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Stories *that changed the* WORLD

Working in cities to turn innovative ideas
into clean, safe and accessible transport
systems around the world.



“Buses are the most democratic form of transport in a city,” says Madhav Pai, CEO of WRI India. “So we brought modern technology to public buses, and we created magic in cities.”

At the turn of the century, climate researchers increasingly focused on cities, home to almost half of the world's population and responsible for 70% of global greenhouse gas emissions. At WRI, the Climate team was exploring ways to tackle this problem, as well as reduce air pollution. “My partner in establishing EMBARQ was a man named Lee Schipper... and the joke Lee and I shared often was, ‘well, what do we know and how well do we know it?’” said Nancy Kete, Director of Climate, Energy and Pollution at World Resources Institute.

In 2002, Schipper and Kete replied to a Shell Foundation RFP on improving air quality in cities. Their pitch was a radical change from the usual way WRI worked: instead of researching and writing papers remotely from Washington, D.C., they would hire experts on the ground in cities worldwide where public transport could make a difference in reducing pollution.

“The main idea was that to have durable change, you cannot go make a small change and come out,” says Adriana Lobo, WRI's Managing Director, Global Presence and National Action, and formerly Director of EMBARQ Mexico. “It was really about: We have to start and stay in a place for a long time with local people so that they can really work.”

With \$7.5 million in funding, a pilot program was started in Mexico City. Claudia Schenbaum, Mexico's then Secretary of the Environment, had studied under Schipper at the University of California Santa Cruz. She connected EMBARQ with a local NGO and together they founded the Center for Sustainable Transport Mexico (CTS-Mexico) to work directly with local government. Mexico City was chosen because it had some of the world's worst urban air pollution and was clogged with congestion. But, critically, the city's leadership was willing to try something new—and that was the key.



Our Approach to Health and Road Safety, a report published in 2012



Looking closely at the success of a new Bus Rapid Transit (BRT) system in Bogotá, Colombia, EMBARQ research found that BRT systems cost 5-20 times less than light rail or metro lines. The cost was much easier to sell to city governments—and they were much faster to construct. Using existing roads to give buses priority meant they spent less time in traffic, and money saved on construction could be spent on upgrading the bus fleet to low-emissions models.

The other key takeaway was the need for strong alignment and coordination among all of the stakeholders in local government—crucial for a project of this size. “Shell Foundation was really invested in the project. They were partners in a way you don’t usually see. They gave us a lot of their business DNA,” says Lobo.

Another important milestone was the creation of Transforming Transportation: New Visions from Latin America, a seminar about sustainable transport in developing countries. Held during the annual Transportation Research Board meetings in Washington, D.C., it served to bring global experts together for a discussion—and announce the launch of EMBARQ.

“The first one we had, we had in WRI’s conference room, which probably holds 100 people. But even at the beginning, we were outgrowing that room,” remembered Kete.

In 2005, working with EMBARQ, Mexico City opened its first 20-kilometer Metrobus corridor. In its first year, the system carried 70 million passengers and reduced an estimated 47,000 tons of CO₂ annually. Crucially, it cut some riders’ daily commutes by half. By all measures, it was a resounding success.



EMBARQ staff at the 2006 retreat in Washington, DC

And other countries and cities were taking note. EMBARQ began expanding, with additional grants from the Shell Foundation and Caterpillar in 2006 to work in Brasil, China, India, Turkey and a regional office in Peru. EMBARQ's unique structure—a network of connected offices—ensured that research and knowledge were shared during yearly meetings, as well as informal collaborations, while local staff remained key to implementation. Momentum continued growing.

After completing an emissions inventory, CTS Turkey helped Istanbul open an 11-kilometer BRT system in 2007, later expanding to 41 kilometers. The next year, EMBARQ helped build a BRT in Arequipa, Peru, and a bus corridor in Indore, India.

EMBARQ also launched TheCityFix, a blog focused on collecting stories about sustainable urban transport and city development. Originally featuring EMBARQ staff, it was later expanded to include outside authors and experts sharing their ideas and experience worldwide, with monthly pageviews in the tens of thousands.

