



*Resilient Urban Development
Saint Vincent and the
Grenadines*



Planning for Urban Resilience

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Technical Workshop for Arnos Vale and Kingstown

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Kingstown, SVG**

TOPICS

01 INTRO TO IDOM

02 WHY URBAN PLANNING?

03 MASTER PLANNING

04 CASE STUDIES

05 Q&A

01

INTRO TO IDOM

IDOM, established in 1957, is a global consulting firm (planning, engineering, architecture)

€320 M

turnover

125

countries w/ projects

3,000

professionals

60

years

40

offices



● IDOM office

02

WHY URBAN PLANNING?

WHY URBAN PLANNING?

Urbanization can create benefits and opportunities; however, rapid and unplanned growth creates costs that need to be addressed



ECONOMIC CHALLENGES

Economic challenges



01

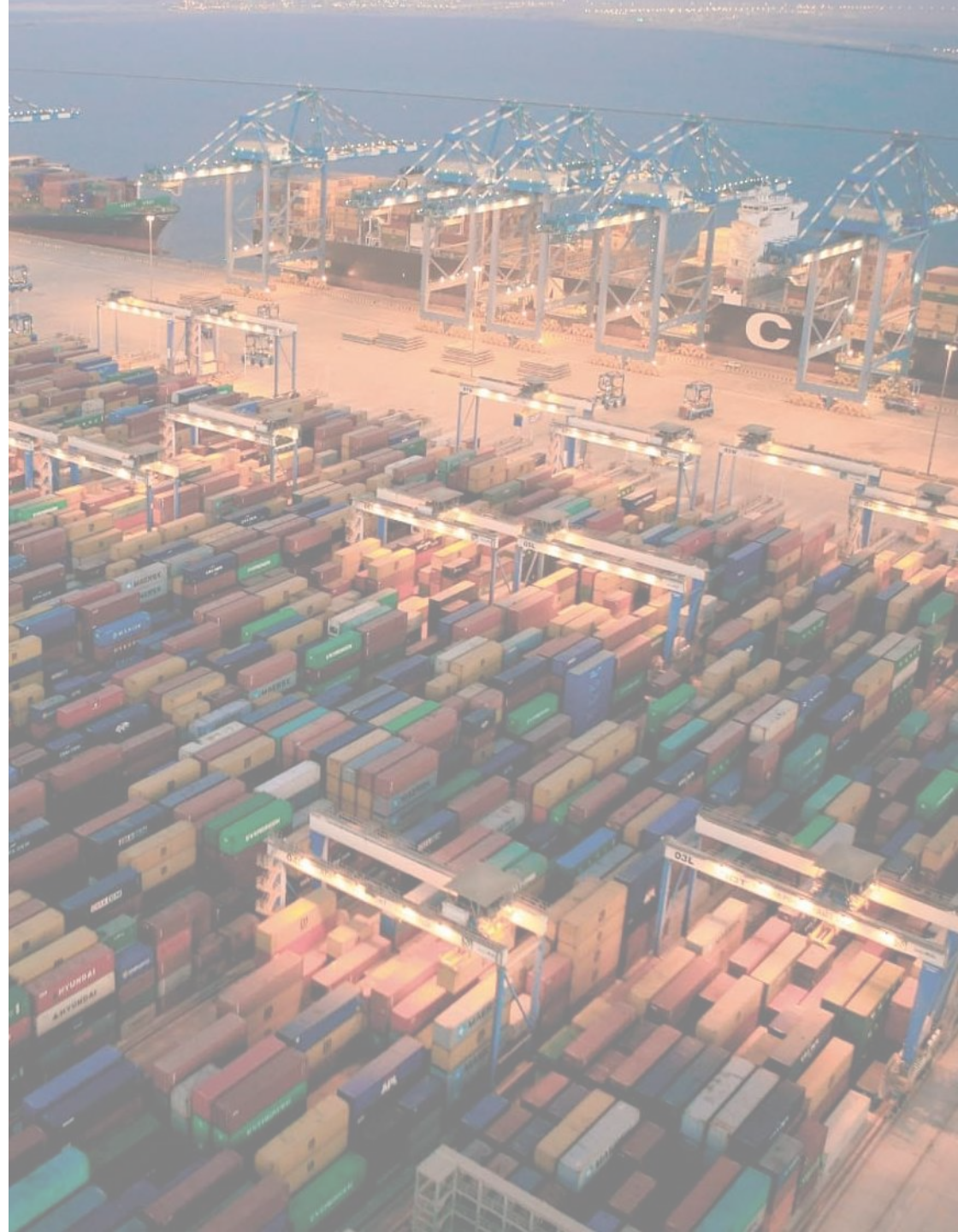
Population growth increases demand for infrastructure and **creates sprawl** (additional costs)

02

Externalities (such as congestion) **reduce productivity and competitiveness**

03

Limited funds for infrastructure, services and amenities



SOCIAL CHALLENGES

Social challenges



01

Lack of **access to affordable inner-city quality housing** and basic services

02

Poverty and spatial **segregation**

03

Absence of **efficient, reliable, affordable and safe transportation**



ENVIRONMENTAL CHALLENGES

Environmental challenges



01

Pressure on **natural and fragile landscapes** and resources such as water

02

Pollution from mobility patterns and industrialization

03

Risk and vulnerability to natural hazards such as flooding, tsunamis and earthquakes



03

MASTER PLANNING AS A TOOL

WHAT IS A MASTER PLAN FOR?



Determine the **mix of uses** and their **physical relationship**



Phasing and implementation **schedule and priorities**



Shape the urban environment in **three dimensions**



Framework to **attract private sector investment**



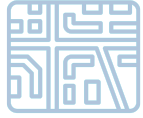
Define **public, semiprivate, and private spaces** and public amenities



Engage the local community and act as a builder of consensus

WHAT ARE THE ELEMENTS OF A MASTER PLAN?

As a comprehensive planning tool a Master Plan brings together several elements required to advance sustainable urban development



Land

- **Densification**
- **Expansion**
- **Conservation**
- **Uses/activities**
- **Risk prone areas**
- **Urban structure/layout**



Housing

- **Material quality**
- **Basic services**
- **Affordability**
- **Income mix**
- **Tenure**
- **Low/high rise**
- **Location/Accessibility**



Economy

- **Jobs/Employment**
- **Manufacturing**
- **Services**
- **Businesses**
- **Critical infrastructure**
- **Center or clusters**
- **Corridors**



Transport

- **Infrastructure**
- **Regulation**
- **Demand management**
- **Public transport**
- **Cycling**
- **Pedestrian**
- **Cars**



WHAT ARE THE ELEMENTS OF A MASTER PLAN?



