



WORLD
RESOURCES | ROSS
INSTITUTE | CENTER

Transformative projects, igniting citywide change

WRI ROSS PRIZE FOR CITIES // 2019



An aerial photograph of a city, likely Bogotá, Colombia, showing a dense urban area with a mix of low-rise and high-rise buildings. The city is set against a backdrop of mountains under a cloudy sky. A large, semi-transparent yellow shape covers the right half of the image, serving as a background for the text.

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Welcome to the inaugural WRI Ross Prize for Cities.

WRI Ross Center for Sustainable Cities works with dozens of partners around the world to shift the ways cities are built, managed and enjoyed. We believe integrated actions can transform communities into vibrant economies where everyone breathes clean air, lives in healthy and safe environments, and has access to all the opportunities of urban life.

Our team of more than 250 technical staff located across the world partner directly with more than 100 cities to create long-term solutions for critical urban challenges. We know significant, positive, lasting change is possible.

But we also believe these efforts are too few, and we need to learn faster from their successes. As more people and economic activity are concentrated in cities and the global economic landscape continues to become more urban, we are seeing that incremental change is not enough to put cities on track towards sustainability, equity and prosperity. In many places, we need *transformational* change.

Through the WRI Ross Prize for Cities, we set out to identify the global leaders in urban transformation, celebrate them and amplify lessons learned so other cities can follow their lead. One outstanding project will receive \$250,000, made possible by the generous support of Stephen M. Ross.

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. Our world class jury of leading urban thinkers and practitioners then selected one finalist as the winner of the cash prize, inspired by its evidence-based, incisive and highly replicable approach to a major urban problem.

We believe each finalist is transformative in its own right, but in very different ways. What problems and approaches most resonate with you? What would help your neighborhood be more sustainable and vibrant? I invite you to learn more about the inaugural WRI Ross Prize in this overview and join the movement to build better cities for people and the planet.



A handwritten signature in black ink that reads "Ani Dasgupta". The signature is fluid and cursive.

Ani Dasgupta
Global Director
WRI Ross Center for Sustainable Cities

GOAL OF THE PRIZE

The WRI Ross Prize for Cities is the premier global award celebrating and spotlighting transformative urban change.

Transformative projects change the form and function of urban economies, environments and communities. They open our eyes to new possibilities by overcoming bottlenecks, leveraging investments, or offering new and scalable approaches to solving well-known problems. They impress hope and excitement. And their impact extends beyond the initial site or intervention, catalyzing positive change throughout a neighborhood or city.

We aim to...

INSPIRE a new sense of possibility

DISCOVER how big changes can start small

CONNECT the work we do and the change we want to see in the world

CREATE better cities by amplifying exemplary initiatives



193 SUBMISSIONS



120
cities

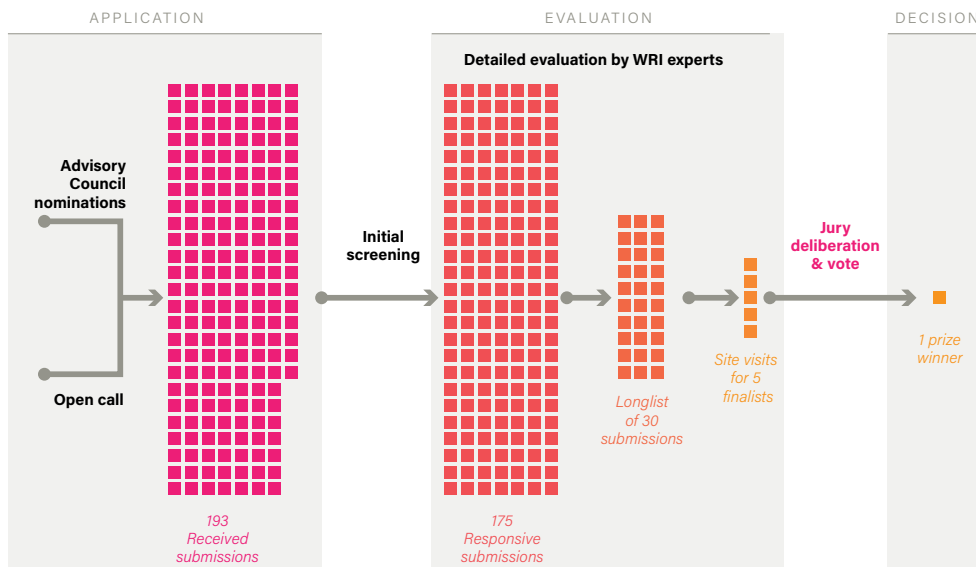
6
continents

41
countries

WHAT DOES A TRANSFORMATIVE PROJECT LOOK LIKE?

In the data we gathered, we looked for three main characteristics:

- **Did the project introduce big, bold ideas?** We looked for new approaches to pressing problems that shift the trajectory of an urban area to a more sustainable, equitable, and efficient course by challenging and redefining perceptions, values and paradigms.
- **Did the project have life-changing impact?** The simplest way to know if cities are changing for the better is to look for signs that quality of life is improving and residents are happier and more satisfied with their lives.
- **Did positive change have citywide ripple effects?** Since good ideas tend to travel, we looked for evidence of influence on institutional, legal, economic and physical features of municipalities, countries or the international dimension.



A WORLD CLASS JURY



Stephen M. Ross

Chairman of the Jury, Chairman
and Founder, Related Companies

Stephen M. Ross is the Chairman of the Jury and generously funds the WRI Ross Prize for Cities. In addition to his support for WRI Ross Center for Sustainable Cities, he is the Chairman and Founder of Related Companies and a noted philanthropist and business leader.



David Adjaye

Founder and Principal,
Adjaye Associates



Jean Liu

President, Didi Chuxing



Jim Umpleby

Chief Executive Officer
and Member of the
Board of Directors,
Caterpillar Inc.



Marinela Servitje

President, Sietecolores:
Interactive Ideas



Norman Foster

Founder and
Executive Chairman,
Foster + Partners



Sheela Patel

Founder and Director,
Society for the
Promotion of Area
Resource Centers



Rahul Mehrotra

Founder Principal,
RMA Architects



Yousef Al Otaiba

Ambassador to the United
States, United Arab
Emirates



Steve Strongin

Head of Global Investment
Research, Goldman Sachs



Frannie Léautier

Chief Operating Officer,
Eastern and Southern
Africa Trade and
Development Bank

2019 WRI ROSS PRIZE WINNER

SARSAI **(School Area Road Safety Assessments and Improvements)**

There are few aspirations as universal as the desire to build a better future for the next generation. It cuts across income, language and cultural differences. And, given the growing number of children growing up in cities, it is now an urban challenge.

In our increasingly complex world, SARSAI stood out for the *simplicity* of its approach to reversing the escalating crisis of road traffic deaths and injuries. SARSAI wields evidence to direct limited resources for maximum impact. It demonstrates how data can be used to build credibility and influence policymakers through measurable results.

The model is also *highly replicable*. In a short time, SARSAI has expanded from two schools in Dar es Salaam to more than 50 school areas in nine countries. From the initial assessment of the most dangerous areas of each city to picking specific interventions for each school, SARSAI shapes localized solutions around a common framework.

SARSAI has had an *outsized impact* on the schools and communities where it has been adopted. From physical infrastructure to a community of concerned parents, teachers, and local leaders, it builds a radius of safety around the most common daily journeys for children in more ways than one.

The elevation of children's experience in cities creates momentum for urban transformation on a much grander scale. Creating roads and public spaces that are safer and more accessible for school children creates cities that are better for everyone.

