

GPSC Global Online Series 2021 – Report Launch
Monday, 14 June 2021, 8:30am ET

GREATER THAN PARTS

A Metropolitan Opportunity

How rapidly growing cities
utilize integrated planning to
decarbonize urbanization



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Sameh Wahba,
Global Director
Urban, DRM, Resilience and Land
World Bank



Ani Dasgupta,
Global Director
Ross Center for Sustainable Cities
WRI



Xueman Wang,
Senior Urban Specialist
GPSC Coordinator
World Bank



Joanna Masic,
Global Lead
Sustainable City Infrastructure and Services
World Bank



Shagun Mehrotra,
Senior Advisor
WRI



Myriam Ababsa,
Social Geographer, Ifpo
French Institute of the Near East



Beatriz Cardenas,
Air Quality Director
WRI Mexico



Wiwandari Handayani,
Associate Professor
Diponegoro University

GREATER THAN PARTS

A Metropolitan Opportunity

How rapidly growing cities
utilize integrated planning to
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Editors Shagun Mehrotra, Lincoln Lewis, Mariana Orloff, and Beth Olberding



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GREATER THAN PARTS

A Metropolitan Opportunity

Three Volumes:

- I Overview & Synthesis
- II Nine Case Studies
- III Metropolitan Atlas



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- 1 **Ahmedabad, India**
Scaling Up with Contiguous Replication of Town Planning Schemes
- 2 **Amman, Jordan**
Comprehensive Climate Plans Build on Integration with Transit and Participatory Refugee Housing
- 3 **Bangalore, India**
Crossing Boundaries to Integrate Core and Periphery
- 4 **Dammam, Saudi Arabia**
City of Mega-Projects
- 5 **Dar es Salaam, Tanzania**
Participatory River Basin Planning
- 6 **Medellin, Colombia**
Somos10—Integrating Ten Municipalities into One Metropolis
- 7 **Mexico City, Mexico**
Megalopolitan Integration to Combat Black Carbon
- 8 **Semarang, Indonesia**
Clustering and Connecting Locally Championed Metropolitan Solutions
- 9 **Shenzhen, China**
Rail + Property for Transit-Oriented Development



GREATER THAN PARTS

Overview

Cities are central in our quest for solutions to

- Grow our economies
- Deliver inclusion and
- **Address the climate crisis**

Often urban policymakers prescribe integration as the solution to steering urbanization towards decarbonization.

However, little is known about how cities in developing countries struggle and succeed in planning, financing, and implementing integrated urban solutions.

To understand how a variety of developing and emerging economies are successfully utilizing metropolitan-scale *horizontal integration* to deliver greater sustainability.

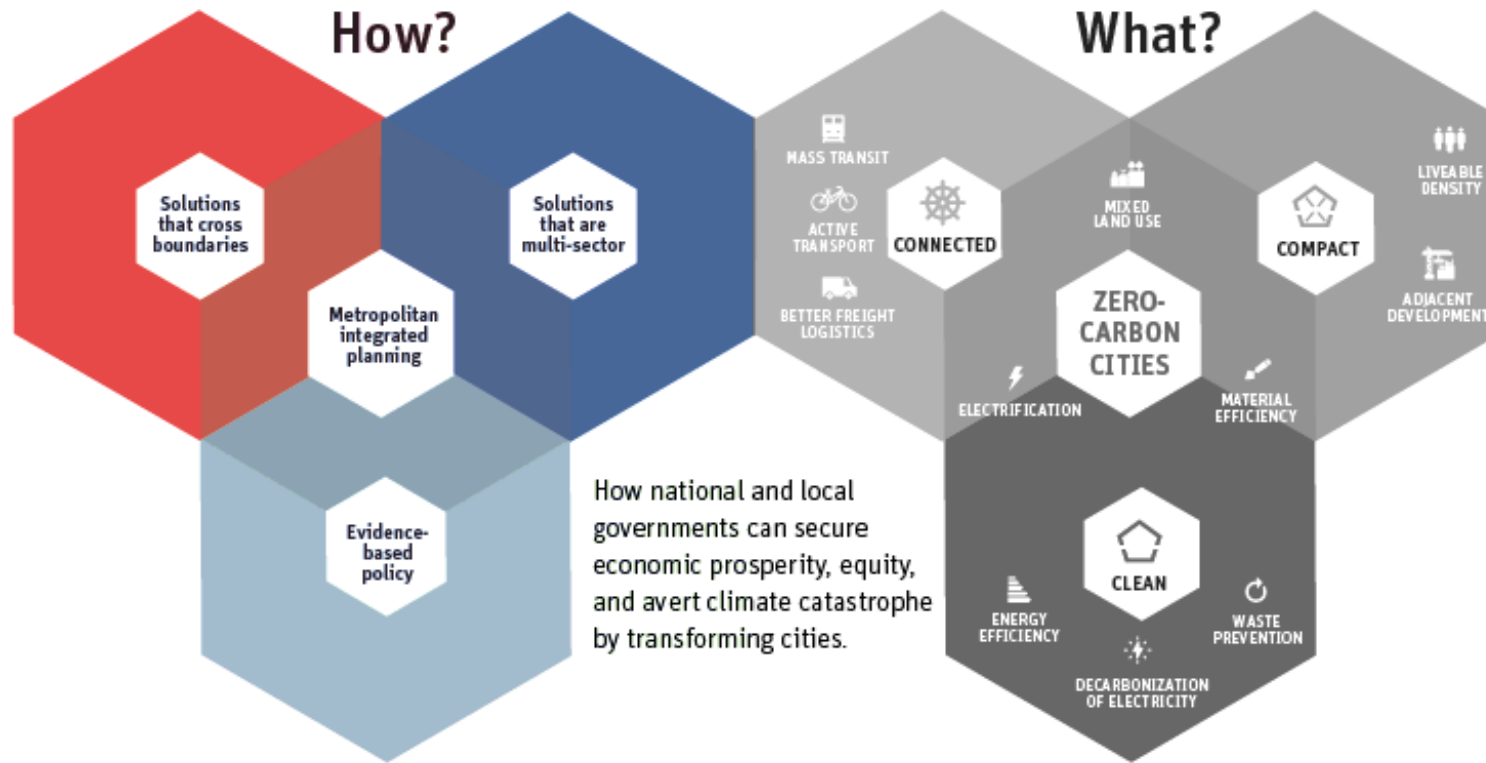
Definitions

Metropolitan—Solutions that cross administrative boundaries—serving multiple adjacent administrative areas that form one functional urban agglomeration.

Integration—Solutions that involve two or more sectors or themes—such as water, energy, transport, waste, housing, with land, governance, financing.

