



Transit Oriented Development NAMA in Colombia

Nationally Appropriate Mitigation Action (NAMA) for transformational urban development linking transport and land-use planning at the local level

Already a leader in implementing Bus Rapid Transit (BRT) systems, Colombia is now taking a more holistic approach to tackle traffic and greenhouse gas (GHG) emissions over the long-term. Through coordination of transport systems and land-use planning, integration with housing policy and inter-institutional cooperation which includes sub-national governments and the private sector, Colombia's Transit Oriented Development (TOD) Nationally Appropriate Mitigation Action (NAMA), now under implementation, is using climate funds to catalyze transformational urban development.

Background

Transport is the fastest growing sector in terms of energy consumption in Colombia, causing traffic, air pollution problems and increasing GHG emissions in many cities. The main driver is the rapid growth of private motor-vehicle use. The situation is aggravated, in part, because urban development has not been oriented towards public transport. The GHG inventories of several Colombian cities show that the transport sector accounts for 50% of their GHG emissions (e.g. Santiago de Cali and San Jerónimo de Montería). In terms of air pollution, in metropolitan regions such as Bogotá, mobile sources are responsible for more than 95% of carbon monoxide (CO) and nitrogen oxides (NOx) emissions.

Mass transit and non-motorized transport shares are decreasing. Many transit systems are not achieving the projected ridership and some are already operating below cost recovery levels. Some cities have established fare compensation funds to avoid fare increases that would make it unaffordable to the poor and less competitive compared to other transport modes. This scenario is undermining the sustainability of urban transport in Colombia.

Country	Colombia, with a focus on at least three cities.
Sector	Transport, Urban planning, Housing
Duration	March 2015 - 2019
Framework	This NAMA is financed by the Joint Germany-UK NAMA Facility with a budget of €14.7 million.
Coordinating entity	Board of the Centre for the Promotion of Transit-Oriented Development (CIUDAT)
Implementing agency	Financial implementation by Findeter (Colombian development bank); Technical implementation by Center for Clean Air Policy (CCAP)
Partners	National: Colombian Government Ministries (Ministry of Transport, Ministry of Environment, Housing and Territorial Development, National Planning Department (DNP), Ministry of Housing, City and Territory). Sub-national: Local Governments (e.g. Cali, Manizales, Medellín). Other: Private developers, university researchers and non-governmental organizations

International Policies

Colombia is a party to the United Nations Framework Convention on Climate Change (UNFCCC). It ratified the *Kyoto Protocol* in 2000 as a developing country without a binding target, and participates in the Clean Development Mechanism (CDM). Colombia has made no formal commitment to reduce emissions.

On behalf of:



In collaboration with:

National Policies

In 2002 the Government of Colombia adopted the *National Public Transport Policy*, which led to the implementation of Colombia's BRT systems, internationally recognized as a model for inexpensive and sustainable urban transport. Through this national policy, 15 Colombian cities received financial, institutional, and technical support to implement public transport systems. To date the national government invested \$4.5 billion USD in this policy. With local government co-financing, total public investment amounts to \$7.3 billion USD.

In 2011, the national government launched the *Colombian Low Carbon Development Strategy* (ECDBC), recognizing that although Colombia's GHG emissions are currently low relative to developed countries, projected economic growth scenarios suggest that emissions will grow significantly if no mitigation action is taken. Under the ECDBC framework, a *Mitigation Action Plan for the Transport Sector* was developed which includes the TOD NAMA as one of the priority actions. It merges the national policy objectives for both affordable housing and sustainable transport by enhancing the benefits of public investments in transit and leveraging funds for low-income housing. In 2012, Colombia approved a law on Public-Private Partnerships (PPP) to attract private investment for public interest development projects. The PPP law allows for proposals initiated by either the private or public sector. For privately-initiated proposals the public sector can finance up to 20% of total project investments.

Local Policies

Colombia's territory is divided administratively into 32 departments, which in turn are subdivided into over 1,100 municipalities. Almost every major city in Colombia is currently updating its land use master plan (POT), which will define the urban development and growth model implemented over the next 12 years. For example, the POT update of Bogotá, the capital city of Colombia, includes policies and rules to strengthen the link between land use and transportation planning. Several cities such as Bogotá, Medellín, Cali and Manizales have created special urban redevelopment entities (ERUs) to lead, promote and coordinate urban renewal projects. However, coordination of ERUs with the BRT transit agency, other local secretariats, and national entities is currently limited, pointing to the need for enhanced vertical integration for successful delivery of TOD districts.

Barriers to national implementation

Despite national and local efforts, a range of barriers to TOD implementation remain, including:

- Limited policy integration among sectors;
- Limited technical capacity at the local level for TOD projects and policies;
- Insufficient institutional coordination among public entities (national, regional, local) in interventions;
- Lack of continuity and inconsistent 'Rules of the Game';
- Limited public-private collaboration.

The TOD NAMA was designed to help address many of these most significant barriers.