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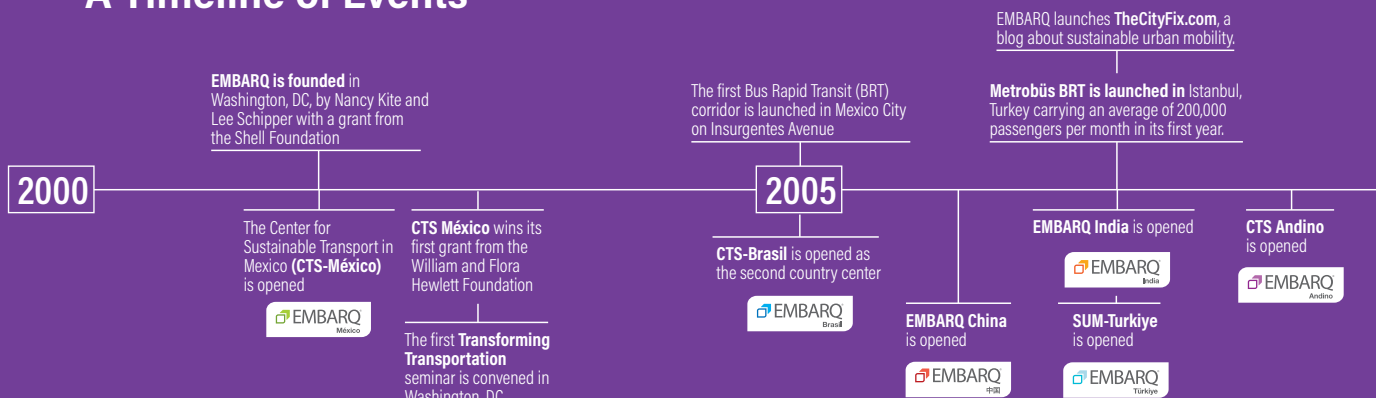
—Adriana Lobo

From the very beginning, engagement was a primary element of EMBARQ's strategy. Working closely with city planners, officials and engineers was crucial, not only in making progress locally but spreading the word about sustainable transport among their peers.

Márcio Lacerda was the mayor of Belo Horizonte who then became the president of the Front of Mayors in Brasil. “And...he said, why don't you work more with cities in Brasil? Because what you did in Belo Horizonte was fantastic,” remembers Toni Lindau, director of the WRI Brasil Ross Center for Sustainable Cities.

A huge opportunity arose in 2006 when Brasil became the sole candidate to host the 2014 FIFA World Cup. Among many

A Timeline of Events



challenges the country faced: Major cities needed to solve the problem of where to hold the games and how to get fans to and from them. At the same time, the country's government was making a serious bid to host the 2016 Summer Olympics.

"The Olympic Committee said, 'No city in the world can build a metro and do the Olympic Games at the same time,'" remembers Lindau. "And then Rio said, 'No, no, we'll do a BRT'. And then we helped the Brazilian Olympic Committee to prove that BRT could be a solution."

In 2007, the country was formally selected to host the World Cup. Funding was tight, even as the scope of work for CTS Brasil had just expanded beyond BRT systems. Other cities were also asking for help with integrated mobility plans, pedestrian improvements and road safety systems. The funding solution came from an unlikely but logical source: the rest of the EMBARQ network.

"We made a collective bet that if we had a major strike for the World Cup, it would help the whole network. So we decided to co-invest," says Lobo.

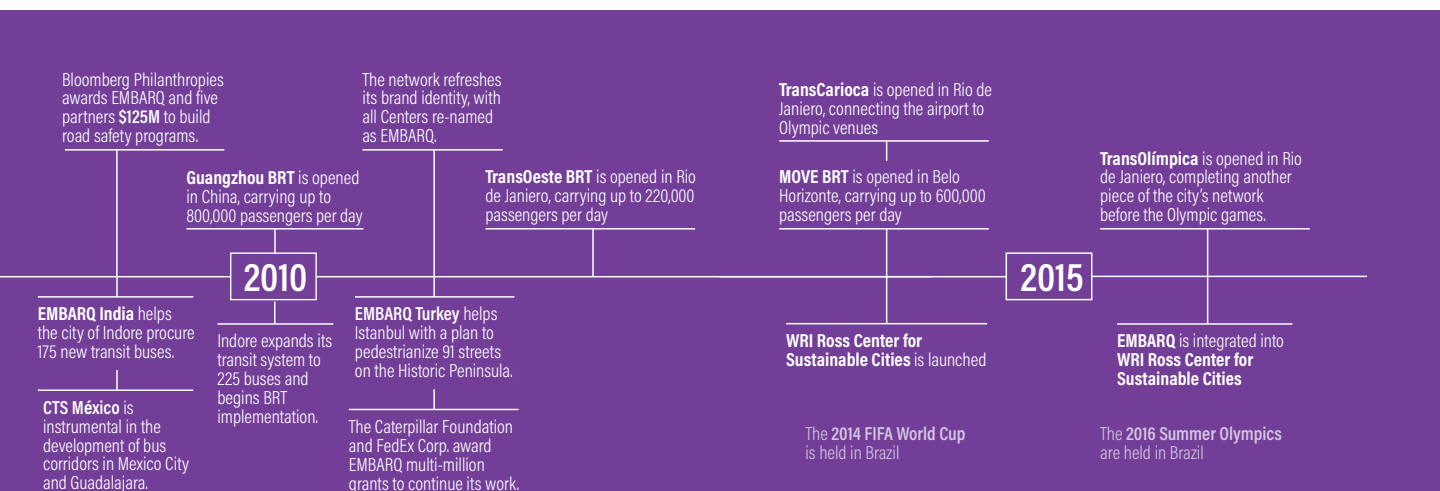
With that boost, the Brasil team was able to continue their work. And in 2009, Rio de Janeiro won the bid for



