2nd World Forum on Urban Forests

2023

World Forum on Urban Forests

Cecil Konijnendijk

NBS Institute

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2023

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Washington DC, 2023

Wake up and unite!

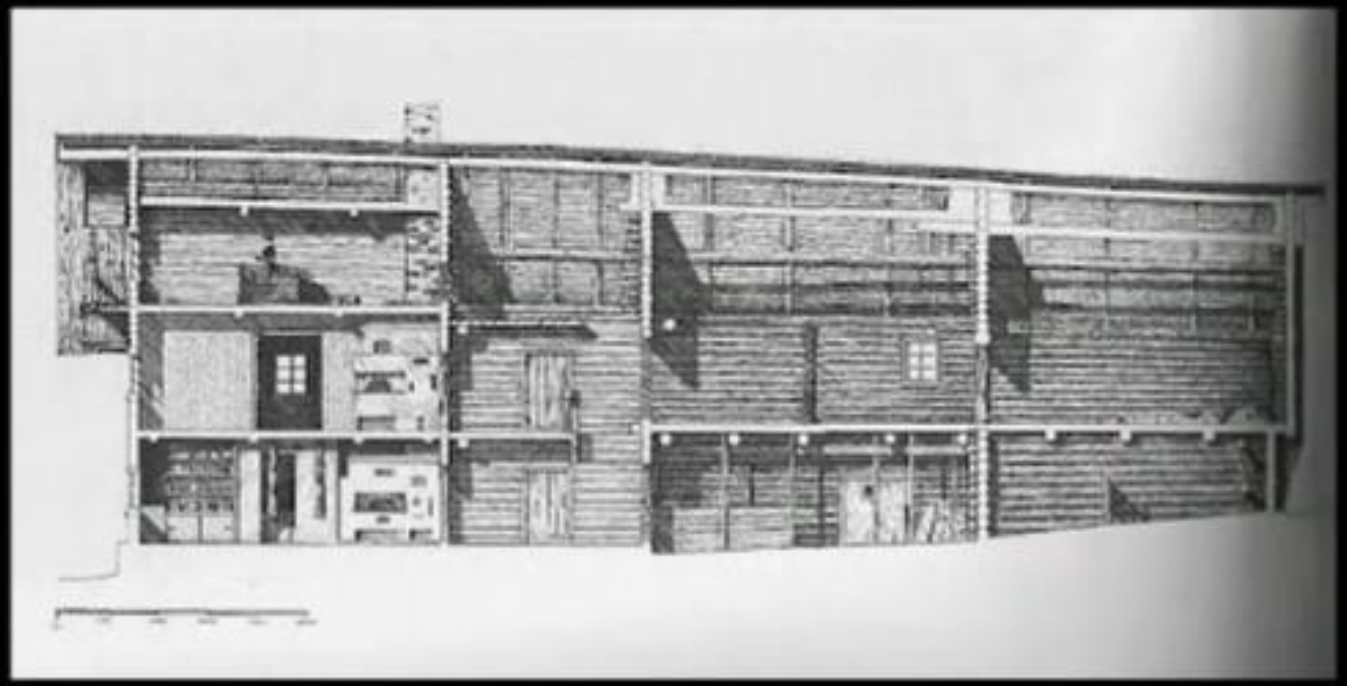
Hope in the horizon
–
The Rise of Resilient Cities

Presented by

Kai Lintunen
Head of International Communication
Finnish Forest Association
Team Leader, FAO-UNECE Forest Communicators Network

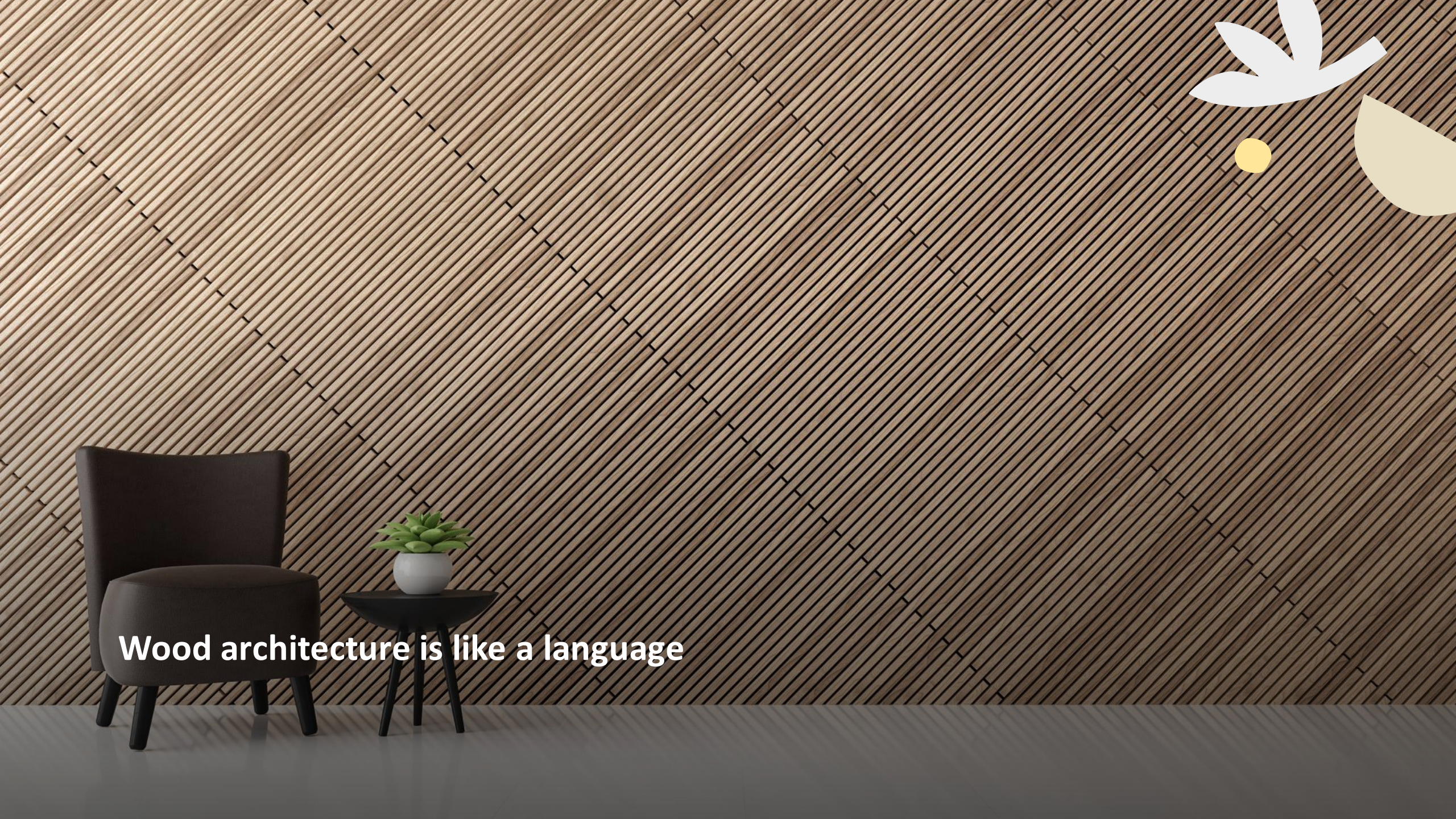
wood construction and infrastructure complement the greening of cities