The selection by our jury of leading urban thinkers was the result of a deliberative and thoughtful process. Rooted in our desire to inspire change and connect with the world we live in, we asked them to consider a singular question: which of the finalists resonates most with you, as a symbol of transformative possibility right now?



JURORS' THOUGHTS:

SARSAI used data to convince communities and people in power about the effectiveness and importance of interventions that affect children. These are the tools that help governments make informed decisions.

The winning project in many ways exemplifies how local reality is, but also how universal the problems and the frame necessary to address those problems are.

Children and the poor are the ones brutalized by poor planning. SARSAI has created a consciousness that is very powerful. It's very visceral, emotional. It's about mortality, making it less brutal, giving people a quality of life.

Safety in the context of school is one of the underappreciated elements of the urban problem. People want to be educated. You need a school to do that. But you also need to be able to get to the school, and in many urban environments, that poses the single greatest difficulty, whether you're talking about Africa or you're talking about the United States or Europe.

SARSAI gives you so much to build upon for the future. This is about innovation. That's what will spread.

NI

ILANI
LANGO ZUMAFUNGUWA SAA 12:00 ASIBORI
ZUMAFUNGUWA SAA 12:30 JIOMI
BY UTAWALA.



OFISI YA RAIS-T



SHULE YA MSINGI
S.L.P 9043
DAR-ES-SALAAM
MOTO: ELIMU NI HAKI YA KILIMWI

AMISEMI

MIKUMI
5

ILAMTU

WINNER

SARSAI

(School Area Road Safety
Assessments and Improvements)



Location: **Dar es Salaam, Tanzania**

Population: **4.4 million**

THE PROBLEM

The lack of safe pedestrian routes in Dar es Salaam and other African cities means children in the region are twice as likely to die or be injured in road accidents than children globally. Every year, 1.35 million people die from road crashes. Pedestrians, cyclists and motorcyclists account for 80% of deaths in low and middle-income countries.

THE BIG IDEA

Create safer school zones in areas of high risk using fast-acting, low-cost and evidence-driven infrastructure, behavior, and policy changes that deliver quick wins and give policymakers a roadmap to safer cities for all road users.







Amend is a small nonprofit with offices in Ghana, Mozambique and Tanzania that uses SARSAI, an evidence-driven package of interventions that includes infrastructure improvements, behavioral education and advocacy, to decrease child road traffic injuries and deaths in Dar es Salaam and other fast-growing sub-Saharan African cities.

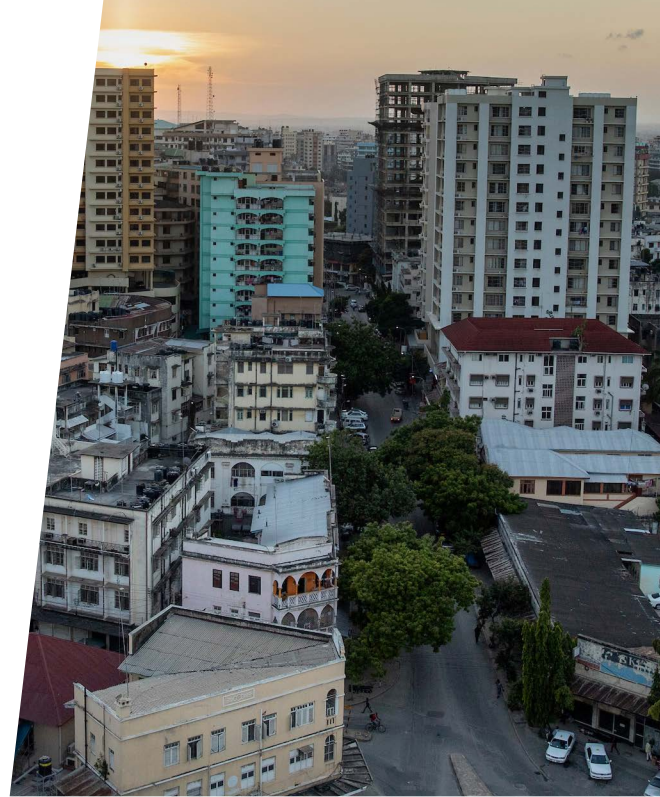
Dar es Salaam is one of Africa's fastest-growing cities, on track for 20 million residents by 2050. But it and other cities across the region are struggling to keep up with the safety and road infrastructure demands of rapidly growing and motorizing populations. Children must navigate a chaotic and dangerous mix of fast-moving vehicles, on foot, without safe pedestrian routes in order to get to school. Many are killed in road crashes, while injuries force others to miss school or leave them with life-long disabilities.

When Amend started in 2005, there was little attention paid to child road traffic injuries in the region and no reliable data on the magnitude of the problem. Amend's initial interventions, focused solely on education and behavior change, proved insufficient in reducing roadside crashes. In 2012, Amend launched SARSAI at two schools in Dar es Salaam, with support from the FIA Foundation. The team first identified the most at-risk schools using public data and community reporting. Then the Amend team, which included community relations experts and road engineers, developed tailored infrastructure modifications designed to reduce risk hot spots for each school area, including new footpaths, zebra crossings, bollards, speed humps, and routes that travel along less busy roads. At the same time, they taught the children at each school crucial safety practices.

Between 2013 and 2014, Amend expanded SARSAI to more schools in Dar es Salaam and built key relationships with local authorities, who approved the technical plans in each case. Community members – including teachers, parents and municipal engineers – also became active participants in SARSAI, from the benchmarking of injury rates to follow-up monitoring and educational courses.

Amend's partnership in 2015 with the U.S. Centers for Disease Control and Prevention helped cement the credibility of the approach. With the CDC's support, Amend carried out a population-based, randomized control study of 18 schools in Dar es Salaam, based on a sample size of more than 13,000 school-aged children. The study, published in the British Medical Journal in 2018, showed a 26% reduction in road traffic injuries at schools that received the intervention. After one year of study, SARSAI interventions were brought to the control group as well.

In 2017, following a \$1.7 million grant from the FIA Foundation and the Puma Energy Foundation, Amend began expanding SARSAI to other cities. It has now brought the program to more than 50 high-risk school areas in nine sub-Saharan African countries. In Dar es Salaam, Amend continues regular incident monitoring and retrofitting of high-risk schools while building capacity among public officials to embed children's safety measures into roads as they are built.





LIFE-CHANGING IMPACT

Fewer fatal and near-fatal traffic crashes among school children, who are now able to save their energy and focus for the classroom, and safer roads for other pedestrians, who are the majority of road users in Africa.

- Improved infrastructure in 26 schools areas in Dar es Salaam, covering more than 60% of the highest-risk schools.
- Study conducted with the U.S. Centers for Disease Control and Prevention in Dar es Salaam showed SARSAI reduced injury rates by 26% and cut traffic speeds in school zones by up to 60%. Across nine countries to date, SARSAI is estimated to prevent 500 child injury cases each year.
- In Dar es Salaam, approximately 38,000 primary school students have directly benefited.
- Increased the capacity of the Tanzania Rural and Urban Roads Agency, which has begun incorporating safe design principles into its projects, by working with its engineers.
- Impacts the communities surrounding the schools, drawing in participation from headmasters, teachers, students, parents, political representatives and municipal engineers, from early audit stages to continuing education, creating an active, concerned community.



RIPPLE EFFECTS

Cost-effective and replicable, SARSAI is yielding quick wins that save lives while laying the foundation for longer-term policy and institutional change by producing reliable evidence of change.

