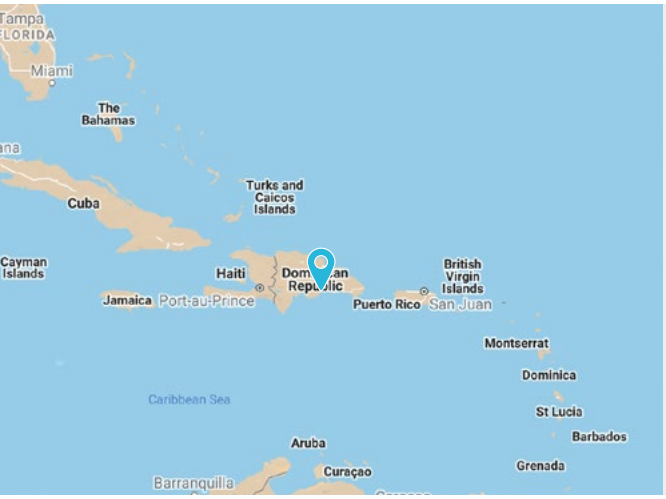
Santo Domingo, Dominican Republic

Partner city

Status of the project: completed pilot project



Basic Information

Population: 3.66 Million

Urban area: 1,300 km²

Motorization rate: 155.5 vehicles per 1000 inhabitants

Transport emissions per capita: 128 g CO_2eq

GDP per capita: USD 9,700

Critical mobility challenges	The SUMP in a nutshell **Selected SUMP Measures** Total plan $ 2.6 billion for urban mobility, from which $1.25 billion already financed	Projected SUMP impact in 2030
Only 10% of the population has access to formal public transport	**$ 1.8 billion** to build a public transport offer with over. From which: • **$ 1 billion** to extend and improve the metro network • **$ 763 million** for BRT, tramway and buses • Improvement of attractivity, inclusivity and communication of public transport	• Annual greenhouse gas emissions reduced by 20% in 2030 • Increase access to formal public transport from 10% to 43% of the population of Gran Santo Domingo • Increased modal share of all public transports combined from 36% to 44% • 110 km of mass rapid transit lines
Predominance of private cars and informal transport services	• $ 656 million for improved roads and streets • Modernisation policies for private and public transport vehicles	
Transport inequality: very poor conditions of transport for users without a private car	• **$ 47 million** for non-motorised transport infrastructure and a green corridor along the river • **€ 15 million** for a bike-sharing system • Social tariff policy	• 150 km of new or improved cycle lanes • 150 km of new or improved sidewalk • Improved affordability of public transport
Wide variety of non-integrated transport services	• Integrated tariff policy	• Leading role of the **new transport authority INTRANT**

Key facts

City, Country	Santo Domingo, Dominican Republic
Population	3.4 million
Land area	1,300 km^2
GDP per capita	USD 9,700
Baseline motorization rate[1]	155.5 vehicles per 1000 inhabitants
Annual transport emissions per capita[2]	128 g CO_{2eq}
Local Partner (organization)	Instituto Nacional de Transporte Terrestre (INTRANT)
Implementing partners	Agence Française de Developpement (AFD)
Donors supporting technical assistance for SUMP	Agence Française de Developpement (AFD), European Union (EU), Inter-American Development Bank
Amount in technical assistance	~ 550,000 USD
SUMP Implementation timeline	• Joined MobiliseYourCity in June 2017 • MobiliseDays in October 2017 • Start of SUMP in March 2018 • SUMP completed and approved in September 2019
SUMP Vision	An integrated approach to improve access to sustainable mobility services and socioeconomic opportunities for all citizens by integrating urban and transport planning, enhancing sustainable transport modes, and strengthening institutional, technical, and financial capacities of local transport authorities.
Key expected results (GHG, modal share and access)	Compared to 2018, in a SUMP scenario by 2030 Santo Domingo can expect to • Increase access to public transportation to 43% of Santo Domingo citizens from 10% • Increase total trips taken by public transport to 44% from 36% • Reduce GHG emissions by 30% compared to a business as usual (no SUMP)
Total SUMP Investment Requirement	USD 2.6 billion **Mass transit (CAPEX + OPEX - annual)** • 2018 (Baseline): 60 • 2023 (SUMP): 64 • 2025 (SUMP): 160 • 2030 (SUMP): 200

1 For comparison with motorisation rates in European capital cities, Berlin has a motorisation rate of 330 car per 1000 inhabitants, and other capital cities in Austria, Belgium, Denmark, France, Hungary, Ireland and the Netherlands have a motorisation rate under 450 cars per 1000 inhabitants. Source: Eurostat Regional Yearbook 2020.