Architecture as a site specific **human expression** - compared to language/ dialect



Today: 6000 languages, 5000 with less than 100.000 speakers
Future: 1000 languages left in 100 years
Past: 60.000 languages 100 years ago

Loss of Human Biodiversity


Wood architecture is like a language

Accessibility - Efficiency

- **What is local in the environment should be accessible to everyone -** regardless of age, abilities, wealth - **and cannot be virtualized**

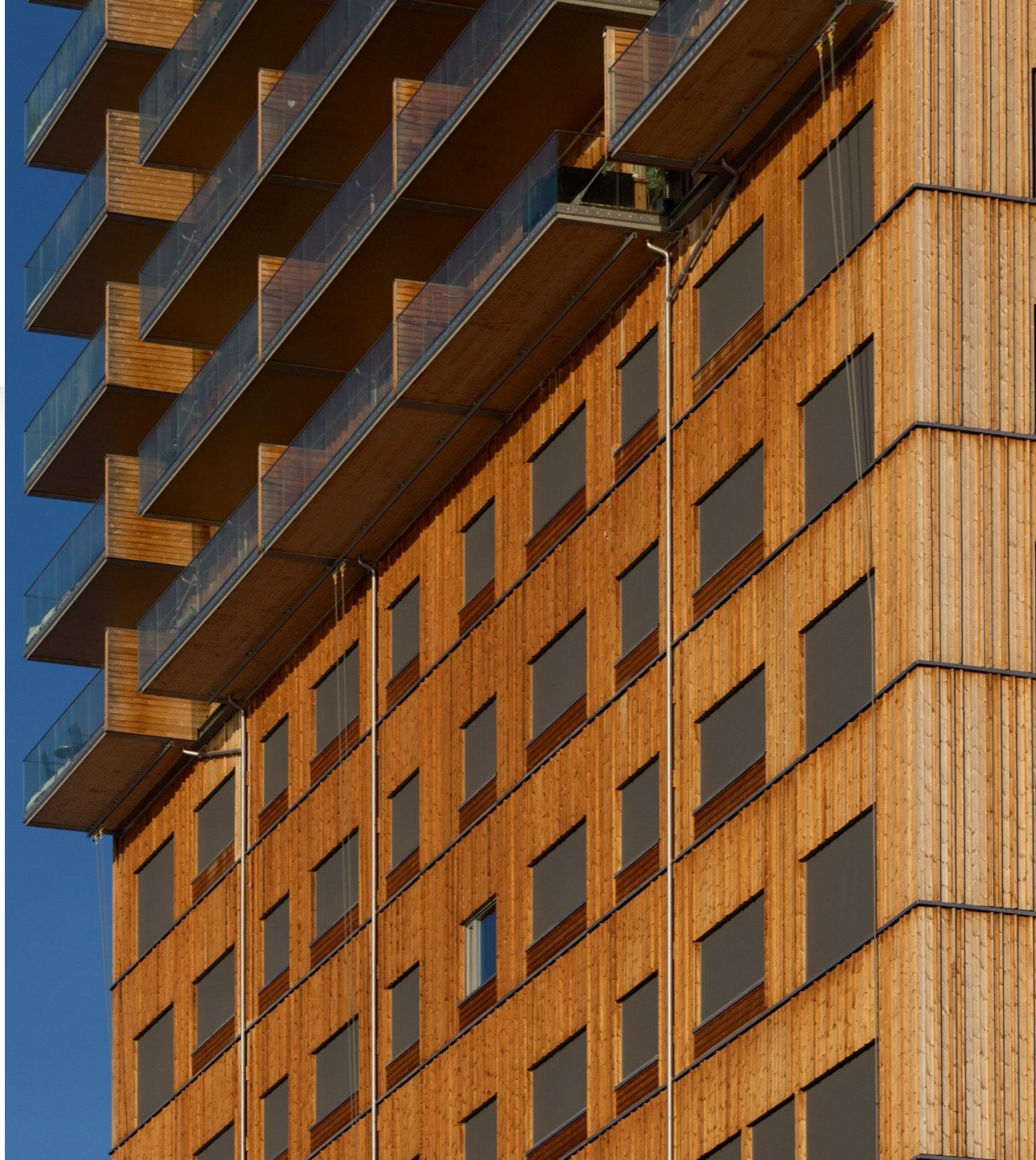
→**urban green and recreation**

- **Whole, solid** but not necessarily always the most efficient environment
- **Human scale, flexibility** of buildings and other structures
- **Speed and modularity**

Connecting/coordinating wooden infrastructure and urban green is natural

Building with wood has many different identities

- Industrial building with wood can look for its own ways of expression
- There is no single, uniform way of building with wood
- Boundaries between ”modern” and ”traditional” can be crossed and they are often only apparent
- No use comparing building with wood to building with concrete



Eight advantages of wood construction

- Building with wood is **better for the climate**. ...
- **Long-term** sustainable construction. ...
- A better **insulator** than other materials...
- High **strength in relation to weight**. ...
- Shorter construction **times**. ...
- **Building** with wood is **less noisy & less waste**. ...
- Wooden buildings are **healthy...**
- **Lighter transport**...