Greater Than Parts

Focus on How

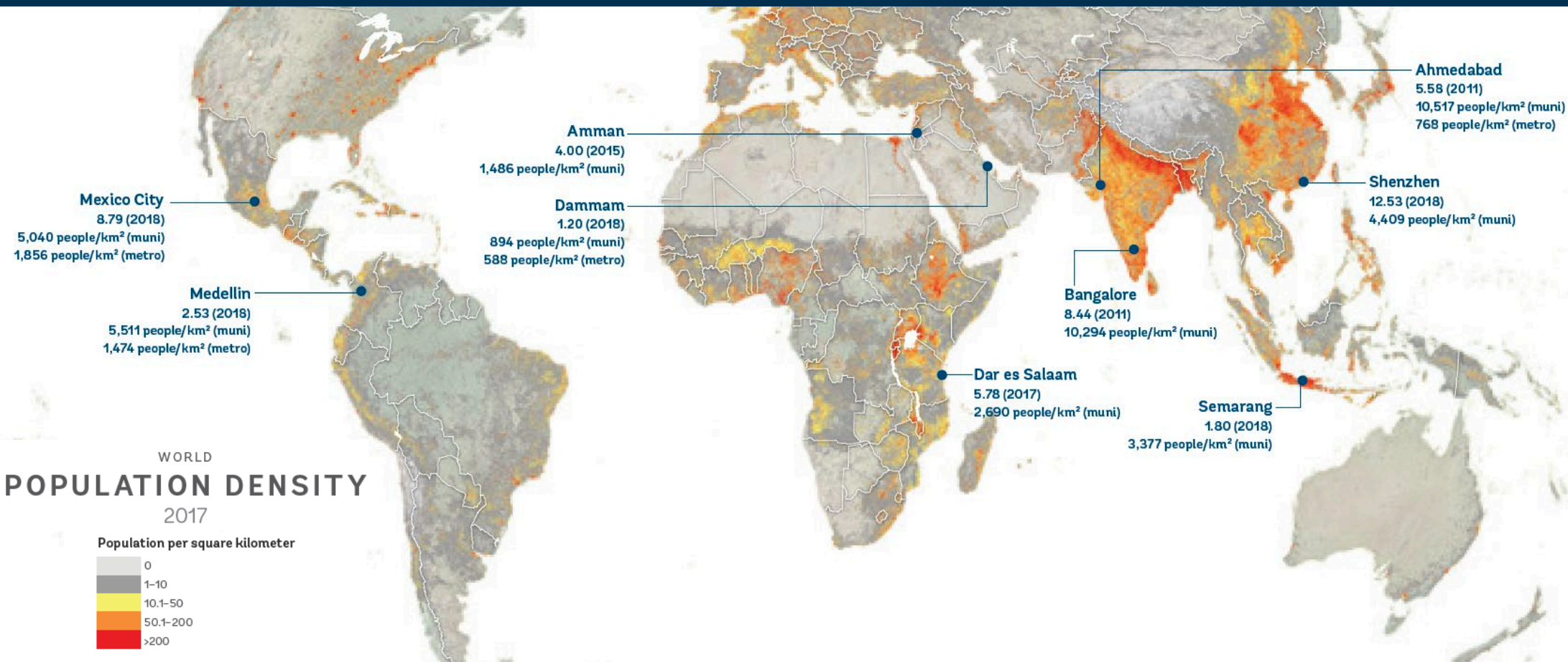


We focus on **how** to accelerate action. As much is known about what to do.

**We do this with
9 deep dive
case studies** 

We unpack the know-how through 9 deep dives

Metropolitan Case Studies



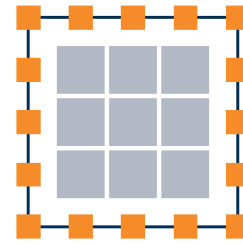
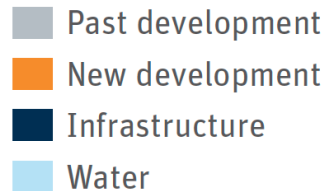
GREATER THAN PARTS

A Metropolitan Opportunity

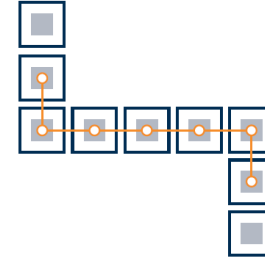
3 Key Messages

Many Models

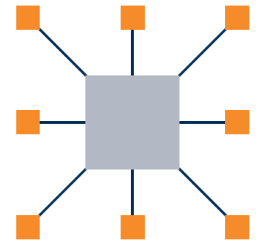
- Urban actors utilize many **methods** to integrate metropolitan fragmentation.
- And these models deliver a variety of **outcomes**—from equity and growth to decarbonization and sustainability.



