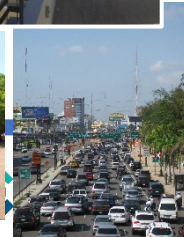
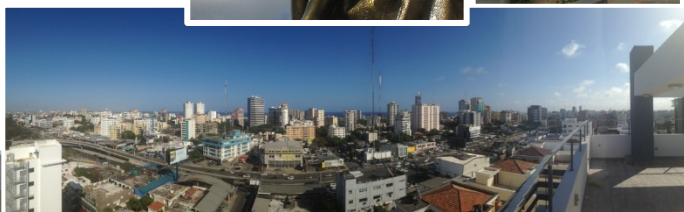
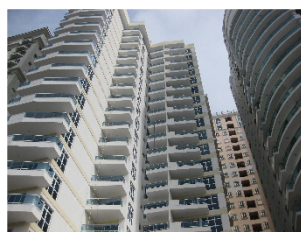




LAND USE PLAN
NATIONAL DISTRICT
2018– 2030



Photos in the cover: Erick Dorrejo

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LIST OF ACRONYMS

APORDOM	Autoridad Portuaria Dominicana (Dominican Port Authority)
ASCA	Academia Superior de Ciencias Aeronáuticas (Superior Academy of Aeronautical Sciences)
BCH	Municipio de Boca Chica (Boca Chica municipality)
CAASD	Corporación del Acueducto y Alcantarillado de Santo Domingo (Corporation of Water and Sewer systems of Santo Domingo)
CECANOT	Centro Cardio-Neuro-Oftalmológico y Trasplante (Cardio-Neuro-Ophthalmological and Transplant Center)
CONAU	Consejo Nacional de Asuntos Urbanos (National Council of Urban Affairs)
CTC	Consulta Territorial Ciudadana (Territorial Citizen Consultation)
DN	Distrito Nacional (National District)
DGODT	Dirección General de Ordenamiento y Desarrollo Territorial (General Directorate of Land Use Planning and Development)
DPU	Dirección de Planeamiento Urbano (Directorate of Urban Planning)
EDEESTE	Empresa Distribuidora de Electricidad del Este (Electricity Distributor Company of the East)
EDESUR	Empresa Distribuidora de Electricidad del Sur (Electricity Distributor Company of the South)
ENFT	Encuesta Nacional de la Fuerza de Trabajo (National Survey of Labor Force)

FEDOMU	Federación Dominicana de Municipios (Dominican Federation of Municipalities)
HGPS	Hospital General Plaza de la Salud (Plaza de la Salud General Hospital)
HIRRC	Hospital Infantil Dr. Robert Reid Cabral (Dr. Robert Reid Cabral Children's Hospital)
HMRA	Hospital Materno Dr. Reynaldo Almánzar (Dr. Reynaldo Almanzar Maternal Hospital)
HOSGEPOL	Hospital General de la Policía Nacional (National Police General Hospital)
HUMNSA	Hospital Universitario Maternidad Nuestra Señora de la Altagracia (Nuestra Señora de la Altagracia University Maternal Hospital)
ICF	ICF International (consulting firm)
ICMA	International City/County Management Association
IDCP	Instituto Dermatológico y Cirugía de Piel “Dr. Huberto Bogaert Díaz” (Dr. Heriberto Bogaert Diaz Dermatological Institute and Skin Surgery)
IDSS	Instituto Dominicano de Seguros Social / Hospital de la Mujer Dominicana (Dominican Social Security Institute / Dominican Women's Hospital)
IEESL	Instituto Especializado de Estudios Superiores Loyola (Loyola Specialized Institute of Higher Education)
INDEN	Instituto Nacional de la Diabetes (National Institute of Diabetes)
ITLA	Instituto Tecnológico de Las Américas (Technological Institute of Las Americas)
ITSC	Instituto Técnico Superior Comunitario (Community Higher Technical Institute)
ITSM	Instituto Tecnológico y de Estudios Superiores de Monterrey (Technological and Higher Education Institute of Monterrey)
JICA	Agencia de Cooperación Internacional del Japón (International Cooperation Agency of Japan)
MERCADOM	Mercados Dominicanos de Abasto Agropecuario (Dominican Markets of Agricultural Supply)
MEPYD	Ministerio de Economía, Planificación y Desarrollo (Ministry of Economy, Planning and Development)
MESCyT	Ministerio de Educación Superior, Ciencia y Tecnología (Ministry of Higher Education, Sciences and Technology)
MIMARENA	Ministerio de Medio Ambiente y Recursos Naturales (Ministry of Environment and Natural Resources)
OC-SENI	Organismo Coordinador del Sistema Eléctrico Nacional Interconectado (Coordinating Body of the Interconnected National Power Supply System)
OLADE	Organización Latinoamericana de Energía (Latin American Organization of Energy)
ONE	Oficina Nacional de Estadísticas (National Statistics Office)
OPRET	Oficina para el Reordenamiento del Tránsito (Office for the Reorganization of Transit)
PB	Municipio de Pedro Brand (Pedro Brand municipality)
PIB	Producto Interno Bruto (Gross Domestic Product)

PNUD	Programa de las Naciones Unidas para el Desarrollo (United Nations Development Program)
POT	Plan Ordenamiento Territorial (Land Use Plan)
SDE	Municipio Santo Domingo Este (Santo Domingo Este municipality)
SDN	Municipio Santo Domingo Norte (Santo Domingo Norte municipality)
SDO	Municipio Santo Domingo Oeste (Santo Domingo Oeste municipality)
SEMMA	Seguro Médico para Maestros (Medical Insurance for Teachers)
SENI	Sistema Eléctrico Nacional Interconectado (Interconnected National Power Supply System)
UASD	Universidad Autónoma de Santo Domingo (Autonomous University of Santo Domingo)
UICN	Unión Internacional para la Conservación de la Naturaleza (International Nature Conservation Union)
UNAP	Unidades de Atención Primaria (Primary Health Care Units)
UNESCO	Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (United Nations Educational, Scientific and Cultural Organization)
UOD	Universidad Odontológica Dominicana (Dominican University of Dentistry)

I Summary

The Land Use Plan of National District (POT-Capital) is the basic instrument to organizing the territory within the political-administrative limits of the National District considering the potential and limitations of its entire territory and guiding land use and occupation during a period of twelve (12) years.

The formulation of this proposal was based on the analysis of the context of the metropolitan area of Santo Domingo, as well as the immediate context, characterizing the environmental, spatial and socio-economic component of the territory and analyzing climate vulnerability as an essential step to identify present and future factors threatening the municipality development due to climate change.

Through the participation of the key actors in the territory, the vision for ordering the territory was defined, along with a series of guidelines that led the design of the proposals contained in this document.

The proposals have been classified in a zoning map, which establishes the preferred uses for the municipal territory, together with a compendium of policies which are part of the municipal ordinance, binding for all actors in the territory. These proposals are linked to a series of plans, programs and projects defined to guide the appropriate implementation of identified land uses.

2 Introduction

The Land Use Plan (POT-Capital) is a local planning instrument that serves to organize land use so that activities carried out in the territory result from a collective vision that seeks to satisfy the basic needs of the population, to reduce the identified deficiencies and to lead the development by taking the territory as a catalyst.

The Land Use Plan of the National District (POT-Capital) was formulated by following the guidelines of the Methodological Guide for the Formulation of the Municipal Land Use Plan, published by MEPYD/DGODT in 2016, which integrates a climate change adaptation approach, in compliance with the constitutional mandate.

This document summarizes the main findings and conclusions from the territorial integrated diagnosis process, from the territorial perspective and from the programming, which result in a proposal for the preferred land use for the territory of the National District.

2.1 Legal framework

The Constitution of the Dominican Republic in its Art. 193 establishes the following: "Principles of territorial organization. The Dominican Republic is a unitary State whose territorial organization has the purpose of promoting its integral and balanced development and that of its inhabitants, in agreement with their needs and with the preservation of their natural resources, their national identity and their cultural values. The territorial organization will be done in accordance with the principles of unity, identity, and political, administrative, social and economic rationality."

On the other hand, Law 176-07, about Municipalities and the National District, establishes in its article 19, literal d, that the "Territorial organization, urban planning, land management, execution and urban discipline" are proper or exclusive competence of the city councils. Currently, a draft Law on territorial organization and land use is under discussion in the Congress of the Republic, which includes three levels of territorial order: national, regional and municipal.

While developing the proposals contained in this POT-Capital, the regulatory elements related to land use in force in the country have been considered, taking as reference the Table I of the Methodological Guide for the Formulation of the Municipal Land Use Plan, which is written down below:

Table 1: Regulatory Framework for Land Use Planning¹

Scope and scale	Identified Legal Framework
Constitutional Vision	– Constitution of the Dominican Republic, Art. 194
Strategic Vision	– National Development Strategy 2030, Law 1-12
National Regulations	<ul style="list-style-type: none"> – General Law on Environment and Natural Resources and its regulations, Law 64-00 – Law on risk management, Law 147-02 – Law that creates the State Secretariat Economy, Planning and Development (SEEPyD), Law 496-06 – Law on Planning and Public Investment, Law 498-06 – Decree that establishes the Functional Organic Regulation of the State Secretariat for Economy, Planning and Development, Decree 231-07 – Decree that establishes the National Climate Change Policy, Decree 278-13 – Law that creates the National Geographical Institute "José Joaquín Hungría Morell", Law 208-14
Municipal Regulations	<ul style="list-style-type: none"> – Law on Urbanization, Public Ornament and Construction, Law 675-44 – Urban planning law, Law 6232-63 – Law about the National District and municipalities, Law 176-07

Within the provisions by Law 64-00 on Environment and Natural Resources, special consideration was given to its articles 31 (on territorial organization), 109 to 111 (on human settlements), 129 (on protection of water sources) and 147 (on maritime-terrestrial public domain areas). Law 202-04 on protected areas and Decree 571-09 that establishes a 30-meters buffer sustainable zone around all the conservation units that hold the generic categories of the World Conservation Union, from I to IV, were also consulted.

2.2 Formulation Process

The POT-Capital is the result of three years of efforts of the Technical Team, made up by personnel from the National District Council, the Dominican Federation of Municipalities (FEDOMU) and supported by the team from the International City/County Management Association (ICMA), which has provided technical assistance to the City Council within the framework of the USAID/ICMA Planning for Climate Adaptation Program.

¹ DGODT/MEPYD: Methodological Guide to Formulate the Municipal Land Use Plan. Pages 15-16. 2016

In August 2015, an Institutional Empowerment Workshop² was held at the City Hall of the National District, which formally started the work under agreements signed by the mayor with the United States Embassy and with the International City/County Management Association (ICMA).

An inter-institutional and inter-sector Working Group was formed after completing a mapping of the key actors for the process. The Working Group is the essential element of the participatory technical formulation approach

Both, the technical team and the working group, met for each of the phases of the formulation process. Each element of the plan, from the identification and characterization of the municipal context, the evaluation of its climate vulnerability and the territorial diagnosis, to the analysis of the critical factors for municipal development, has been formulated with an active participation of all municipal actors. In addition, the process was accompanied by technicians from Austin city, Texas³, who advised issues related to territorial planning, citizen participation, and drainage infrastructure, and by ICF and ICMA specialists, as well, in everything related to climate vulnerability.