Use of wood - resilience against

- Earthquakes
- Hurricanes
- Snow/Rain
- Flood
- Disease
- Heat
- Wildfire

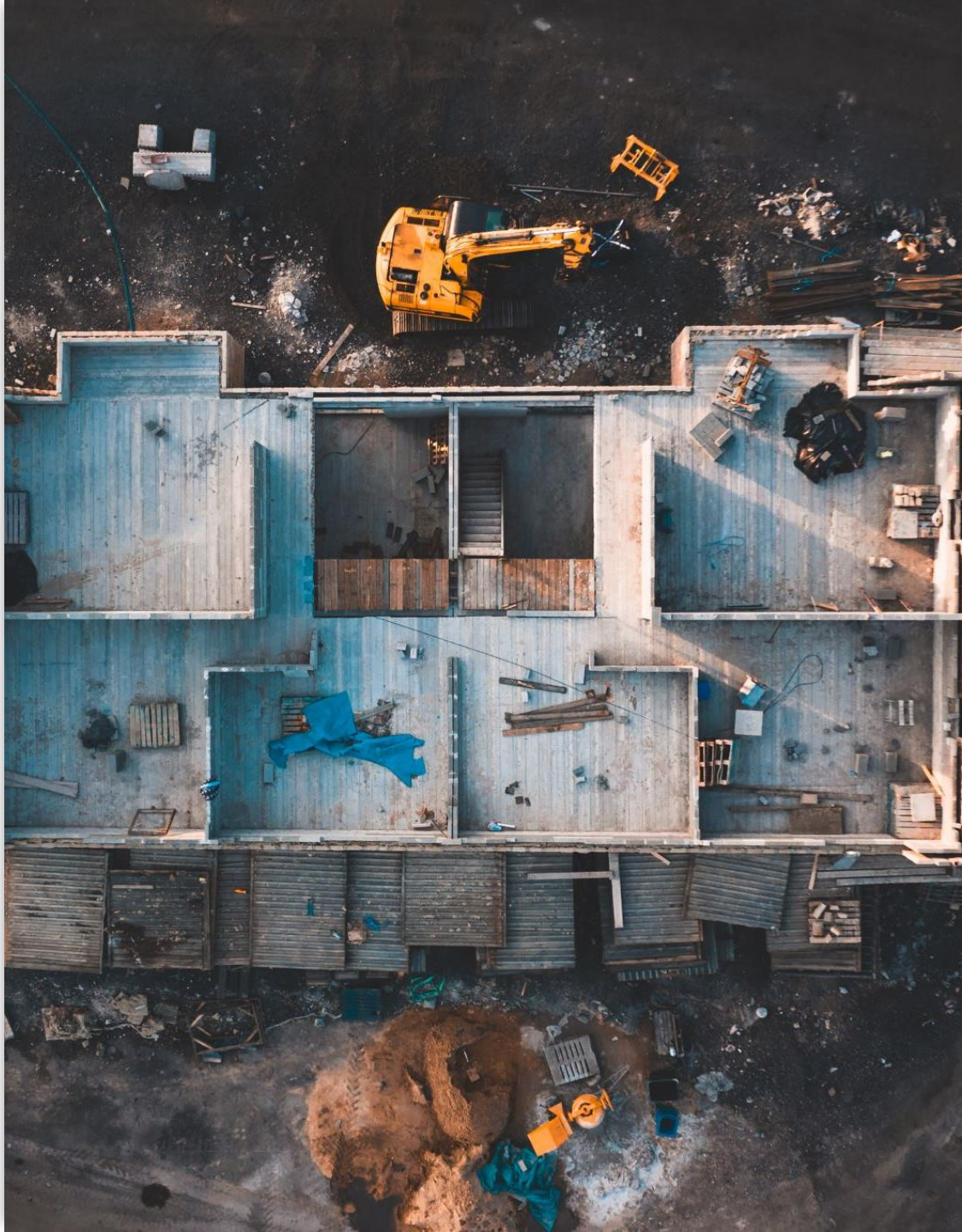
Sustainable Wood: Climate-friendly cities video screened at COP 27

fao.org

Resilient structures

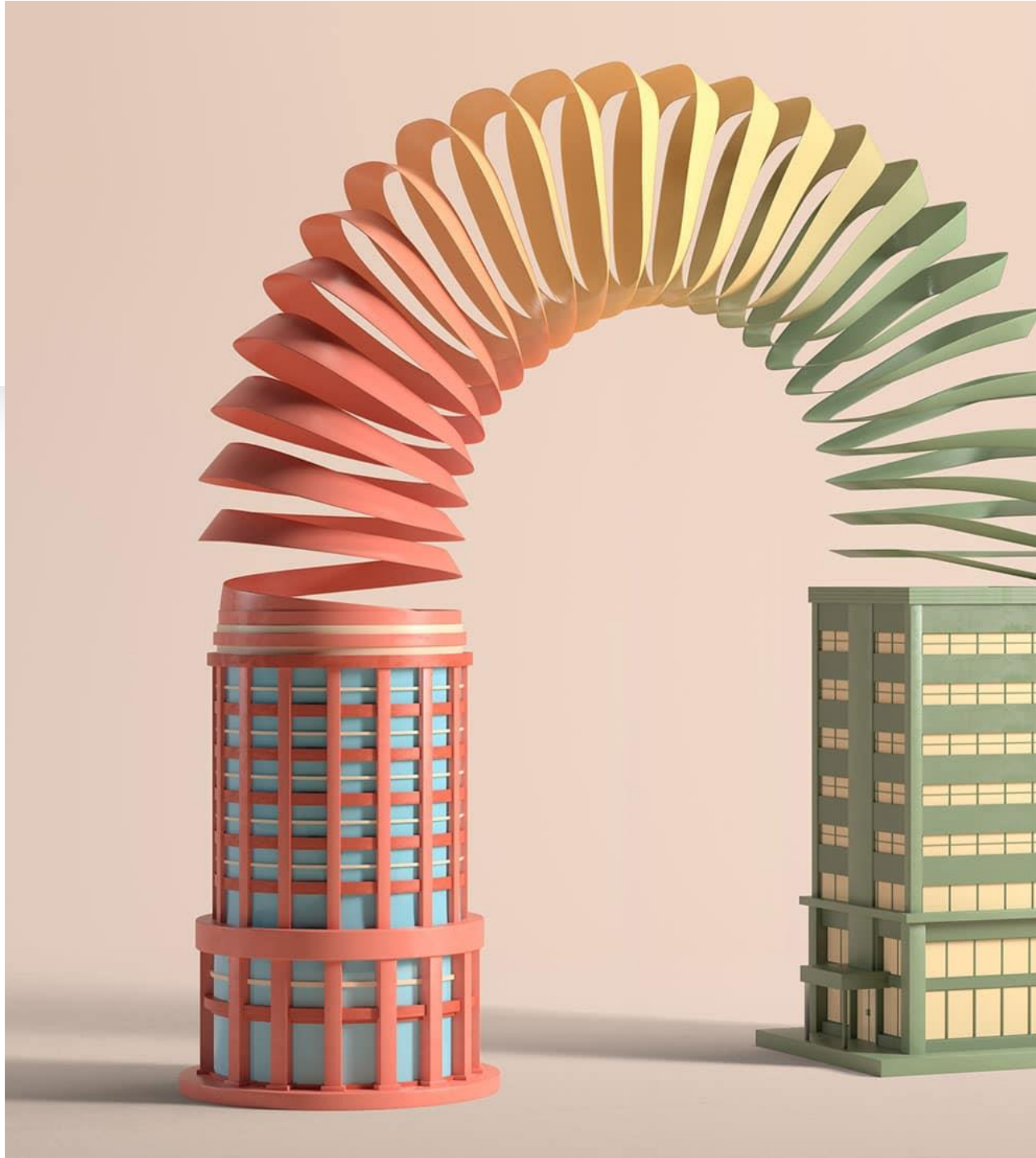
- Designed to **withstand** and **recover quickly** from adverse situations with an **acceptable level of functionality**

- A structure built of **wood withstands natural disasters with minimal damage:** easier to repair and can contribute to sustainable development – it **minimizes human risk, reduces material waste and lowers restoration costs**



Adaptability for future uses

- Buildings which have the flexibility to change uses over their lifetime will **reduce the need to demolish and rebuild new structures**
- Wood structures **readily adapted:** ease of workability **- lightweight and low density** material, allows wood building systems to be **cut, shaped, removed and reconfigured with ease**



Renew wood vocabulary

Reuse

Industrial refurbishment

Circular use, not linear

”Not building”

New materials

Circular material loop re-thought

- **Narrowing** the loop – using less
- **Slowing** the loop – using longer
- **Closing** the loop – using again
- **Regenerating** the loop – making cleaner / better

Two views for the future of wood

Wood is ”one material among others”

- Low carbon
- Renewability
- Industrial processing
- Hybrid structures etc.