2 For comparison, the annual transport (except air travel) emissions per capita in Germany are 1.61 tC02eq. Source: Die Umweltwirtschaft in Deutschland: Entwicklung, Struktur und internationale Wettbewerbsfähigkeit. www.umweltbundesamt.de

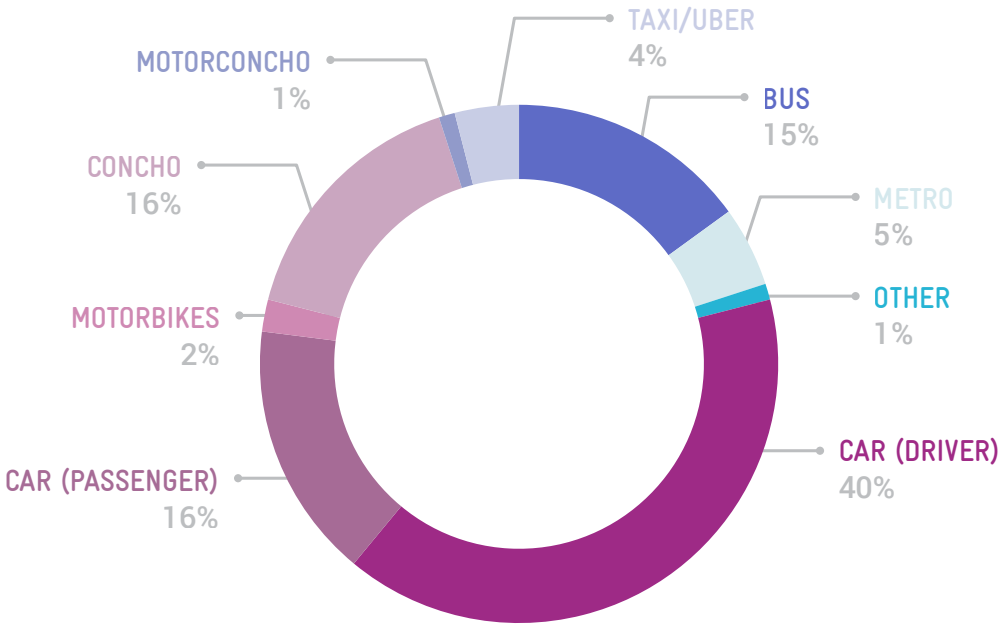
Diagnosis of urban mobility in Santo Domingo

Existing Mobility and transport services

Located in the Caribbean region, Santo Domingo is the administrative, economic, and political capital of the Dominican Republic. With a population estimated at more than 3.5 million inhabitants, representing one-third of the total country population, and with a projection of 4 million in 2030, Santo Domingo is a dynamic fast-growing city.

The current system of transportation in the City of Santo Domingo has been mostly the result of historically unregulated, uneven, and rapid urbanization. The results are vastly different levels of service, socio-economic activities, and quality of life across the city's municipalities. The starkest differences can be observed between the city centre – the 'National District' – and its periphery, the latter being particularly affected by the lack of public services, including formal public transport.

This development pathway has fostered a transport system that is mainly based on motorized individual transport, with little consideration of public spaces and pedestrians and a nearly complete disregard for cyclists. Currently, motorization rates range from 40 to 60 per cent depending on the municipality. Additionally, the high urban density in the National District and the very narrow main roads in the peripheral municipalities heavily constrains the ability to expand public spaces and to repurpose current roads for mass rapid transit services.