Along with the technical processes, the formulation of the POT-Capital included a citizen participation and consultation process involving representatives from various municipal organizations, which included public and private institutions, civil society organizations, neighborhood associations and grassroots community organizations. Altogether, this process resulted in ten (10) studies, matrices and reports that serve as the basis for the final document of the Land Use Plan of the National District (POT-Capital).

3 Diagnosis

3.1 Integrated diagnosis

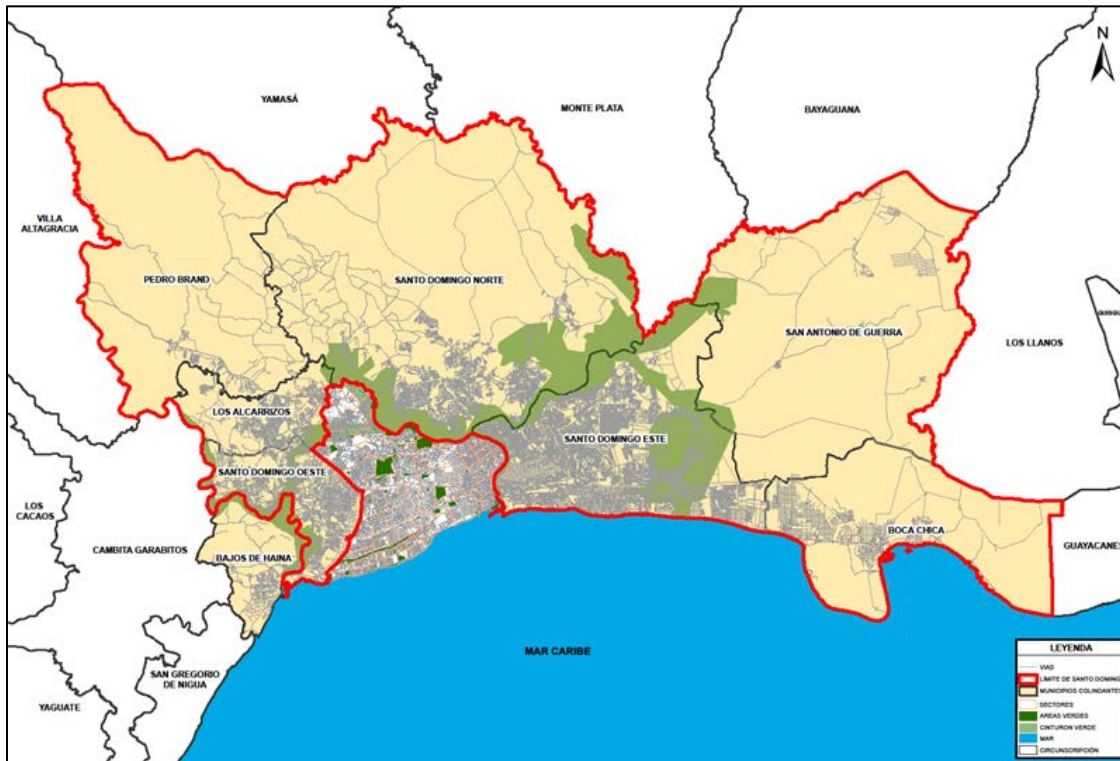
The analysis of the context of the National District established the relationship and impact of the environmental, social, economic, spatial and cultural dynamics in the analyzed territory, by identifying the elements that influence and/or determine the development of the entire territory.

² First activity designed to communicate to the entire City Council team the strategy defined by the leadership, empowering all the institutions towards the achievement of the objectives.

³ Made within the framework of City Links. The CityLinks™ model was designed by ICMA to allow municipal officials from developing countries and decentralized nations to take advantage of the resources of their US counterparts to find sustainable solutions adapted to the actual needs of their cities. It was formalized in collaboration with the United States Agency for International Development (USAID) in 1997 by launching of a funded program, known at that time as Cities Resource.

In practical terms, the context of the National District exceeds the political-administrative limits of its territory and the Province of Santo Domingo, so that, for the purposes of formulating the Land Use Plan, the context has been delimited as metropolitan area of Santo Domingo, made up by the municipalities of Santo Domingo Province: Santo Domingo Norte, Santo Domingo Este, Santo Domingo Oeste, Los Alcarrizos, Pedro Brand and Boca Chica, by Bajos de Haina and San Cristóbal municipalites, because of the conurbation processes, and by San Cristóbal and San Pedro de Macorís provinces, due to the dependence for the supply of basic services such as electricity and drinking water.

Map I. Context of the National District



The analysis of the context and the territory within the National District shows an important relationship between the activities carried out in its environment and the critical factors with the greatest impact within the analyzed territory. Thus, the model established in the country, resulting from of a policy oriented towards administrative centralization and the expansion of the city beyond the current limits, has had an impact on the territorial dynamics observed in the Capital.

This document summarizes the territorial diagnosis, which includes a series of factors that affects the use and occupation of the territory, based on the characterization of the environmental, spatial and socio-economic component. The information gathered allows to describe the most characteristic elements of the studied territory that are synthesized in seven (7) categories of study, which are described below:

- a. **Soil potential:** is the relationship between the vocation and use of the soil and the availability of resources.
- b. **Environmental sustainability:** is the relationship between the availability of natural resources and the appropriate use of them.
- c. **Social vulnerability:** is the relationship between the living conditions of the inhabitants and the opportunities in the territory.
- d. **Territorial vulnerability:** is the relationship between the living conditions of the population, the level of risk, and its adaptation capacity.
- e. **Territorial concentration:** is the relationship between the location of the population and the activities of the productive sector.
- f. **Territorial Connectivity:** is the relationship among the human settlements, the level of mobility and its distribution structure in the territory.
- g. **Territorial Comfort:** is the relationship between the human settlements and the level of accessibility to services.

Soil Potential

All the territory of the National District has been considered an urban area, with a total area of 91.58 Km²; where of urban land is currently predominant, with a registered total area of 75.76 km² (82.72%); from the productive point of view, the predominant soil classes are Class IV⁴: 63.84 km² (69.70%), which has been occupied mostly by urban and/or built land.

The territory studied is located within the geomorphic region called the Coastal Plain of the Caribbean, seated on three levels of reef-origin terraces, without significant differences in heights.

The variation in **constructed surface** occupation has gone from 69.62 Km² (2000) to **75.76 Km² (2015)** for an increase of 8.10%, while the natural surface of agricultural vocation has gone from 18.96 Km² (2000) to 14.4 Km² (2015) for a reduction of 24.05%, which evidences the need to consolidate the constructed surface and preserve the existing natural surface to protect the aquifer sources, by allocating soil for the preservation of natural ecosystems near the built area as compensation for the waterproofing of the entire urbanized area.

Currently, the National District is made up of seventy (70) neighborhood units, with a greater number of these in circumscription I (C1) with 38 units, 18 neighborhood units in circumscription 2 (C2) and 14 neighborhood units in circumscription 3 (C3). The potential

⁴ Limited cultivable land, not suitable for irrigation except in special conditions and with very profitable crops, is land suitable for perennial crops and pastures; its topography is flat and rolling with very severe limiting factors; its productivity ranges from medium to low.

use of urbanized land is high in C1 and C3, while C2 has a vocation for urbanized land likely of consolidating a natural soil area of approximately 14.34 km², which represents 36.4% of the total area of this circumscription.

Environmental Sustainability

The characterization of the environmental system and the analysis of its components show that Circumscription No. 2 is the one with the greatest amount of natural soil, representing a total of 25.91 m²/inhab; whereas the relation is much smaller in the other circumscriptions; in C1 it is 1.48 m²/inhab. and in C3 it is 1.47 m²/inhab. The data indicate that natural soil availability in the analyzed territory is greater in C2.

The hydrographic system is characterized by the course of Ozama River (7.3 km) and Isabela River (13.7 km), along with ten (10) streams totaling 31.6 linear kilometers and fifty (50) glens totaling 22,613 linear meters. This system of streams and glens is mostly occupied by human settlements, where a large amount of solid waste and wastewater is discharged directly, contaminating streams or glens, and these in turn flow into rivers that run through the north and west of the National District.

Regarding the natural water systems, the coastal-marine front constitutes another strategic element, with a linear extension of 13.5 km., that was declared as South Coast Park (1968). In all the terrestrial surface near this coastal-marine front, there is a route with diverse points of interest, of varied non-compatible uses (commercial, industrial, residential and institutional) and an avenue (Autopista 30 de Mayo/Avenida George Washington/Paseo Presidente Billini) that serves as a rapid bypass that generates a boundary between the coastal-marine front and the activities that take place in the direct surroundings of the avenue, which does not allow for promoting the public use of the South Coast Park, being this space sub-used otherwise, thus contributing to its current deterioration.

Throughout the National District, there are no areas protected within the National System of Protected Areas; however, it is important to note that the surface of the **green belt** (Decree 183-93) originally amounts to 130 km², from which **12.78 km²** (13.78% of the DN) is found within the National District; however, this area has been reduced by 4.95 Km² by the occupation of the built surface. This represents 38.73% of the green belt and 6.5% of the entire surface of the National District. This reduction of the natural surface has resulted from the approval of urban projects within the area of the green belt and from the illegal occupation of highly vulnerable areas. This constructed area comprises fourteen (14) neighborhoods, where 220,233 inhabitants live, representing 22.82% of the total population.

Social Vulnerability

The National District has a **population of 965,040 inhabitants**, occupying the first place in number of inhabitants of the territories administered by City Councils in the Dominican Republic. Social indicators show important inequalities in the National District in terms of density, poverty, quality of life and need for assistance from government agencies. The relationship between the population and the occupied territory indicates that the National District has an **average density of 10,537.67 inhabs/km²** with a greater concentration in circumscription No. 3, with 27,132.58 inhabs/km² registered, while the other circumscriptions have densities of 7,887.70 inhabs/km² (C1) and 7,471.70 inhabs/km² (C2). The previous data show that 69.19% of the population is concentrated in fifteen (15) neighborhoods, while 30.81% of the population lives in the fifty-five (55) remaining neighborhoods.

The poverty registry in the area under study indicates a total of 272,669 inhabitants in poverty (28.3%) and a total of 44,076 indigent (4.57%) and places the National District with low levels of poverty in relation to the country. However, despite the registry points to a focus on poverty in C3 and in some neighborhoods of C2, the analysis shows **high social vulnerability levels throughout the territory**.

The registry of population living in slums indicates 413,429 inhabitants (44.1% men - 41.8% women) and a total of 122,300 dwellings located in slums throughout the territory, with a greater presence in C3. Although the ratio of total population in poverty among the surface of the country is 79.8 Poor/Km², this ratio is 2,977.38 Poor/Km² in the National District. The registry of Live Quality Index (LQI) shows a concentration of the best index in C1; the further the neighborhood is away from C1, the lower the index.

The National District has a total of 77,081 poor households (26.63%), equivalent to 841.7 poor households/km². Observing this relation by circumscriptions, it is found that C3 has the highest ratio, with 3,486.98 poor people per km², a 43.66% of its population. While C2 follows, with a ratio of 592.91 poor/km² (27.49% of the inhabitants living in the Circumscription), and C1 with 188.21 poor/km² with a 7.56% of poor households.