Bus Rapid Transit corridor in Istanbul, Turkey, opened in 2007



Bus Rapid Transit system in Guangzhou, China, completed in 2010





EMBARQ team at a program retreat in Cuernavaca, Mexico, 2009

the Summer Olympics too, defeating Chicago, Madrid and Tokyo—northern cities with mature transport systems. Both these honors created forcing mechanisms that helped move projects along. By creating immovable deadlines, they unlocked funding that otherwise could have been delayed or cancelled, while mobilizing the entire country to work together to solve challenges.

By the start of the 2014 World Cup, two BRT systems in Rio de Janeiro and Belo Horizonte were fully operational and three others were partially open. Two years later, for the Olympics, there were six open systems in four cities and another in partial operation.

EMBARQ's initial conception had focused mainly on air quality—how better public transport could help reduce pollution in congested cities. But research showed other benefits the network hadn't originally focused on, which soon became a huge part of the initiative's portfolio.

Lindau remembers, "Talking to Nancy in one of our very early retreats in Mexico, she said, 'Oh, you know, we are into this for climate!' And I told her, I would bet that the savings in time and road safety will be much

higher in monetary terms than the climate issues. We did some calculations and then found that the biggest savings were indeed not in climate emissions, but in time saved and lives saved." And the network dove into research on road safety and integrated mobility, expanding its portfolio of services.

At the same time, change was on the horizon. With Nancy Kete stepping down in 2010 and Lee Schipper's death in 2011, EMBARQ entered a new era.

In 2014, WRI was given a grant of \$31 million by Stephen M. Ross to build WRI Ross Center for



EMBARQ Brasil Director Toni Lindau and CTS-Mexico Director Adriana Lobo ride the Metrobus in Mexico City, 2005

Sustainable Cities, with the goal of transforming cities worldwide into sustainable, resilient, more equitable places to live. The decision was made to fold EMBARQ's portfolio into this new Cities program, leveraging the footprint it already maintained. For a vibrant network of offices with a strong collective identity, some in the network found this challenging. "We felt like we *were* EMBARQ," says Lobo.

The process of rebranding to WRI Ross Center took time, but with careful planning, it was rolled out successfully over a year. What had been EMBARQ offices in six countries became official WRI country offices, expanding to broaden the scope of research and outreach at a national level. And the DNA of EMBARQ—that collective effort—became the seed of larger WRI programs as they grew.

"We learned to share resources and technical teams," says Lindau. "Country work was built around the principle of collaboration."

EMBARQ's legacy at WRI remains strong today. Transforming Transportation is now co-hosted with the World Bank (previously with partners like IDB and the Asian Development Bank). It continues to convene worldwide experts to explore sustainable and equitable transport solutions for the developing world and has become one of the most important forums of its kind.

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—Toni Lindau

EMBARQ Director Holger Dalkmann speaking at the 2013 Transforming Transportation Summit





EMBARQ founder Lee Schipper



EMBARQ founder Nancy Kete speaks at the 2008 World Conference on City Development in Porto Allegre, Brasil

"That is one of the big changes that I see, based on who's participating today... the participation of the big global players, and the national players, and the recognition of transportation's contribution to global climate change," Kete reflected during a celebration of Schipper's legacy at Transforming Transportation in 2023.

Sustainable transport remains a key priority for sustainable cities, now joined by other urban priorities at WRI, including extreme heat, housing affordability, clean energy and nature-based infrastructure. But EMBARQ's emphasis on local action and engagement in priority geographies is a core way that WRI works to this day.

Stories That Changed the World is a look back at some of World Resources Institute's most challenging, impactful and inspiring initiatives of our 40+ year history.

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