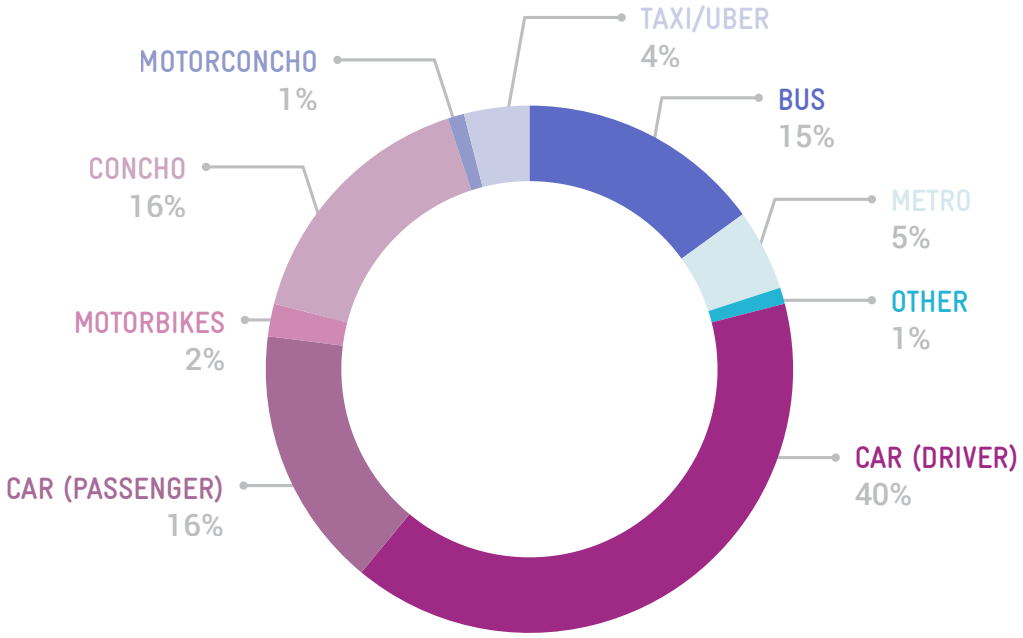


Graph 1: Modal share in Santo Domingo

Public Transport in the city comprises a wide variety of formal and informal services. The formal system comprises 2 metro lines, 1 aerial tramway line and 11 bus lines, the latter being serviced by a relatively small fleet of 160 buses operated by a state-owned bus company. The informal services are constituted by 3,000 mini- and microbuses and 16,000 informal taxis (so-called 'conchos') that operate along 84 and 114 fixed lines, respectively. These numbers reveal the predominance of informal over formal transport: 14% of total trips are made with conchos, 13% with buses and 9% with the metro.

Social, environmental, and economic aspects.

The prevalence of informal transport, together with high motorization rates, means that mobility is highly fragmented and atomized. This not only results in high congestion and long commuting times (>1 hour/day). Informal transport services are also characterized for being uncomfortable and insecure. The inferior quality of service is partly compensated by cheaper fares. However, because fare policy lies at the hands of informal transport associations, they may abuse this power to set fares at unreasonably high levels. Self-regulation has also resulted in low-quality standards in terms of a deteriorating vehicle fleet (75% of the vehicles are more than 15 years old) and under-qualified drivers. These factors contribute to both high levels of traffic accidents, air pollution and GHG emissions. Consequently, informal taxis and private cars account for the highest share of the sector's GHG emissions, accounting for 16% and 56% of total emissions, respectively.



Graph 2: GHG emissions by transport mode

Mobility is heavily influenced by gender. On average, men make 0.5 more trips than women a day. This is explained partly by the fact that 40% of men are employed, whereas only 26% of women have a full-time job and the other 25% stay at home.

Institutional and financial situation

Until the passing of Law 63-17 in 2017 the institutional landscape was equally characterized by a high degree of fragmentation and low regulatory and enforcement capacities of public authorities which allowed for the mostly unregulated development of public transport in Santo Domingo.