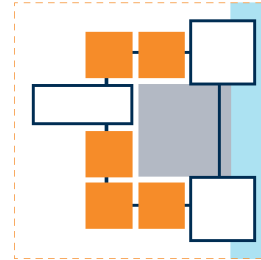
AHMEDABAD



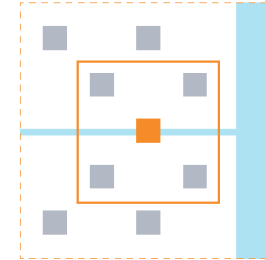
AMMAN



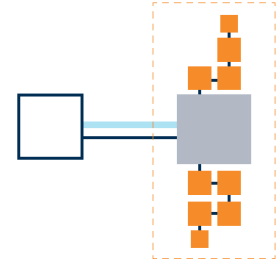
BANGALORE



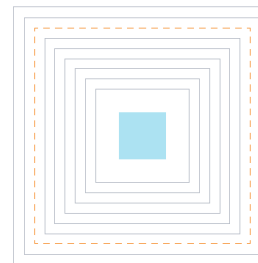
DAMMAN



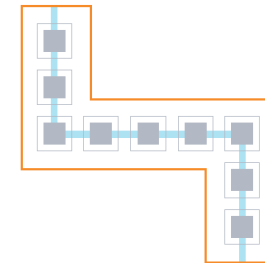
DAR ES SALAAM



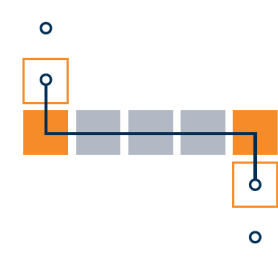
MEDELLIN



MEXICO CITY



SEMARANG



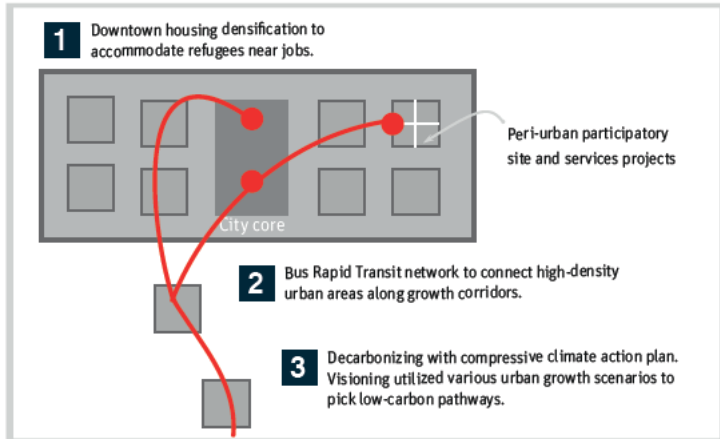
SHENZHEN

Key Message 1

Unpacking Three Models

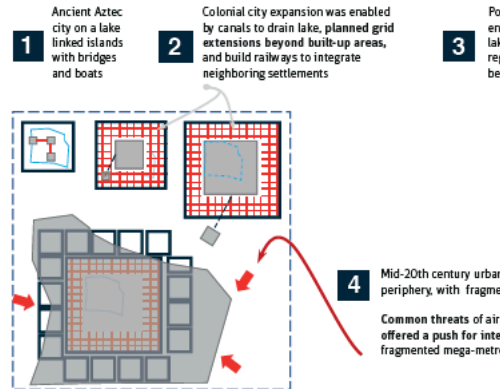
1 How cities integrate climate action with transit, refugee housing, and inner-city revitalization.

Amman Jordan



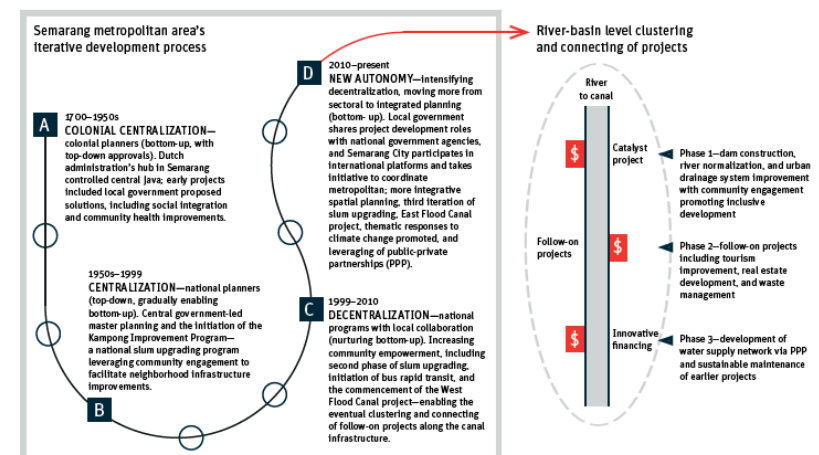
2 How municipalities within fragmented metropolitan agglomerations collaborate to improve air quality for all.

Mexico City Mexico



3 How clustering urban regeneration and greenfield projects in phases along linear infrastructure delivers multiple benefits.

Semarang Indonesia

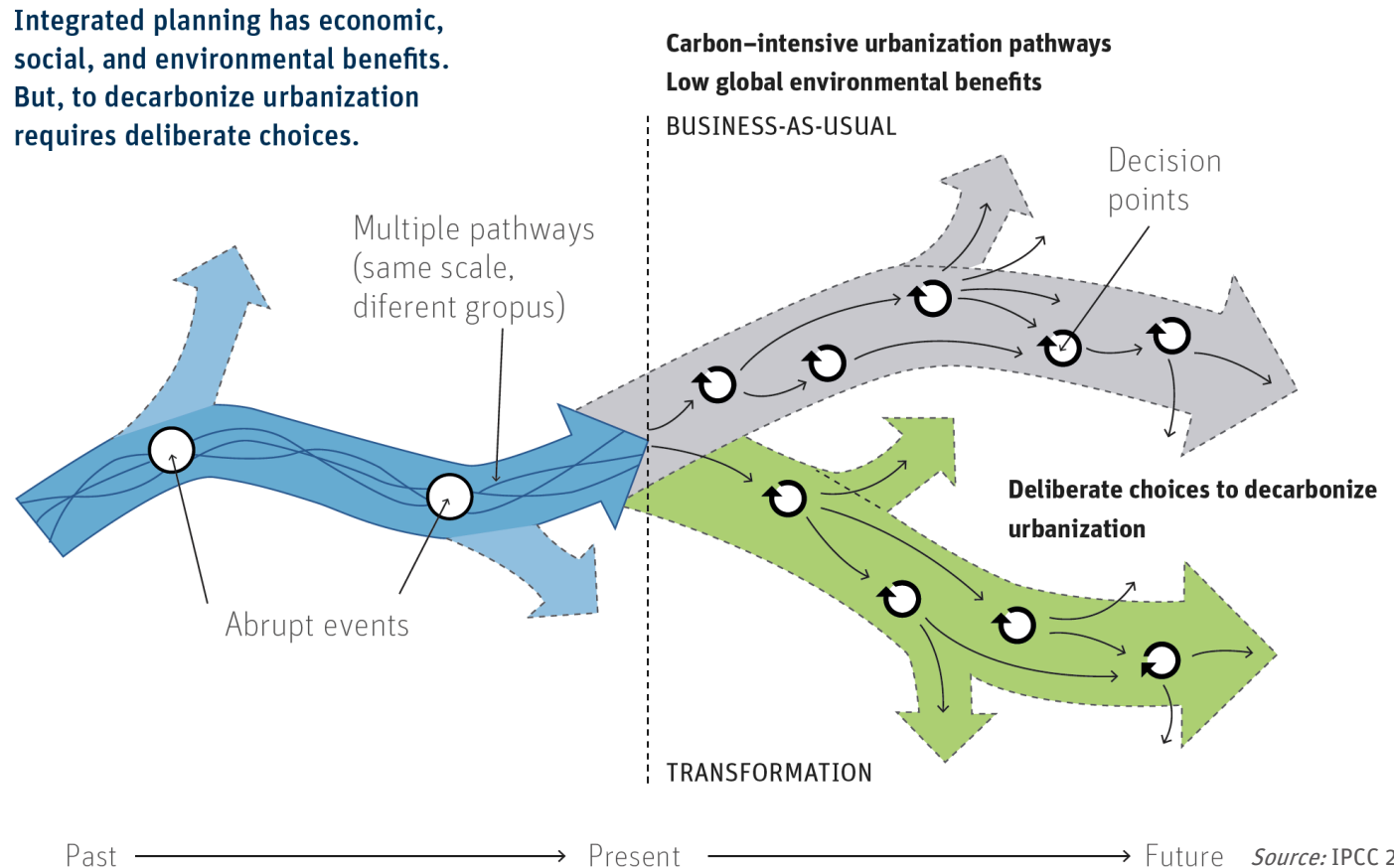


Global environmental benefits can be scaled up.