- Wood product industry
- Climate policy

Modernizing wood building

- Cityscape
- **Image**
- **Urban structure**
- New building types vs. relationship with tradition

- Role of cities
- Land use policy

Public and private players unite!

- Administration/Authorities
- Research
- Education
- Financing
- Building companies
- Forest product companies
- Citizens

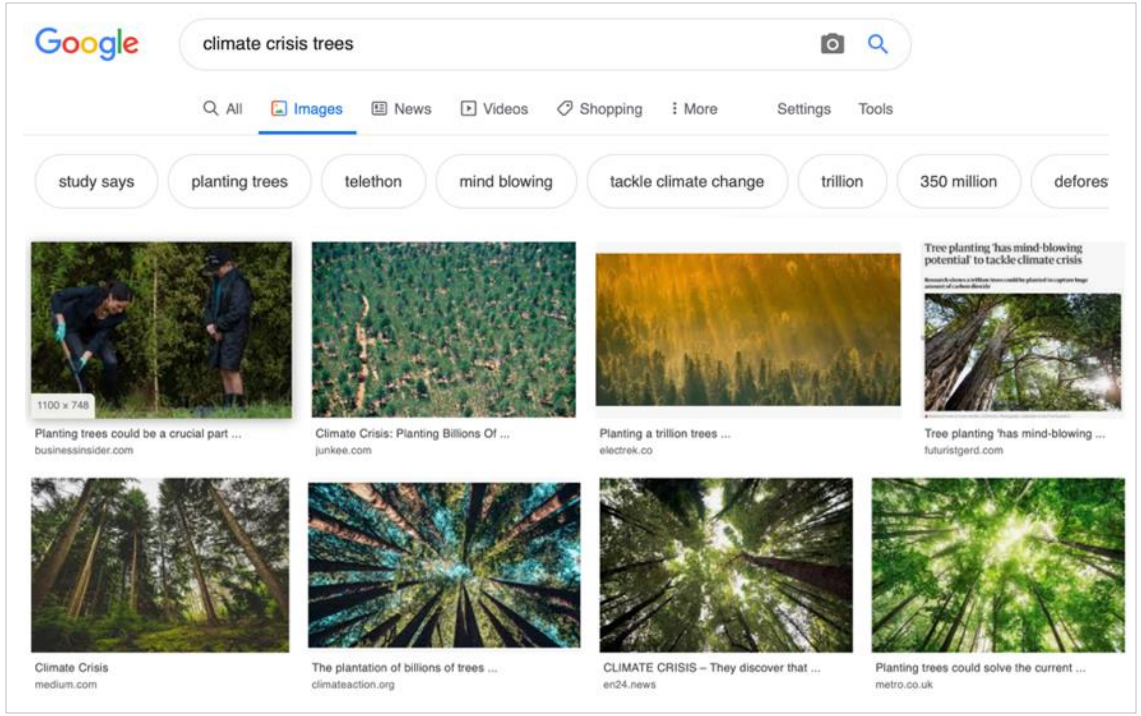
NOT MUCH AWARENESS

OF THE ADVANTAGES OF WOOD

- Energy-efficient building material with a low carbon footprint
- High heat insulation
- Climate friendly

1/

FRAME SUSTAINABLE WOOD AS A SOLUTION



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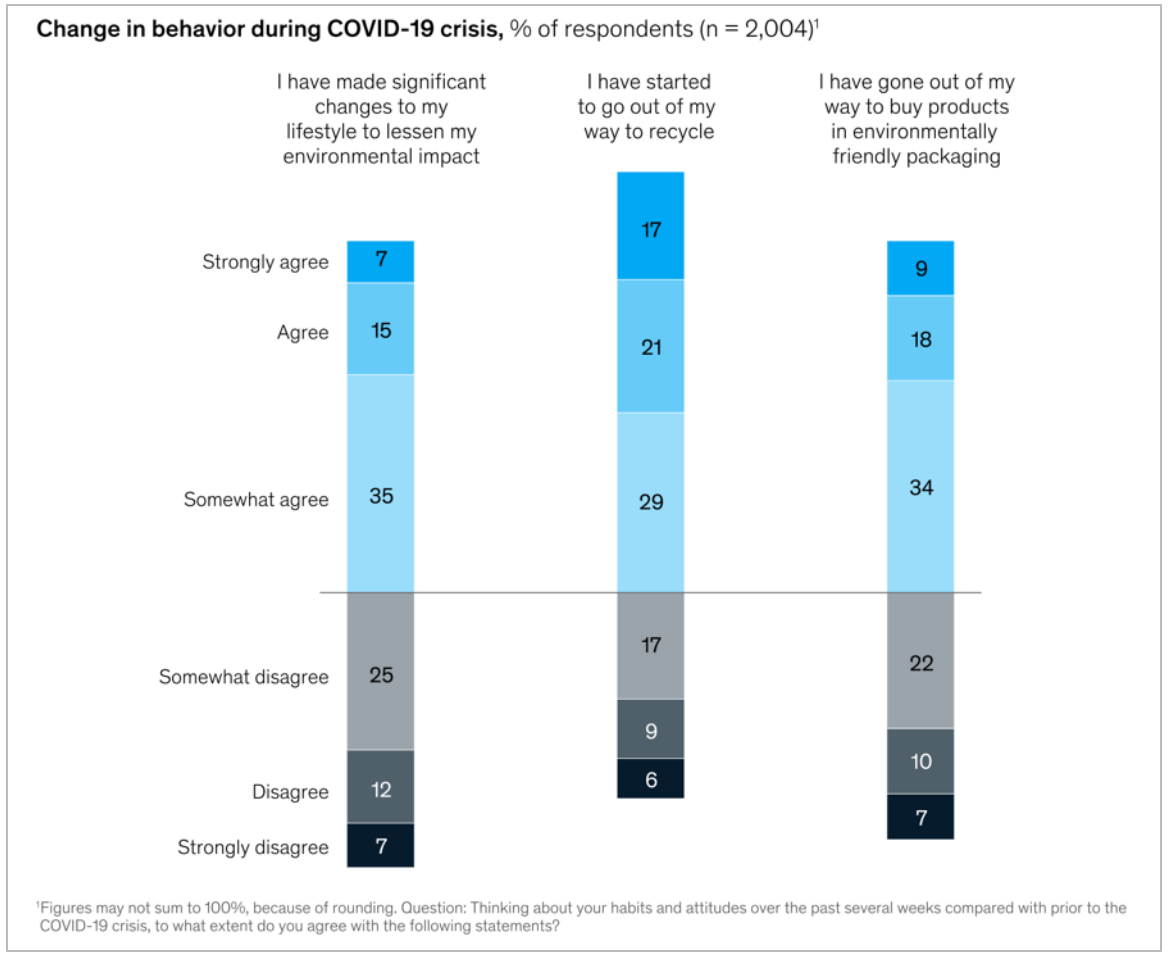
THE TIME

IS NOW



Nearly 60% of consumers have made significant changes to their lifestyles to lessen their environmental impact.

