providers and mobility startups. We are drawing on FedEx expertise in electric fleets and asset management to share key insights on performance and logistics to help cities realize the benefits of this game-changing technology. And we are disseminating solutions across an international network so they can be adopted and scaled up in other cities.

In the wake of the devastating 2017 earthquake in Mexico City, our team developed a protocol for mobility during disasters, while our staff in China focused on how to disseminate key metrics to guide the operation of electric buses. We provided a forum for cities in Brazil to swap solutions for improved bus safety, and supported entrepreneurs in India as they rolled out new options for cleaner, more comfortable bus service.

To date, our work has directly impacted more than 50 cities and 10 million people. The effects of our collaboration are both global – reducing carbon emissions – and local – helping people access vital jobs and services, spend less time in traffic and enjoy more time with family.

The dynamic collaboration between FedEx and WRI Ross Center is helping cities create the bus systems of the future. We are grateful for your continued support as we develop new approaches, new insights and new mobility solutions.



A handwritten signature in black ink, reading "Ani Dasgupta". The signature is fluid and cursive, with a long horizontal stroke at the end.

**Ani Dasgupta**

Global Director

WRI Ross Center for Sustainable Cities

# Brazil

## Sharing Solutions, Improving Safety

**A national forum connects transport administrators,  
multiplying local actions for better service.**

Quality solutions for urban mobility issues often begin with on-the-ground fixes. In Brazil, WRI Ross Center and FedEx give those ideas a boost through a country-wide network that brings transportation professionals together to share ideas and establish standards for best practices. With an emphasis on metrics, the group is advancing the quality of transit systems that serve more than 20 million people per day across the country.

Brazil's QualiÔnibus network, established in 2017, has already demonstrated its impact as a clearinghouse for tools like FedEx's Safety First and other transit innovations. In 2019, it was instrumental in expanding a low-cost solution developed in Fortaleza to other cities. As part of an overall vision to make their transport system safer and lessen collisions involving buses and pedestrians in its busy bus terminals, Fortaleza administrators had devised a simple remedy: a safety sticker on the sides of the buses that indicated the driver's blind spot and warned passing

motorcycles and bikes to avoid the space. Within months of the stickers' implementation in 2018, collisions at Fortaleza's bus terminals had dropped by 60 percent.

Fortaleza shared the success of the stickers with fellow members of the QualiÔnibus forum, including Belo Horizonte, where more than half the traffic crashes involve motorcyclist falls or collisions. Impressed with the results, Belo Horizonte participants presented the safety sticker idea to the board of BHTrans, the transit agency of the city, which adopted it immediately. Safety stickers started appearing on Belo Horizonte buses in November and are being applauded by both cyclists and bus operators. "The sticker promotes safety and peace of mind for us drivers, since other people are unaware of the challenges of driving a bus and end up entering our blind spot," explained Ana Cristina Venâncio, a bus driver at Viação Anchieta, Belo Horizonte.



The QualiÔnibus Benchmarking Group, supported by FedEx, goes on a tour of quality bus shelters.

What makes the QualiÔnibus network unique is that it offers participants an opportunity to measure their performance against established benchmarks for quality service. A tool that several member cities have deployed in that process is a customer satisfaction survey, developed with guidance from FedEx, which tracks 16 different quality factors. A survey WRI conducted in Belo Horizonte, for instance, indicated that the city's bus shelters were already well-regarded by riders, while in most other cities it was one of the top three concerns. This surprising difference was due to an innovative bidding process which traded responsibility for deploying and maintaining bus shelters in exchange for advertising rights. The positive results stemming from a notable difference in business practices is exactly the



The QualiÔnibus network delivers the opportunity to share solutions for the many challenges faced by most cities nowadays. . . Now, thanks to the exchanges that it stimulates, Belo Horizonte is replicating this good practice.

**Caleb Bastos**

Cost Division Coordinator, Fortaleza Transit Agency

kind of practice that QualiÔnibus is designed to highlight and share.

Following this insight, network members had the chance to visit the bus stops of Belo Horizonte in 2019. They learned in detail and by example how to create a bidding process for advertisements that could fund improved shelters without cost to the municipality. Fortaleza has now initiated a similar program, commissioning designs for new shelters and launching a plan to sell advertising.