- Many models, many pathways
- Key is to have a deliberate approach to deep decarbonization

Three ways to scale up

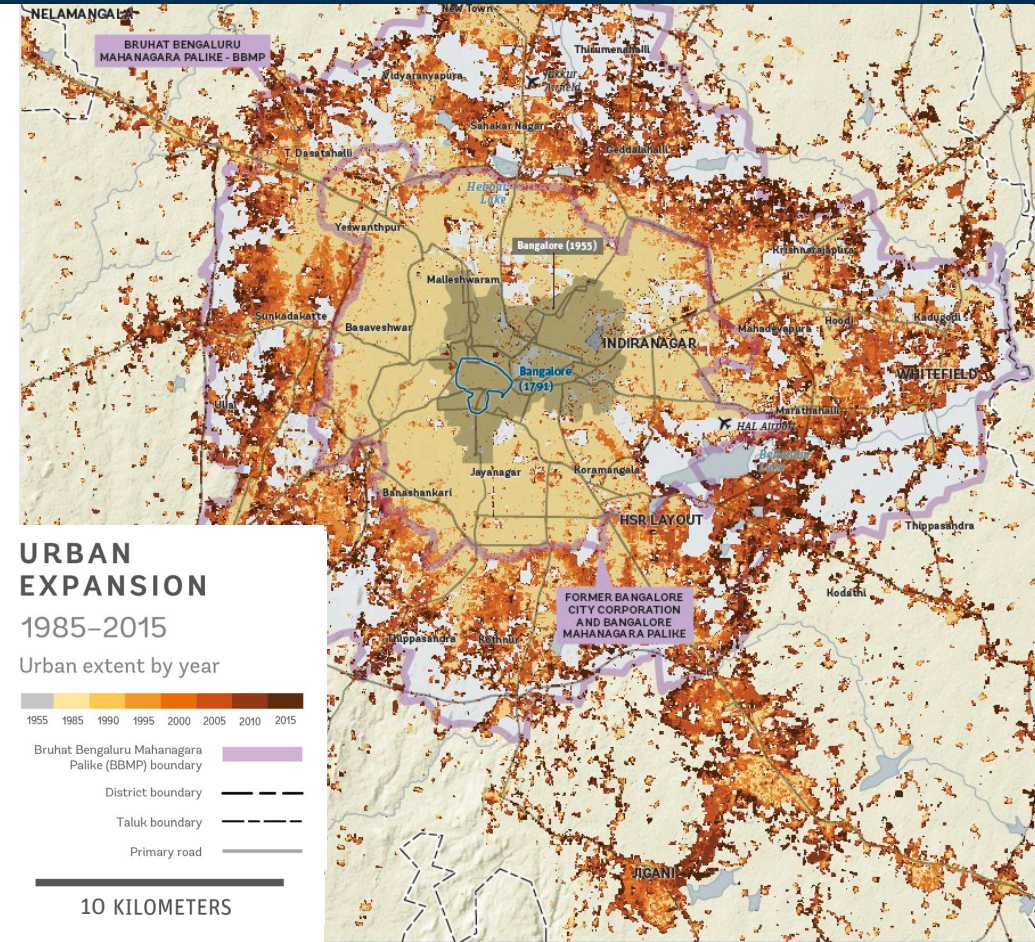
1. Demand decarbonized energy
2. Electrifying urban systems
3. Seek urban efficiencies



Metropolitan analytics offer new opportunities.

Using old and new data to integrate solutions.

- Population density
- Urban expansion
- City services
- Road hierarchies
- Black carbon
- Urban heat island
- Mass transit
- Urban morphology
- Then and now—built area change



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Call to Action

Scale up for Impact

1

SET AMBITIOUS GOALS.

- Aim to achieve a net zero-carbon metropolis by 2050 or earlier.
- Make decarbonization the overall objective of integrated planning.

2

DEPLOY METRO DIAGNOSTICS AND DIALOGUE.

- **Diagnose** the metropolitan agglomeration using before-and-after mapping and planning tools to reveal coordination possibilities.
 - Densify the core
 - Place a grid before growth on the periphery
- **Dialogue**—Seek coordination or coalition.

Scale up for Impact

3

BE PRAGMATIC ABOUT FINANCING AND LOOK FOR SYNERGIES.

- **Build a mosaic** of integrated planning that enables density, diversity, and dollars.
- **Mobilize finance** through combined sources.
- **Seek synergies** among traditionally fragmented themes. Break sector silos strategically and cross boundaries to collaborate on issues of collective interest, even as municipalities may compete against one another to attract private investments.