Conditional transfer programs indicate that 7.94% of the country's budget (RD \$ 593,102,400.00) is allocated to “Comer es Primero” Program (PCP) aimed at a total of 63,807 households (PROSOLI 2016), for a 19.27% of households located in the National District, being this the administrative political unit with the largest number of beneficiary households. The largest budget for this type of transfers is for the BONOGAS program, impacting a total of 77,969 households (23.54%) with a budget of RD \$ 203,523,060.00 (ADESS 2016). The 8.00% of the budget allocated for these programs (Comer Es Primero,

BEEP, IALE, Bonogas, and Bonoluz) nationwide is executed in the National District, in just 0.19% of the national surface.

The foregoing is evidence that, despite the low levels of poverty recorded, the National District territory presents high levels of social vulnerability, expressed in the number of inhabitants living in poverty, the presence of assistance programs, and the amount and location of slums, as well.

Territorial Vulnerability

All the surface of the National District is considered urban area, being 82.72% urbanized (75.76 Km²) within this territory that concentrates a total of 331,108 households, for a rate of 4,370.48 Hh/km². The highest density of households is concentrated in C3 (8,653.57 Hh/Km²), a lower proportion in C1 (3,113.46 Hh/km²) and C2 (2,377.53 Hh/km²).

Some areas of the urbanized territory are highly vulnerable, which is expressed in areas of potential penetration of the Caribbean Sea in case of extreme weather events in circumscription 1. Areas prone to flooding due to rainfall and overflow of the river and its streams in the neighborhood units are: La Hondonada, San Diego, Arroyo Manzano, Cerros de Arroyo Hondo, Arroyo Hondo, La Puya, Los Rios and Los Peralejos, in circumscription 2. In the circumscription 3, areas prone to flooding because of rainfall and overflow of the rivers and the system of glens are identified in Gualey, Las Cañitas, La Zurza, Capotillo, Simón Bolívar, 24 de abril, Los Guandules, Guachupita, Domingo Savio, María Auxiliadora, La Ciénaga, 27 de Febrero and Villa Francisca. The total identified territory in C2 and C3 has an area of 17.56 km² (19.17% of the National District) and the population at risk has been quantified in a total of 292,332 inhabitants, which represents 30.29% of the total.

Regarding the adaptation capacity of the National District in case of events that put the lives of the inhabitants at risk, the operations center of the National Emergency Response System is identified, which provides the articulation of a series of entities integrated in the Democratic Security Plan among which the following stand out: National Police, Ministry of Health, Fire Department, Metropolitan Transport Authority (AMET), Ministry of Public Works and Attorney General of the Republic. The survey has identified the availability of shelters in 30 neighborhood units (46.15% of the National District) and the prevention system is complemented by a circuit of fourteen fire stations, with the following ratio by circumscriptions: C1>7 (5.62 station/km²), C2>3 (13.12 station/km²) and C3>4 (3.32 station/km²).

Territorial Concentration

The National District has a **density of 10,554.58 inhabitants/km² in seventy (70) neighborhoods and two hundred and fifty-seven (257) sub-neighborhoods**, which

require readjustments because, in some cases, the name of the sub-neighborhoods is more present than that of some neighborhoods. The lack of ordinances or resolutions approved by the Councilmen that indicate the name and delimitation of the neighborhood units shows weakness regarding the legal attributions of the City Council within the perimeter of its urban area.

The largest number of the population of the National District (360,592 inhabitants) lives in Circumscription No. 3 (13.29 km²), a density of 27,132.58 inhabs/km², in fourteen (14) neighborhood units identified by the National Office of Statistics and thirty-eight (38) sub-neighborhoods. The rate of inhabitants per surface of the other circumscriptions is 7,887.70 inhabs/km² (C1) and 7,471.70 inhabs/km² (C2). The analysis of the existing neighborhood units indicates that the average surface of the neighborhoods in C1 is 1.12 km²; in this circumscription a total of thirty-five neighborhoods (35) have completely built soil, for 97.43%, being the district with the highest percentage of built soil, surpassing the C2 (62.13% of built soil) with an average surface area of 2.46 km² per unit, and C3 (93.68% of the built land) with an average area of 0.95 km² per neighborhood unit.

The registered concentration levels are related to the number of existing homes in each of the circumscriptions; C1 with the highest percentage of land built has the highest number of homes, with a total of 122,546 (for a ratio of 2.53 inhabs/Hh; the other circumscriptions, the ratio of households is similar, (C2) 3.14 inhabs/Hh (93,556 households) and (C3) 3.13 inhabs/Hh (115,006 households).

Two polygons within the delimited circumscriptions delimited in the National District have been identified with special characteristics: The Colonial City and the Central Polygon. The surface of the Colonial City is 1.22 km² with a total of 8,477 inhabitants, for a density of 6,948.36 inhabs/Km². This area of the city has a series of combined uses among which the residential and commercial stand out; the perimeter is one of the most important economic central spots of the city as a point of entry for the historical and cultural tourist offer of the country. Currently, policies are needed to preserve the combination of uses, so satisfying the demands of residents and providing special areas for tourism and leisure activities.

The Central Polygon was delimited through resolution 94/98, wherein the urban development plan of this territory is approved. This territory, with an area of 4.34 km², integrates a total of four (4) neighborhood units (Paraíso, Piantini, La Esperilla and Ensanche Naco) and a total of eight (8) sub-neighborhoods (Paraíso, Los Platanitos, Churchill, Piantini, Ensanche Serrallés, La Esperilla, Ensanche Naco and La Yuca). The identified neighborhood units have a population of 32,251 inhabitants for a density of 5,728.41 inhabs/km². At present, the Central Polygon has a variety of uses throughout its territory and the approved regulatory dispositions require updating. There are no polygons destined to the exclusive

commercial use, in all the territory of the National District; nevertheless, the great variety of existing offers in the Central Polygon identifies this territory as one of the most important core spots in the capital's territory.

At institutional level, the Centro of Heroes and the area within the polygon formed by Av. 27 de Febrero, Av. San Martín, Av. Máximo Gomez and Av. César Nicolás Penson has a vocation oriented to governmental activities and has been identified as the Institutional North Strip to which three sectors belong. This represents an opportunity for consolidating of centralities to guide specific activities.

Territorial Connectivity

There are seventeen (17) entry access ways to the National District territory, five (5) of which are linked to the trunk system that serves as an interprovincial and interregional connection among the different cardinal points of the country. This allows, on the one hand, high connectivity levels between the National District and its surroundings, while at the same time it constitutes one of the causes of the congestion that takes place inside the capital, where the nation's trunk system interrupts daily life by inserting vehicle units into the local dynamics. This is evidenced in the registry of access ways to the National District where the daily entrance of 1,036,631 people and 401,035 vehicle units is indicated.

The report of the vehicle park of the Dominican Republic indicates that 25.7% is registered in the National District, 38.3% of which are automobiles. When adding these data to the registry identified for the province of Santo Domingo, the record amounts to 41.9% of the vehicle fleet of the country registered in this territory and 61.4% of registered automobiles are found in this territory. The concentration of the vehicle fleet has been increasing over the years, due to the deficient supply of collective transport existing in the National District and throughout the metropolitan area surrounding it, which encourages its residents to acquire individual vehicle units or to access other transport modes to meet their travel needs.

Currently, the offer of collective transport is not managed by the National District Council and a variety of actors participate in it and are not coordinated by a single government unit. This has an impact on the ineffectiveness of articulating the offer of a mass transport system in the country (which includes the metro network, state buses, “fliers” buses, mini-buses, “conchos” and moto-conchos) to serve the population. The City Council of the National District is required to assume the role of coordinator of the collective transport offer in the territory under its jurisdiction, so that these categories are articulated with the proposal of land use and occupation defined by the local administration.

Although the National District does not have large airports or harbors in its territory, the connectivity with the rest of the territory allows the direct or indirect link with this type of infrastructure. Another infrastructure with insufficient coverage in the dynamics of the National District are the parking lots; in their absence, the streets have become the typical space to be used as parking spaces, which reduces the capacity of a road from 30% to 66%. Both, the promotion of a culture towards private transport and the use of public transport require the accompaniment of a circuit of parking that can free the roads to improve traffic.

The analysis carried out inside the territory shows a disconnection of the road network and the pedestrian mesh that impacts on the displacements. Nowadays, some lanes and rings for free circulation in the National District have been interrupted by the illegal occupation of all the way with activities non-approved by the municipal administration. Similarly, the proliferation of private and individual activities on the sidewalks of the National District, the deterioration of pedestrian circulation spaces and the lack of strategies to revalue pedestrian's rights have denigrated the ability to walk the city, so there is the need of a policy to respect the pedestrian and to boost the local economy, at the same time.

Territorial Comfort

There is inequality in the levels of territorial comfort in terms of the supply of services in each of the circumscriptions that make up the territory. Being the territory that holds the main institutions of the central government implies that that a series of public services in the National District are under the management and coordination of some Central Government units. The registered percentage allocated to works by the City Council of the National District is 5.92% because a great amount of work needed to be done in this perimeter are met by other units, which frees the City Council from the disbursement of those funds; however, the lack of coordination does not allow them to respond to the planning defined by the local government.

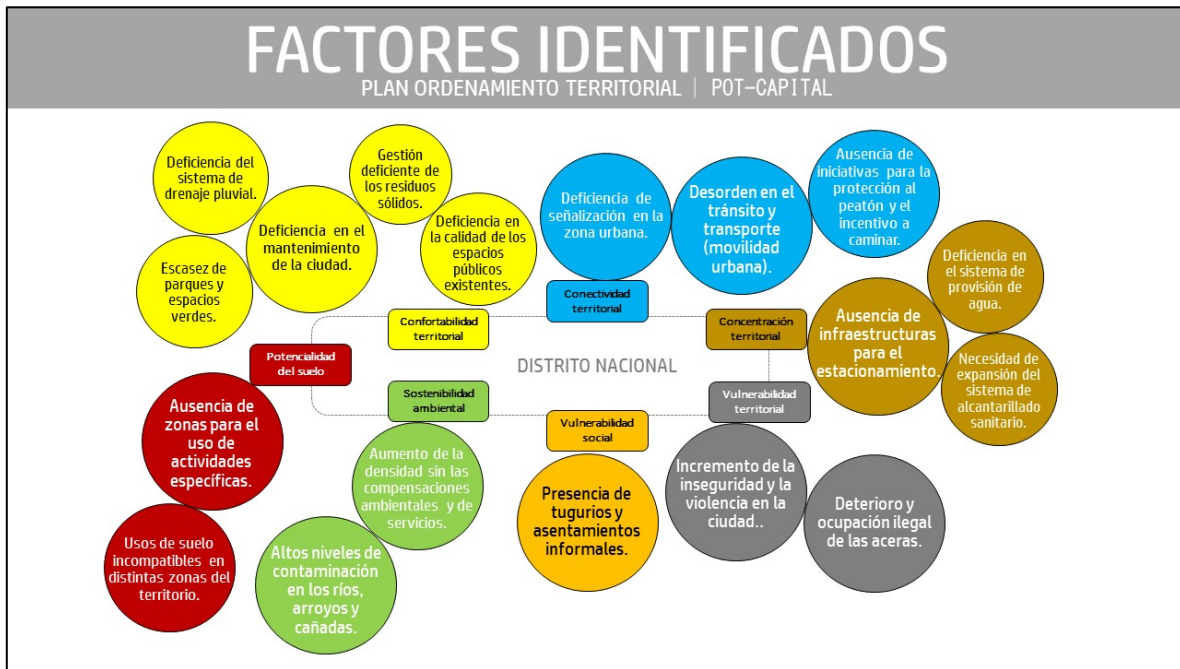
The following government agencies are involved in the competencies indicated by Art. 19 of Law 176-07: The Metropolitan Transport Authority (AMET), the Ministry of Public Works and Communications (MOPC), the Office for the Reorganization of Transport (OPRET), the Technical Office of Ground Transport (OTTT), the Ministry of Tourism (MITUR), the Ministry of Culture, the Corporation of Water and Sewer Systems of Santo (CAASD), Office of Monuments Heritage, the Ministry of Agriculture, the Electricity Companies (EDESUR and EDESTE), the Ministry of Industry and Commerce (MIC), the Ministry of the Presidency (MINPRE), the General Directorate of Special Projects of the Presidency (DIGEPEP); so that, special attention should be paid to inter-institutional coordination.