Resources

- Infrastructure
- Regulation
- Technology
- Water
- Energy
- Coastlines
- Other natural assets



Public Space

- Parks
- Plazas
- Streets
- Design
- Programing
- User experience
- Accessibility



Environment

- Climate change
- Natural hazards
- Fragile landscapes
- Emissions
- Mitigation
- Adaptation



Identity

- Social cohesion
- Local character
- Sense of identity
- Appropriation
- Heritage
- Historical significance



04

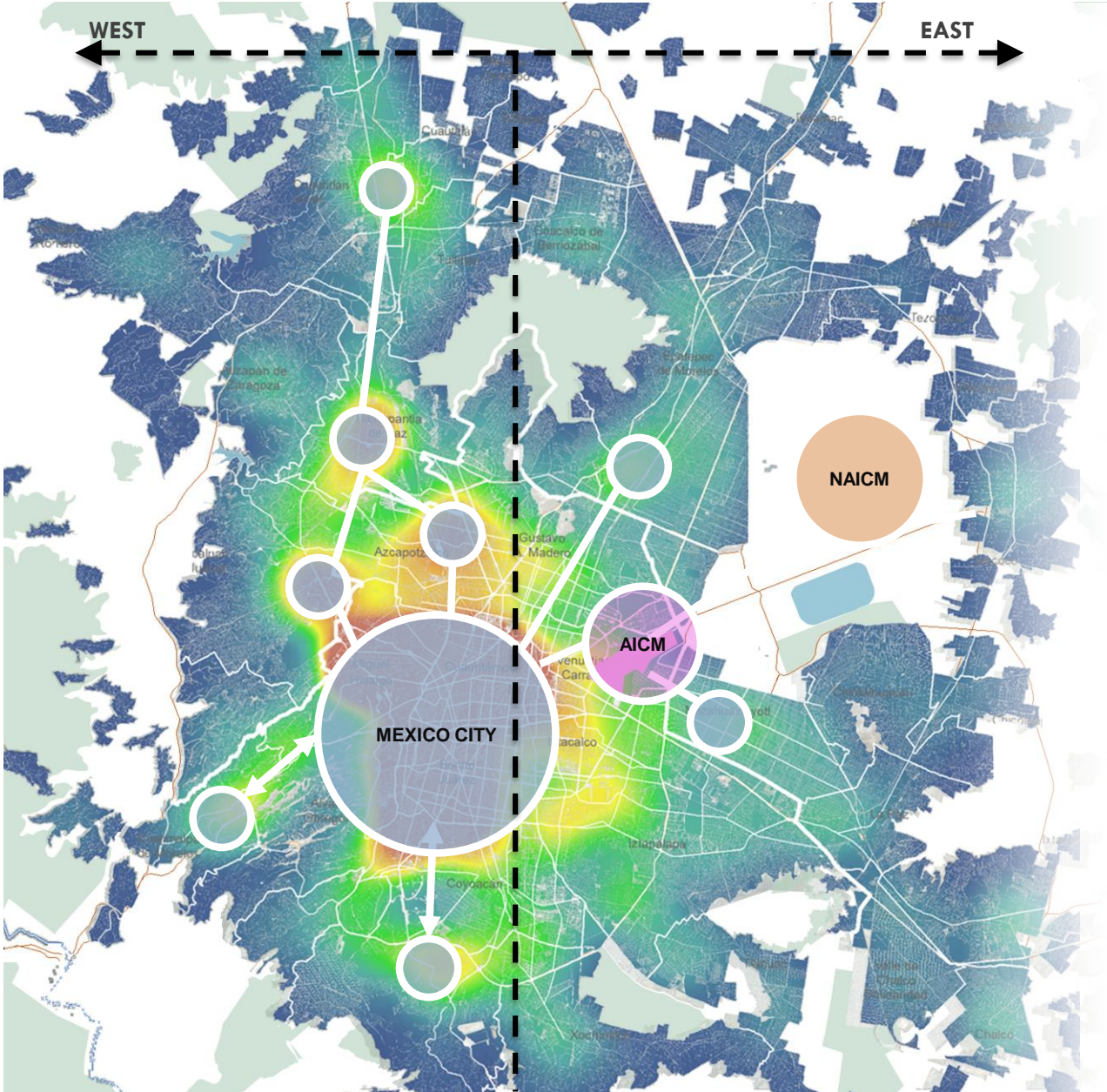
CASE STUDIES: AIRPORT REDEVELOPMENT



TRANSFORMING THE MEXICAN METROPOLIS:
REDEVELOPMENT OF AN OLD AIRPORT SITE

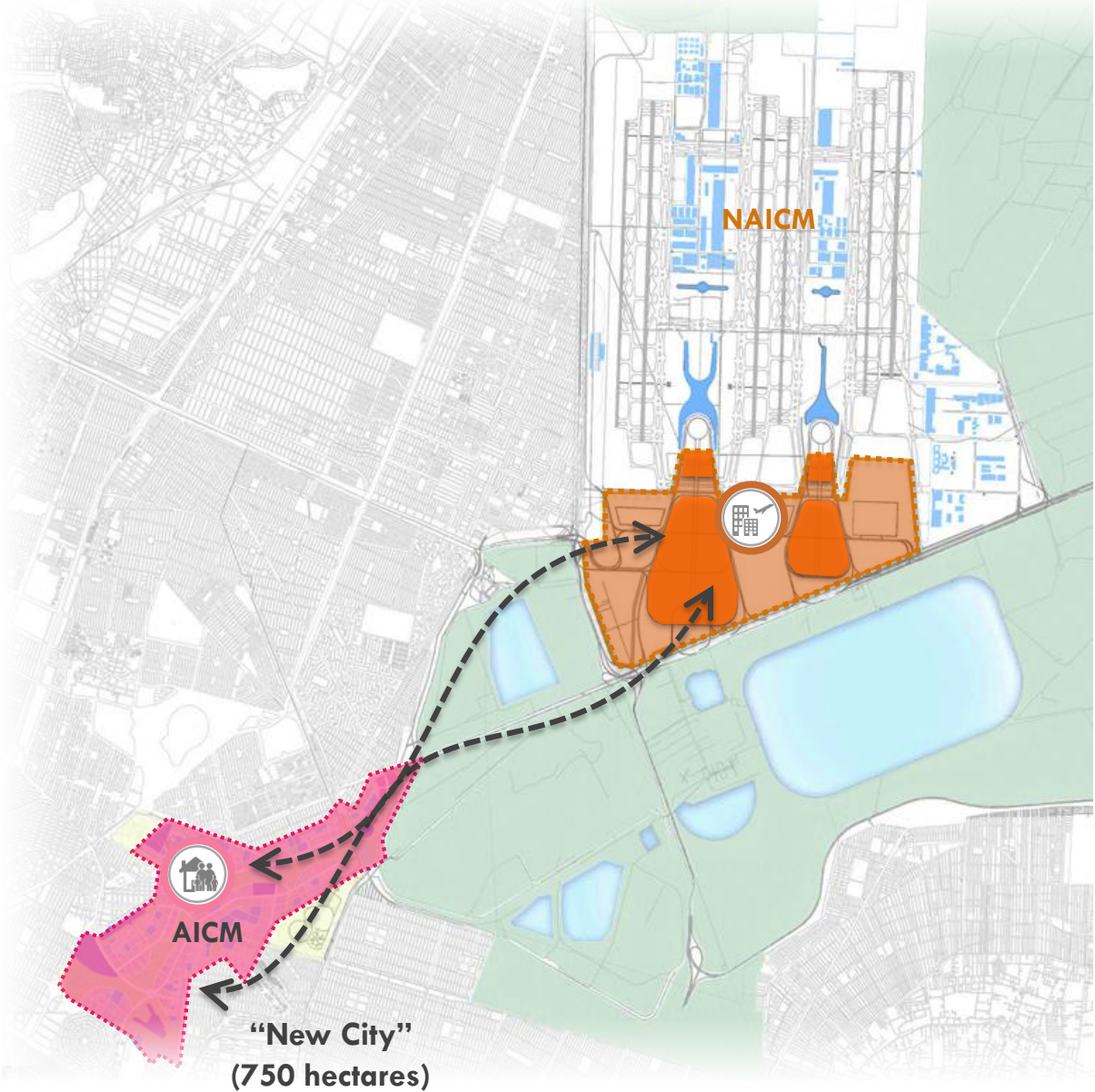
MEXICO CITY, MEXICO

MEXICO NEW INTERNATIONAL AIRPORT



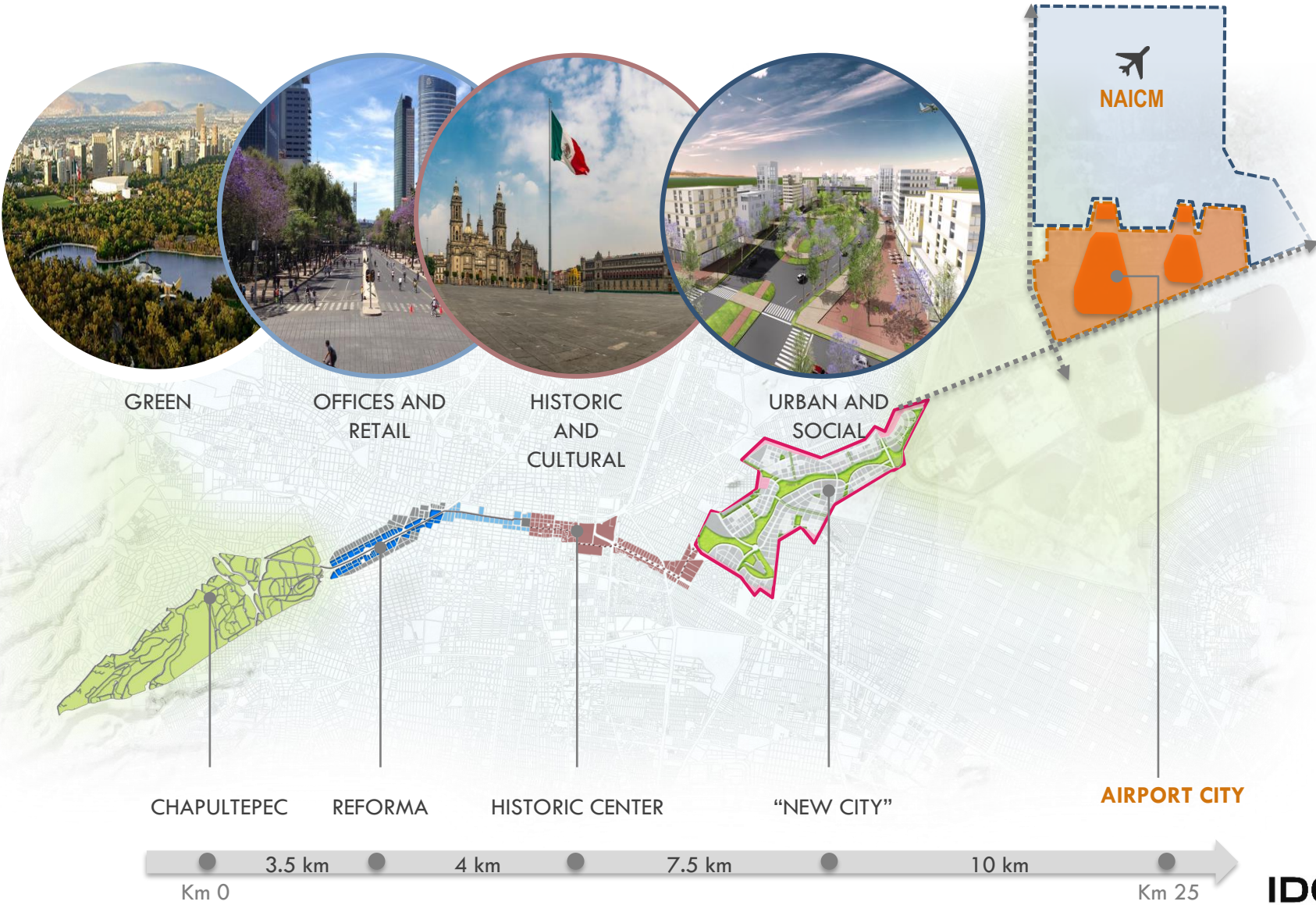
THE NEW AIRPORT WILL RELEASE LAND FOR URBAN DEVELOPMENT AT THE CURRENT SITE

New opportunity for redevelopment at the current airport's site (complementary uses and activities)