Amman, Jordan

Comprehensive Climate Plans

Myriam Ababsa and Ahmad Z. Abu Hussein



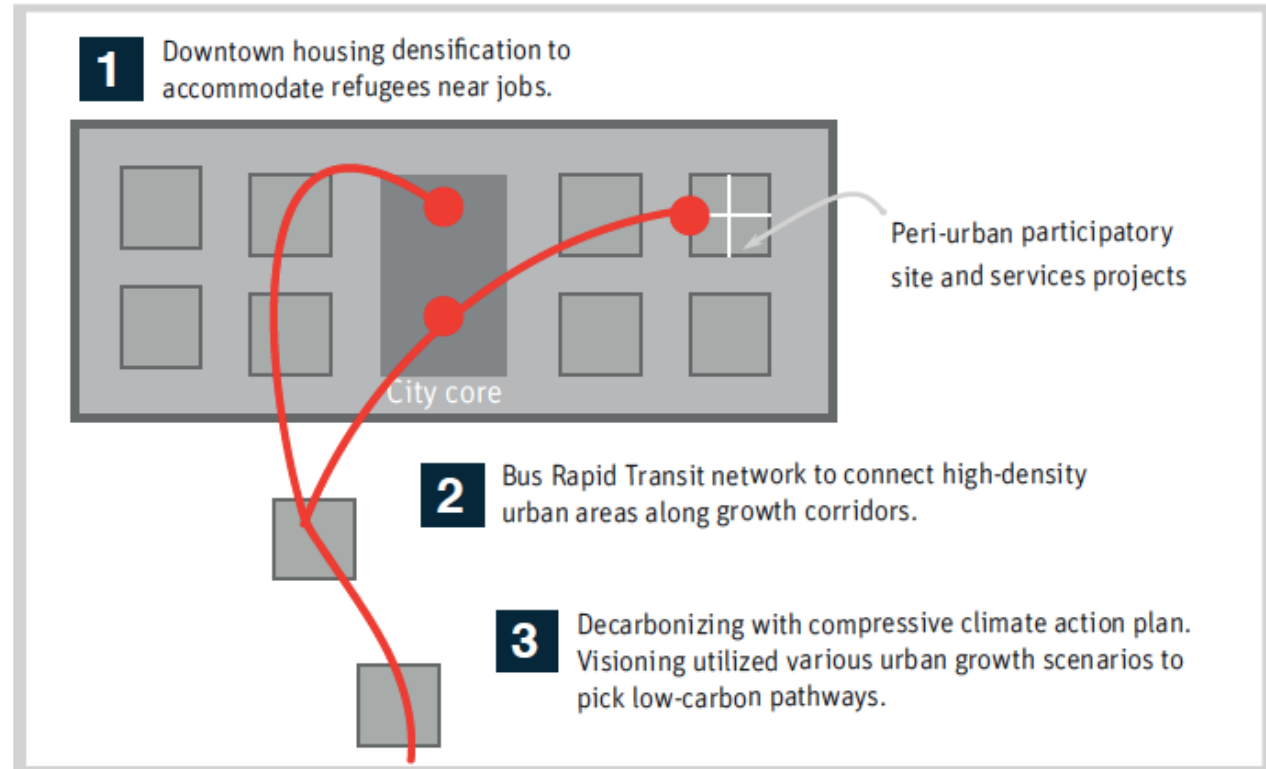
Amman

- A dense city of 4 million, with one million Palestinian and Syrian refugees.
- Amman suffers from aridity and energy dependency. It lacks green spaces and sufficient public transportation.
- However, it is the first Arab city with a Climate Plan (2019), a Resilience Plan (2017), a Green Plan (2021).
- The Bus Rapid Transit decided in 2008 (Master Plan) will be operational end 2021.



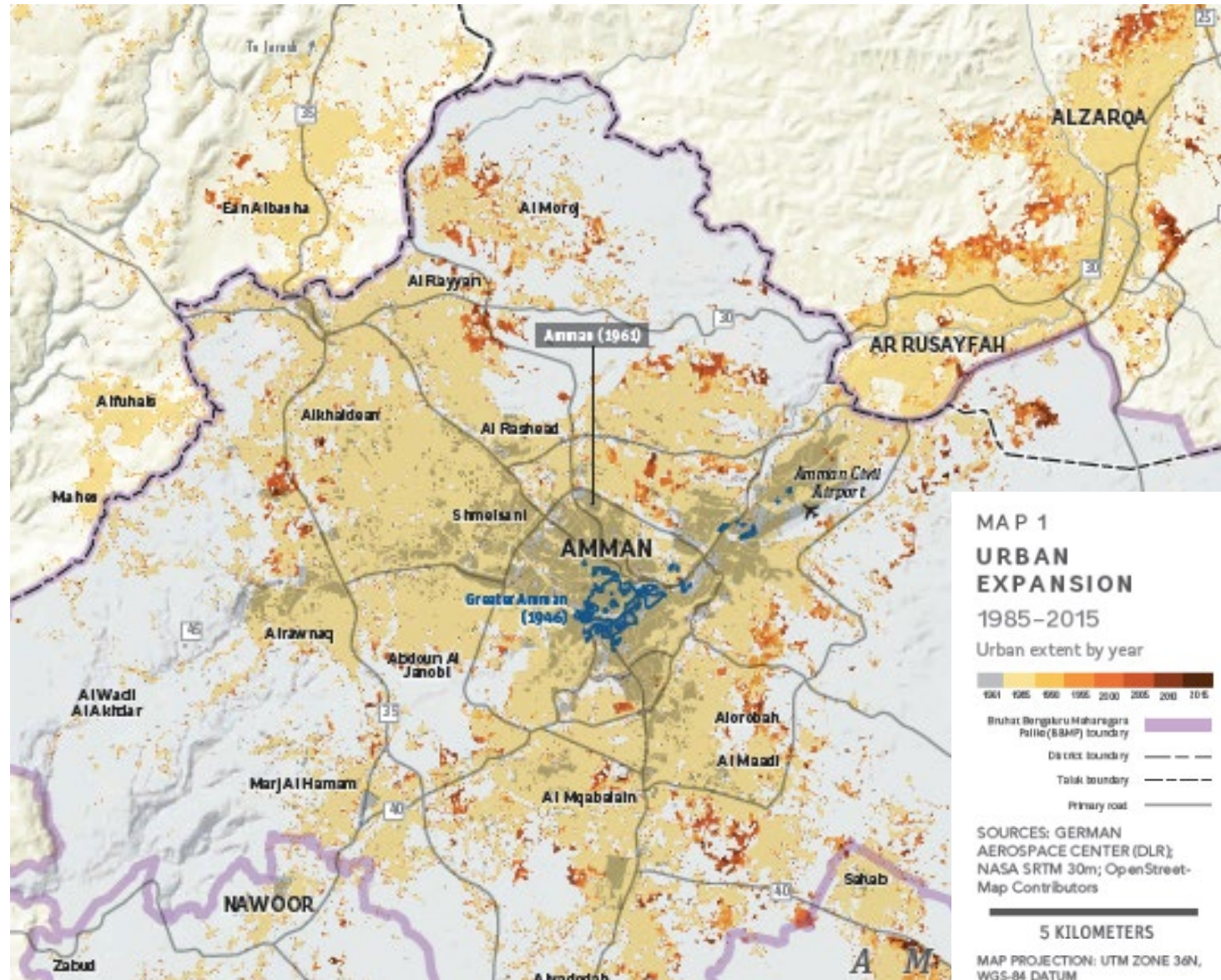
Climate Action Plan with BRT and core city revitalization with participation of refugee population

- Scaling up decarbonizing with climate action plans and new BTRs, on foundations of socially inclusive housing and core city revitalization (Amman).
- The city has no slums anymore due to an active policy of upgrading with public participation in the 1980's. However, a third of the population lives in informal dense areas.



Urban Expansion

- Dense development toward east and agglomeration with Rusayfah and Zarqa. High densities and industries.
- Residential development toward west, embassies, banks, CBD.
- Town center – with Roman archaeological sites and market – currently revitalized.

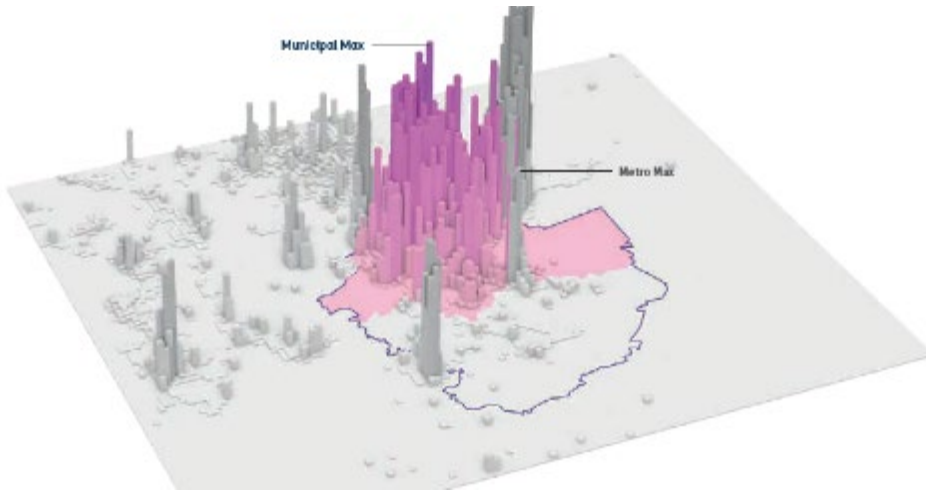


Population Density (2000–2017)

- Rapid population increase in the eastern part of the city, poor and lacking services. Where the refugees have settled.
- Bus feeders to connect to the BRT and the city center.
- Housing crisis due to mismatch between offer and demand, land speculation due to lack of taxation on vacant land.