- McKinsey Research

Through communication we can change consumer behavior

3 /

INNOVATION IS ON OUR SIDE

Stockholm Wood City
Construction of the world’s largest urban development project in wood to begin in 2025

Launch of Sustainable Wood: Housing a growing population at the 8th World Forest Week & COP27

fao.org

At it’s simplest…

RETHINK THE SOLUTION.
RETHINK WOOD

GROW
THE SOLUTION

WOOD. NATURE'S SUSTAINABLE SOLUTION.

Thank you!

kai.lintunen@smy.fi
@birdieviews

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Cape Town's urban Forest and Resilience Journey

Tamsin Faragher

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WELCOME

Presented by

Gadwal Vijayalaxmi

Mayor, Greater Hyderabad Municipal Corporation

Hyderabad, Telangana,India

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Greening initiatives in Hyderabad

Telanganaku Haritha Haram

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India-Telangana-Hyderabad

GHMC
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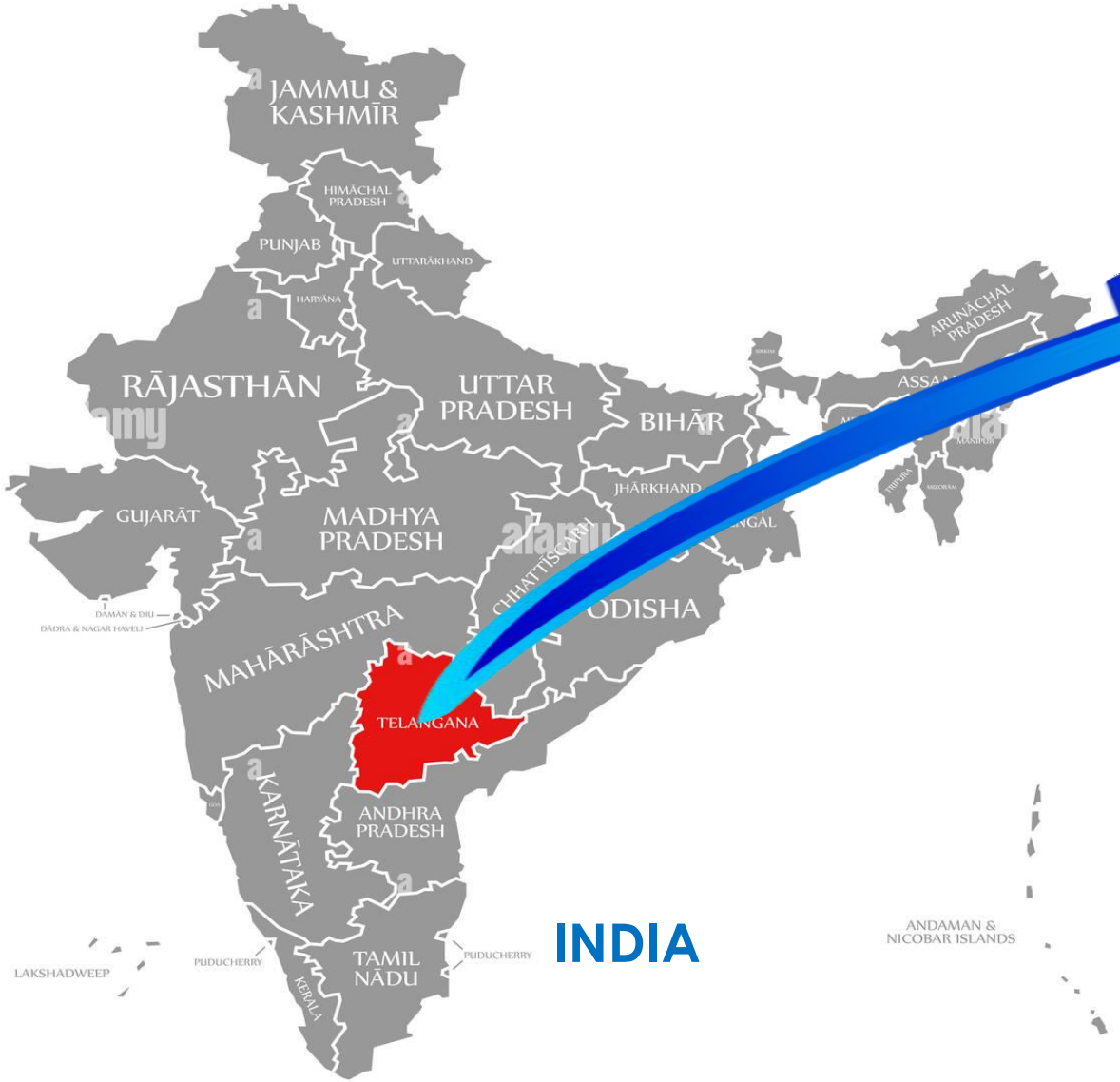
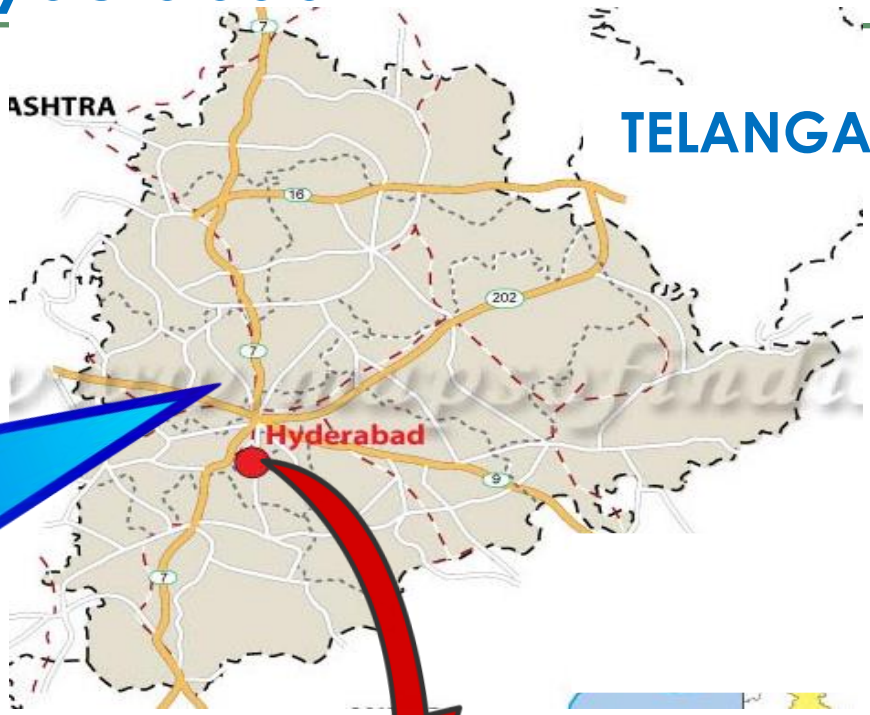