Description of Activities

Transit Oriented Development focuses public and private investment around transit stations and corridors, in a process which is sensitive to community needs. TOD results in more compact development through high-density, mixed land use and human-scale design, locating facilities within walking distance of transit stations. Key features of TOD include: high-quality public spaces; variety of housing types and prices; frequent, reliable, fast and comfortable transit; and measures discouraging the use of private cars.

The Colombia TOD NAMA aims to reduce emissions, improve quality of life, promote social equity and economic prosperity by delivering high-quality TOD enhancement projects, blending low-income and market-rate housing with commercial uses to create vibrant neighborhoods.

The Center for Clean Air Policy (CCAP), a non-profit organization supporting NAMA initiatives around the world, led the development of the TOD NAMA in a process that lasted two years. Securing international financing, in November 2013, was a key milestone for the implementation of the NAMA.

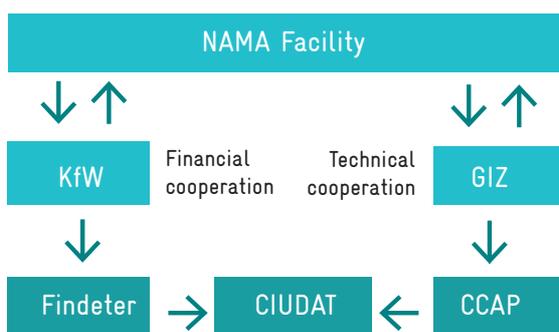
A specialized independent facility, housed within the Colombian national development bank (Findeter), is being created for the implementation of the NAMA: Centre for the Promotion of Transit-Oriented Development (CIU-DAT). Its core functions will be to ensure:

- *Technical and financial assistance* to catalytic transit neighbourhoods, including: project development; Public-Private Partnerships; finance and funding proposals; value capture mechanisms; TOD "pipeline" of sites, districts and corridors.
- *Policy coordination* analysis and advisory for integration of national and local policies on transportation, land use and housing.
- *Evaluation of results and benefits* including GHG mitigation, economic and social impact at the local level.
- *Development of a financial sustainability plan* to identify funding sources beyond the NAMA support.

The TOD NAMA will be managed under a trust fund scheme overseen by a Board responsible for strategic steering and definition of selection criteria for investment and technical assistance (e.g. competitive selection of TOD project proposals). The Board will include senior national government partners as well as Findeter and CCAP.

The establishment of CIUDAT's organizational and operational structure is currently ongoing, as is signing partnerships and defining the types of loans to be provided, guarantee mechanisms and a system for monitoring and evaluation of funded projects. The indicators used to assess the NAMA's implementation progress and its results will be selected by CIUDAT in consultation with the NAMA funders. Existing information systems can serve as a source of data, e.g. Information, Evaluation and Monitoring of Urban Transport System (SISSETU), operated by the Ministry of Transport and used in cities that develop BRT programs co-financed nationally. Sub-national data collection systems also exist, such as the mobility surveys conducted by the Bogotá District Department of Transportation. While there are a variety of reliable data sources in Colombia, it is necessary to strengthen institutions that promote primary information gathering in cities across the country which lack technical and financial resources (3% of budget).

Figure 1 – TOD NAMA operationalization diagram [Source: Adapted from presentation by the Colombian Ministry of Environment and Sustainable Development]



Business model and outcomes

The TOD NAMA will create a portfolio of at least three investment projects for Catalytic Transit Neighborhoods in Colombia's largest cities, to serve as demonstration cases to promote and replicate the TOD model to at least 20 other transit districts. The TOD NAMA aims to shift public investment and to create a project pipeline to attract and leverage additional domestic and international private funds. Potential opportunities for public and private investment include: Metro, bicycle and pedestrian infrastructure, public space, redevelopment, transformation of existing

station areas, redesign of car-oriented infrastructure and the improvement of informal settlements.

The total budget for the TOD NAMA is €14.7 million EUR over four years, to fund CIUDAT staff, technical consultants, and overhead. The expectations for replication of this model anticipate \$8 billion USD future investments in public transport and social housing. Findeter estimates that Bar-ranquilla could save \$1 billion USD in infrastructure costs by steering future development to TOD. Findeter's Sustainable Cities Initiative documented \$1.5 billion USD in infrastructure investment. According to various literature, public investments in TOD can attract up to 20 times their value in private investment. CIUDAT will design and structure advanced land-based mechanisms, such as land-based value capture, special tax districts, tax increment financing, business improvement districts and congestion/pollution charges. These are key instruments to create higher densities along transit corridors and to finance public transit and public infrastructure from capitalization of accessibility and urban renewal benefits.

TOD project proposals will be selected for technical and financial assistance through a competitive process. Evaluation criteria will include transformational potential, degree of readiness to allow early investments in infrastructure articulation with national programs, and financial viability. Nineteen potential locations have been identified so far, including: Bogotá (San Bernardo Metro and BRT station), Barranquilla (mixed-use Parque de la Paz), Cali (Corridor Verde), Medellín (private sector plan for Entre Orillas Metro station) and Manizales (pedestrian zones).