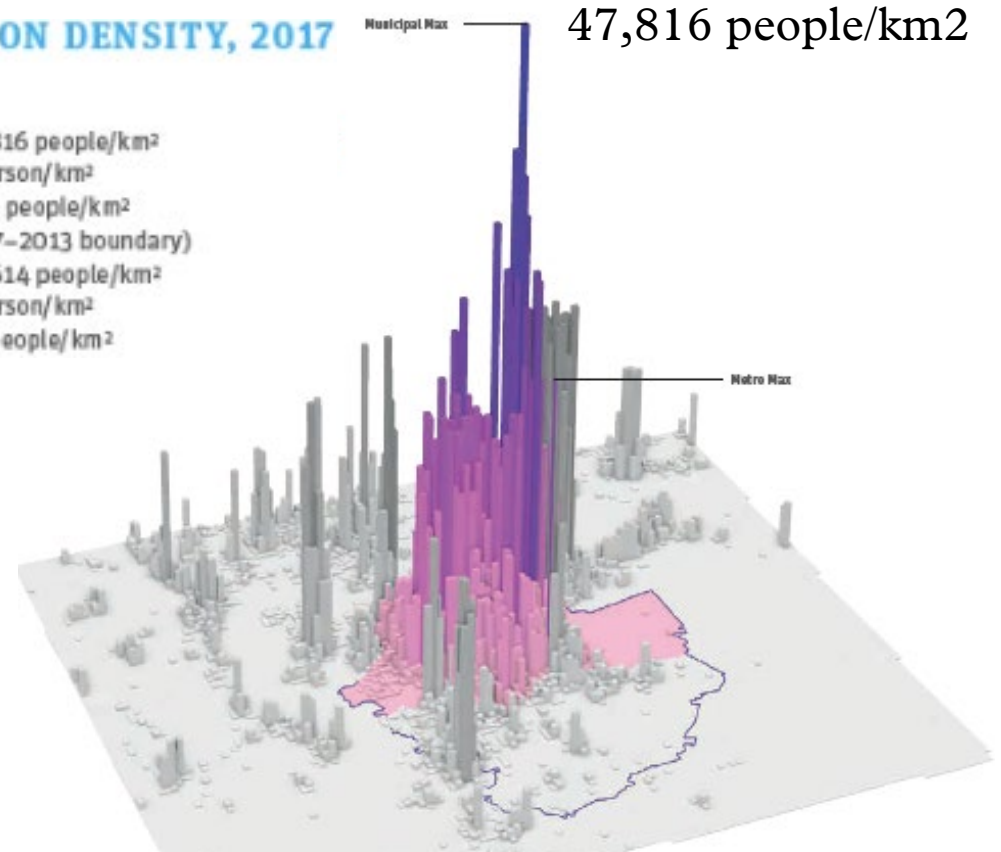
POPULATION DENSITY, 2000

Municipal
Maximum: 20,014 people/km²
Minimum: 2 people/km²
Average: 1,543 people/km²
Metro (using 2007–2013 boundary)
Maximum: 10,483 people/km²
Minimum: 3 people/km²
Average: 107 people/km²



POPULATION DENSITY, 2017

Municipal
Maximum: 47,816 people/km²
Minimum: 1 person/km²
Average: 2,796 people/km²
Metro (using 2007–2013 boundary)
Maximum: 23,614 people/km²
Minimum: 1 person/km²
Average: 260 people/km²



Mexico City, Mexico

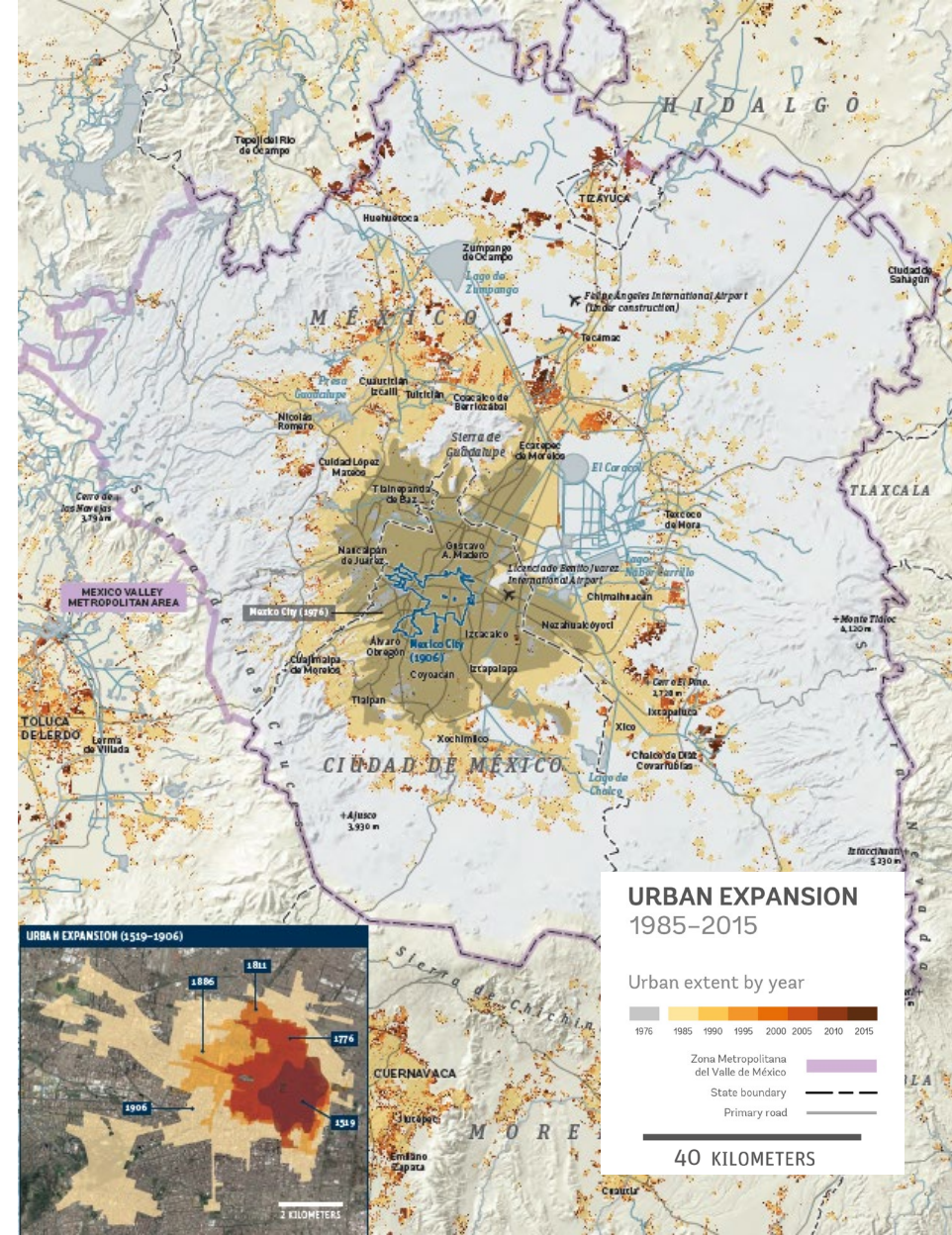
Megalopolitan Integration to Combat Black Carbon