# Mexico

## Responding to Disaster

**A high-quality transit system functions smoothly on ordinary days – and on extraordinary ones, too.**

On September 19, 2017, an earthquake measuring 7.1 on the Richter scale shook Mexico City to its core. The capital had experienced similar tremors in 1957 and 1985, and this one was equally devastating: it damaged more than 3,000 structures and claimed 220 lives in the city alone.

In the moments after the midday quake, panicked residents fled from their buildings and poured into the streets. A flood of pedestrians and cars choked the city's arteries. Although the subway system managed to maintain service, traffic at the street level was chaotic. The city had no disaster plan for transit services, so many thousands of commuters were stranded and critical emergency and rescue services were delayed.

In the months that followed, WRI Ross Center's mobility team focused on how to avoid a repeat scenario. With support from FedEx, WRI Mexico staff queried more than 4,000 public transport users and city officials about their experiences on the day of the earthquake, seeking first-person accounts of how they navigated the crisis. They also researched the emergency protocols of earthquake-prone cities like San Francisco and Tokyo.

The result was a draft Protocol of Action for the Mobility System of Mexico City, designed to help the capital prepare for the next seismic emergency. It identified three goals for improving mobility in the wake of a crisis: restoring the transportation system, which supports the operation of other urban systems; facilitating delivery of emergency services; and expediting the flow of information for decision-making.

The team's next step was to share its findings. In June 2019, it convened 46 representatives from Mexico City's Mobility, Communications and Risk Management/Civil Protection Ministries, as well as other agencies. Together, the group set four objectives for a proposed transit resiliency plan: achieving the safe evacuation of the city; reducing the number of vehicles and people on the streets; avoiding mass concentrations of people until alarm states are deactivated; and establishing standardized procedures. With input from meeting participants, the Action Protocol was finalized and delivered to the Secretariat of Integral Risk Management and Civil Protection of Mexico City. It is now being incorporated into the capital's mobility systems.





During a pilot earthquake drill, people line up in the designated safe zone away from structures at a major transfer point between the Metro and the *colectivo* mini-bus system.

In addition, WRI Mexico started a collaboration with the CETRAM transfer center. The CETRAM system serves more than 5.5 million passengers daily and includes the city's ubiquitous private minibuses (*colectivos*). In September, WRI Mexico invited *colectivo* drivers to learn about the Action Protocol and participate in a mock emergency drill in Chapultepec. The exercise provided drivers with recommended actions and gave them the confidence to deal with the aftermath of the next quake.

Diana Araceli Gómez Moreno, a driver who was behind the wheel on the afternoon of the 2017 quake, appreciated the experience. "One of the problems during the earthquake was knowing the location of the designated safe areas," she said. "Training and education for us, the operators, are what was missing."

By reaching out to a wide network of stakeholders, WRI Ross Center is encouraging widespread adoption of the emergency protocol and helping the capital improve its resilience before the next crisis.

**After the 2017 earthquake, FedEx support enabled WRI Ross Center to draft an Action Protocol designed to help Mexico City prepare for seismic emergencies.** The recommendations, based on international best practices, covered four areas:

- General population
- Transportation systems
- Road infrastructure
- Shared mobility and taxi systems

**Key areas of emphasis included:**

- Identifying key information for decision-making
- Establishing information sources for transit users and the general population
- Highlighting actions and resources needed for protocol implementation

# India

## Better Public Transport

### Entrepreneurs' best ideas get traction through the Better Bus Challenge.

In India, buses serve more than 70 million people a day. Making them more efficient and less polluting is the primary focus of transit planners. Now, a new generation of innovators, supported by the Mobility and Accessibility Program, is showing the way.

In 2018, FedEx and WRI Ross Center launched the Better Bus Challenge, a juried, nationwide competition for new approaches to clean, sustainable transportation. The following year, Challenge winners put their ideas into action. Young firms tested their proposals on the ground in Mumbai, Karnataka and Bangalore, demonstrating solid gains in service and technology. The three finalists used prize grants of \$50,000 each to roll out pilots for an online reserved bus system, installation of air-intake filters in tailpipes, and conversion of diesel engines to electric.

In Mumbai, the air-conditioned, 60-bus fleet launched by Cityflo allowed over 250,000 customers to book trips by Internet and mobile applications, successfully persuading former drivers to give up their private vehicles. That modal shift is a key goal for urban planners and promises future savings in energy and

emissions. A pilot project by Small Sparks Concepts in Karnataka fitted ten diesel buses with filters made of compressed polyester and cotton; that innovation has the potential to lower emissions by 30 percent and increase fuel efficiency by 10 percent. For Karnataka's 8,600-vehicle fleet, the savings on fuel alone could amount to nearly \$40,000 a day.