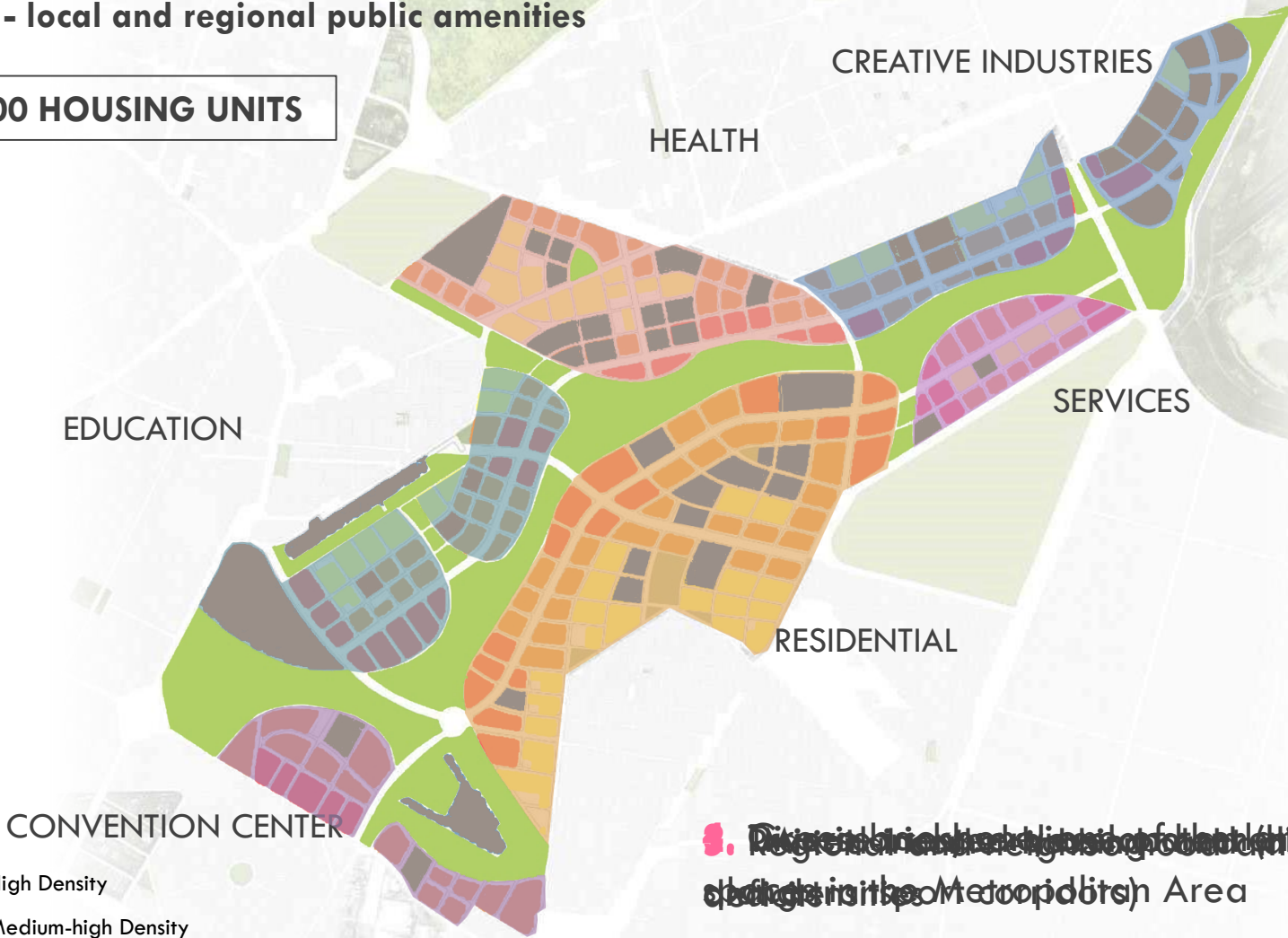
METROPOLITAN CORRIDOR

Planning for complementary (not competing) uses can create a strong civic, economic, cultural and green and cultural corridor and connect the East and West.



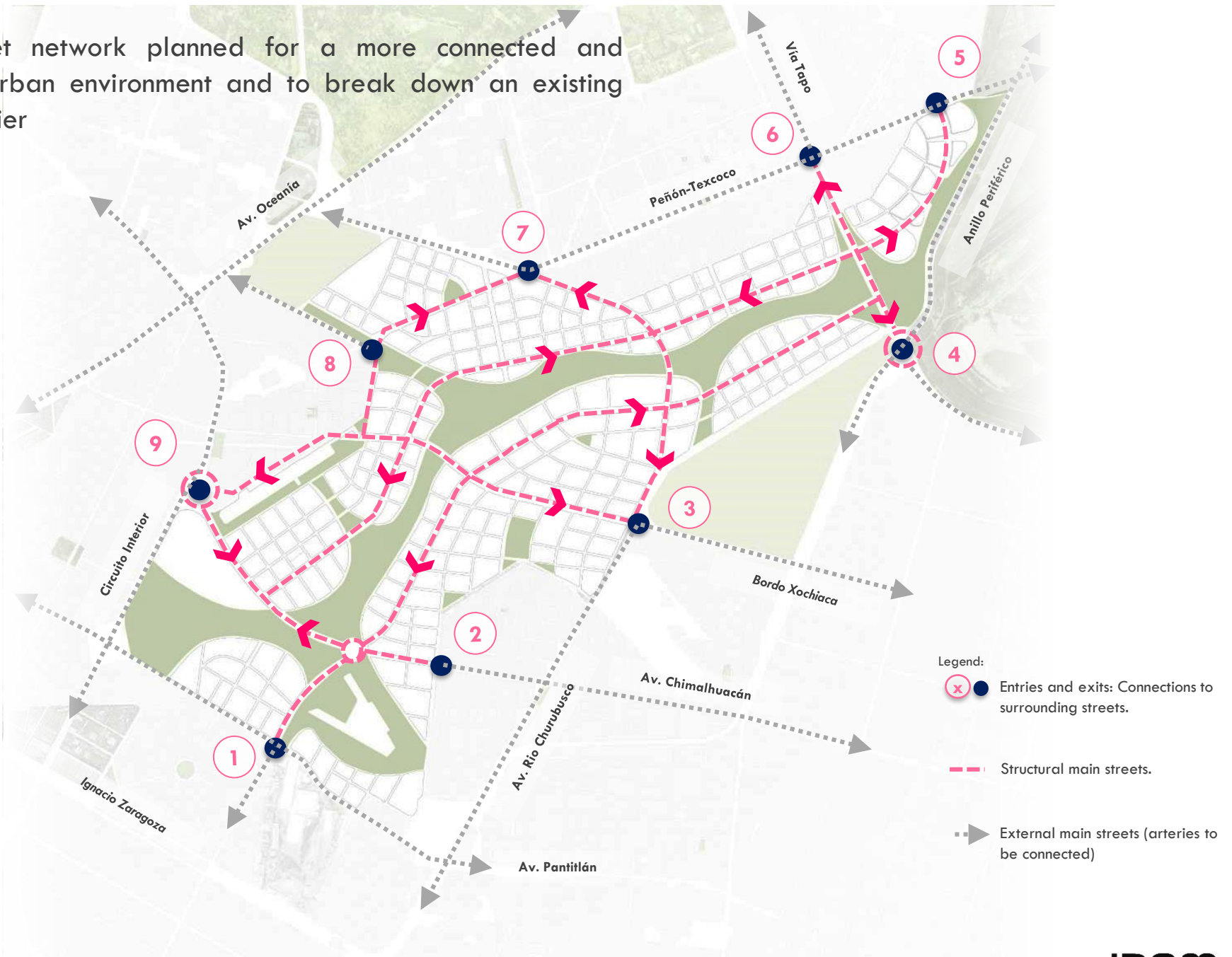
- 30% - mixed use areas (housing, commercial, offices)
- 10% - anchor uses (university, R&D, convention center, health center)
- 20% - green open spaces (e.g. corridor)
- 40% - local and regional public amenities

52,300 HOUSING UNITS



3. Regional and local public goods and services changes in the Metropolitan Area

A new street network planned for a more connected and permeable urban environment and to break down an existing physical barrier



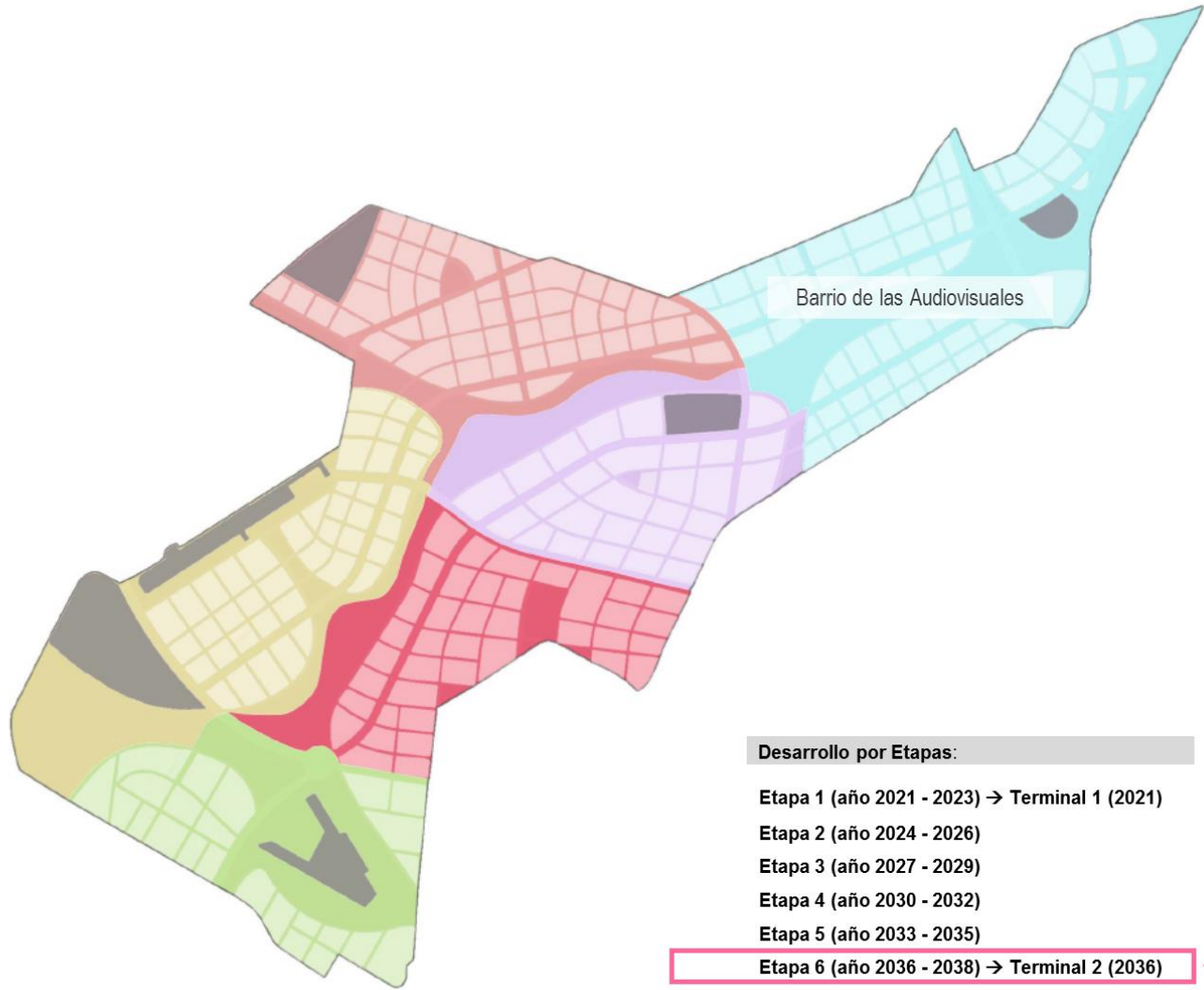
61% of trips to and from the site will be on public transportation