Therefore, this situation implies the need for continuous coordination based on the creation of a specialized unit for monitoring and coordination of public services.

The City Council of the National District is responsible for the solid waste collection service throughout the territory, with an average collection rate of 87.9%. The C1 has the best average index with 95.8%, while the C2 (85.0%) and the C3 (79.8%). In terms of infrastructures, the City Council manages public spaces, public cemeteries and markets in the territory. Currently, the National District has a ratio of 7.99 m² of public space per inhabitant; the highest proportion is found in (C1) 13.40 m²/inhab, (C2) 10.88 m²/inhab, and the (C3) just 1.00 m²/hab.

The education and health offers are not competencies of the City Council of the National District; however, the analysis of these services allows to identify its level of comfort. Regarding the education issue, there is a greater number of school buildings, both public and private, in C1 (221 centers and schools), while in C3 (141 schools and schools) and in C2 (109 centers and schools), which supply the education demands of the referred territory. The offer of both public and private health care in the National District would be sufficient if it were only focused on the population resident in the capital; however, in the case of specialized services, this offer transcends the local population and it is a service of national scope. When analyzing the offer of Primary Health Care Units, a total ratio of 6,069.43 UNAP/inhabs is noticed, highlighting in first place the ratio in C2 (8,646.70 UNAPS/inhabs), and in the other circumscriptions: (C3) 5,381.97 UNAPS/inhabs, and (C1) 5,352.75; the improvement of the distances among these units in relation to the volume of population to be served is still a pending issue.

CRITICAL FACTORS. This description of the results allows to identify a series of factors that must be considered to guide municipal development, by improving the model of land occupation and guaranteeing minimum habitability levels for the population living in the National District. The following critical factors are identified.



Synthesis of critical factors grouped by categories

The civil society was consulted about these results to prioritize the results from the technical studies. The six prioritized factors were:

- (11.46%) Increased insecurity and violence in the city;
- (09.85%) Disorder in transit and transport (urban mobility);
- (07.02%) High contamination levels in rivers, streams and glens;
- (06.51%) Deterioration and illegal occupation of public spaces;
- (06.36%) Deficiency and poor coverage of the storm drainage system;
- (05.80%) Absence of privileges for the pedestrian and incentives to walk;
- (05.23%) Shortage of parks and green spaces.

From these priorities, we proceeded to identify the most critical factors in response to what was indicated by men and women, which determined that for women the most critical factor is: Increased insecurity and violence in the city (12.44%) and for men: Disorder in transit and transport (urban mobility) (11.57%).

3.2 Climate vulnerability analysis

The Climate Vulnerability Assessment, within the context of the Land Use Plan of the National District, constituted an essential step to identify present and future vulnerabilities that threaten the development of the territory in front of climate change, to draw adaptation measures that could be used for decision making in land use planning. The evaluation reveals that the population and the urban infrastructure and that of all key sectors and services for development are vulnerable to various climatic threats and stressors (Figure 1) that can cause a variety of impacts according to their vulnerability, this is, their degree of exposure and sensitivity, and the development level of their adaptation capacity.⁵ We refer to increased temperature, greater intensity of extreme weather events with intense rainfall causing floods and landslides, changes in the pattern of precipitation (reduction of rain or its out of season intensification) and rise in sea level, with greater storm waves, and coastal floods.

The differences between circumscriptions in terms of territory exposed to the Caribbean Sea (16.5 km of coastline in 1) and/or to the Ozama river (5.4 km of riverbanks in 3) and to Isabela river and its tributaries (11.5 km of riverbanks in 2, and 2.2 km in 3) and the conditions of infrastructure, population density or poverty define different degrees of susceptibility to climate hazards according to their vulnerability; that is, their degree of exposure and sensitivity and the development level of their adaptation capacity.

The National District is within an environment with an average annual temperature of 27.1°C that has been increasing by 0.45°C since 1960 at an average rate of ~0.2°C per decade, with several reports of heat waves. Between 1977 and 2015, 22 heat waves were recorded, lasting 3 to 13 days, from April to October, with the highest incidence in the month of August. Between May and October 1980, the longest heat wave in the country was observed in the National District. In the last fifteen years there has been an almost permanent presence of these events in Santo Domingo⁶.

The population and urban infrastructure of all key sectors and services are vulnerable to increase in temperature, possibly with territorial differences related to an unequal distribution of this parameter. High temperatures have a special impact on public health due to increased thermal discomfort and greater spreading of diseases.

⁵ Exposure is defined as the presence of population and infrastructure in sites that could be adversely affected; Sensitivity is the degree to which they may be affected, and adaptation capacity is the ability to adjust to moderate potential harms or to benefit from opportunities

⁶ CCNY (2016). Temperature and heat waves. Santo Domingo and Santiago municipalities. City College New York, Climate Information Program. 2 pp.

Other sectors particularly affected by increased temperature are solid waste because high temperatures accelerate the physical-chemical processes associated with the transformation and decomposition of organic matter, the electrical system due to overheating in the transmission and distribution lines and the loss of efficiency of generators, the water supply due to greater potential losses due to evaporation and changes in the quality of water sources (algae blooms, concentration of pathogens and reduction of dissolved oxygen levels) or urban mobility due to the accelerated deterioration of the layer of asphalt because of prolonged heat and thermal expansion of the roads. These situations may worsen in the future since annual average temperature will increase by 2030 at 0.7°C and 0.8°C and at 2050 between 1.13°C to 1.56°C, for low and high emission scenarios, respectively.

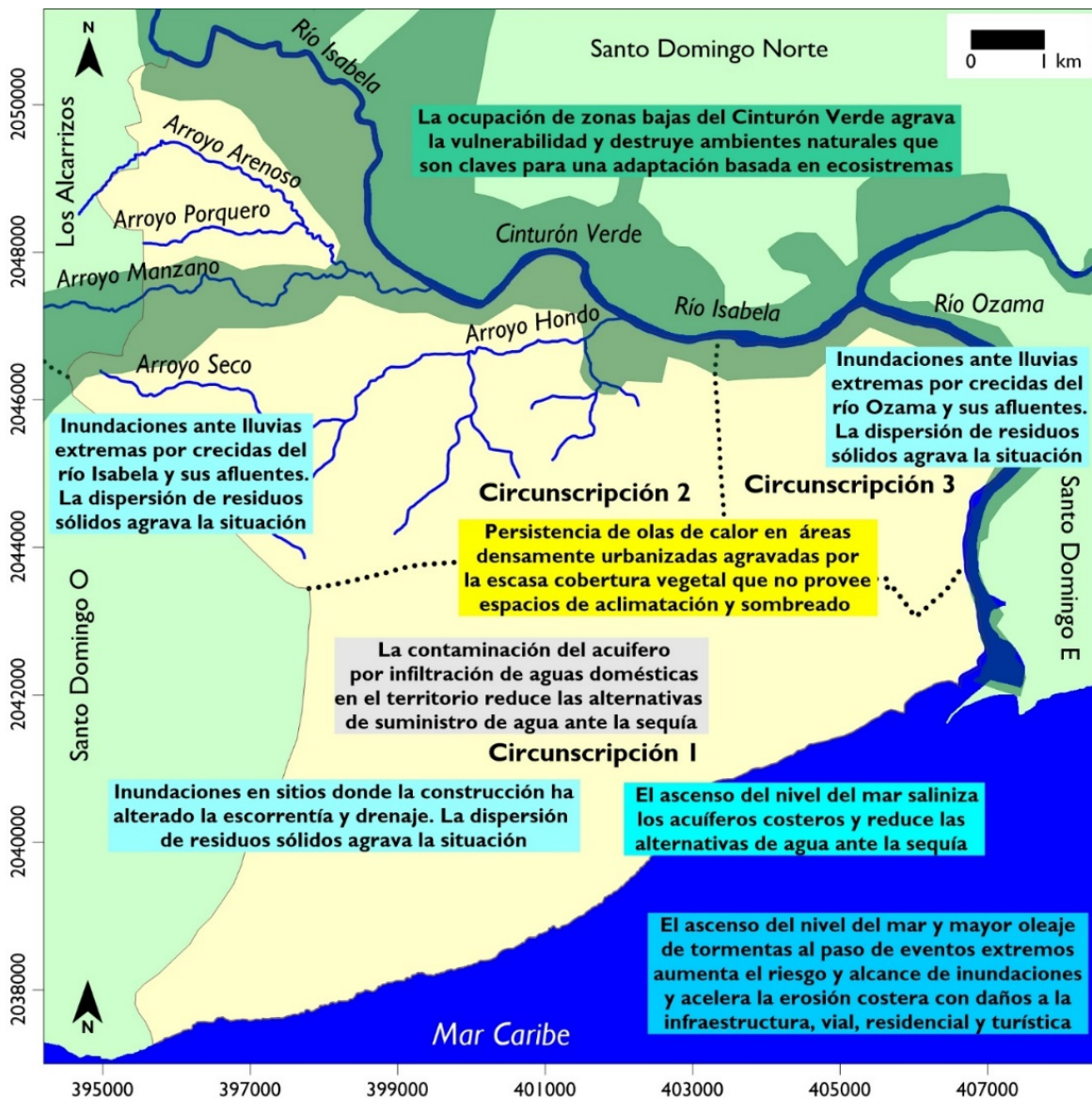


Figure 1. Summary of current and future threats a climate impacts in the National District.

Vulnerability is increased by non-climatic impacts such as low vegetation cover that does not favor spaces for acclimatization and shading; the contamination of water sources, which, in conditions of high temperatures, exacerbates health and environmental problems; to which services inadequacies are added, such as the dispersion of garbage or the deficiencies of works, designs and materials in the electricity system and traffic routes.