Since 2017, INTRANT has been established as the national road transport authority with the purpose of centralizing all regulatory and decision-making competencies regarding public transport. Among its central tasks, INTRANT is responsible for regulating and formalizing public transport by establishing minimum service and quality standards as a precondition for licences, centralizing fare policy and promoting the corporatization of informal operators in order to facilitate their participation in the integrated public transport system that is currently under development.

Despite the creation of INTRANT, the financial landscape is still fragmented at the national level across various ministries and very limited at the municipal level, which makes the latter dependent on the former. It is expected that INTRANT will help channel, manage, and leverage financial resources and improve coordination among central stakeholders.

The SUMP preparation process and stakeholder involvement

Several participatory formats were selected for stakeholder involvement.

- Steering committee to communicate the progress of the SUMP, discuss and decide on political decisions.
- Bilateral meetings to present and discuss technical and political decisions with municipalities and ministries.
- Focal groups to work on topics selected by INTRANT (public space with neighbourhood committees; school transport with educational institutions and parents).
- Face-to-face interviews and working tables to enhance knowledge of specific sectors (logistics) or geographic areas (municipalities).

Vision and goals

Strategic Vision: An integrated approach to improve access to sustainable mobility services and socioeconomic opportunities for all citizens by integrating urban and transport planning, enhancing sustainable transport modes, and strengthening institutional, technical, and financial capacities of local transport authorities

SUMP Goals and targets

- Develop a comprehensive and integrated transport network that responds to the different realities of the constituting municipalities and the increasing demand for mobility.
- Guarantee equal access to the population as a whole and (re-)establish connectivity in areas affected by natural and infrastructural barriers.
- Promote the use of sustainable modes of transport (collective and active) and enhance the public transport network, improve, and expand walking and cycling infrastructure and integrate urban and transport planning
- Align and strengthen institutional, technical, and financial conditions for the implementation of a sustainable mobility system

Test scenarios and selected scenario

Three specific scenarios were defined in order to assess the impact of the SUMP, each one developed with a different level of ambition.

- Baseline scenario: no SUMP implementation takes place, but existing laws and regulations are implemented. These include organizing and regulating the public transport network, enhancing the metro and aerial tramway systems, developing a vehicle modernization program for buses and informal services, among others.
- Central scenario: this scenario builds on the baseline but assumes additional measures are implemented, such as enhancing road infrastructure, integrating transport modes, increasing accessibility, creating an investment fund for public transport, and achieving 100% modernization of the current fleet.
- Ambitious scenario: this scenario includes additional milestones by factoring in the establishment of a robust financial system with a wide variety of financing sources and instruments (incl. congestion charging and property tax), the inclusion of transport demand management measures, promotion of active and collective transport modes, and the creation of additional incentives to companies and individuals to shift to sustainable transport modes.

The ambitious scenario was selected by INTRANT as the basis for the subsequent definition and selection of measures. The measures selected and the expected impacts of the ambitious scenario are presented in the following sections.

The city of Santo Domingo has opted for the ambitious scenario.