The Metro and BRT lines will incentivize sustainable mobility

Less parking to manage demand



The process will be implemented incrementally through 6 phases, to year 2038



Terminals 1 and 2 will be transformed into education facilities and a convention center



A unique opportunity for a new Metropolitan Park of 180 hectares





PLANNED CITY EXTENSION:
AIRPORT REDVELOPMENT

SOBRAL, BRAZIL

RELOCATION OF THE AIRPORT WILL RELEASE LAND FOR URBAN DEVELOPMENT

01

Relocation of the airport to a new site North, allows redeveloping the site for planned extension

02

A mixed-use urban environment, with mixed-income housing

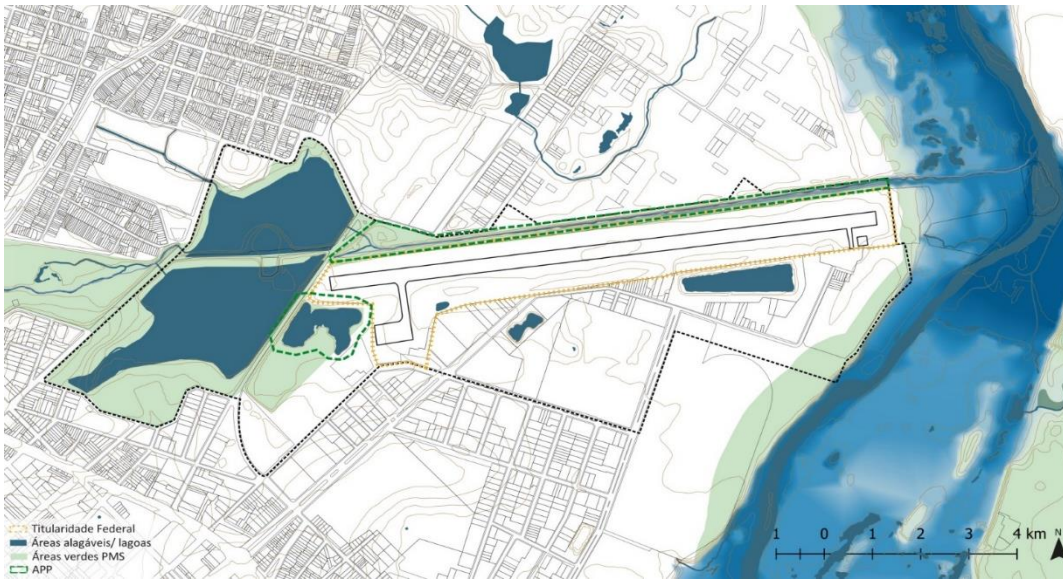
03

Land (current airport) will be given in exchange to the developer of the new airport



FLOOD ANALYSIS

The site is bordered by lagoons and a river that increase flood risk



ÁREA DE INFLUÊNCIA Inundações



MANCHA DE INUNDAÇÃO



TOPOGRAFIA

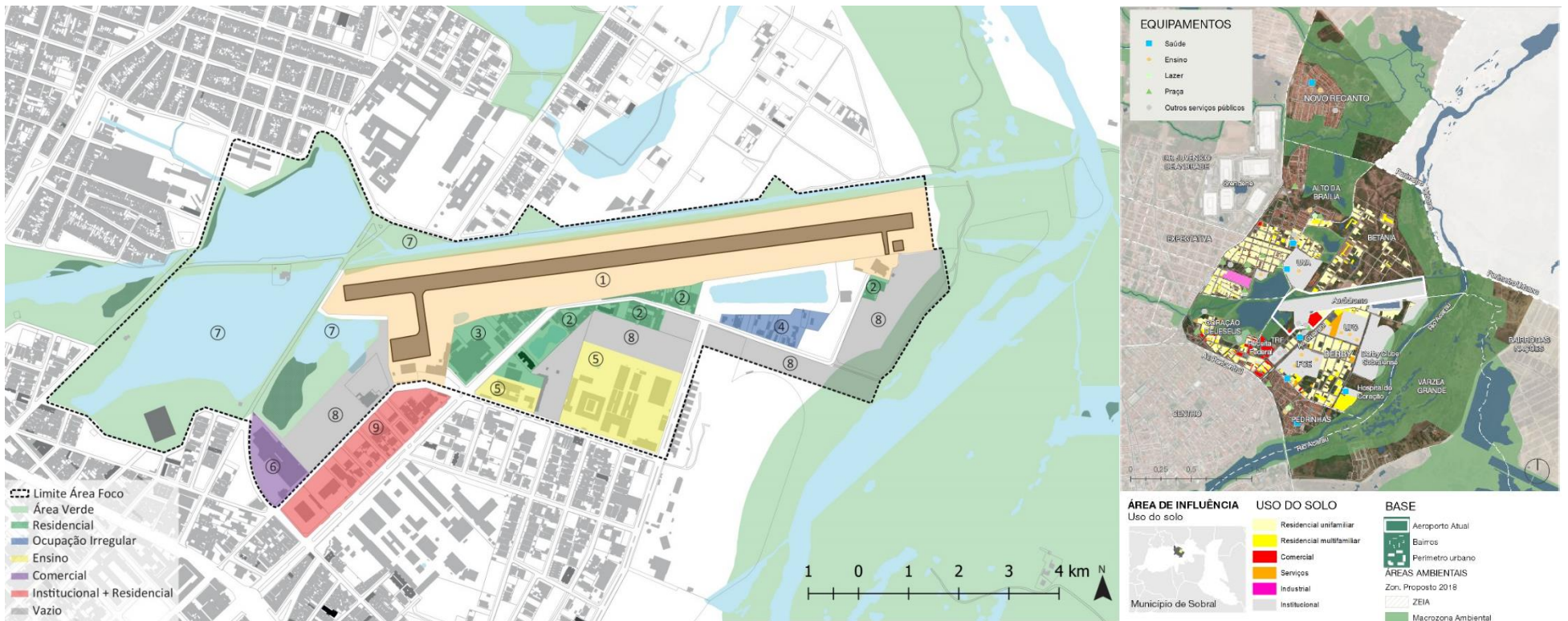


ÁREAS AMBIENTAIS



EXISTING LAND USES

Low-density residential area with few other uses; the airport occupies a large tract that performs as a physical barrier