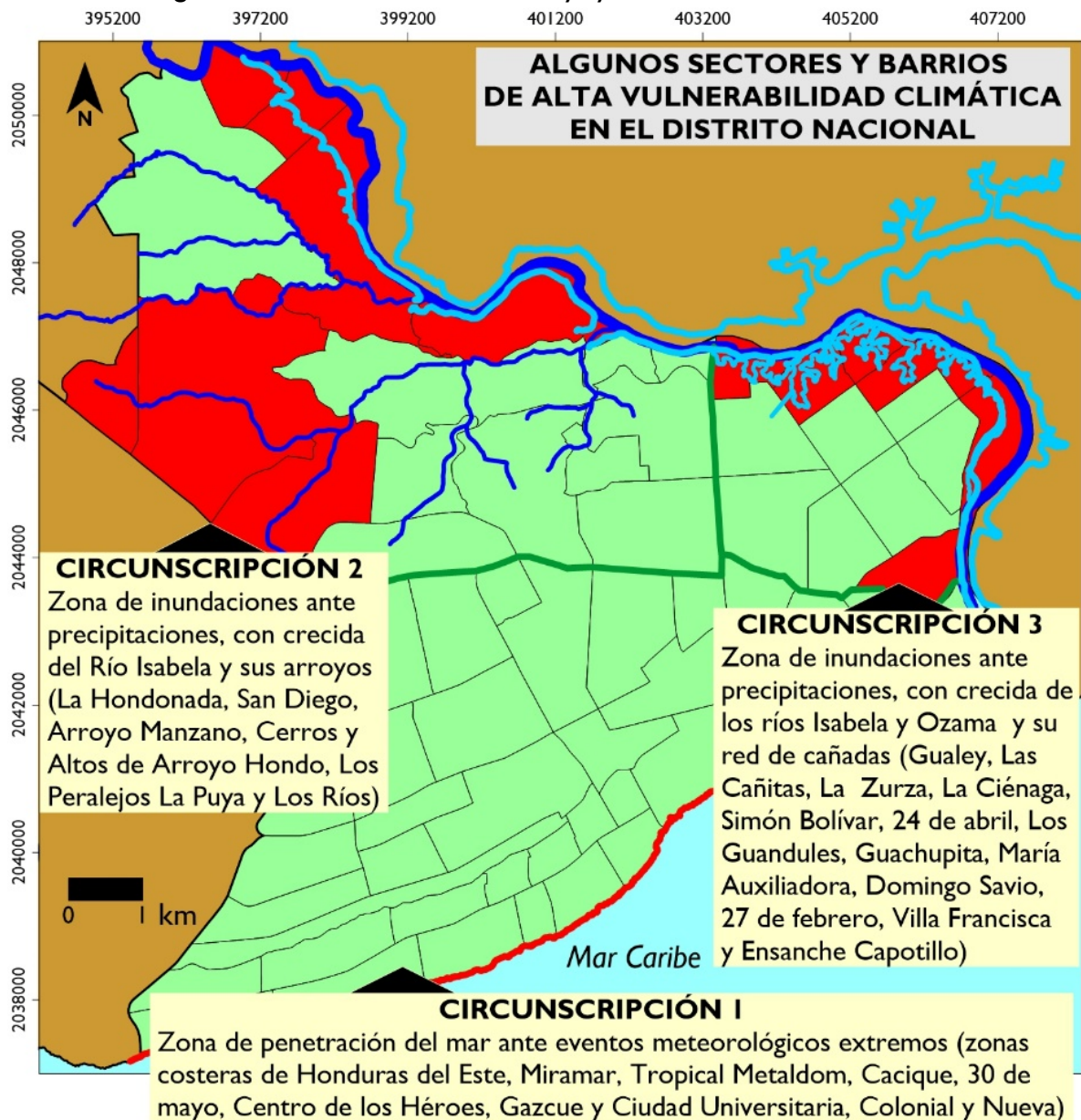


Figure 2. General map of zones vulnerable to floods and sea penetration (in red) in the National District. The course of the Ozama and Isabela rivers and their main streams (dark blue line), the flood level for a return period of 100 years (light blue line) and the divisions between circumscriptions (green line) are indicated.

The National District is in the lower part of the Ozama River basin and the last 7.3 km of this water course borders the East before flowing into the Caribbean Sea. Its most important tributary, the Isabela River, flows 13.7 km from the northern border of the

National District. In Circumscription 2, at least ten streams flow from the Isabela River to the west and south forming a network of about 31.6 km. Circumscription 3 is not crossed by extensive watercourses, but more than 50 glens flow from the West Bank of Ozama and the South Bank of Isabela, forming a system of micro-basins between the neighborhoods.

The population and the urban infrastructure and that of all the sectors and services in areas influenced by these water courses are vulnerable to intense precipitations that provoke floods before overflow of rivers (and their network of streams and glens) by the accumulation of water in low areas naturally prone to flooding (areas of flooding) or where -product of uncontrolled urbanization- topography, runoff and drainage have been altered (Figure 2). Vulnerability is increased by non-climatic impacts such as unplanned constructions that reduce permeability and change the direction of runoff, and the dispersion of solid waste that obstructs drainage, making the flood problem more critical and spreading and generating sanitation and environmental problems.

The water supply of the National District must meet a projected population that will exceed one million inhabitants, by 2016. The territory has been experiencing episodes of drought between 1966 to 2004 with an extreme drought in 2002 and entered a severe drought in 2014. All this caused a serious reduction in the water reserves of Valdesia dam and in the flows (therefore, in the production of water) of Haina and Isabela rivers, causing a shift of priorities towards water supply for the population in detriment of irrigation and energy purposes. The population and urban infrastructure and that of all sectors and services are vulnerable to climate scenarios that indicate a reduction in average annual precipitation by 2030 (-6.73% to -3.24%), when the National District's water supply system should attend a projected population of 1,101,332 inhabitants. Vulnerability is increased by non-climatic impacts such as water leaks in the system (estimated at 60%) and deficiencies in drainage, wastewater and solid waste that leads to an uncontrolled influx of sediment and waste propagated in the sources of water supply, with risk to human health. The scenario of changes in rainfall also includes sudden extreme off-season rains, as occurred at the end of 2016 where, although the dam reached its level of operation once again, a dramatic flood, housing destruction and loss of life remained.

The National District has about 16.5 km of coastline to the Caribbean Sea. The population and urban infrastructure and that of all sectors and services near the coastal zone (neighborhoods: Honduras del Este, Miramar, Tropical METALDOM, Cacique, 30 de Mayo, Centro de los Heroes, Gazcue, Ciudad Nueva, Ciudad Universitaria and Ciudad Colonial) are vulnerable to the entry or passage through the Caribbean Sea of extreme weather events with their impacts of storm surges that cause sea penetration and coastal flooding. These floods and their negative consequences may be greater in the future under the climate scenarios that indicate more intense extreme weather events with larger storm waves due to the rise in sea level. Projections of sea level rise between 0.20 to 0.58m to 2050 may

cause the sea to cover part of the coast (depending on the slopes) and, in combination with greater storms surge, the risk of coastal flooding would increase. The proximity to the coast (less than 60m) of a large part of the road, residential or tourist infrastructure exacerbates current and future vulnerability.

While efforts are being made to lessen these vulnerabilities by reducing the exposure and sensitivity of the population and urban infrastructure, and that of all key sectors and municipal services, there is the need to increase the adaptation capacity at all levels. A key challenge is to strengthen existing institutional capacity and increase coordination among institutions and sectors to reduce vulnerability and adapt to climate change, as well as to address and jointly resolve the negative synergies that are created between climate impacts and those derived from a deficient management of the territory in terms of environment and basic services.

4 Territorial foresight⁷

Based upon the diagnosis, two **territorial scenarios** were established, which tell us what would happen in the National District if the current trend continues (trend scenario), and what would happen if they have the municipality that the majority dreams of (ideal scenario). After the consultation process carried out through the inter-institutional Working Group, the following scenarios were identified

Trend scenario:

1. The surface of natural vocation will continue to decrease due to occupation processes in urbanized soil.

The surface of natural vocation, composed mainly by the Santo Domingo Green Belt, created with the purpose of preserving the last remnants of ground and aquatic biodiversity in terms of ecosystems, habitats, interior lagoons, has reduced its surface as an ecological border in the northern margin of the city from 12.78 km² to 7.83km, a reduction of 4.95 km². The urban area occupied by formal and informal urbanization processes on the National District and the neighboring municipalities is greater than fifteen years ago, due to the lack of protection standards and efficient management.

2. The population in all sectors and its urban structure and key services remain highly vulnerable to increased temperature with longer and wider heat waves.

Episodes of extreme or severe drought and intense precipitation before extreme meteorological events (or off-season) continue to generate floods, which are exacerbated by unplanned urbanization. According to records, the decrease in rainfall causes drought which will worsen in the future, with a serious reduction of the sources of water production and storage, affecting agricultural irrigation, electricity generation and supply for the population. In the coastal zone, the rise in sea level, in combination with more intense weather events with higher storm surges increase the erosion and flood risk, with impacts on road infrastructure, and buildings near the coastal edge. The scarcity of green areas does not ensure sufficient spaces for acclimatization and shading, increases heat waves, dispersion of solid waste that obstructs the drainage system, makes the problem of floods more critical and extensive, and sharpens sanitation and environmental problems.

⁷ Territorial foresight: Social transformation process that systematizes collective intelligence, builds the vision of land use to guide decisions, mobilize joint actions and face challenges. (Mideplan, 2005).

3. Land for urban development has been depleted, densifying the three (3) circumscriptions of the National District.

Circumscriptions #1 and #2 increase their population density and have not improved the quantity and quality of public spaces, facilities, or adequate access to water, sanitation and housing services. This situation is even more acute in circumscription #3, which continues with the highest population density in the smallest space (13.29 Km²) and with a high housing deficit, overcrowding levels and concentration of poverty. A characteristic of the three circumscriptions is the existence of informal human settlements or slums, which are part of the defined neighborhood structure, especially in circumscription #3.

4. The problems of traffic congestion on the main roads of the center and periphery of the city are exacerbated.

The increase in the number of people moving within the territory, and between the center and periphery, which reaches a daily amount of approximately one (1) million floating population, together with deficient connections with the center, aggravates mobility in peripheral and central points. A critical case has been identified in circumscription 2 where the lack of appropriate connection levels, the high overload and high level of delay in its access routes limit the development of new projects in the zone. The rapid transit routes (Av. John F. Kennedy and Av. 27 de Febrero) are consolidated as spaces of separation and high insecurity for those living in the National District; these infrastructures, as conduits for inter-provincial travel, contribute to traffic jams, which, together with the impossibility of offering an efficient collective transport system, impact traffic congestion in certain areas of the city.

5. The National District will continue to maintain its economic, financial and service centrality, at provincial and national level, and as an international connection point.

However, at the urban and zonal level, the territorial unbalance will worsen, increasing inequalities and gaps. The National District occupies the second place in national income/inhabitant, as well as in generated jobs, which represents 12.72% of the total. It concentrates 12% of the commercial establishments of the whole country, mainly in the circumscription I. In terms of finance, it occupies the first national place in captured resources with 56.4% and 64.95% in its level of collection. The condition of Santo Domingo de Guzmán, as the "First City of America" with a Colonial City, provides an advantage to any other destination in the region in terms of cultural tourism. Similarly, its proximity to the main airports, ports, beaches and natural and tourist attractions of other areas or regions of the country represents another asset. Its location makes it a point of

connection between the different countries in North, South and Central America and the Caribbean, which facilitates the attraction of foreign investment, thus being a base of international business operations. In the different circumscription, there are marked shortage of characterized centralities, at spatial scale in relation to their urban environment and at the zonal level, as well. This is generalized in circumscription 2, and basically in endowment and provision of services in circumscription 3. In that sense, underutilization is evidenced between different levels of centralities, as well as in the weak supply and limited and low quality of services.

6. The occupation pressure on big Parks in the National District Will continue and the quantity and distribution of lower scale green spaces will not increase.