As expected, the startups encountered some speed bumps on the road to launch. Cityflo, the new bus service, struggled with Mumbai's regulations for private bus aggregators, which complicated its ability to form partnerships. Support from the Better Bus Challenge allowed it to interact with multiple transit agencies, access prime parking facilities and expand services. In Bangalore, Cell Propulsion discovered that government retrofit regulations had changed since its initial proposal, which led to another round of permit applications. "There's a huge learning curve for startups and innovation programs, which is why the opportunity to test in the real world is so important," explained Krithi Venkat, Senior Associate, Integrated Urban Transport, WRI India.



Cell Propulsion, one of the three Better Bus Challenge Winners, has a process to retrofit buses from diesel to electric.

Cell Propulsion in Bangalore developed a technology that retrofits bus engines from diesel to electric, and makes the switch affordable. The conversion costs less than a new, air-conditioned diesel bus and is half the price of a new electric bus. As transit agencies across India grapple with severe financial challenges, adaptation of this technology could be a gamechanger.

Elsewhere, WRI India's Bus Karo program delivered tools to improve local bus service through a process of route rationalization. Working closely with transit agencies in Delhi, the WRI team planned and optimized 17 new bus routes in Najafgarh, a suburb of the capital. The applied methodology had an immediate impact: a 17 percent increase in ridership (11,000 more passenger trips completed per day), a 19 percent increase in earnings per kilometer, and improved schedule adherence – a vital consideration for commuters and commerce.



There's a huge learning curve for startups and innovation programs, which is why the opportunity to test in the real world is so important.

**Krithi Venkat**

Senior Associate, Integrated Urban Transport, WRI India.

“Route rationalization work in the rural area around Najafgarh in Delhi made bus services more reliable and in sync with travel demand of passengers,” said Anupama Saha, Senior Manager, Delhi Integrated Multi-modal Transport System Ltd. “The numbers speak for themselves. This pilot is setting an example that can be scaled up and adapted in other cities.”

WRI Ross Center continues to work with transit agencies, state transport departments and others to support the adoption of electric buses. High-level symposia such as the Urban Mobility India Conference in Lucknow and the annual Connect Karo conference in Delhi, both supported by FedEx, give hundreds of transit professionals an opportunity to share the latest knowledge on e-bus operations, procurement and policies.



# China

## Advancing Electric Mobility

### Expertise from FedEx helps cities plan and operate clean, sustainable e-bus systems.

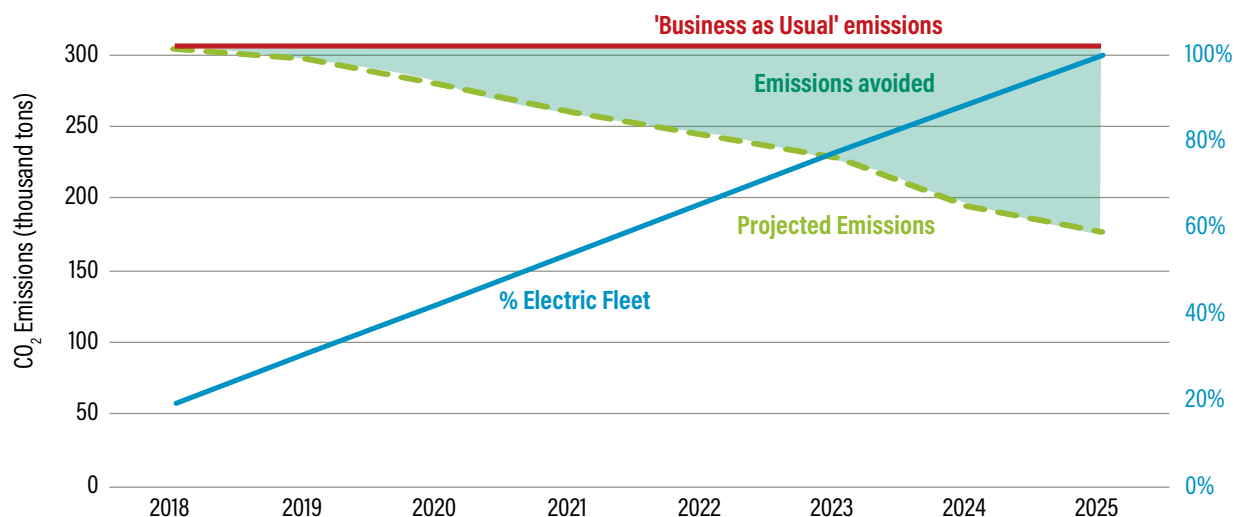
With 70 percent of the world's electric buses, China is leading a global transition to electric mobility. As part of this evolution, its transport agencies are looking for ways to evaluate the costs and performance of their buses. They're also seeking technical guidance as they prepare to add electric vehicles to aging, fossil-fuel based fleets. Tools and guidelines recently developed by WRI Ross Center with support from FedEx are proving to be a key resource for both issues.