PLANNING CONCEPTS



Compact development



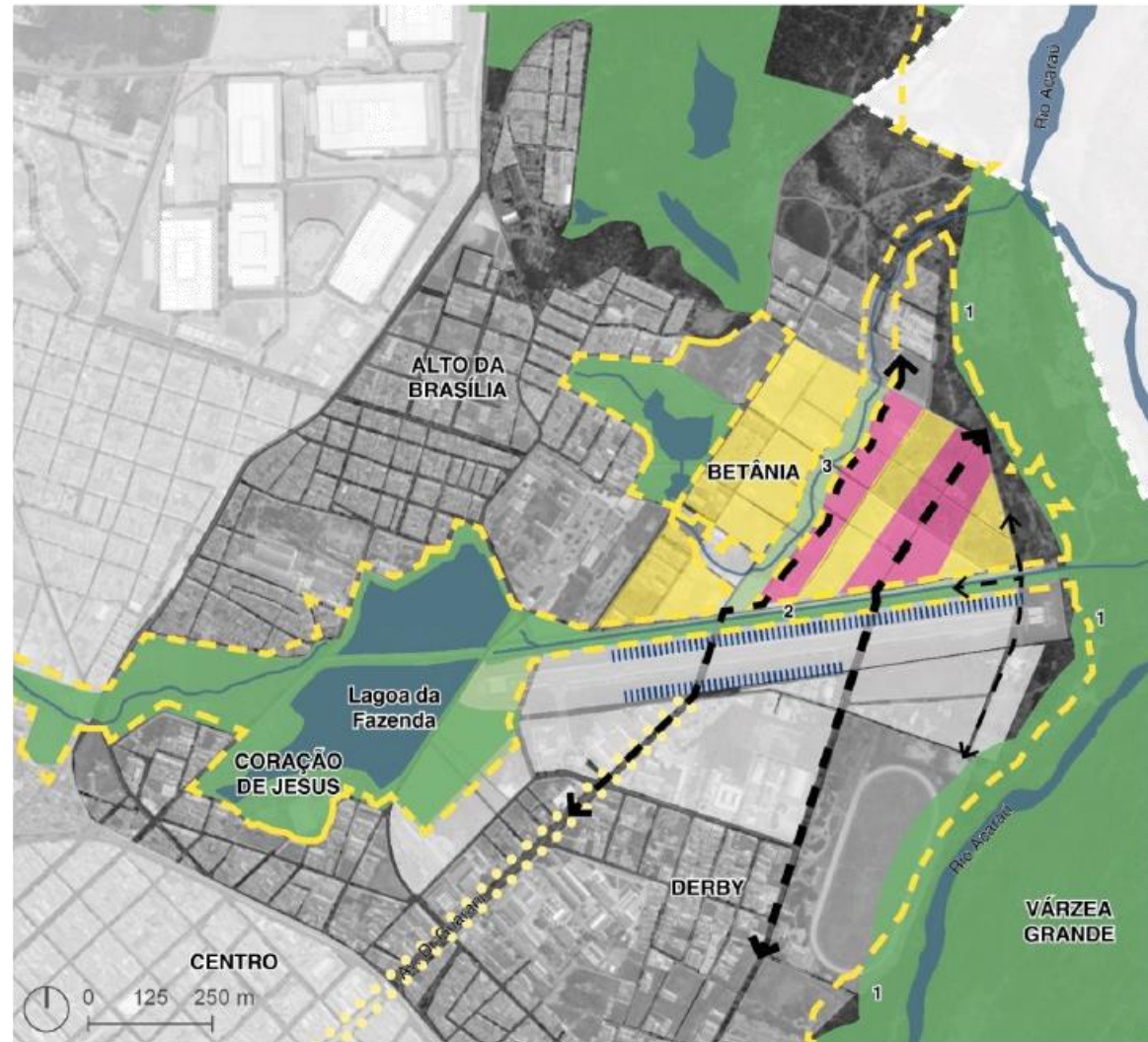
Mixed-income housing



Public and green spaces for recreation and risk mitigation



High connectivity



ÁREA DE INFLUÊNCIA DIRETRIZES



ARTICULAÇÃO

- NOVO SIST. VIÁRIO**
Transposição às barreiras físicas existentes criando novas articulações viárias
- BOULEVARD**
Ampliação do boulevard ao longo da Av. Dr. Guarani

ZONEAMENTO

- ZOC
- ZAP3

SISTEMA DE ESPAÇOS LIVRES

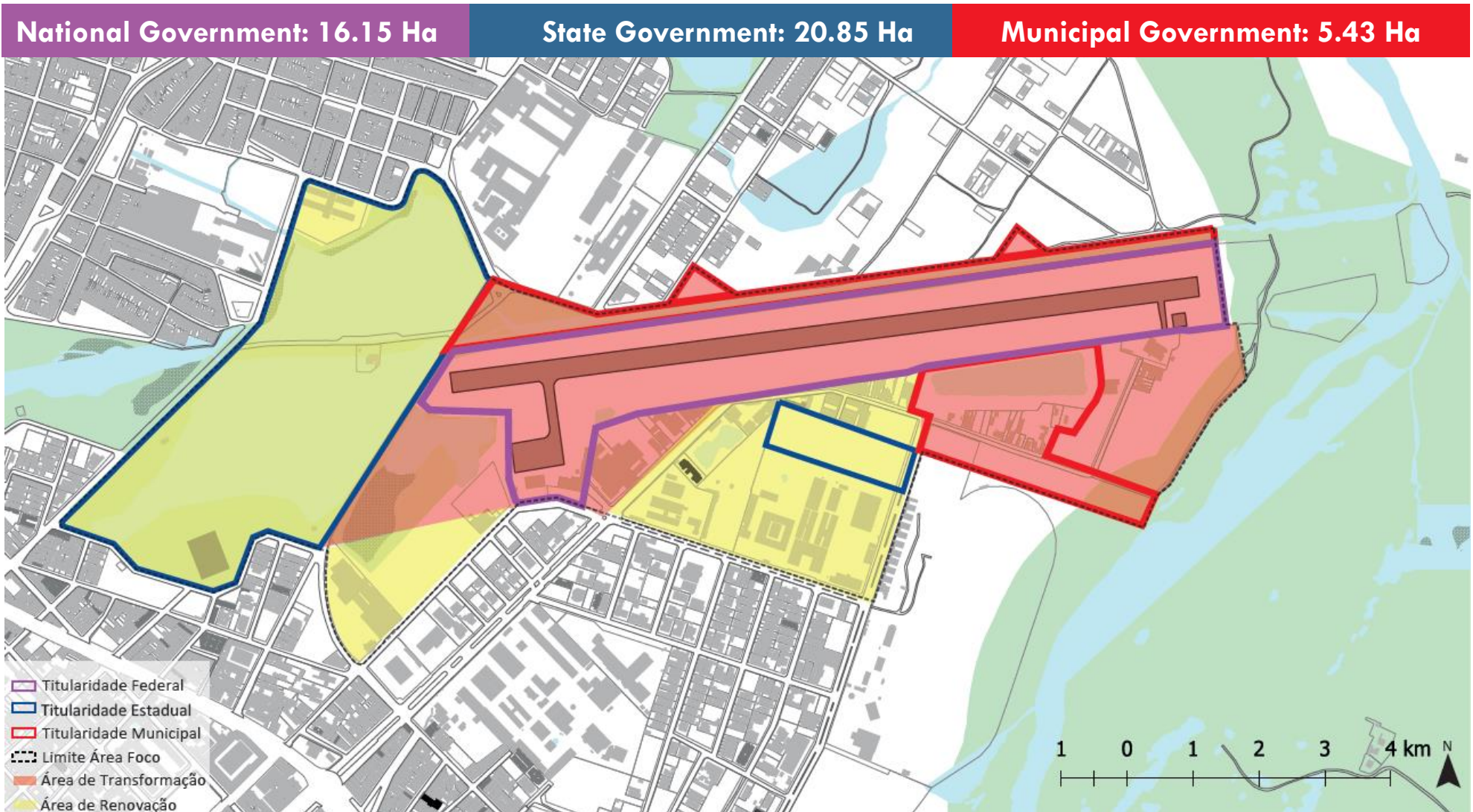
- PARQUES LINEARES**
 - Pq. linear do Rio Acaraú
 - Pq. linear de conexão entre a Lagoa da Fazenda e rio Acaraú
 - Pq. linear do córrego do Betânia