Natalia Garcia, Beth Olberding, and Jorge Macías



Megalopolitan integration

- In the 1950s, the city expanded rapidly without structured, coherent regional planning
- History of failed attempts to coordinate metropolitan planning in the ZMVM
- Metropolitan Environmental Commission (Comisión Ambiental Metropolitana: CAM) formed to respond to an immediate environmental crisis and has expanded to a megalopolitan scale
- Air pollution focused on mobility, land use, and institutional coordination



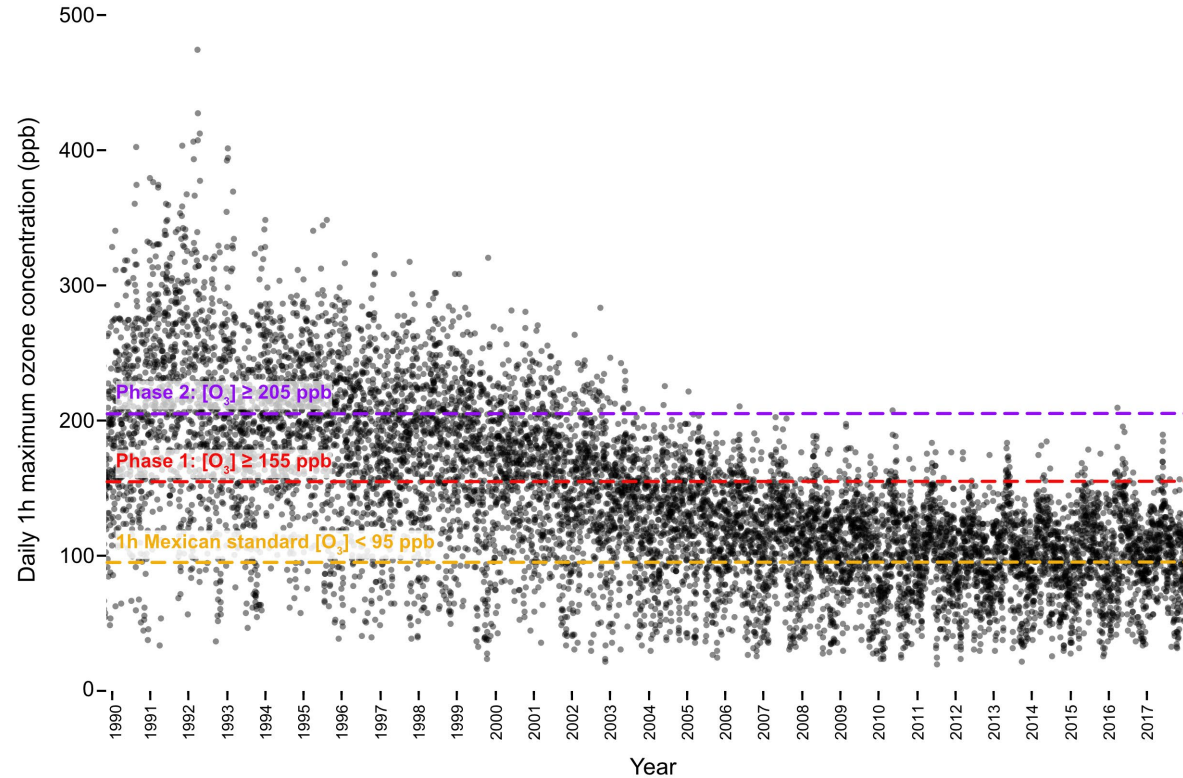
Urgent and universal crisis

- Responded to an urgent and universal crisis in 1992
- Some factors that contributed to Mexico City's success with air quality management are its institutional arrangements and coordinated actions among different levels of jurisdictions through the CAME
 - Consistently financed
 - Technical expertise
 - Legitimacy
 - High capacity



Improved air quality and reduced GHG emissions

- Improving air quality and reducing greenhouse gas emissions through multi-pronged policy package
- Air pollutant emissions have decreased significantly, fewer non-attainment days but not yet there



Retama (2020), with data from SEDEMA 2018.

Scaled across Mexico

- Expanded from metropolitan to meglapolitan scale to adequately address air pollution (CAM to CAME--CAME: Hidalgo, Morelos, Puebla, Tlaxcala, and Queretaro, as well as maintaining Mexico City and the state of Mexico)
- ProAire policy package has been replicated in other Mexican cities
- Most air quality actions under CAME are potentially replicable in other cities since the ProAire programs and contingency plans include actions that cover most of the fixed and mobile sources of emissions



