TERRA50

Alcaldía de Medellín
Urban Green Corridors

ORGANIZATION / INITIATIVE LEAD

Alcaldía de Medellín — Led by the Secretaría de Medio Ambiente, with the Joaquín Antonio Uribe Botanical Garden providing botanical expertise and training for citizen-gardeners.

TECHNICAL SOLUTION NAME

Corredores Verdes — Urban Green Corridors

HIGHLIGHT TITLE

A network of 30 green corridors cooling urban spaces by approximately 2°C while creating gardening jobs for vulnerable residents.

SHORT DESCRIPTION

Medellín's Green Corridors connect vegetation along roads and waterways to reduce urban heat, improve environmental conditions and support biodiversity. Launched in 2016, the programme combines trees and layered planting with the greening of existing infrastructure. This nature-based approach delivers cooling through shade and evapotranspiration while training and employing residents from disadvantaged communities.

EXTENDED DESCRIPTION

Rapid urban expansion replaced vegetation with concrete and asphalt across Medellín, intensifying heat and environmental pressures. Launched in 2016, Green Corridors addresses these challenges by connecting urban greenery along 18 roads and 12 waterways, turning heavily built-up spaces into climate-adaptation infrastructure.

The corridors combine low, medium and high vegetation, including trees, palms, shrubs and ground cover, to create shade and habitat. Planting links existing green spaces and extends to infrastructure such as bridges, metro stations and public buildings. Species selection and bioclimatic expertise guide a predominantly low-tech intervention.

Cooling results from shade, reduced surface heating and evapotranspiration. Vegetation also captures airborne particles and supports ecological connectivity. Reported temperature reductions of approximately 2°C in intervention areas illustrate how urban planting can improve thermal conditions without energy-intensive cooling equipment.

The Secretaría de Medio Ambiente leads the programme, supported by the Botanical Garden's technical expertise and gardener training. Maintenance teams include residents from vulnerable and displaced communities. This combination of ecological design, skills development and ongoing care connects climate adaptation with social inclusion.



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DEMONSTRATED METRICS

- 30 green corridors: 18 along roads and 12 along waterways
- Approximately 2°C reduction in local average temperatures reported within the first three years
- 70+ hectares of green space, according to the supplied information
- Approximately 20 km of shaded pedestrian and cycling routes
- Initial planting of approximately 120,000 plants and 12,500 trees

REAL IMPACT

Green Corridors demonstrates how roads and other built infrastructure can accommodate vegetation that improves thermal comfort and connects urban habitats. Interventions such as those along Avenida Oriental replace paved surfaces with gardens, bringing cooling closer to everyday journeys and public spaces.

The programme also creates opportunities for residents from disadvantaged backgrounds through training and employment in urban gardening. Maintenance becomes part of the solution, supporting both vegetation establishment and local skills.

Its broader contribution is to treat urban greenery as essential infrastructure for climate adaptation. Replication requires suitable planting, sustained maintenance and attention to social equity, including the risk that improvements to public space could increase pressure on lower-income residents.

IMPLEMENTATION LOCATION & DATE

Medellín, Colombia. Launched in 2016, with the main implementation phase during 2016–2019. Priority locations include Avenida Oriental and other heavily trafficked roads and waterways.

TECH LEVEL

Low Tech

COST OF THE SOLUTION

Reported establishment cost of approximately US$16.3 million, with annual maintenance of approximately US$625,000. Figures refer to the programme described in the supplied information.

MITIGATION / ADAPTATION

Adaptation

MAIN CATEGORY

Primary: Energy & Environment
Secondary: Infrastructure & Building; Living & Inclusion

BASE INFORMATION SOURCES

- C40 Knowledge Hub — Medellín's interconnected green corridors
- Alcaldía de Medellín — Corredores y muros verdes
- Ashden — Growing a cooler city
- Project information supplied for the Terra50 profile

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