DRENAGEM

- Parques e áreas verdes (permeáveis) para incrementar capacidade local de drenagem do solo
- Melhorias para reverter os problemas de drenagem

PUBLIC LAND AS CATALYZER OF URBAN DEVELOPMENT

Public land for urban development and mixed-income housing in locations with higher connectivity and accessibility



NEW STREET NETWORK FOR A PERMEABLE AND CONNECTED BUILT ENVIRONMENT

Uses are planned according to new street hierarchy; non-residential uses along streets that provide access to all neighborhoods

Complete Streets: network to connect neighborhoods and regional infrastructure



Commercial boulevard: retail with a green median and pedestrian and cycling infrastructure



Commercial street: active façades with retail and other uses on both sides



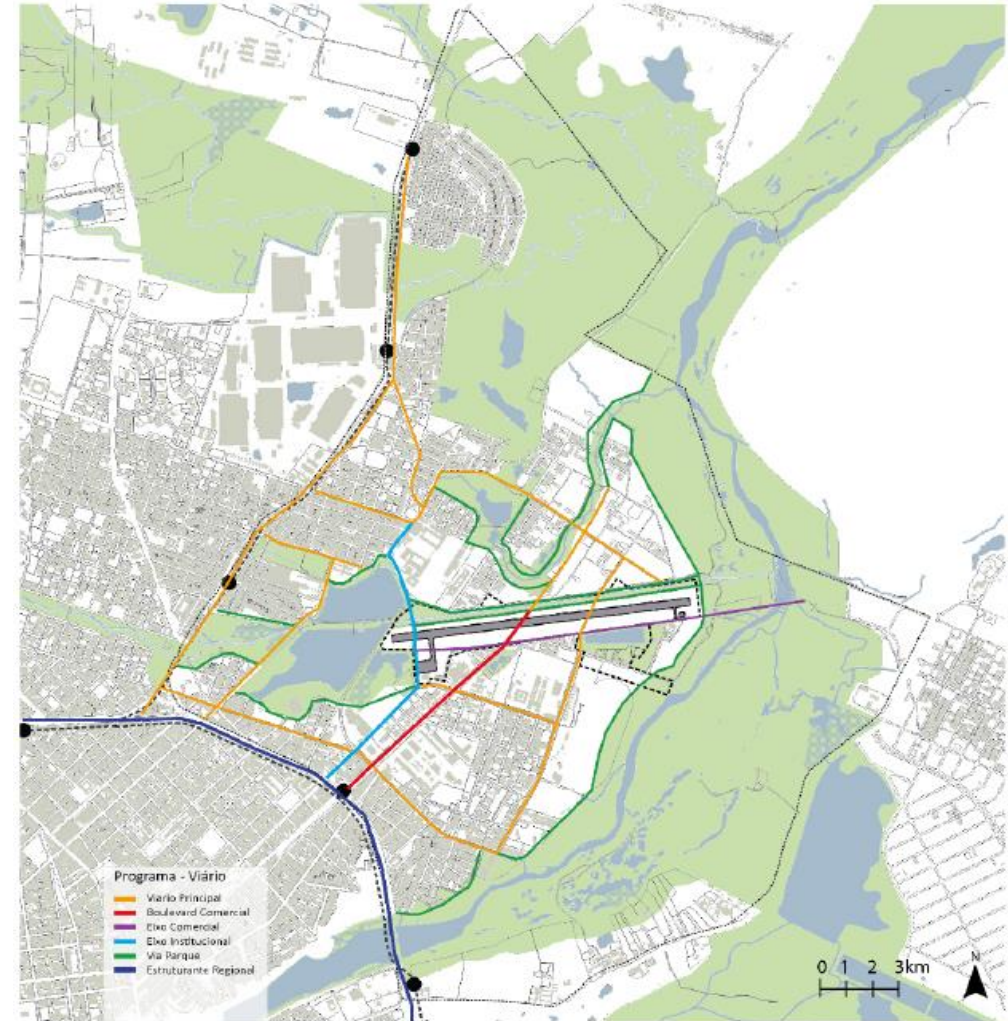
Institutional street: oriented towards institutional uses and services



Green trail: linear park with pedestrian and cycling infrastructure to connect open spaces



Regional road: higher capacity, connects the area at urban and regional scales



GREEN SPACE AS A RISK MITIGATION STRATEGY

A series of parks are created not only for recreational and mobility purposes but also to reduce flood risk