INDIA



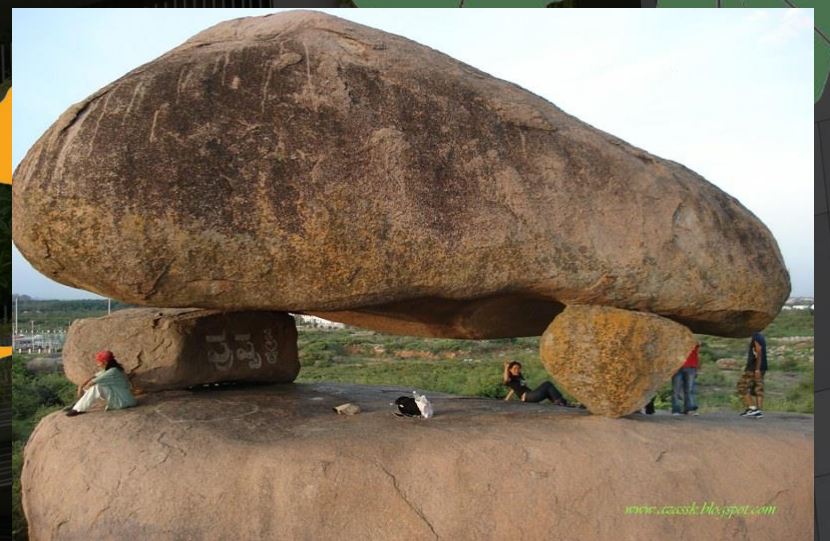
HYDERABAD

Hyderabad

- Hyderabad is capital city of Telangana, India.
- It is World Green City and also Tree City of World.
- Best city to live in India for the fifth consecutive year in the Mercer's Quality of Living (India) Rankings – 2019
- 143rd place in the quality of living ranking announced globally.

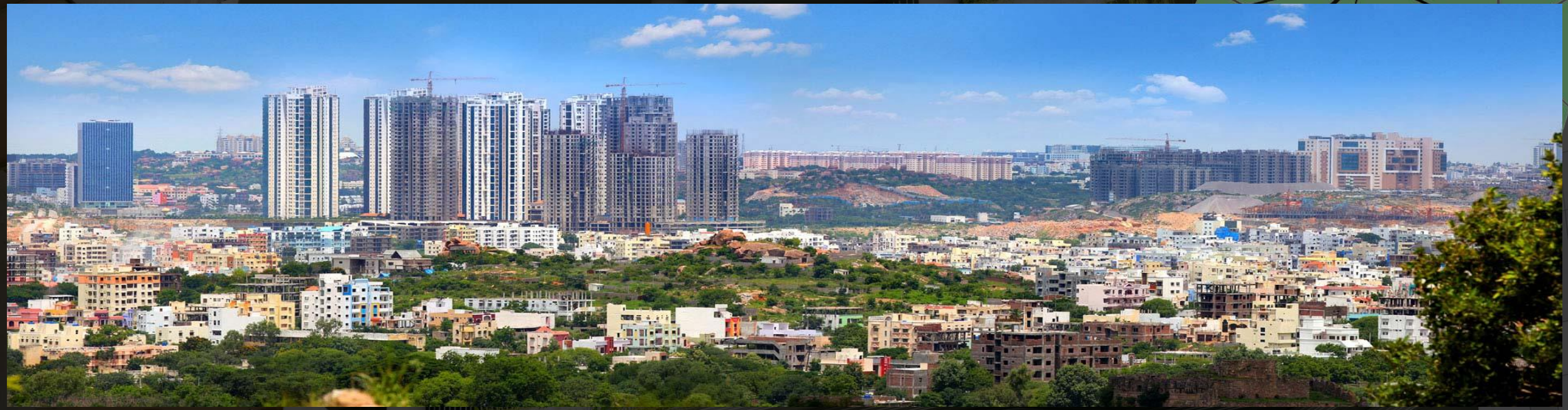
Tree City of World & World Green City

- Hyderabad Situated on the Deccan plateau
- Most of the city has variously shaped gneissic granite rock formations which are oldest in the world.
- Largest single carved rock Buddha statue in the world
- Hussain Sagar Lake – The Largest Man-Made Lake in all of Asia.
- Ramoji Film City - Largest Film Studio Complex in the World
- Original home of the Koh-i-Noor
- City of pearls
- Charminar –the iconic land mark
- City of Lakes

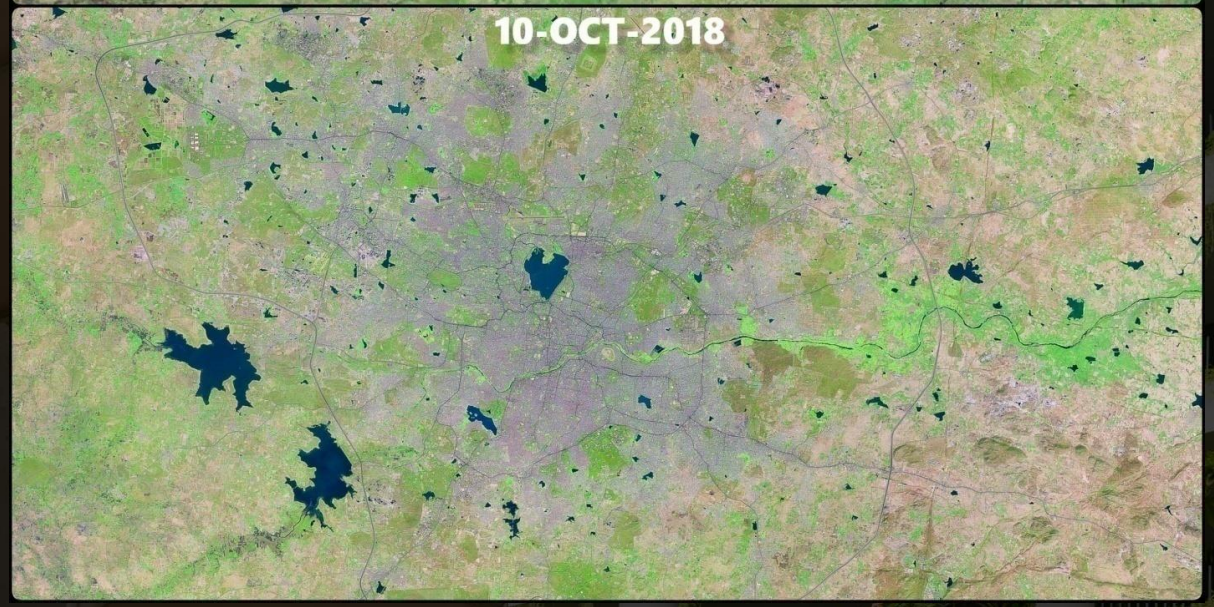


Demography

- Hyderabad City area is 250 Sq miles
- In 1950, the population of Hyderabad was 1.00 million.
- The population has grown from 3.6 million(2001) to 7.7 million (2011)
- Hyderabad's 2022 population is now estimated at **110.00 millions.**
- **4th Most Populous City of India**
- **Average Decadal population growth rate is- 40%**