Clustering and Connecting Locally Championed Metropolitan Solutions



Integration in Greater Semarang Project

cross-jurisdiction integration

the location crosses local administrative areas

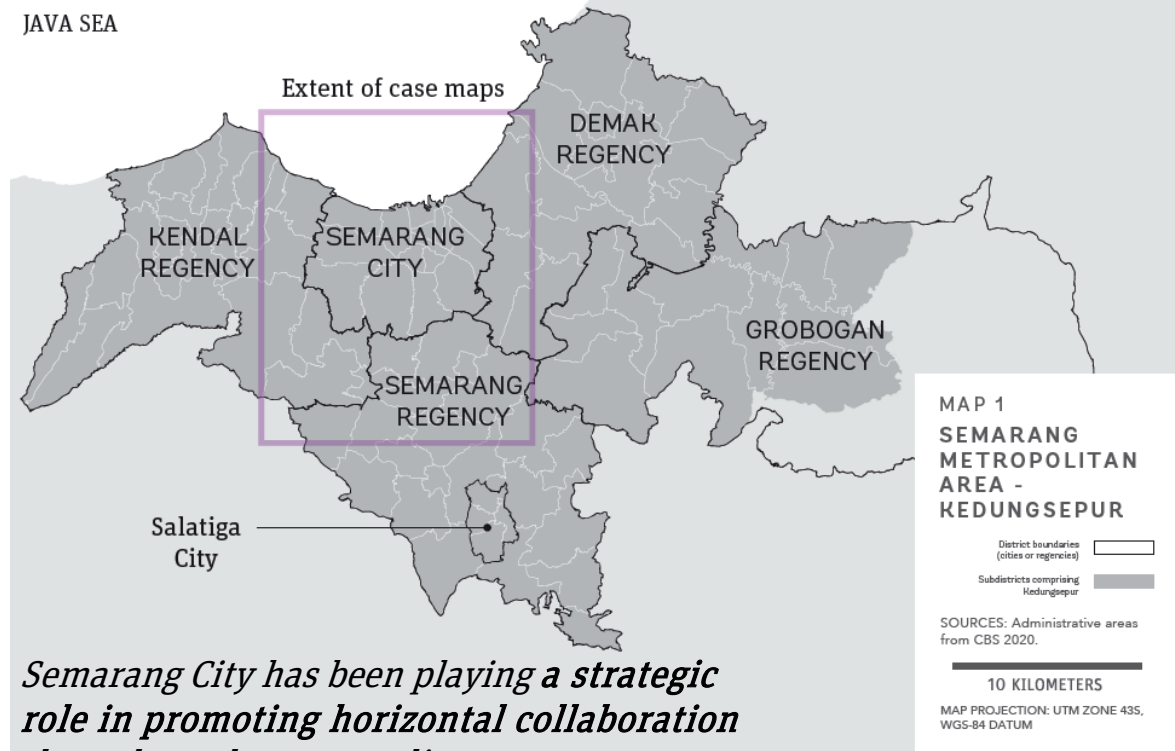
cross-sectoral integration

the initiative promotes a **multi sectoral approach** including infrastructural works, community empowerment, and local economic improvement

Multi-sectoral coordination

Agreement that promotes horizontal collaboration among six heads of local government (Semarang City's mayor and five regents of the surrounding areas). Horizontal coordination between Semarang City and the surrounding administrative areas has helped to promote integrated solutions.

JAVA SEA



Semarang Metropolitan Area

4,300 km²
total area of
Kedungsepur
(Semarang City,
Kendal Regency,
Demak Regency,
Semarang Regency,
Salatiga City, and
Purwodadi)

5.7 million
Semarang
Metropolitan
Area's
population

**1,350 people/
km²**
population
density

27%
Semarang City's
population as
part of the
Semarang
metropolitan
area

Greater Semarang Project

integrated projects in the metropolitan area

- *Several urban innovations have been proposed in Semarang which primarily focus on disaster risk management, slum upgrading and affordable housing, public transportation, and water resource and flood management.*
- *Various integrated management projects have addressed metropolitan issues such as **flooding** and water scarcity.*

Key Success Factors

- **Semarang mayor's initiative** for actively building coordination and collaboration to various developments
- **Inter-agency and inter-jurisdictional coordination** – inclusive planning and promoting participation at the implementation level
- Intensive **communication and coordination** among the actors involved

Actors Involved



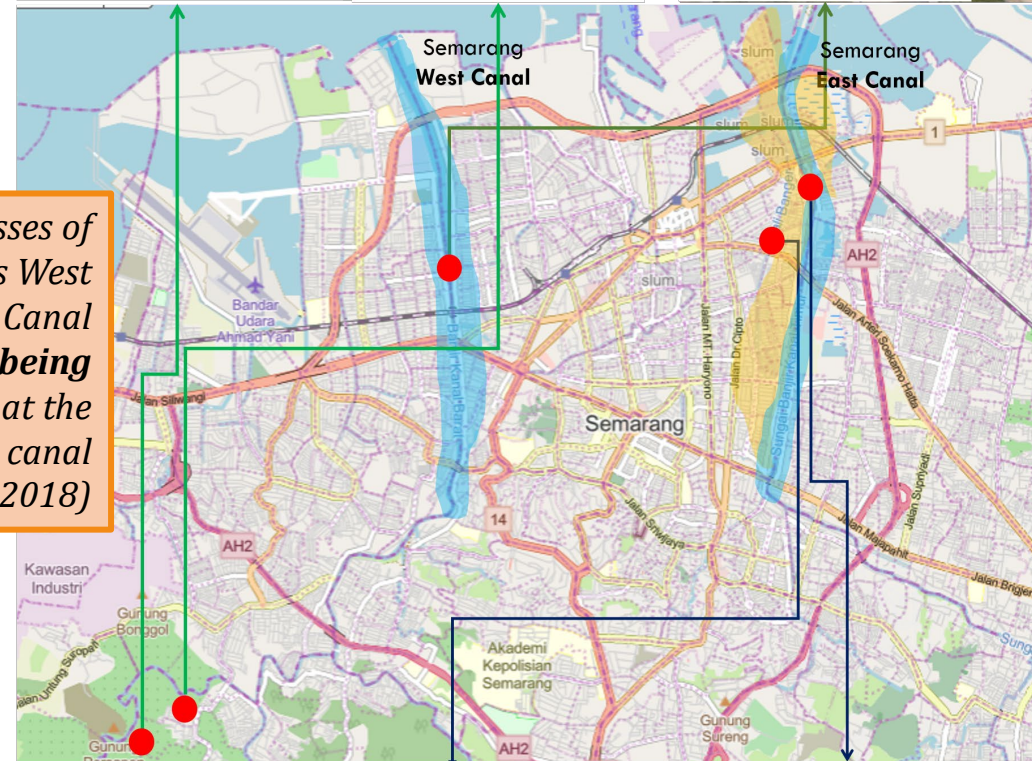
Water Management - Flood Canal Projects as a Success Story

Semarang West Flood Canal (Garang River basin) integrated water resources and flood management project, consists of:

- **Infrastructure Development** → Reservoir, River Normalization, Drainage system improvement
- **Tourism Development** → Nature-based Tourism Village, Monkey Species Protection
- **Community Empowerment** → Engage informal sector participants who live along the river and in the area surrounding of the dam

Specific impact due to COVID:

Since the COVID pandemic, nature-based tourism became the option for local tourists. Jatibarang Dam and the tourism village in Semarang are still gaining visitors during the pandemic.



*The successes of Semarang's West Flood Canal project are **being replicated** at the east canal (started in 2018)*

1.7 million
population

4,650
people/km₂
population
density



On-going Normalization in BKT

BKT before normalization



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