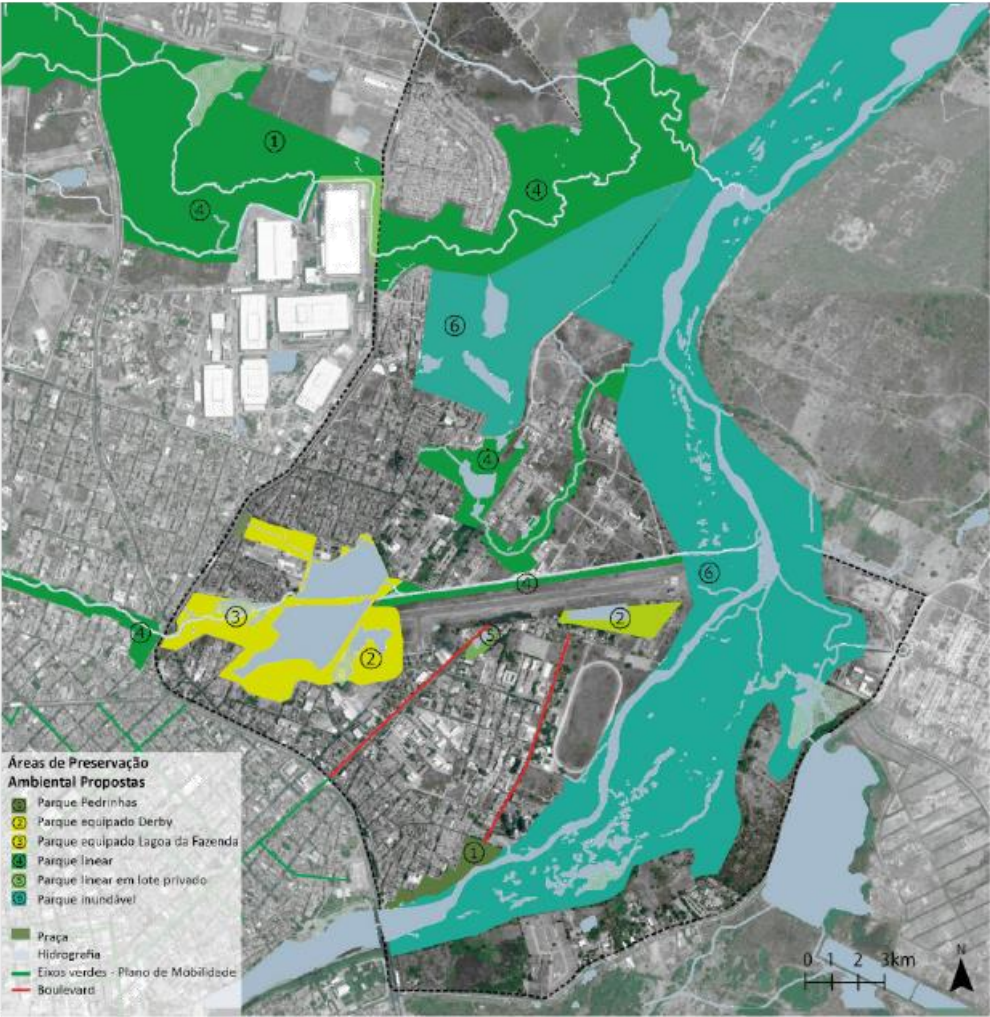
Green spaces in risk-prone areas



Green spaces to protect bodies of water

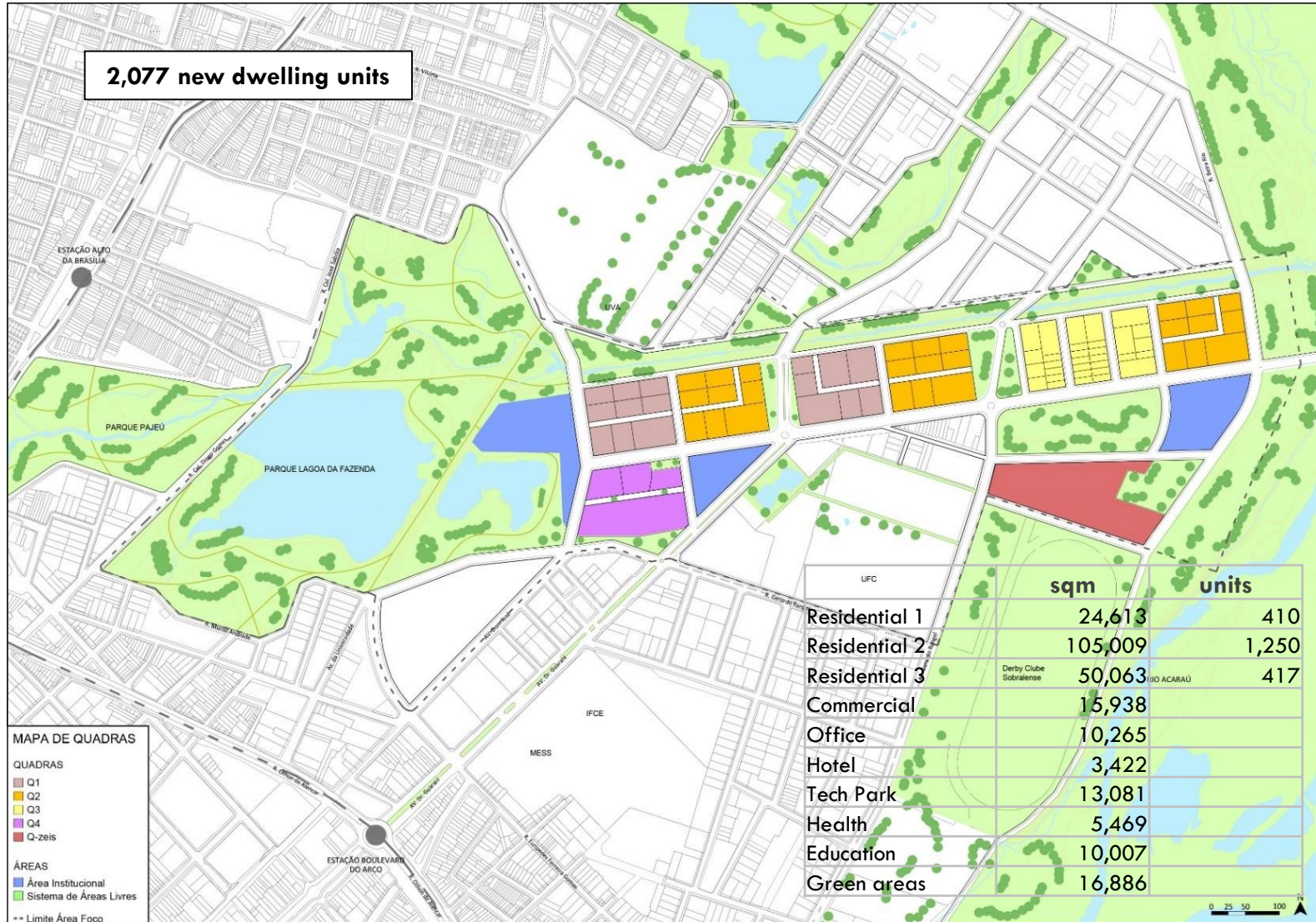


Green spaces to prevent informal occupation



BRINGING DOWN THE SCALE BY CREATING A NEW URBAN STRUCTURE

New block structure with mix of uses, including residential, commercial, office, hotels, tech park, health and education



VISION



05

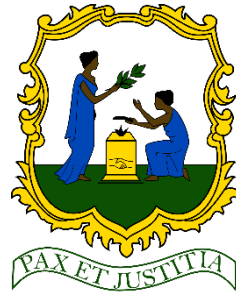
Q&A

LEGEND

-  Arnos Vale Community
-  River

- 1. Best use(s) for the previous airport (e.g. complementary)?**
- 2. Satisfy existing needs or foster new activities (e.g. tourism)?**
- 3. How to make it more accessible and well-connected?**
- 4. How to make it safer (e.g. risks)?**
- 5. What phases and priorities can be identified?**
- 6. What information/data is needed?**

Thank you!



GFDRR
Global Facility for Disaster Reduction and Recovery

ACP-EU Natural Disaster Risk Reduction Program

An initiative of the African, Caribbean and Pacific Group, funded by the European Union and managed by GFDRR



WORLD BANK GROUP
Social, Urban, Rural & Resilience