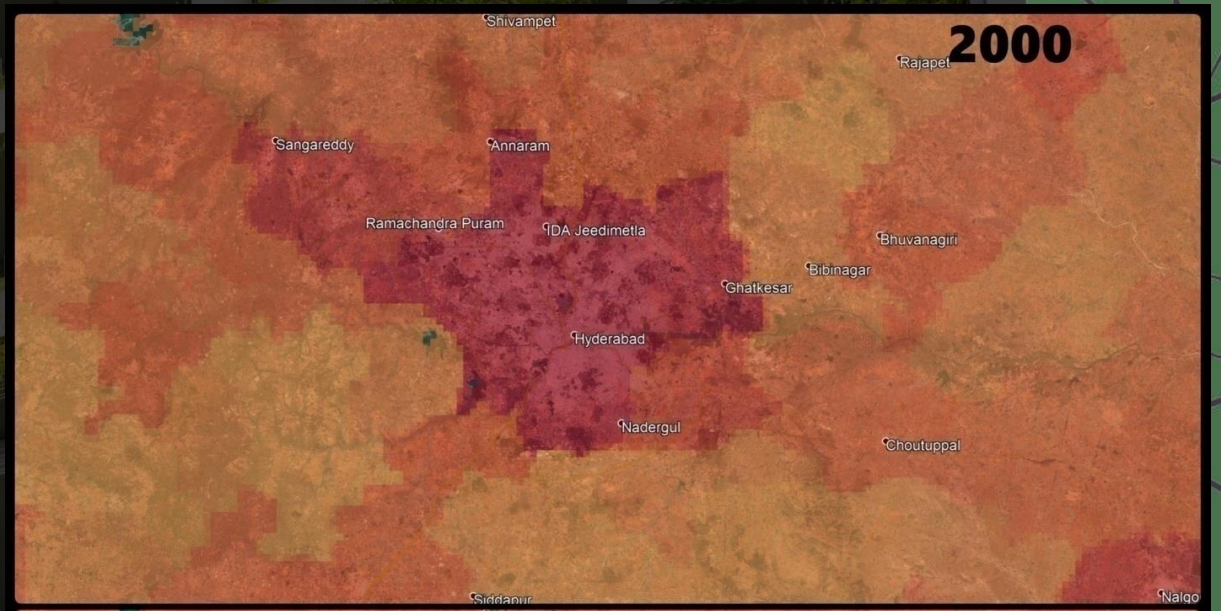


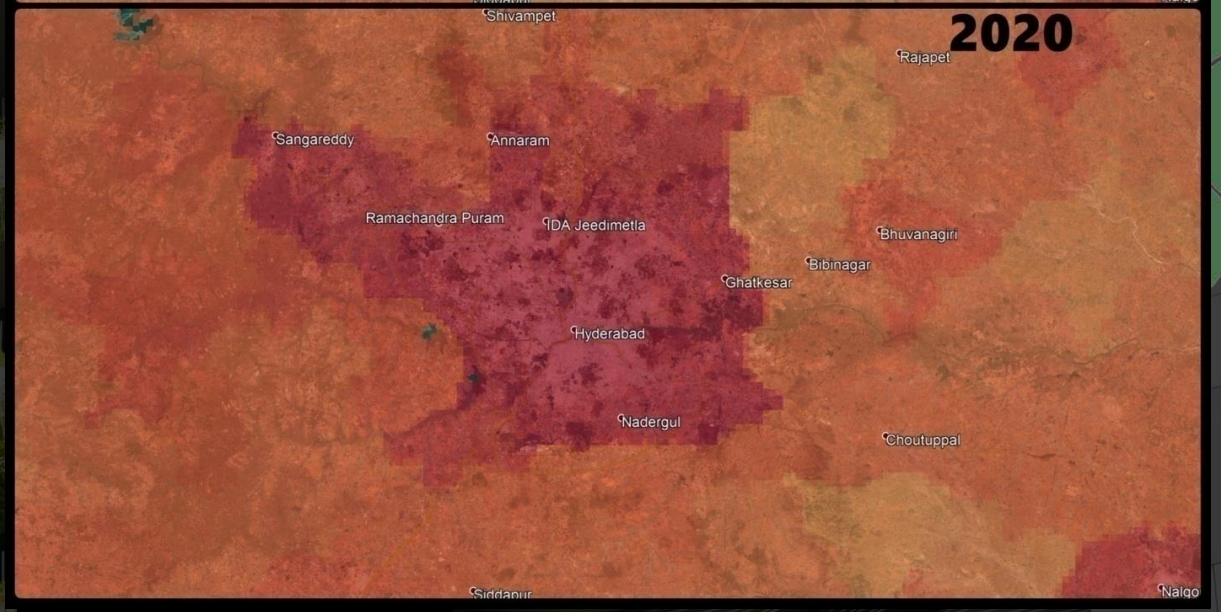
Hyderabad transformation in last 42 years(1976-2018)