#### Operational Guide

China's own transition to e-mobility comes with many challenges, including how to account for the differences in performance between fossil-fuel and electric buses. In response, WRI China has created an operational guide that helps China's transit agencies match their operational needs to the right e-bus models. Along with a working paper distributed to Ministry of Transport and eight city transit agencies in 2019, this guide helps officials make decisions on procuring the e-buses best suited to their particular locale.

#### Emissions avoided as fleet electrifies

Converting to an all-electric fleet is projected to reduce carbon emissions by 40% in Jinan, China.





Electric buses can help keep air clean in Guangzhou, where More than 75% buses are electrified. This system provided cost and fuel economy information for our tool.

“The guidelines help agencies evaluate factors such as charging infrastructure, route operational requirements, and variations in battery ranges and charging speeds. They also list a range of internal options to meet the e-buses’ operational requirements, such as adjusting dispatching and drivers’ schedules to accommodate charging demands,” reported Lulu Xue, Research Associate at WRI China. Li Lianghua, Deputy Division Director of China’s Ministry of Transport, praised the significance of the guide, saying, “The analysis is evidence-based and offers useful references to promote e-bus adoption and optimize operations in China.”

The recommendations, developed with key input from FedEx Operations, could assist Chinese transport agencies in narrowing the performance gap between electric and high-emission diesel buses. The result: better service for customers and less pollution in crowded cities.

### **Social Costs and Benefits Tool**

Through the update of an existing evaluation tool, WRI Ross Center’s Global Team is leveraging its experience in China to help transit agencies everywhere understand the costs and benefits of switching to electric buses. The Social

Costs and Benefits Tool is part of a larger suite of tools that can be used by cities worldwide to understand the planning and infrastructure needed to convert to electric mobility.

A new feature of the revised tool helps cities account for both the costs and the overlooked benefits of electric transportation decisions. As it calculates the total cost of ownership, it also factors in the larger impact on society: the health benefits of cleaner air and the possible climate benefits of reducing greenhouse gases. In these algorithms, a key factor is how electricity is generated. In cities with clean, renewable electricity sources — hydropower, for instance — emissions and total costs of ownership for electric vehicles are often lower, while in cities that rely on coal, emissions and impacts on health could increase.

Xiangyi Li, WRI Global Research Analyst in China, said that her team plans to use its experience with the tool in China to help cities in Latin America and India evaluate e-bus costs. “We can offer a global perspective for local operators, which is useful and beneficial when they have no prior experience with e-buses. The tools can help them save money and improve air quality,” she said.

# The FedEx Fellowship: Expanding WRI Expertise

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**Through FedEx mentors, young scholars learn state-of-the-art approaches to transportation issues.**

An outstanding feature of the decade-long collaboration between FedEx and WRI Ross Center has been an ongoing fellowship program for young transportation professionals. In 2019, the program welcomed its fourth class of MAP fellows, whose two-year experience combines an intensive research project with a week of seminars at FedEx headquarters in Memphis.

The chance to learn from FedEx's top technical and communications experts presents a rare opportunity for the multi-national group of scholars to gain insights from the private sector. "FedEx and WRI have a vital shared interest — we want to impact the way individuals move in cities," noted Perrin Crews, the FedEx Senior Communications Specialist who organized the 2019 event. "Our goal is that these fellows will apply their knowledge to solve mobility conundrums, so that cities are more integrated and efficient and can connect people with commerce and better opportunities."

The seminars at FedEx covered a range of topics: marketing, logistics, maintenance, asset

management, innovation, electrification and more. Experts in global vehicles, engineering and technology led on- and off-site sessions, while additional team members addressed customer experience, user satisfaction and communications. The perspectives ranged from global to local, with many voices from the city of Memphis.