Public use spaces in the National District occupy an area of 7,716,864.0 m² (7.72 Km²). The main registered surfaces are: Rafael M. Moscoso National Botanical Garden, National Zoo, Mirador del Sur Park, Juan Pablo Duarte Olympic Center, Ibero-America Park and Las Praderas Park. Circumscription #1 has the largest area (4.16 Km²), circumscription #2 (3.20 Km²) and circumscription #3 has the least amount of public space with (0.36 Km²).

7. There is no formulated and approved land use plan (POT) for Santo Domingo city that allows for regulation and planning of its territory.

The city only has partial regulations for 45% of its territory, which also need to be revised and updated. This condition has not allowed to guide the occupation and planning of the soil, nor to respond to a joint vision of the territory, effectively.

8. Water and sewer systems will not be able to satisfy the required coverage and demand according to the city growth in terms of density and expansion.

The sewer system will register low percentages in its coverage and operation networks. The water coverage in the National District is 97.4%, and its sources of supply, from the Nizao, Haina and Isabela rivers and their underground tributaries, have aqueducts and storage tanks that allow a large part of their distribution, supply and potabilization through 11 management sectors. However, they are offered intermittently and informally due, in the case of the sewer system, to the fact that said system is only in capacity for 27%, and it is calculated that, from these, only 40.0% of the dwellings are connected to said networks. In addition, only 5% receive treatment, so all the rest discharges directly to the main rivers, groundwater and the Caribbean Sea.

Ideal scenario:

1. **Surface of the Green Belt in circumscription #2 will keep their size and will be articulated with areas of the Green metropolitan system by creating a green system and urban open spaces through policies and use regulations.**

Areas of natural vocation are expected to be recovered with low impact uses and activities and connected to large parks and public spaces of the city through the creation of a green system and open urban spaces that promote ecological corridors for preserving ground and aquatic biodiversity. The classification of non-developable land will facilitate the preservation of ecosystems, habitats, lagoons and wetlands. The generation of green infrastructure for the city will allow to increase the natural soil.

2. **Incorporating climate adaptation to and use planning practices in the National District provides new approaches for urban development that is more compatible with climate and facilitates the creation of plans and regulations that help facing climate change impacts.**

Development will continue without generating new vulnerabilities for the population and urban infrastructure of all key sectors and services. The occupation of vulnerable sites will be limited which - together with planned urbanization - contributes to reducing the population's exposure to floods and landslides. Improved infrastructure system for water supply allows to face the drought under new approaches to controlled water savings and storage.

The creation of a Metropolitan Green System increases infiltration spaces by reducing floods and contributes to the dissipation of heat waves, with co-benefits for urban biodiversity. In the coastal zone, projects are installed at safe distances from the rise of the sea and storm surge and protective works are undertaken to ensure the safety of coastal assets. The National District transforms climate vulnerability of its territory by incorporating adaptation to planning and defining a new route towards resilience.

3. **Urban soil will be consolidated, with balanced population and construction density in the three (3) circumscriptions of the National District, which will increase along with equipment quality and quantity and access to public services.**

Circumscriptions #1 and #2 are consolidated with treatments that promote densities and compatible uses, through regulations that allow increasing the quantity and quality of public facilities and water and sanitation services. Spaces of historical, environmental, urban or architectural value will be conserved,

through policies that facilitate their preservation and uses that value their attributes.

Circumscription #3 diminishes the levels of overcrowding and concentration of poverty, through processes of integrated improvement and incorporation to the structure of informal human settlements or slums and of urban renewal, which will allow to increase the levels of habitability, and the quality of life of its inhabitants.

4. Traffic congestion problems will be reduced in the main central and peripheral roads of the city by implementing mobility policies at national and local levels that are articulated to the Sustainable Urban Mobility Plan (PMUS).

Collective public transport improves its offer through its integration into the existing system (lines 1 and 2 of the metro) as well as other modalities (BRT, cable car, bike paths), applying the policies established in the **Sustainable Urban Mobility Plan (PMUS)**.

The creation of transport-oriented developments (TOD) in the surroundings of metro stations and fast buses increases densities close to the station with mixed uses that facilitate non-motorized mobility and short trips and converts routes with greater sections into in spaces for citizen integration, with wide sidewalks, furniture and urban trees that prioritize pedestrians and bicycle use. Interprovincial and cargo transit does not access the city and is handled from transfer terminals located at the city's entry points.

5. The National District balances its functions as economic, financial and services centrality with the Metropolitan Area of Santo Domingo, planning and managing new centralities that energize the territory at different scales.

Strategic points and centralities in the metropolitan area of Santo Domingo are consolidated, or new created, through the implementation of a safe, affordable and efficient transportation system, such as through the emergence of new infrastructures and public investments that serve as a platform to promote private sector investments.

6. The great parks of the National District will be integrated to the network of lower scale Green spaces distributed throughout the city.

The main green areas for public use, such as Rafael M. Moscoso National Botanical Garden, National Zoo, Mirador del Sur Park, Juan Pablo Duarte

Olympic Center, and Ibero-America Park, will be connected through the project of **corridors and lower scale green spaces**, distributed throughout the city. Circumscription #1 with the largest area (4.16 km²) will continue to **increase its green spaces in proportion** to population densities; in circumscription #2 (3.20 Km²), the aquifer protection and green system soils will be recovered, recovering the areas of greatest vulnerability. In circumscription #3, **urban renewal treatments** and transport-oriented developments will increase the availability of green and public use spaces in the transformation processes.

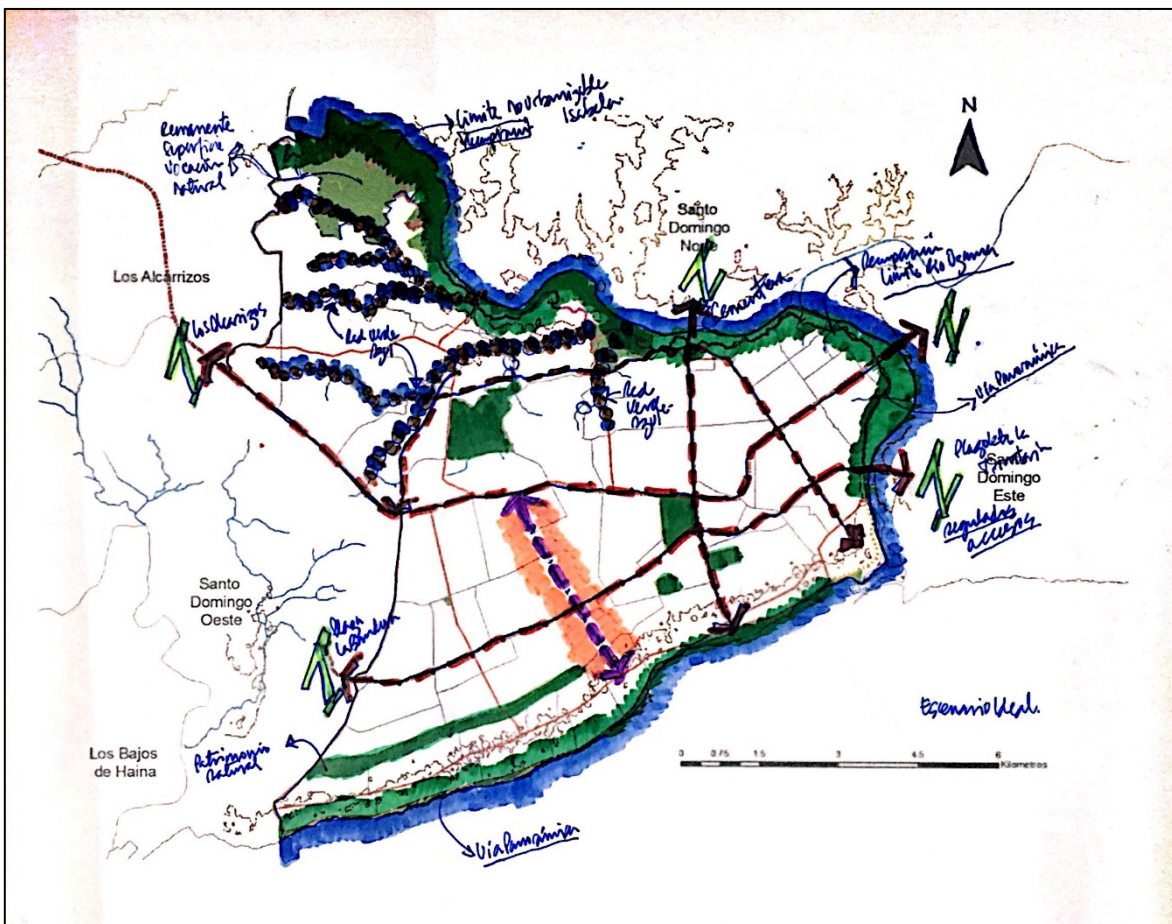
7. The formulation of the Land Use Plan of Santo Domingo City will allow land regulation, planning and organization.

The approval and application of the Land Use Plan (POT Capital), whose formulation is carried out with the support of the Planning for Climate Adaptation Program, will provide the city with a set of formal tools for regulation, planning and organization to guide the occupation of land effectively, integrating variables of climate change adaptation.

8. Water and sewer systems, that will be planned in accordance with increased density and expansion of the city, will provide the required coverage to satisfy the supply demand. The sewer system Will progressively increase its coverage and operations networks.

The water supply system will be carried out according to the city's growth planning processes, increasing the coverage in already consolidated areas and others of integrated improvement in circumscriptions 1, 2 and 3. Urbanization processes progressively facilitate the incorporation to the sanitary sewer service, by building of new networks or connection to existing ones and habilitating new treatment infrastructures, according to the Master Sanitary Sewer Plan, and avoiding direct discharges to rivers, groundwater and the Caribbean Sea.

The consolidation of the **ideal scenario** allows building the vision that will guide the objectives, guidelines and goals required by the municipal territory. In the process, the land use and municipal development planning instruments were identified and analyzed as a starting point to define this vision. The map below synthesizes the ideal scenario agreed upon.



Territorial Expression of the Ideal Scenario

A series of inputs were identified during the formulation process of the vision, which has been formulated during the last years to guide strategies in the National District. The most important includes:

1. National District Strategic Plan (Etapa 2008);
2. National District Strategic Plan (2005-2015) vision, objective, guidelines and scenarios.
3. Projects of the National District Strategic Plan (2005-2015)
4. ADN, Mission, vision and values:

http://adn.gob.do/index.php?option=com_content&view=article&id=105&Itemid=438

In the presentation of the National District Strategic Plan (2008), the following vision was established: "Santo Domingo 2015, city of open doors, economic and cultural capital of the Caribbean, inserted in the knowledge society, facilitator of equity, quality of life and human development". Through this plan, the objective (2008-2015) is to establish the lines of work for both the operational plan of the institution and that of civil society, understanding the continuity of the state as the continuous execution of the strategic structural projects of

the plan. Three levels of urban strategic planning are addressed: municipal, metropolitan and national.

The document of the National District Strategic Plan (2005-2015) highlights all the information contained in the presentation identified above; this highlights the projects of the Plan grouped into five strategic lines.