- SARSAI has spread beyond Dar es Salaam, improving infrastructure in eight more sub-Saharan African cities: Abidjan (Cote d'Ivoire), Accra (Ghana), Dakar (Senegal), Gaborone (Botswana), Lilongwe (Malawi), Lusaka (Zambia), Maputo (Mozambique), and Windhoek (Namibia). Workshops in Jamaica and Morocco suggest the approach can be replicated in more contexts as well.
- Assessment plus implementation of new infrastructure costs just \$25,000 per school.
- Impact goes beyond the numbers, helping children understand that their safety, mobility and freedom in the city matters. Children also internalize the importance of a safe environment and are encouraged to support road safety going forward.
- Currently working with the World Bank on the Tanzania Strategic Cities Project, which involves conducting SARSAI assessments and making recommendations before roads are built in eight cities, and on a rural roads project where Amend is assisting with community engagement.



Amend partners with the FIA Foundation to pilot the first SARSAI interventions at two schools in Dar es Salaam, reaching nearly 3,000 students, with a one-year, \$100,000 grant.

Amend partners with the U.S. Centers for Disease Control and Prevention to execute a two-year evaluation of SARSAI at 18 high-risk schools in Dar es Salaam. Study results validate SARSAI as the only known peer-reviewed approach that creates safer roads in sub-Saharan Africa.

2012

2014

2015

2017

Amend implements SARSAI at four additional schools and builds relationships with key child safety stakeholders in Tanzania.

FIA Foundation and the Puma Energy Foundation commit more than \$1.7 million to help replicate SARSAI in nine more African countries: Benin, Botswana, Côte d'Ivoire, Ghana, Malawi, Mozambique, Namibia, Senegal, and Zambia.



Amend begins working with the city of Accra, Ghana, on a pedestrian action plan and the Ghana National Road Safety Commission to write safe school-area infrastructure into a loan agreement with the World Bank.

Amend establishes a partnership with the office of the mayor of Lusaka, Zambia, to provide safe infrastructure around high-risk schools.

2017

2018

2018

2019

Amend conducts an internal study showing SARSAI reduces vehicle speeds in school areas by 22% in Dar es Salaam, adding to data on reducing the number and severity of road traffic injuries.

Amend partners with the World Bank for the Tanzania Strategic Cities Project, providing infrastructure oversight to eight cities and helping to incorporate safety considerations into the design of new roads.



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FINALIST

Eskişehir Urban Development Project



Location: Eskişehir, Turkey

Population: 830,000

THE PROBLEM

Congestion and pollution reached a breaking point, punctuated by natural disaster and post-industrial economic decline. Many cities worldwide struggle with declining industrial activity, including job loss, population shrinkage and declining livability.

THE BIG IDEA

Leverage natural and intellectual resources to redefine the city's narrative through interwoven investments in natural, physical and cultural infrastructure.







The Eskişehir Urban Development Project is a three-part investment package spearheaded by the Eskişehir Metropolitan Municipality. It is widely regarded as the catalyst for a remarkable citywide turnaround. Taking as an entry point accessibility for users with special needs, the elderly and young families, it's improved quality of life for a remarkable cross-section of the city.

A 20th-century industrial boom and rapid population growth drove Eskişehir into unmanaged expansion and traffic congestion. Industrial and domestic waste had turned its main waterway, the Porsuk River, into a foul-smelling, frequently flooding open sewer in the 1990s. By the time a 7.8 magnitude earthquake struck in 1999, industrial activity in Eskişehir had declined and left a city choked with environmental damage and vehicle traffic, with low quality of life and few prospects for change. The earthquake, which killed 37 people and caused extensive damage across the city, also exposed alarming decay of critical infrastructure, particularly the Porsuk's pedestrian and vehicle bridges.

Newly elected Mayor Yılmaz Büyükerşen seized this moment to rally the community around a new vision for Eskişehir. Through consultations with local universities, civil society groups, NGOs, elected officials, industry representatives and others, the administration identified key priorities and pursued an integrated program of redevelopment to rehabilitate the Porsuk River, implement a light rail system, and fix the city's wastewater infrastructure.

In 2001, despite an economic crisis in Turkey, the Eskişehir municipality managed to secure financing from the European Investment Bank, the Nordic Investment Bank

and the Dutch bank ABN AMRO. The mayor and his appointees formed a project delivery unit of technical, financial, engineering and accounting professionals who liaised between the municipality, the water and sewage administration, and the European Investment Bank.

They wasted no time getting to work. It took less than two years to construct the first line of Eskişehir's light rail system, EsTram. The municipality also pedestrianized two streets in the city center and improved access for users with special needs, the elderly, and young families via sidewalk and bridge redesigns and at-level boarding stations for the tram. Although both pedestrianization and the tram faced initial opposition by many residents, popular opinion quickly shifted after implementation. Subsequent extensions of both projects were driven by popular demand.

By 2009, the municipality had stabilized, renovated and strengthened the Porsuk riverbed, its irrigation canals, and pedestrian and vehicle bridges. After draining the river of toxic mud and debris, flood locks were installed to improve resilience to heavy rains. New sewage channels were set apart from the main river.

Finally, Mayor Büyükerşen led the Eskişehir Metropolitan Municipality in another series of public projects to greatly expand urban green space through a series of new parks and cultural areas in 2010, including the Sazova Science Art and Culture Park and Kentpark. Combined with the pedestrianization, transport and river work, these efforts created an interwoven set of natural and human-made infrastructure for the benefit of all residents.





LIFE-CHANGING IMPACT

Improved disaster resilience and access to economic opportunity and leisure for all residents, while significantly boosting local businesses.

- 13 km of Porsuk River bed rehabilitated, 9.5 km of irrigation canal renewed, 9 pedestrian bridges and 15 vehicle bridges rebuilt, strengthened or modernized.
- 16 km of light rail line built in first stage of the project, expanding to more than 39 km over two subsequent stages. An additional 22 km are planned.
- Property values around tram stops increased 200%.
- EsTram changed commuting patterns for more than 130,000 daily users and improved access to anchor institutions for all residents, including users with special needs, the elderly and young families.
- Domestic tourism increased 430%, international tourism, 820%; Sazova Science Art and Culture Park sees more than 1 million domestic visitors annually.



RIPPLE EFFECTS

Catalytic investments unlocked a virtuous cycle, changing residents' and visitors' perception of the city as a modern and bustling university town.

- Pedestrianization of streets alongside the Porsuk River and central business district has opened new opportunities for recreation and leisure; shop and home owners now request pedestrianization.
- Urban planning process expanded to a much broader interest group than ever before, including wheelchair users, and new principles of sustainable urban mobility and accessibility were codified.
- The restoration and establishment of parks along the Porsuk River, as well as the pedestrianization of its riverbanks, has led to a 215% increase in green space per city resident.
- The combined investment in nature, culture and technology has helped perceptions of the city evolve from its previous identity as a polluted, congested, industrial hub to a more modern and functional place that is contributing to a new vision of Turkish urbanism.



Yılmaz Büyükerşen elected mayor in March. In August, 7.8 magnitude earthquake claims 37 lives and destroys critical infrastructure.

1999

2000

Municipality begins consultations with key stakeholders to inform university-led special projects around wastewater, transport and green spaces. Participants include academics, civil society groups, NGOs, elected representatives, representatives of industry and the chamber of commerce.

2000

The European Investment Bank, Nordic Investment Bank and Dutch ABN AMRO bank express interest in a three-part Eskişehir Urban Development Project covering a light rail system, rehabilitation of the Porsuk River and a wastewater treatment plant.



River rehabilitation completed, including river bed stabilization, construction of irrigation canals, improved pedestrian and vehicle bridges, and flood control locks.

2004

Electric light rail system goes into operation, EsTram, connecting key anchor institutions (social security building, universities, opera house, hospital) and made fully accessible to wheelchairs and strollers.

2009

2014

New Transportation Master Plan goes into effect, the first in Turkey prepared according to the European Commission's Sustainable Urban Mobility Planning Principles.