The TOD NAMA is expected to reduce growth in motor-vehicle use by 25% and mitigate 3.6 to 5.4 MMt CO₂eq annually, by 2040, due to changes in land use and travel patterns. These estimates consider the range of TOD performance and penetration presented in literature for North America and Latin America (20-50% VKT reduction). Additional assumptions include improvement of vehicle efficiency by 20% in all scenarios and continued significant investments in transit infrastructure and operations. The rise of private car ownership due to rising incomes is expected to continue despite TOD spreading throughout Colombia. The expected long-term co-benefits of the Colombian TOD NAMA include total infrastructure cost-savings due to TOD compact urban form, financial sustainability of mass transit systems, reduced traffic, better access to jobs and services, social inclusion, reduced household transportation costs, retail sales growth, more green spaces, better quality of life and improved competitiveness.

Lessons Learnt

As Local Governments are responsible for final investment decisions in their cities, the Colombian TOD NAMA, illustrates the importance of promoting vertical alignment between the different levels of government to obtain truly transformational, coherent and comprehensive action on the ground in what pertains to transit districts. The main lessons regarding vertical integration of policies are:

- Bring together the Ministries and National Entities with related mandates and ensure policy alignment;
- Build relationships, establish trust and dialogue between the different levels of government;
- Understand stakeholders' priorities and shape the NAMA to reflect these, including the current state of cities and their investment needs;
- Empower local authorities to ensure their commitment to national policies;
- Promote capacity building at the local level;
- Identify barriers in implementing the project and formulate alternative solutions to tackle them;
- Consider existing actions which result collaboration between national, local and private sector entities;
- Promote actions involving the private sector to significantly increase investment capability;

In addition, some lessons learnt regarding the specific NAMA process include:

- Clear responsibilities are needed for effective implementation of the NAMA;
- Integrate the NAMA into existing well-structured policies, such as the ECDBC;

- Ensure realistic and clear understanding of the expected GHG reduction and co-benefits;
- Define clear objectives and criteria for selection of projects that will be part of the NAMA.

Recommendations

Just as Bogotá's BRT served as a model for other Colombian and international cities, the TOD NAMA's demonstration projects and the investment facility's project-pipeline, together with a more integrated policy framework, will create conditions for the replication and up-scaling of TOD at local, regional and national level.

TOD is a compelling model that can be applied in many contexts to address locally-articulated needs. The potential for international replication of this NAMA is huge and lessons learned through this Colombian TOD NAMA can assist other nations in enhancing transit oriented development in their cities.

Sources & References

- CCAP (n.d.) Colombian TOD NAMA Concept note.
- CCAP, Colombia TOD NAMA for Cali, UNFCCC focus on mitigation; further information available from: <http://unfccc.int/files/focus/mitigation/application/pdf/ccap-colombia-tod-nama-for-cali.pdf>.
- CCAP, Transit-Oriented Development NAMA in Colombia information, available from: <http://ccap.org/programs/transit-oriented-development-nama-in-colombia/>.
- Colombia (2010). Second National Communication to the UNFCCC. Presentation by the Colombian Ministry of Environment and Sustainable Development at Workshop in Costa Rica in July 2014.
- Lugo, J.J.C. (2014). Designing a vertically-integrated, Transit Oriented NAMA. Case study.
- carbonn Climate Registry (n.d.). Available from: <http://carbonn.org/>.
- Alonso, M. et al. (2010). An urban emissions inventory for South America and its application in numerical modeling of atmospheric chemical composition at local and regional scales. *Atmospheric Environment* 44 (9): 5072-5083.



Published by

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn, Germany

T +49 228 44 60-0 (Bonn)
T +49 61 96 79-0 (Eschborn)

Dag-Hammarskjöld-Weg 1-5
65760 Eschborn, Germany

T +49 61 96 79-0
F +49 61 96 79-11 15

E info@giz.de
I www.giz.de

Contact

Maryke van Staden (ICLEI)
E maryke.van.staden@iclei.org

Authors:
Ana Marques (ICLEI)

Contributions & Review:
Igor Albuquerque (ICLEI)
Maryke van Staden (ICLEI)
Lara Esser (Ecofys)
Nicholas Harrison (Ecofys)
Steve Winkelman (CCAP)
Chuck Kooshian (CCAP)

Acknowledgements:
ICLEI wishes to thank CCAP and Paolo Cozzi for the collaboration offered on the development of this case.

All photos: © CCAP and Cali © Colombian Ministry of Transport
All graphs: © see references

Contact

Ministerio de Transporte
Ministerio de Ambiente, Vivienda y Desarrollo Territorial
Departamento Nacional de Planeación
Ministerio de Vivienda, Ciudad y Territorio

CCAP Headquarter
750 First Street, NE
Suite 940
Washington, DC 20002
T +202-408-9260
www.ccap.org

ICLEI South America Secretariat
Rua Ibirapu, 226; Vila Madalena
São Paulo-SP 05451-040, Brasil
T + 55-11-5084 3079
E iclei-sams@iclei.org
W www.iclei.org/sams