Available input on the website of the National District City Council includes the mission, vision and values. The vision points out that the City Council of the National District is recognized as the government of the city, satisfies the demands of the citizens and articulates the interventions of the relevant actors of the territory of the National District. The mission establishes that it is a city of open doors, economic and cultural capital of the Caribbean, inserted in the knowledge society, facilitator of equity, quality of life and human development. Among the values the following stands out:

- Highly trained and reliable human resources
- Capacity, experience and managerial skills
- Services vocation
- Commitment with municipal citizens
- Integration of civil society
- Involvement of productive sectors

The information presented served as the basis for the formulation of the vision designed for the POT-Capital, which reads:

“Santo Domingo, capital and economic center of the country, is actively associated with its metropolitan area and promotes the well-being of its inhabitants and visitors, through a sustainable and compatible use of its territory, promoting investments that increase resilience”.

Santo Domingo RESILIENTE
Santo Domingo EMPRENDE
Santo Domingo ARTICULADOR
Santo Domingo INVIERTE
Santo Domingo HABITABLE

(Self-starter, coordinator, investing, habitable Santo Domingo)

The consensual vision identifies a series of objectives that contribute to improving quality of life of inhabitants, which are presented below:

Objective 1 (O1). Promote the habitability of the entire territory by defining polygons based on the relationship between density, the supply of public services and connectivity.

Objective 2 (O2). Consolidate a system of open public spaces integrated to the green infrastructure, offering environmental services that increase the city resilience.

Objective 3 (O3). Promote, together with the responsible units, sustainable urban mobility by diversifying transport means and improving interconnectivity.

Objective 4 (O4). Promote a diversified and inclusive housing offer that guarantees the right to the city.

Objective 5 (O5). Facilitate inter-institutional coordination for improving the provision of balanced urban equipment and supply of public services throughout the territory.

Objective 6 (O6). Favor the economic development of its inhabitants by creating new centralities and consolidating potential areas for a sustainable and compatible use of the territory.

Objective 7 (O7). Encourage the identification of investments that increase urban infrastructure resilience and occupation of the territory.

Each of the objectives presented contains a series of guidelines, which provided the basis for establishing policies, plans, programs and projects that will contribute to ensuring a better use of the use and occupation of the territory.

SUMMARY OF VISION, OBJECTIVES AND GUIDELINES OF THE POT-CAPITAL

Santo Domingo, capital and economic center of the country, is actively associated with its metropolitan area and promotes the well-being of its inhabitants and visitors through the sustainable and compatible use of the territory, promoting investments that increase resilience.	
O1. Promote the habitability of the entire territory by defining polygons based on the relationship between density, the supply of public services and connectivity.	L1. Establishment of an observatory of territorial information.
	L2. Promotion of compatible land uses.
	L3. Regulation of polygons and zones of compatible use based on the development oriented to collective transport.
	L4. Facilitate the internal road connection system (discontinuous road frame) and metropolitan (inter-municipal connection).
O2. Consolidate a system of open public spaces integrated to the green infrastructure, offering environmental services that increase the city resilience.	L1. Recovery and preservation of the existing green system through a linking network that is part of the metropolitan system.
	L2. Establishment of the blue network, through the recovery and connection of the coastal-marine front, rivers, streams and glens linked to the territory.
	L3. Increased area allocated to urban trees and green spaces (vertical gardens, green roofs and permeable surfaces) in areas with the highest building density.
	L4. Promoting energy efficiency and use of clean technologies in new buildings and renovations.
	L5. Regulation of permitted noise levels, through regulations associated to defined compatible use polygons and areas.
O3. Promote, together with the responsible units, sustainable urban mobility by diversifying transport means and improving interconnectivity.	L1. Establishment of a local collective transport system, articulated to the metropolitan system.
	L2. Promotion and consolidation of a network of public parking spaces articulated to urban mobility systems.
	L3. Creation of new spaces that facilitate non-motorized travels.

O4. Promote a diversified and inclusive housing offer that guarantees the right to the city.	L1. Based on the identified polygons, promote underground public services that are in the airspace.
	L2. Comprehensive improvement and urban renewal of identified polygons.
O5. Facilitate inter-institutional coordination for improving the provision of balanced urban equipment and supply of public services throughout the territory.	L1. Promote a legal, institutional and procedural protocol for coordination between the City Council and the organizations units that offer services in the territory.
	L2. Promote a model of minimal public services and urban type equipment according to the needs of the identified polygons.
O6. Favor the economic development of its inhabitants by creating new centralities and consolidating potential areas for a sustainable and compatible use of the territory.	L1. Promotion of the conservation of built urban heritage and the milestones that make up the identity of the city.
	L2. Promotion and creation of centralities associated to local and metropolitan collective transport system (exchangers)
O7. Encourage the identification of investments that increase urban infrastructure resilience and occupation of the territory.	L1. Promotion of public-private investments aimed at the recovery of the green system and the blue network.
	L2. Recovery of vulnerable areas for urbanization.

5 Proposals

The set of initiatives defined for the National District has been established in search of definitive solutions to the critical factors identified in the seven categories.⁸ To this end, a territorial governance scheme and an urban mobility scheme were defined, which are presented below:

5.1 Territorial governance scheme

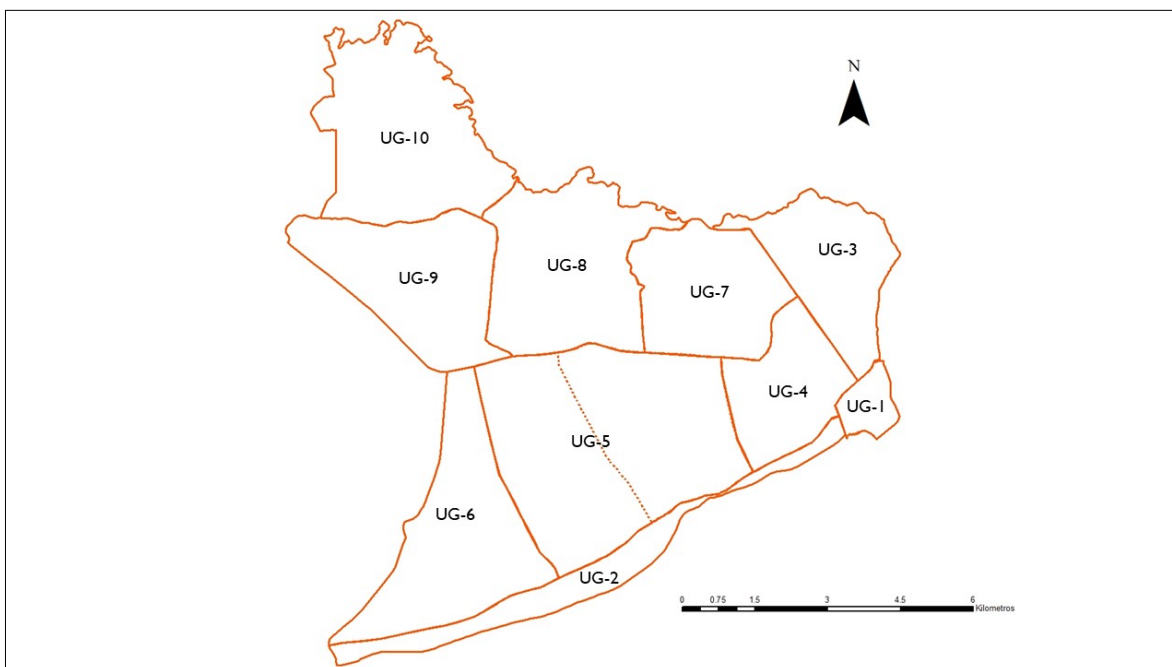
Nowadays, the National District territory is internally divided into three (3) circumscriptions, for purposes of political representation, and seventy (70) neighborhood

⁸ Soil potential, environmental sustainability, social vulnerability, territorial vulnerability, territorial concentration, territorial connectivity, and territorial comfort.

units distributed throughout the urban area. To complement this division with a new territorial governance scheme that allows ordering the territory for effective planning and management of the entire National District, two types of divisions have been proposed:

- Management Unit. (territory)
- Super-polygon. (urban)

The **Management Unit (GU** by the Spanish name) is the basic space defined for planning, implementation and monitoring of policies, plans, programs and projects identified in the POT-Capital, aimed at fulfilling the established vision and guaranteeing basic habitability.



The management unit also guarantees that what is planned is implemented, by making the same entity responsible for tasks related to follow-up on initiatives designed, approved and executed. Through this model of territorial management, the City Council groups common needs of a group of neighborhoods and, at the same time, implements actions more specific than those at the circumscription level in response to specific characteristics in each of the management units.

These management units have been divided according to current limits of existing neighborhoods, similarities in urban morphology, homogeneous physical elements, and similar development characteristics. Considering the general criteria identified, ten (10) management units have been established:

Management Unit 1. Delimited by the perimeter of the Colonial City as indicated in the nomenclature of the National Statistical Office with neighborhood number 065. It is characterized as the seat of the historical area of the city, declared by UNESCO as Heritage of Humanity. It has an area of 1.3 km².

Management Unit 2. Delimited to the north by Independencia Avenue, to the east by Palo Hincado Street, to the south by the Caribbean Sea, and to the west by Luperon Avenue. It is characterized as a location linked to the coastal-marine front of the city. It has an area of 4.78 km².

Management Unit 3. Delimited to the north by Isabela River, to the east by the Ozama River, to the south by the Mella avenue, and to the west by Duarte avenue. It is characterized by its connection to the main aquifer source of the city, home of great number of population with medium and low socio-economic levels. It has an area of 6.57 km².

Management Unit 4. Delimited to the north by V Centenario Express, to the east by Juan P. Duarte Avenue, to the south by Independencia Avenue, and to the west by Máximo Gomez Avenue. It is characterized as a gridded urban plot, home of a variety of residential, economic and institutional activities, and consolidated in the modern period since the end of the Dictatorship. It has an area of 5.62 km².

Management Unit 5. Delimited to the north by John F. Kennedy Avenue, to the east by Máximo Gomez Avenue, to the south by Independencia Avenue, and on the west by Núñez de Cáceres Avenue. It is characterized by comprising the contemporary city, center of the main economic, social, and financial activities. The centrality of its activities is consolidated by its connection with the main east-west corridors, the main north-south corridor and the main avenue or walk of the city. This Unit of Management, in turn, is made up of a UG5-East (9.06 Km²) and a UG5-West (9.25 Km²); whose limit has been established by Winston Churchill Avenue. This sub-division allows the management of specific policies, plans, programs or projects for one area or another, in response to very particular characteristics. It has an area of 18.31 km².

Management Unit 6. Delimited to the north by John F. Kennedy Avenue, to the east by Nuñez de Cáceres Avenue, to the south by Independencia Avenue, and to the west by Luperon Avenue. It is characterized for being the limit of the city with the municipality of Santo Domingo Oeste with a high link to an important avenue used for inter-municipal movements. It has an area of 10.31 km².

Management Unit 7. Delimited to the north the Avenue by Reyes Catolicos avenue, to the east by Juan P. Duarte avenue, to the south by John F. Kennedy and V Centenario avenues,

and to the west by Tiradentes – Zoologico avenues. It is characterized by the consolidation of a city with needs for urban renewal, located in a road network that currently operates as transit routes outside its neighborhoods. It has an area of 7.44 km².

Management Unit 8. Delimited to the north by Isabela River, to the east by Zoológico-Tiradentes avenues, to the south by John F. Kennedy avenue, and to the west by Republica de Colombia avenue. It is characterized by an important system of streams that drain into Isabela River. It has an area of 10.56 km².