FINALIST

Metrocable



Location: Medellín, Colombia

Population: 2.5 million

THE PROBLEM

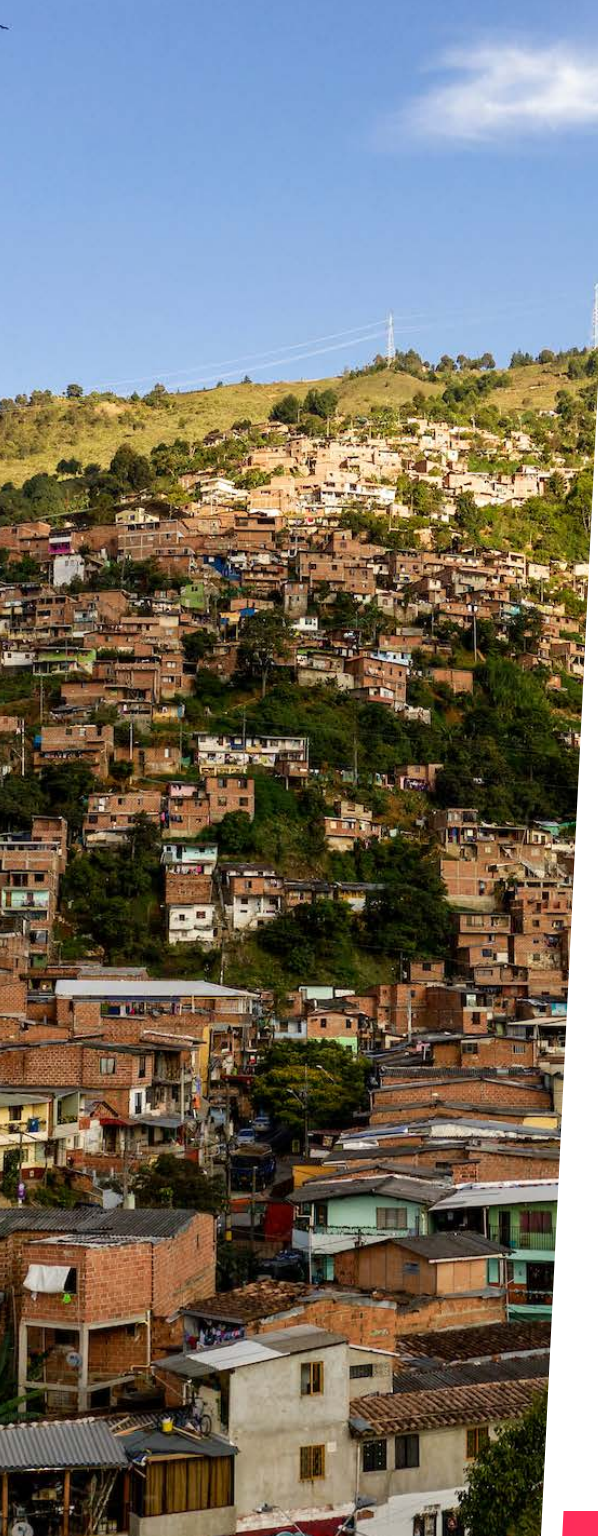
A drug trafficking crisis, rural-urban migration and economic decline fueled a large-scale breakdown of the rule of law in Medellín's low-income hillside peripheries. Globally, a quarter of the world's urban population lives in informal settlements.

THE BIG IDEA

Use an innovative transit solution to connect institutionally neglected and geographically isolated communities with the city center, establish public institutions, and undertake public space investments.







Medellín's Metrocable is the world's first aerial cable car fully integrated into a public transport system. Owned and operated by Metro de Medellín and supported by the Municipality of Medellín, the arrival of Metrocable's first line, Line K, is widely seen as a key turning point in Medellín's fortune.

Rapid industrialization propelled 20th-century Medellín into unmanaged and largely informal expansion, with settlements spreading up the slopes of the Aburra Valley. This expansion continued from the 1980s on, even as industry declined and the global drug trade stoked violence and lawlessness. By the mid-1990s, the city had reached a crisis point. Pervasive crime, heavy handed policing and disputes over land had eroded trust between residents of its hillside communities and the government.

Metro de Medellín and the municipality of Medellín first introduced the possibility of using an aerial cable car to better integrate hillside communities in a 1998 land use plan. With the election of Luis Perez as mayor in 2000, the idea of implementing Metrocable gained political momentum.

Metro de Medellín learned the importance of social outreach to build local buy-in and ownership during the construction of its initial metro rail system, which concluded in 1995. The first financial and technical pre-feasibility studies for Metrocable, in 2000, therefore provided an initial social and environmental assessment of the communities to be affected, including potential entry points for social outreach. Teams from Metro de Medellín mapped out the social fabric of neighborhoods, including how people traveled and moved, lived and associated with one another through churches and other community organizations.

Feasibility studies were concluded with positive results and shortly after Metro de Medellín and the municipality introduced the cable car in Medellín's Development Plan for 2001-2003, social outreach teams began building relationships and trust with local communities.

The municipality signed a cost-sharing agreement with Metro de Medellín in 2002 and awarded a public bid for construction in 2003. Metrocable launched more social programming around the project, including a short story contest and youth-targeted social activities that reached more than 3,000 children.

Construction of Line K progressed at a rapid pace. In order to boost acceptance, many community members were hired as construction workers and operations staff. As the launch approached in 2004, Metro de Medellín began a campaign to build a culture of Metrocable users who understood how to use the system responsibly, reaching 40,000 people.

In early 2004, the newly elected mayor, Sergio Fajardo, launched an area-based public investment project in the area where Line K was about to begin operation. The municipality invested in schools and youth recreation areas, affordable housing, business development centers, and the improvement of public spaces around station areas. This was a critical addition to cement the emerging turnaround of the hillside communities.

Since Line K began operations in July 2004, four additional Metrocable lines have opened, each one flanked by complementary municipal investments in public space. One more line is under construction.





LIFE-CHANGING IMPACT

Reduced crime rates, cut daily travel times, dropped the costs of commuting, and attracted new businesses and investments.

- Land values surrounding Line K stations increased up to 50%.
- Electric cable cars are estimated to avoid the use of more than 1.7 million gallons of diesel fuel each year.
- Investments around stations have opened an additional 40,000 square meters of public space for residents.
- Line K improved the daily commute of 150,000 residents, reducing travel times from an average of 90 minutes to an average of 30 minutes.
- The integration of Metrocable into the existing metro network reduced commuting costs 65% by eliminating double ticketing and made jobs and services in the downtown area much more accessible.



RIPPLE EFFECTS

Provided a powerful symbol of inclusion and integration of marginalized populations into the city and served as a model for other Latin American cities.

- Metrocable redefined residents' perspectives of their city, who belongs and where the boundaries lie. It increased social integration and strengthened the positive role of the state in the daily lives of previously marginalized residents.
- The Municipality of Medellín's decision-making process for development now explicitly calls for targeting areas of the city with low Human Development Indices with comprehensive investment packages that increase public space and access to key institutions such as banks, schools and libraries.
- Since Line K began operations, the Santo Domingo neighborhood saw a decline in the rate of homicides 66% larger than the city's average, from 188 per 100,000 inhabitants in 2003 to 30 in 2008, and recorded measurable increases in trust in the justice system and social cohesion.
- More than 35 new businesses were created in the area of Line K in the first three months of operation.
- Inspired similar transit investments in other cities throughout the country and region, including Bogotá, Manizales, Rio de Janeiro, Santo Domingo and La Paz.



An aerial tramway is proposed for the first time in a land use plan.