A major take-away for Travis Fried, one of the 2019-20 fellows, was the simple reminder that the customer comes first. "That mentality is so important — to make the user's experience a priority," he said. "It's easy to forget, so I appreciated the emphasis." Fried, a research analyst at WRI Ross Center, focuses on minibus transport in Africa. During his week at FedEx headquarters, he said, "I was most interested in how to uptake data into systems and use it for route rationalization. Learning from a diverse group about how FedEx manages its own fleet to avoid emissions, work with labor and operations and be sustainable was really valuable."

As their careers advance, alumni from the fellowship program are making their mark.







The FedEx-WRI Fellows are welcomed to Memphis. From the right to left Fellows are: Travis Fried, Xiangyi Li, Su Song, Mariana Barcelos, Revathy Pradeep, Arpana Vijaykumar (not pictured: Tania Perez). Joining them are Ben Welle - WRI Director of Integrated Transport, Perrin Crews - FedEx Senior Communications Specialist, Richard Smith - FedEx Express Regional President, and Rose Flenor - FedEx Global Citizenship Manager.

Cristina Albuquerque, a member of the second class of fellows, now oversees a range of transportation and sustainability initiatives as a manager for WRI Brasil. “In 2014, I had the opportunity to learn a lot about how FedEx approaches Quality Driven Management in their projects. Now, one of our main projects in Brazil is the QualiÔnibus Benchmarking Group, which is based on QDM concepts. The fellowship experience contributed to that directly and helped me a lot in my professional growth.”

“The collaboration between FedEx and WRI over the past decade has achieved impressive results,” noted Mitch Jackson, Chief Sustainability Officer at FedEx. “The Fellowship component of our work allows us to share FedEx expertise in processes around innovation, sustainability, safety, vehicles and operations with the bright minds at WRI, helping with the improvement in the quality, reliability, and preparedness of more environmentally-minded public transit systems.”

## FedEx-WRI Fellows:

- **Arpana Vijaykumar**, Senior Project Associate – WRI India
- **Revathy Pradeep**, Senior Project Associate – WRI India
- **Mariana Barcelos**, Urban Mobility Analyst – WRI Brazil
- **Tania Perez**, Coordinator of Transport Planning and Operation – WRI Mexico
- **Su Song**, Research Associate – WRI China
- **Xiangyi Li**, Research Analyst – WRI China/Global
- **Travis Fried**, Urban Mobility Research Analyst – WRI Global

## FedEx Experts:

- **Richard Smith**, Regional President US & EVP Global Support
- **Michele Ehrhart**, VP Communications
- **Mitch Jackson**, VP Environmental Affairs & Chief Sustainability Officer
- **Jenny Robertson**, VP Communications
- **Monica Skipper**, VP Marketing
- **Brad Bozeman**, MD District Ops
- **Russ Musgrove**, MD Global Vehicles
- **Kunal Jadhav**, Director, Global Revenue Testing
- **Diego Guadalupe**, Sr. Manager Global Vehicles
- **Dave Lusk**, Sr. Manager Global Ops Control
- **Bill Cawein**, Manager, Technology & Integration
- **Andy Due**, Manager Safety Process & Compliance
- **Penelope Fisher**, Manager Communications
- **Rose Flenor**, Manager Global Citizenship & Diversity
- **Tom Lopez**, Manager Safety, Health, Fire Prevention
- **Michael Moore**, Manager Regional Health, Safety, and Environment
- **Dermot Murray**, Manager Corporate Social Responsibility
- **Charlie Saurenman**, Manager Fleet Maintenance
- **Mark Simmons**, Manager, Asset Management
- **William Wixon**, Manager IT/Technical Architecture
- **Dale Chrystie**, Blockchain Strategist
- **Boris Kort-Packard**, Chief Engineer, Global Vehicles
- **Kim Martin**, Marketing Specialist Advisor
- **Kevin Ming**, Safety Specialist
- **Melissa Nichols**, Customer and Quality Advisor
- **Shane O'Connor**, Communications Advisor
- **Cindy Van Den Berge**, Customer and Quality Advisor
- **Sara Rose Watkins**, Sr. Communications Specialist
- **Gigi Wolfe**, Project Engineer, Global Ops Engineering & Analysis
- **Michelle Yuan**, Business Strategy Analyst

## Memphis Area Experts:

- **Nicole Lacey**, Chief Communications Officer, MATA
- **John Lancaster**, Director of Planning & Scheduling, MATA
- **Dana Sjostrom**, Municipal Planner, Shelby County Office of Resilience
- **Ashley Cash**, Memphis 3.0