Management Unit 9. Delimited to the north and east by Republica de Colombia Avenue, and to the south and west by John F. Kennedy Express. It is characterized by being the limit of the National District and an important connection with the northern region of the country. In terms of urban morphology, organic structures are predominantly situated over a system of streams that are mostly occupied. It has an area of 9.08 km².

Management Unit 10. Delimited to the north by Isabela River, to the east by Jacobo Majluta Avenue, to the south by Republica de Colombia avenue, and to the west by the limit of the National District. It is characterized by the proximity of its territory to the most important hydrographic system of the city, with the existence of a streams system that is still partially preserved and the remains of the still unconstructed surface of the National District. It has an area of 11.48 km².

The Management Unit is led by the Urban Planning Office, as technical unit of the municipality responsible for designing, developing, regulating and managing land use and buildings throughout the territory. As part of the follow-up on the PPPPs, the management unit will be integrated by an oversight and supervision team with responsible managers of the UG assigned in response to their complexity. This oversight and supervision team will monitor everything that happens in the assigned UG, with capacity to report any anomalies that may be found. A window will be enabled in the City Hall for the reception of complaints by citizens. Reports on the tasks performed by this team will provide necessary inputs to the City Council financial department to articulate and, in turn, monitor the changes that occur in the territory, in relation to the City Council collections.

The **super-polygon** is a grouping of plots, blocks and/or strategic spaces to guarantee safety, improve urban mobility, create public spaces and preserve a healthy natural environment, which is connected to the collective transport system. Among the most important benefits are:

- It establishes a security perimeter and regulates the places of entry and exit of vehicles or people;

- Allows to regulate the motorized routes inside the city, guiding a certain type of traffic to the corridors and primary roads;
- Encourages pedestrian circulation and the use of bicycles for nearby trips;
- Connects the defined urban structure with the city's collective transportation system;
- Improves the existing natural system inside the super-polygons;
- Generates new public spaces for recreation and leisure.

Within each management unit, the super-polygons are identified by considering density, connection to the collective transport network, need for public space, absence of a healthy natural environment and potential for development, among other aspects that could be considered. The relationship between the management unit and the super-polygon seeks to satisfy the need for an integrated view to what was planned and what was executed through a new model of territorial governance, thus reversing the absence of historical control over the city and promoting an urban development strategy that links the transformation of built space to the supply of public services and the enhancement of resources located in the territory.

5.1 Urban mobility scheme

The road nomenclature is the set of elements that make up the transit and transport system of the National District integrated through the connection between space use and occupation and the mobility system. The starting point of this nomenclature consists in improving the travel conditions of both pedestrian and motorized traffic, adding value to the possibility of walking through the city and organizing both the roads and the lanes where the different types of vehicles circulate.

The proposed road system consists of primary, secondary and tertiary roads, according to their load capacity. These roads are characterized, in turn, by a series of urban attributes that classify them into: corridors, walks or panoramic roads. The description and main characteristics of each of the types identified for the National District road system follows:

- **Corridor:** Route of greater hierarchy in the capital city, which operates as main axes of road traffic and pedestrian movements. The main features are:
 - o Predominant investment of collective transport,
 - o Prohibition of parking at both sides of the road,
 - o Minimum width of sidewalks (3.00 M),
 - o Minimum surface with trees on lateral sidewalks and in the central division,
 - o Exclusive lanes for collective transportation and 911 emergency system,
 - o Pedestrian preference (oriented investment),
 - o Increased density in plots located along the road.
 - o Regulation of cargo vehicles transit.

Corridors identified in the POT-Capital are: Máximo Gomez Corridor (North – South), 27 de Febrero Corridor (East – West), John F. Kennedy Corridor (inter-municipal), Colonial City – Km9 – Luperón – Independencia Corridor (circular).

- **Walk:** Route oriented to creating centralities associated to public space with a limited distance. The main features are:
 - o Lanes for bicycle established,
 - o Pedestrian preference (oriented investment),
 - o Area of public space identified for temporary activities,
 - o Predominant collective transport investment,
 - o Promotion of commercial land use,
 - o Regulation of cargo vehicles transit,
 - o Prohibition of parking at both sides of the road.
 - o Minimum width of sidewalks (4.00 M).

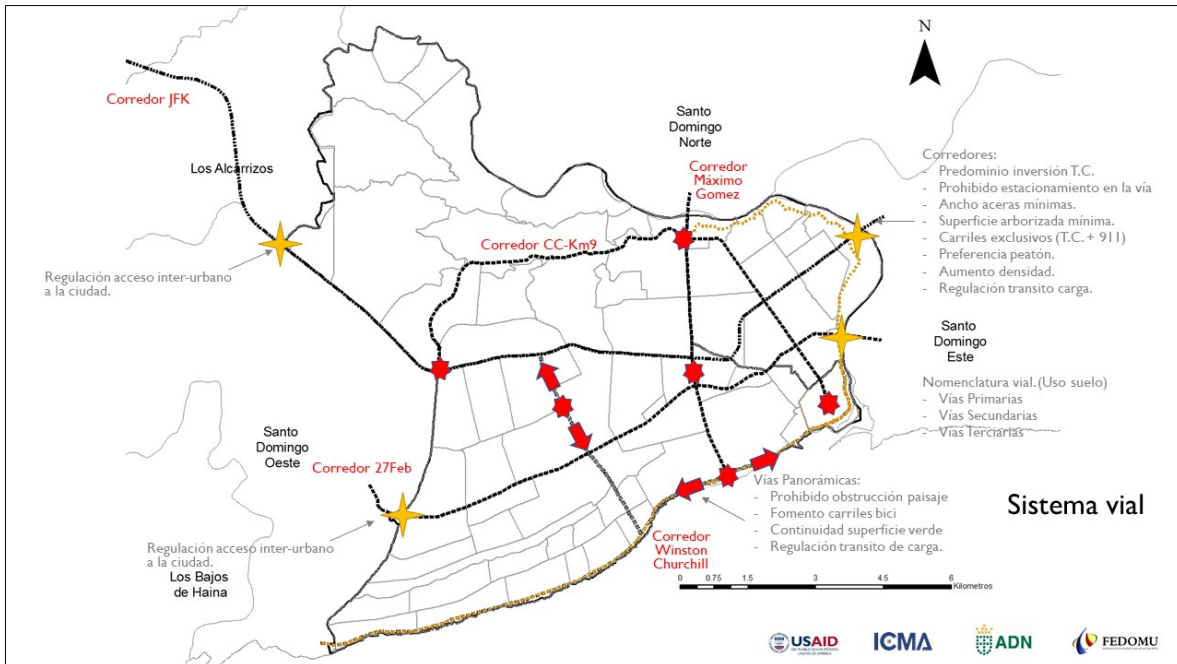
The route identified as Walks in the POT-Capital are: Presidente Billini Walk (east-west) and Winston Churchill Walk (north – south).

- **Panoramic Route** – for recreation and enjoyment of the landscape in accordance with SNAP. The main features are:
 - o Prohibited landscape obstruction,
 - o Promotion of bicycle lanes,
 - o Continuity of green surface
 - o Regulation of cargo vehicles transit,
 - o Prohibition of parking at both sides of the road.

The panoramic route identified in the POT-Capital is found in the road circuit formed by George Washington avenue – Presidente Billini avenue – del Rio avenue.

Considering their load capacity, the roads located within the National District are classified as:

- a. Primary road, with two lanes or more, in both directions.
- b. Secondary road, with one lane in both directions.
- c. Tertiary road, with one or more lanes in one direction.



Summarized scheme of the proposed road nomenclature

There are some **strategic points** in the periphery of the National District territory that act as a filter to regulate and control the entry of certain types of vehicles. These points of vehicular regulation are found in:

- Km9 Clover (for El Cibao transit)
- Plaza de la Bandera (for the south-west zone transit)
- Plazoleta La Trinitaria (for the east zone transit)
- Plaza Jose Francisco Pena Gomez (for the SDE metropolitan area transit)

5.2 PPP Matrix (Plan, program and project)

To organize the proposed initiatives, a series of plans, programs and projects is needed for placing the prioritized proposals throughout the entire National District.

6 Recommendations for implementation

The creation of the **Land Use Commission**, as a coordination space between the executive and the regulatory bodies of the Mayor's Office, is recommended. The main objective of this Commission is to identify actions for establishing a shared strategy between the executive and the regulatory bodies of Mayor's Office. The creation of this Commission must assume as one of its first tasks the formulation of a **municipal ordinance**, binding to all actors, which formalizes the municipal land use policy, establishes the limits, and defines the incentives and restrictions.

Likewise, the activation of the **Territorial Management Unit** for implementing, following-up and monitoring the Land Use Plan (POT) is also recommended. This unit will catalyze the signing of inter-institutional agreements with the public and private sectors that guarantee applying what has been established in the POT. Data collected and recorded during the process should be incorporated into a **spatial database**, where all documented and undocumented information is registered, which allows visualizing the improvements to the territory, so that the progress of policies, plans, programs and defined projects could be monitored. This unit will be attached to the General Secretariat with the purpose of articulating all existing units, departments and directorates towards compliance with the initiatives defined in the POT.

7 Base Documents

1. USAID/ICMA/ICF/FEDOMU/ADN 2016. Climate vulnerability assessment of the National District for the Municipal Land Use Plan. (Evaluación de la vulnerabilidad climática del Distrito Nacional para el Plan de Ordenamiento Territorial Municipal [Work Documento], 51 pp.
2. USAID/ICMA/FEDOMU/ADN 2016. Analysis of the context of de National District. (Análisis del contexto del Distrito Nacional), 47pp.
3. USAID/ICMA/FEDOMU/ADN 2017. Territorial Diagnosis of the National District. (Diagnóstico territorial del Distrito Nacional), 205pp.
4. USAID/ICMA/FEDOMU/CEUR-PUCMM/ADN 2017. Socio-economic analysis of the National District. (Análisis Socio-Económico del Distrito Nacional), 80pp.
5. USAID/ICMA/FEDOMU/ADN2016. Matrix of the Integrated diagnosis of the National District. (Matriz de diagnóstico integrado del Distrito Nacional), 2pp.
6. USAID/ICMA/ICF 2017. Technical datasheets to support climate adaptation and Land Use Planning in Dominican municipalities. Technical Sheet 1. Solid Waste, 13pp; Technical Sheet 2. Historical Heritage, 11pp; Technical Sheet 3. Power Supply System, 8pp; Technical Sheet 4. Urban Mobility, 9pp; Technical Sheet 5. Water Supply, 7pp.
7. USAID/ICMA/ICF 2017. Adaptation measures Plan for the National District within the framework of the Development and Land Use Plan. (Plan de medidas de adaptación del Distrito Nacional en el marco de los Planes de Desarrollo y Ordenamiento Territorial), 27pp.
8. USAID/ICMA/FEDOMU/ADN 2017. Synthesis of the territorial foresight of the National District. (Síntesis de la prospectiva territorial del Distrito Nacional), 12pp.
9. USAID/ICMA/FEDOMU/ADN 2017. Matrix of Policies, Plans, Programs and Projects of the National District. (Matriz de Políticas, Planes, Programas y Proyectos del Distrito Nacional), 2pp.
10. Compendium of Maps for the Municipal Land Use Plan. (Compendio de mapas para el Plan Municipal de Ordenamiento Territorial).

11. USAID/ICMA/ADN 2017. Baseline of Indicators of the National District. (Línea Base de Indicadores del Distrito Nacional), 3pp.