1998

Community outreach for Line K begins in the Santo Domingo neighborhood, chosen based on a study of spatial deprivation, and continues for two years, targeting social groups such as churches and associations.

2002

Metro de Medellín and the Municipality of Medellín sign a cost-sharing agreement to build Metrocable, with 45% and 55% respective contributions.

Sergio Fajardo is elected mayor and proposes the first area-based public investment project, which sets aside public resources for schools, a business education and affordable housing center, and 1,400 square meters of public space around Line K.

2004

Line K opens and within three months, property values increase, people started paying taxes and public institutions arrive.



Line J opens in another disinvested area of the city with a financial contribution from the municipality of almost 75% and an accompanying social infrastructure program.

2008

2016

2018

Line P begins construction, with municipality funding entire project.

Line H opens in another disinvested area of the city with a financial contribution from the municipality of almost 75% and an accompanying social infrastructure program.



FINALIST

SWaCH Pune Seva Sahakari Sanstha



Location: Pune, India

Population: 4 million

THE PROBLEM

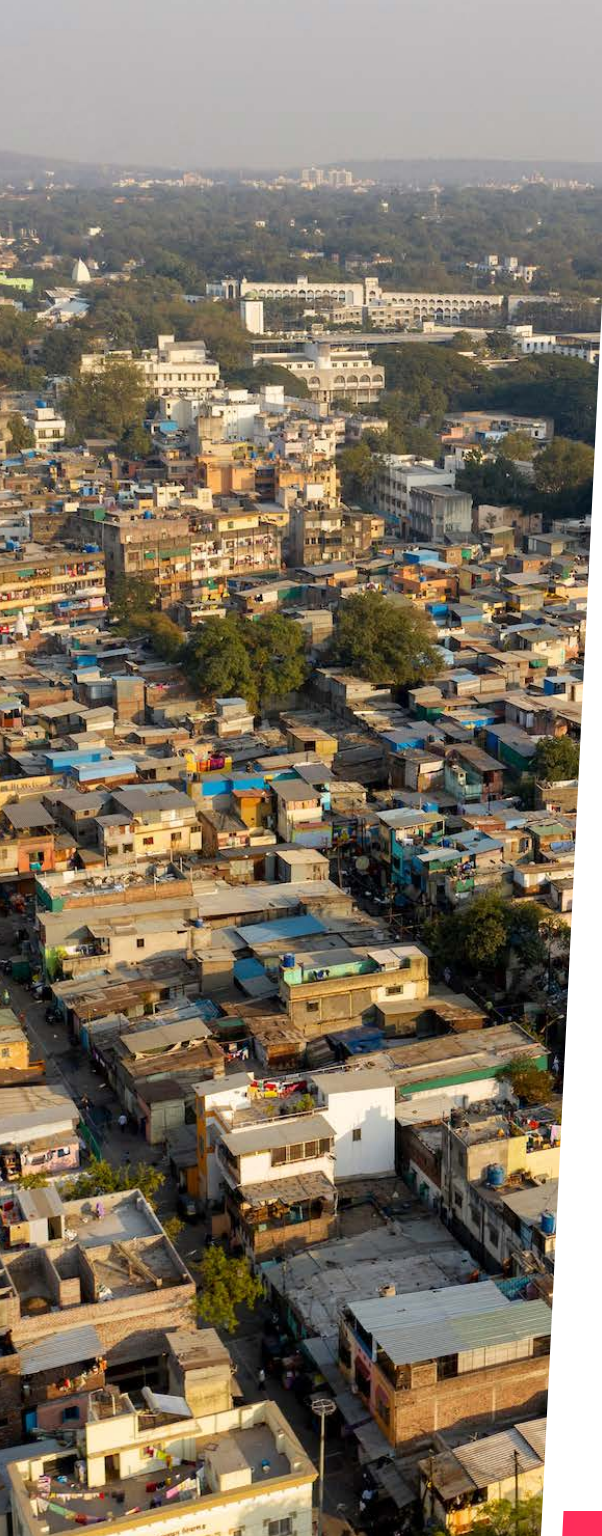
Open dumping of municipal solid waste created a growing public health crisis, while informal waste pickers faced harassment. Approximately 30-60% of all urban solid waste in developing countries is uncollected.

THE BIG IDEA

Turn the existing informal workforce into respected service providers to efficiently bridge a municipal service delivery gap while destigmatizing a marginalized population.







SWaCH Pune Seva Sahakari Sanstha (SWaCH) is a fully member-owned waste pickers' cooperative that counts more than 3,500 members, most of whom are women and Dalits, formerly known as "untouchables." The first of its kind in India, SWaCH is supported by the Pune Municipal Corporation and grew out of the local trade union for waste pickers, Kagad Kach Patra Kashtakari Panchayat (KKPKP).

Like many of India's fast-growing, industrializing cities, Pune faced a looming public health crisis in the 1990s. Open dumping of solid waste led to unsafe conditions, pests and excessive landfilling. In 2000, following a landmark public interest case in India's highest court, the national government mandated household waste segregation and door-to-door collection. But few cities were prepared to implement these changes. In Pune, door-to-door services covered only 7% of households.

The waste pickers of Pune, however, had an advantage. Though marginalized and frequently harassed like other waste pickers in India, they had organized into the KKPKP trade union in 1993. In 2005, with the Pune Municipal Corporation's backing, KKPKP launched a pilot program to begin testing door-to-door collection to meet the national law's mandate. In what would become SWaCH, 1,500 waste pickers moved out of landfills to begin providing direct services to 150,000 households a day.

The pilot was a success, sparking SWaCH's formal establishment in 2007. SWaCH signed its first agreement with the Pune Municipal Corporation in 2008: its members would extend door-to-door solid waste collection to at least 50% of Pune, and the city would fund administrative staff time, equipment and health benefits.

In the SWaCH model, pairs of members collect segregated waste from 150-400 households each, transferring recyclables and wet waste to city-run collection vehicles. Members make money through user fees collected directly from household and commercial clients and by selling recyclables to scrap dealers. Residents have been surprisingly willing to pay for doorstep services – an open question at the start of the program – and have begun segregating waste before it is collected by SWaCH workers.

In 2013, SWaCH workers began operating without municipal support while negotiating with the city over delayed health benefit payments and equipment. In 2016, SWaCH and the Pune Municipal Corporation signed a second agreement. The municipality agreed to repay money owed and to provide additional equipment, health insurance and educational support. Significantly, a “slum subsidy” made it more profitable for SWaCH workers to expand coverage to households that could otherwise not afford services.

Recently, amid conversations about the future of waste management and the informal economy in India more broadly, SWaCH has diversified its services by collecting new kinds of waste, such as e-waste and old clothes, and providing value-added services, such as composting waste at the source.

SWaCH has influenced policy beyond Pune. The national government passed legislation in 2016 requiring all cities to register waste pickers, provide them with identification cards, integrate them into formal waste management systems, and include them in decision-making. Elements of the SWaCH model have been replicated in Bangalore as well.





LIFE-CHANGING IMPACT

Improved livelihoods of informal workers, quality of life for residents and municipal service delivery for the city, including to slum households that previously had none.

- Members handle about 1,050 tons of the waste each day (half the city's total) and recycle 70,000 metric tonnes annually.
- Annually, SWaCH members earn Rs. 554.4 million (\$7.8 million) from user fees. Its 3,500 members represent over half of the informal waste workforce in Pune.
- SWaCH estimates it covers 80% of the city, more than 3.2 million people, including almost 600,000 slumdweller who otherwise would not receive any waste collection services.
- Operationalized the nationally mandated shift from open dumping to doorstep collection and segregation of solid waste. Pune now has one of the highest levels of solid waste segregation in India, nearly 70%.
- Relative to the cost of a centralized tax-funded waste collection model, SWaCH estimates saving the city approximately Rs. 931 million (\$13 million) in 2018, amounting to 1.5% of the total municipal budget and 27% of the Solid Waste Management Department's budget.