# Key Performance Indicators

WRI Ross Center uses Key Performance Indicators (KPIs) to accurately track the collective impact of our work. KPIs enable us to measure how our projects have improved human well-being and to encourage a streamlined and effective approach to project planning. The result has been the successful growth of our organization and impact. Our collaboration with FedEx from 2010 to 2019 has achieved the following milestones for the Mobility and Accessibility Program.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	TOTAL
<b>CO<sub>2</sub>e EMISSIONS AVOIDED (TONS)</b>	-	-	10,000	10,000	10,000	10,000	12,574	11,334	10,685	29,914	104,507
<b>PEOPLE BENEFITED</b>	-	77	424	920,968	600,665	730,735	950,161	1,749,834	2,349,602	2,720,057	10,022,523
<b>PEOPLE TRAINED &amp; ENGAGED</b>	-	-	138	1,886	3,500	2,524	620	601	594	1,159	11,022
<b>FEDEx VOLUNTEERS</b>	-	5	32	11	35	9	-	29	6	30	157

## Definitions

- **CO<sub>2</sub>e Emissions Avoided (tons):** Carbon reduced (tons CO<sub>2</sub>e reduced)
- **People Benefited:** Accrued number of people directly benefiting from the project (e.g. through learning, improved service)
- **People Trained & Engaged:** Annual number of people directly influenced as a result of the project (i.e. taking action, changing behavior)
- **FedEx Volunteers:** Number of FedEx team member participants

## Additional Indicators

While the above metrics focus on directly measurable benefits that come from our projects, Brazil's QualiÔnibus Working Group has an impact beyond these definitions. By focusing on incremental change of an entire transit system, the benefits are more broadly applied but harder to measure. The following indicators show the scope of the project.

Number of Working Group Cities:	<b>14</b>
Number of Satisfaction Survey Respondents:	<b>10,016</b>
Combined Daily Transit Trips:	<b>17.5 million</b>





## ABOUT FEDEX

At FedEx, we believe a connected world is a better world. We're also passionate about making connections that improve people's lives and make the world a better place. FedEx links over 90 percent of the global GDP and as our business grows, the link between emerging economies and the global marketplace strengthens. As urban growth continues to explode worldwide, the need for sustainable transit systems and solutions has never been more critical. That's why we value our relationship with WRI Ross Center. Together, we can help address pollution, congestion and driver and pedestrian safety issues. In the process, we can help connect urban residents with greater opportunities. For more information about other environmental and citizenship efforts, download the 2019 FedEx Global Citizenship Report at [csr.fedex.com](http://csr.fedex.com)



## ABOUT WRI

WRI is a global research organization that spans more than 60 countries, with international offices in Brazil, China, India, Indonesia, Mexico and the United States, regional offices in Ethiopia (for Africa) and the Netherlands (for Europe), and program offices in the Democratic Republic of Congo, Turkey and the United Kingdom. Our more than 1,000 experts and staff turn big ideas into action at the nexus of environment, economic opportunity and human well-being. More information at [www.wri.org](http://www.wri.org).



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## ABOUT WRI ROSS CENTER FOR SUSTAINABLE CITIES

WRI Ross Center for Sustainable Cities helps create accessible, equitable, healthy and resilient urban areas for people, businesses and the environment to thrive. Together with partners and collaborators, it enables more connected, compact and coordinated cities. The Center expands the transport and urban development expertise of the EMBARQ network to catalyze innovative solutions in other sectors, including water, buildings, land use and energy. It combines the research excellence of WRI with 15 years of on-the-ground impact through a network of more than 250 experts working from Brazil, China, Ethiopia, India, Mexico and Turkey to make cities around the world better places to live. More information at [www.wrirosscities.org](http://www.wrirosscities.org).

Web: [WRIRossCities.org](http://WRIRossCities.org)

Blog: [TheCityFix.com](http://TheCityFix.com)

Twitter: [Twitter.com/WRIRossCities](https://twitter.com/WRIRossCities)

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## PHOTO CREDITS

On the Cover: "A bus driver for BH Trans in Belo Horizonte, Brazil"  
Source: WRI Brasil; p.7 WRI Brasil; p.9 WRI Mexico; p.11 Cell Propulsion/WRI India; p. 13 WRI China; p. 15 WRI Ross Center for Sustainable Cities