Key SUMP measures

Measures	Cost estimates (million USD)	Proposed Financing Source	Implementation schedule (year)
Physical (Infrastructure, rolling stock, etc.)			
Metro Lines 1 & 2: Increase passenger capacity	480	OPRET[3], donors (AFD)	2019-2024
Metro Line 2: Line extension	564	MOPC[4], donors	2025-2030
Construction of 5 BRT or LRT corridors	603	MOPC, donors	2021-2025
Construction of 4 aerial tramway lines	159	MOPC, donors	2021-2030
Creation of 5 express busway lines	1,51	MOPC, donors	2019-2030
Infrastructural improvement of intermunicipal networks	606	MOPC	Until 2025
Infrastructural improvement of internal municipal networks	50	MOPC	Until 2023
Improvement and expansion of sidewalks and cycling lanes	42	MOPC, municipalities	Until 2023
Integration of public transport modes	0,3	INTRANT	Until 2020
Implement a public bike-sharing system	15	MOPC, municipalities	Until 2030
Develop a 'green' corridor along the river basin	5	Municipalities, MOPC	Until 2025
Provide parking areas in port zones	0,3	AUPORDOM	Until 2023
Technical (studies, plans, designs, etc.)			
Design of secondary (complementary) bus network	0,3	INTRANT	2029-2030
Study on school transport services	0,3	INTRANT	2021-2023
Studies on improvement of transport demand management	1	INTRANT	2021-2023
Improve access to persons with disabilities	0,6	INTRANT, MOPC, municipalities, operators	Until 2023
Improve image and attractiveness of bus system	20	Municipalities, MOPC, operators	Until 2023
Improve communications of public transport services for users	0,6	INTRANT, donors	Until 2023
Integrate city-port interface management in national and local planning	0,3	AUPORDOM[5]	Until 2025
Implement merchandise delivery and pick-up plan in port areas	0,3	AUPORDOM	Until 2023
Studies to support urban and transport planning integration	0,6	INTRANT, municipalities	Until 2025
Policy & regulation			
Integrated tariff policy	0,6	INTRANT, operators, government	Until 2025
Social tariff policy	0,6	INTRANT, operators, government	Until 2025
Transport demand management policy	0,6	INTRANT	Until 2023
Private vehicle fleet modernization policy	0,3	INTRANT, Ministry of finance	Until 2023
Bus fleet modernization policy		operators	Until 2023
Parking policy	0,6	INTRANT, municipalities, MOPC	Until 2030
Regulation of HDV transit	0,3	INTRANT	Until 2023
Total cost	**2.556,11**		

3 National transport planning authority (Oficina para el Reordenamiento del Transporte)

4 Ministry of public works and communications

5 National port authority

Expected results and impact

Impact Area	Expected Impact
GHG emission (SDG 11)	Yearly reduction of GHG emissions relative to 2018 (baseline year) • 2023: -4% • 2025: -7% • 2030: - 20%
Accessibility (SDG 11)	Percentage of the total population with access to public transport • 2018 (baseline): 10% • 2023: 25% • 2025: 36% • 2030: 43%
Air pollution (SDG 11)	Not quantified
Modal share	Percentage of total trips being realized with Public Transport • 2018 (baseline): 36% • 2023: 39% • 2025: 41% • 2030: 44%
Road safety (SDG 3)	Not quantified
Mobilised finance (SDG 17)	Leveraged international finance • EU-CIF: 10 M€ (secured, until 2023) Associated international and domestic investments • AFD: 436 M€ (planned, until 2030) • Domestic finance and AFD: 245 M€ (secured loan) • Domestic finance and AFD: 590 M€ (planned loan)
Infrastructure and assets with committed financing (SDG 9)	New roads to be built by 2030 • KM of sidewalks: 150 km • KM of cycle lanes: 150 km • KM of mass rapid transit lines: 109,3 km
Expected institutional impact	The recently created road transport authority, INTRANT, will reduce institutional fragmentation by centralizing regulatory and planning functions. This will contribute to improved cooperation between the sector's strategic, tactical, and operational levels. The leading role of INTRANT in the development and implementation of the SUMP will help channel and leverage additional financial resources from private, public and international stakeholders for the implementation phase. Not only is the new institutional arrangement in the sector a necessary step for building capacity and rationalizing authority. Moreover, the SUMP process offers itself as a great learning opportunity.

Lessons learned

The importance of a leading transport authority

The creation of a state-level transport authority opens a new perspective for urban mobility governance and management. The recently created road transport authority, INTRANT, will reduce institutional fragmentation by centralizing regulatory and planning functions. This will contribute to improved cooperation between the sector's strategic, tactical, and operational levels.

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A radical change in priorities

Santo Domingo's SUMP may serve as a reminder of an indisputable fact: a sustainable, attractive, accessible, and safe transport system can only be realized by an enabling physical infrastructure that prioritises public and active transport. The city's SUMP is an example of transport planning done right. As the saying goes, "if you plan for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places".