RIPPLE EFFECTS

Provided a pro-poor alternative to centralized waste collection that has not only changed perceptions of a major marginalized population but influenced local and national policy change.

- Contributed to a significant shift in perceptions of waste pickers being of little value to a recognition that they can be a real service profession in which a reciprocal relationship exists between provider and client.
- Approximately 15,750 family members indirectly benefit from increased household income by SWaCH members as well as municipally provided health care and improved social status.
- Partnership with the municipality led to the development of a separate Solid Waste Management Department that deals exclusively with waste management.
- Inspired national legislation on waste picking in 2016 requiring all Indian municipalities to register and provide identification cards to waste pickers, integrate them in formal waste management systems, and include them in decision-making.
- Elements of the door-to-door waste collection model are being replicated in Bangalore, and specific new services, such as composting at source, e-waste collection, old clothes reuse, scrap exchange, and repair/refurbishing, are being copied by other organizations in Pune and other Indian cities.

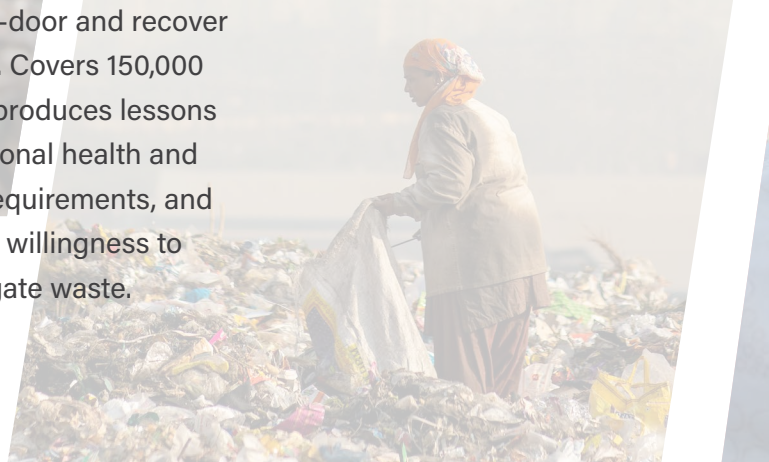


National government passes Municipal Solid Waste Management Rules, requiring segregation of waste, door-to-door collection and processing instead of dumping. Implementation is left to local governments.

2000


2005

2007



Memorandum of understanding signed with the Pune Municipal Corporation, officially establishing SWaCH in the city's formal solid waste management system.

KKPKP launches two-year pilot program with Pune Municipal Corporation to move waste pickers out of landfills to collect waste door-to-door and recover fees directly. Covers 150,000 households, produces lessons on occupational health and equipment requirements, and household willingness to segregate waste.



Inspired by SWaCH and with input from SWaCH staff, updated National Solid Waste Management Rules require all local governments to register and provide identification to waste pickers and include them in advisory bodies and other decision-making processes.

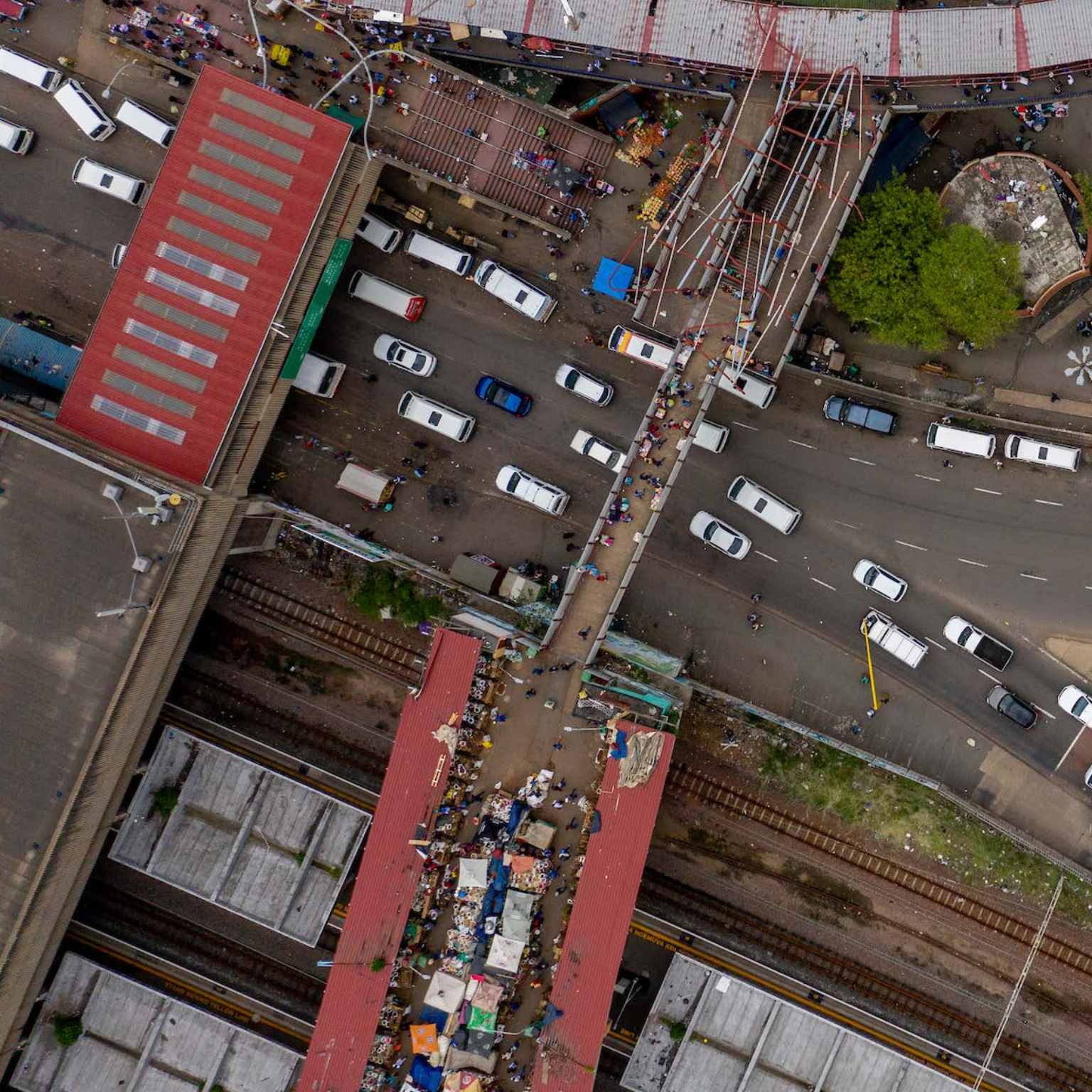
2013

SWaCH's first agreement with Pune Municipal Corporation ends and SWaCH workers continue operations without health benefits or equipment provision.

2016

2016

Second agreement signed with Pune Municipality Corporation, augmenting the user-fee model with municipally provided health benefits and equipment once again.





FINALIST

Warwick Junction



Location: Durban, South Africa

Population: 3.4 million

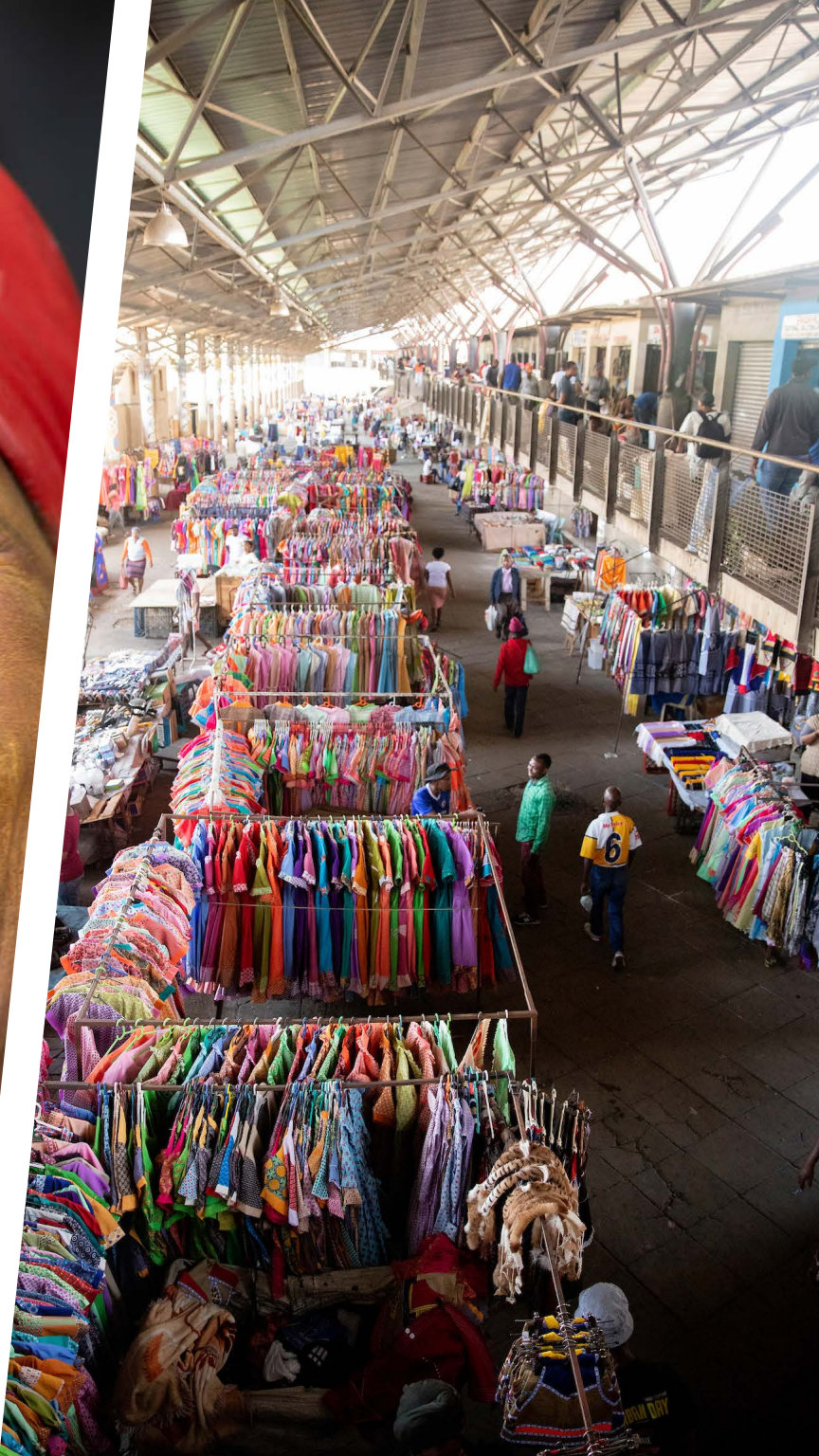
THE PROBLEM

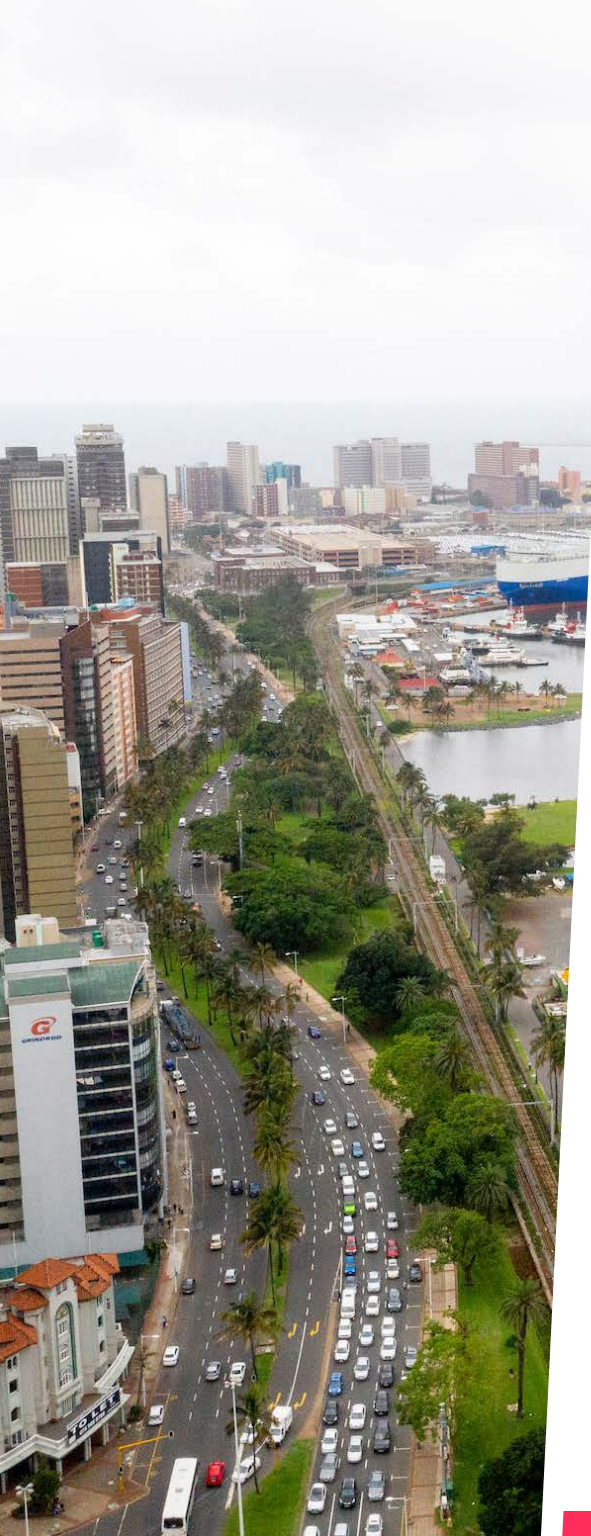
Durban's public transit node and market was a congested, crime-ridden and neglected no-go zone following years of disinvestment and marginalization of informal workers. Informal workers represent 50-80% of urban employment globally.

THE BIG IDEA

Use inclusive urban design, legal advocacy and community empowerment to bring together local public institutions and informal traders' associations in the co-creation of safe and accessible public spaces.







Each day, nearly half a million people flow through Warwick Junction, a central transit hub in inner-city Durban. Wedged between the train station, taxi ranks and three major roadways, nine historic markets offer commuters and shoppers wares ranging from fresh produce and prepared food to medicines, music and textiles.

Asiye eTafuleni (AeT), whose name translates from Zulu to “bring it to the table,” has been bridging the gap between informal workers and the eThekweni Municipality, which covers Durban, for over a decade. By combining research, advocacy, outreach and leadership training, it has improved public space in Warwick Junction and helped the markets survive threats of redevelopment.