Progress on implementation

Following the formulation of Santo Domingo SUMP, the implementation was started. The European Union supports the SUMP implementation through the Caribbean Investment Facility and technical assistance implemented by the AFD for 10 million euros. The project is known as Assistance for the Implementation of the Sustainable Urban Mobility Plan (AISUMP). It consists of two main components:

1. the reinforcement of service capacity related to the National Urban Mobility Plan in the Dominican Republic focused on non-motorised transport, public transit, smart mobility and institutional strengthening; and
2. the implementation of the SUMP from Gran Santo Domingo with pre- or feasibility studies and pilot projects.

This technical assistance is provided to INTRANT for four years. It aims at supporting the implementation of the SUMP actions, tender processes, overseeing contract execution and at reinforcing technical capacities. These efforts aid the city in transitioning between the SUMP planning process and the implementation phase.

Prioritisation of SUMP projects

While the SUMP provides a general overview of the vision of urban mobility in the city, the AISUMP defines concrete actions in the short term to advance implementation. This mainly involves transitioning from SUMP measures to project preparation. In Santo Domingo's case, early SUMP projects include the transformation of the public transport system, electromobility deployment, active mobility promotion, and traffic management and urban logistics. In total, 18 projects have been identified as high-priority in the first year of the technical assistance. The priorisation was done based on a dialogue among different public authorities.

Integrated public transport system and paratransit sector

Besides the extension of the metro lines, feasibility studies of two new BRT corridors are under preparation. Moreover, some '***conchos***' unions have started the formalisation process by creating bus companies. 400 of these conchos have been replaced by 30 buses in the first intervened corridor in Santo Domingo. The transformation of the paratransit sector in the city includes actions to train drivers, increase operational and organisational capacities of former concho unions, and defining the role of INTRANT to manage institutional relationships with the recently formed bus operators. The technical assistance has contributed to depict alternatives to reach fare integration and subsides. Lastly, a new transport model is under development to support decision-making, assess scenarios and quantify the impacts of transport interventions.

Electromobility

As the Dominican Republic has experienced a growth in electric vehicle use, momentum to engage private companies in the further deployment of electromobility is in place in Gran Santo Domingo. In 2020, city officials visited Bogota to see first-hand its experience in the sector, especially regarding public transport. The first BRT corridor is expected to be operated with electric buses.

Active mobility

Especially in the 'National District' where most of the economic activities and the historical centre are located, there is an intention from the local government to strengthen the use of active modes. 10 km of cycling lanes have been built which inspired the production of nationwide cycling-lanes implementation guidelines. Supported by European funds, additional 40 km are expected to be built as a pilot project in Santo Domingo. Initiatives such as the bike-sharing system, under formulation, leverage the interaction between mobility and economic development.

Traffic management and urban logistics

Traffic officers are trained in good practices regarding traffic management and law enforcement aligned with the new law on urban mobility. A Regional Road Plan is under development aiming at defining a regional logistical network of major road infrastructure projects.

Main SUMP implementation challenges

- The institutional capacity of the recently created INTRANT is limited considering the long list of urban mobility projects proposed in the SUMP. Although highly knowledgeable, the staff is still small for the needs of the city. Moreover, experts on urban mobility trained in the Dominican Republic are rare. Local universities do not thoroughly offer formations on urban transport planning, so qualified young professionals are not trained locally. Since most of the INTRANT staff acquired experience abroad. they face challenges in dealing with context-sensitive issues related to the 18 prioritised projects.
- Financial resource assignation is not guaranteed since budgets are defined at the national level. Urban mobility projects compete for funding against other sectors. The upside is that urban transport is one of the few sectors that have the potential to generate revenue (coming from e.g. fares, on-road parking, fines), and these earnings could be directed to SUMP initiatives.
- Political commitment is needed to maintain the momentum to develop sustainable urban mobility projects in Santo Domingo. Many interventions are not popular as they intend to break the status quo and spatial distribution of streets. For instance, community opposition for cycling lanes implementation on car-road space is usual, as the number of urban cyclists is low. Decision-makers need to be trained in and informed about the sustainable mobility paradigm. Both support of civil society organisations and availability of international funding help to position the topic in the political agenda.
- Multi-level coordination requires a constant flow of information and exchange between national and local authorities. This articulation helps to clearly define responsibilities for the implementation of SUMP projects, as many of them require national approval but local regulation.