Under apartheid planning, Warwick Junction was the black entrance to an all-white city. It was intentionally designed to discourage free-flowing movement and black informal traders faced harassment and displacement. From 1997-2000, AeT’s co-founders, Richard Dobson and Patric Ndlovu were involved as leading figures in the city’s Warwick Junction Urban Renewal Project. The project pioneered a new approach to managing the area that was a radical shift from previous tactics grounded in heavy policing. Working across municipal departments and involving informal workers, the city began investing in infrastructure upgrades in key parts of the hub. It set up a project office in the heart of the markets that also served as a space for traders to hold meetings among themselves and with municipal staff.

But by 2008, Dobson and Ndlovu saw a declining commitment by the municipality to continue the inclusive approach they had developed. They left government and founded AeT. Their first test came in late 2008, when the municipality announced its intention to replace one of Warwick Junction’s markets, the Early Morning Market,

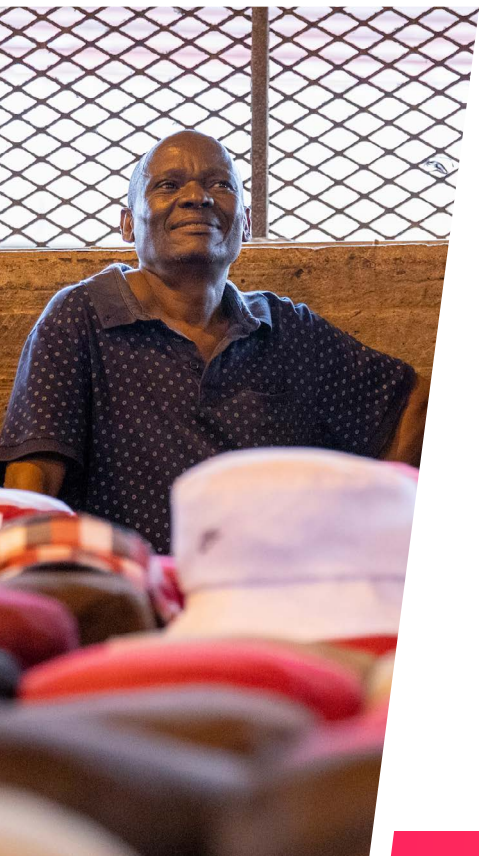
with a shopping mall in preparation for the 2010 World Cup. AeT supported informal worker protests in response. After months of traumatic and sometimes violent clashes to dislodge traders, as well as legal challenges by the Legal Resources Centre, supported by AeT, the municipality withdrew its plans. Losing the Early Morning Market would have affected thousands of livelihoods and the resistance effort took a significant toll on businesses as well.

After the successful resistance, AeT worked to bridge the gap between the local authority and informal workers, adapting their working style to meet the changing realities of the area and city administrations. Much of the work centered around facilitating collaborative redesigns of the area's infrastructure, from new roofing and safer cooking areas to public toilets and First Aid and recycling stations. AeT also initiated community empowerment projects to help traders advocate for their rights and participate in municipal decision-making processes.

As the World Cup approached, AeT launched "Markets of Warwick" tours, led by traders, to welcome tourists into the area as well as locals. Partnerships with international organizations and universities also contributed to destigmatizing Warwick and spreading lessons learned.

Challenging and influencing the municipality's public space policies has been another central part of AeT's work. Since 2009, a partnership with the Legal Resources Centre has allowed AeT to provide workers with pro-bono legal expertise and representation. In response to a joint suit filed by both organizations, the Durban High Court ruled in 2014 that impounding the goods of informal traders is unconstitutional, setting a landmark legal precedent that effectively legitimized vendors' activities in Warwick Junction.





LIFE-CHANGING IMPACT

Improved the livelihoods and capacities of informal workers and created a city that is more responsive to its residents and businesses – formal and informal.

- Improved working conditions directly benefit 6,000-8,000 informal traders, many of whom are women. On average, each trader has around seven dependents. Indirect benefits accrue to at least 40,000 additional people, including support workers (porters, wholesalers, growers, dependents), and a safe and secure transit hub benefits nearly half a million commuters, shoppers and visitors daily.
- The design of the area is now more open and accessible, better accommodating travelers as well as providing safer food preparation facilities, a pedestrian bridge, taxi ranks, storage facilities and dedicated areas for different kinds of trade.
- More than 15,000 tourists have participated in the Markets of Warwick tours since 2010, helping to reverse the area's old reputation of "crime and grime."
- The preservation of the Early Morning Market sent a powerful signal that the tide of privatization and modernization through redevelopment was not unstoppable. It saved an estimated 1,500 informal vendors' livelihoods, 4,500 supporting jobs and possibly up to 80,000 jobs along the agricultural value chain.
- Cardboard recyclers collect more than 30 tons of cardboard a day and individual revenues for sellers have increased 250% thanks to higher prices negotiated with the city.



RIPPLE EFFECTS

Empowered informal workers, legitimized street trading and influenced other cities where street markets and public spaces are a backbone of local commerce.

- Involvement in the markets' organizational structures has become routine for many traders, creating a culture of empowerment in which workers advocate for themselves and formally shape policy and development proposals. At the same time, traders have adapted their activities to comply with the municipality's regulations and programs to improve congestion and public space management.
- The eThekweni Municipality has invested significant funds in collaborative re-design efforts and infrastructure changes. Combined with policy changes and court rulings, street trading has become recognized as a protected commercial activity in Durban and key to a vibrant economy, especially for low-income populations (both traders and buyers).
- AeT's approach has been applied to other areas of Durban with informal workers, as well as influenced national projects in Johannesburg, Cape Town and the Port Elizabeth Municipality. Through various partnerships, AeT's influence has extended to global projects working alongside informal workers too.



Asiye eTafuleni founded by Patric Ndlovu and Richard Dobson, after years of working for the eThekweni Municipality.

In partnership with the Legal Resources Centre, AeT establishes a program to empower informal workers with knowledge about their rights and various legal skills to help them engage in formal planning processes.

eThekweni Municipality formally announces it will not challenge 2009 High Court ruling staying redevelopment plans for Early Morning Market.

2008

2009

2011

2012

eThekweni Municipality gives notice of intent to demolish the historic Early Morning Market and replace it with a shopping mall. AeT supports protests and redevelopment is paused after months of clashes and two legal challenges by the Legal Resources Centre, supported by AeT.

AeT facilitates a new roof design for the Herb Market. Through collaborative trial and error with the municipality, iterative architectural and urban design solutions are tested to respond to practical challenges faced by different trader groups.



In response to a suit filed by AeT and the Legal Resources Centre on behalf of an informal worker against the eThekweni Municipality, Durban's High Court hands down a landmark ruling that impounding street trader goods is unconstitutional.

New mealie cook stove designed and successfully piloted in collaboration with the Massachusetts Institute of Technology; reduces smoke emissions, increases safety and reduces fuel used.

2013

Following a three-year public competition, a cardboard recycling station is launched to provide amenities and equipment, streamline selling, and help negotiate higher prices.

2014**2017**

Participatory planning begun for new Bovine Head Market cooking facilities, the third iteration of new infrastructure for the market and an indication of the city's continued investment in the area.

2018

OUR VISION

By 2030, a network of iconic cities is shifting the ways in which productive, sustainable and equitable cities are built. They are showing that integrated actions can transform their communities into vibrant economies where everyone breathes clean air, lives in healthy and safe environments, and has access to all the opportunities of urban life.

ABOUT WRI ROSS CENTER FOR SUSTAINABLE CITIES

Established in 2014 with support from Stephen M. Ross Philanthropies, 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, 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 buildings, land use, energy and water. 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.



WRI Ross Center is part of the World Resources Institute. WRI's more than 800 staff and experts work in more than 60 countries with offices in Brazil, China, India, Indonesia, Mexico and the United States; regional hubs in Ethiopia and the Netherlands; and program offices in Istanbul, Kinshasa and London.





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