Data:
Mod Landsat 1-7

Population Expansion Between 2000-2020 Around Hyderabad



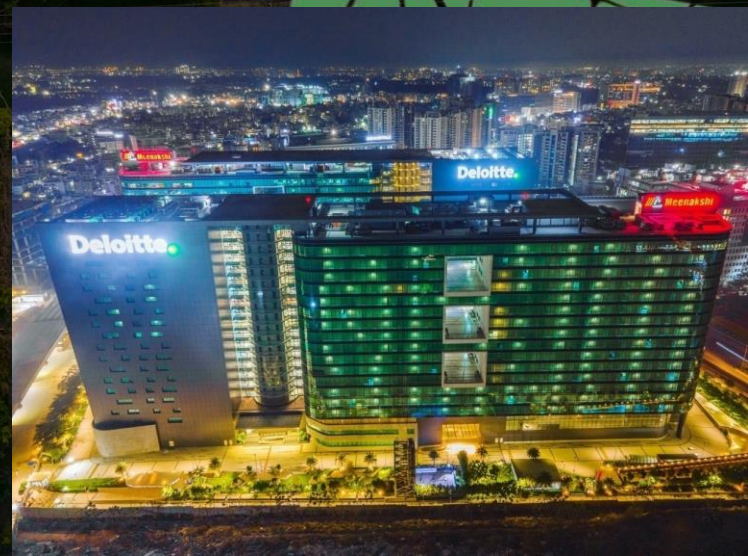


LEGEND

< 1 person to > 1000 persons
Per Sq Km

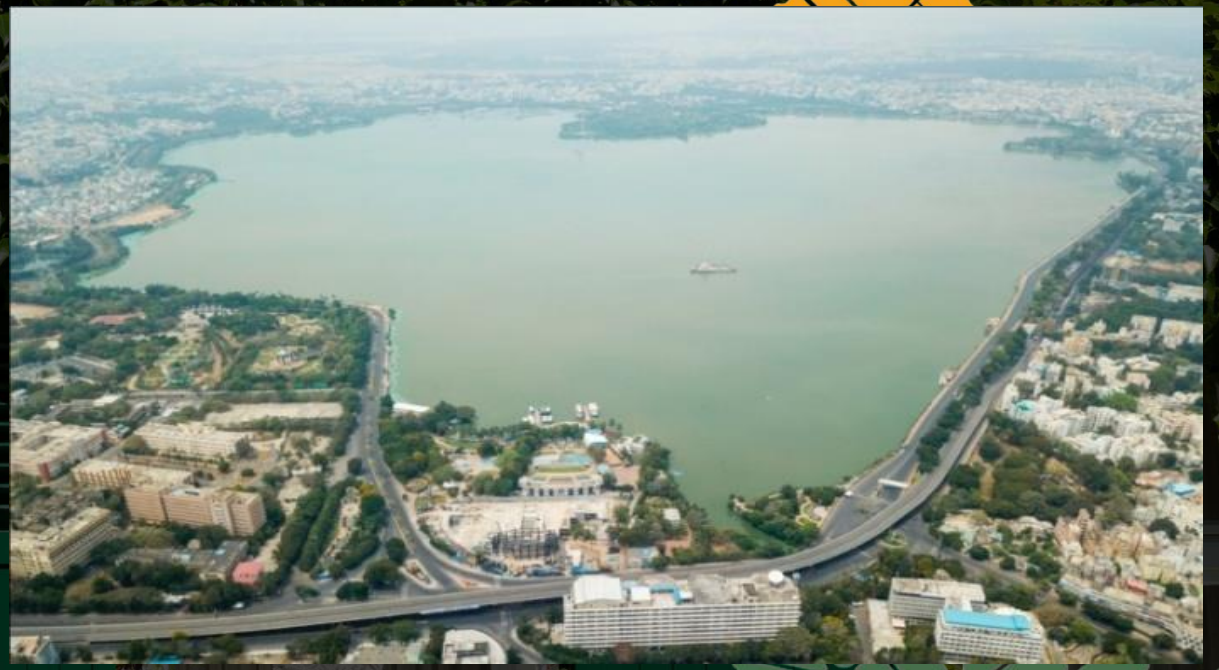
Hyderabad- Dynamic City

- The city is witnessing a rapid expansion
- Industrial boom
- Increased trade opportunities
- India's Pharmaceutical Capital
- Major IT firms like Microsoft, IBM, Google, Samsung, Dell
- Hyderabad is the world's 2nd most dynamic city



Major problems of Urbanisation

- Urban Sprawl
- Overcrowding
- Housing issues
- Unemployment
- Slums and Squatter Settlements
- Transport issues
- Water Scarcity
- Sewerage Problems
- Trash Disposal
- Urban Crimes



Magnitude of Biodiversity of Hyderabad

- First city in India to have a City Biodiversity Index in 2012
- In spite of rapid urbanization of the city, the biodiversity is well preserved
- Three National parks located within and adjoining limits of the city
- Plant surveys initiated in 2007 recorded c.1500 species belonging to 730 genera and 160 families

Role of Corporation

- GHMC is involved in creation of bio-aesthetic environment by developing green, beautiful & hygienic atmosphere for the citizens
- To create green lung spaces
- To maintain ecological balance and to reduce pollution levels.
- **Urban forestry** - Care and management of tree populations in urban settings for improving the urban environment
- GHMC have separate Urban Biodiversity Wing to take up all greening activities

Why Urban Forests?

- Improving the living environment
- Pollution Control
- Water Conservation
- Mitigating Urban Climate
- Reducing The Urban Heat Island
- Improving The Quality Of Urban Living
- Reduction of Urban Flooding
- Improve human health

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Micro Management of Tree Population

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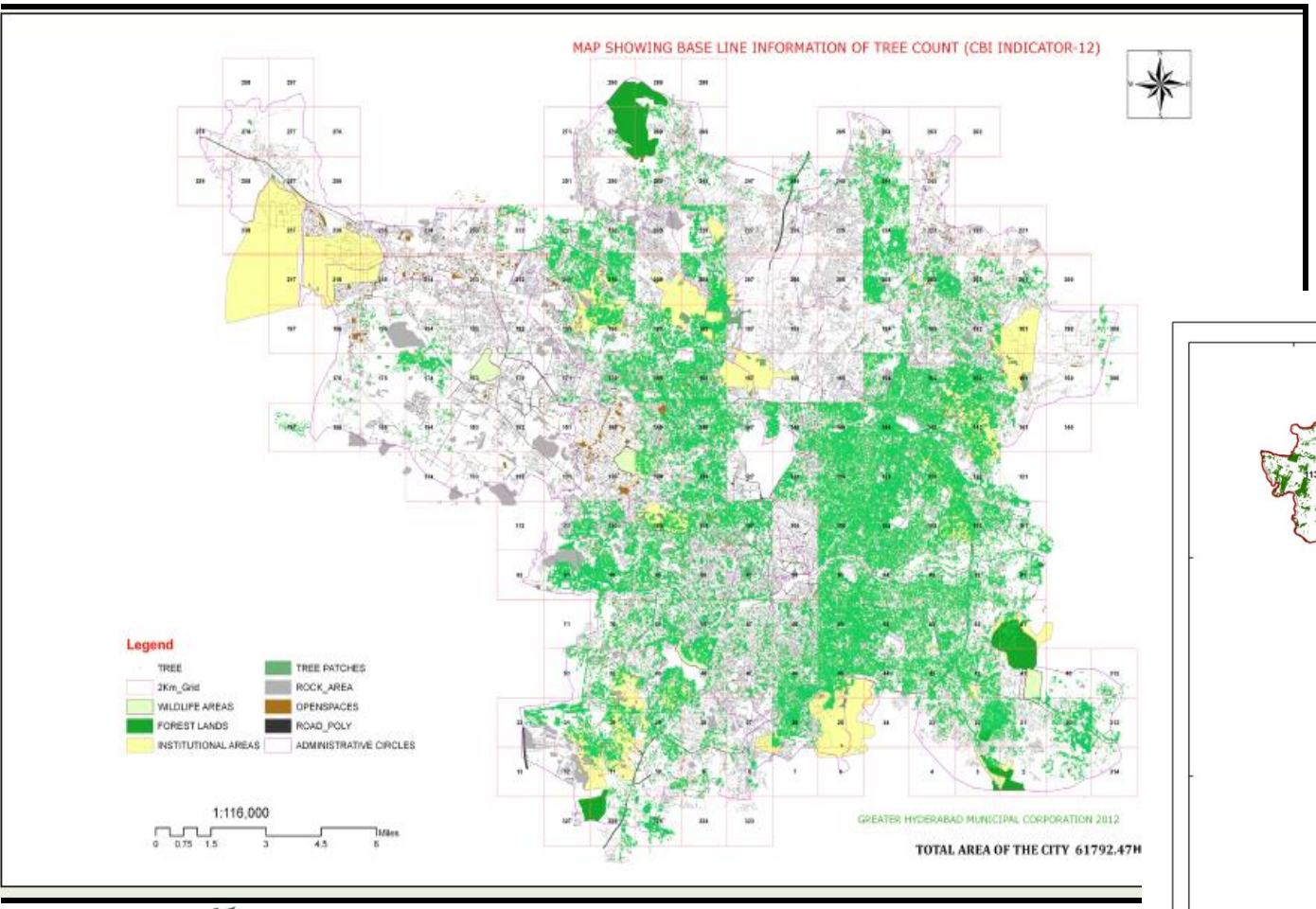
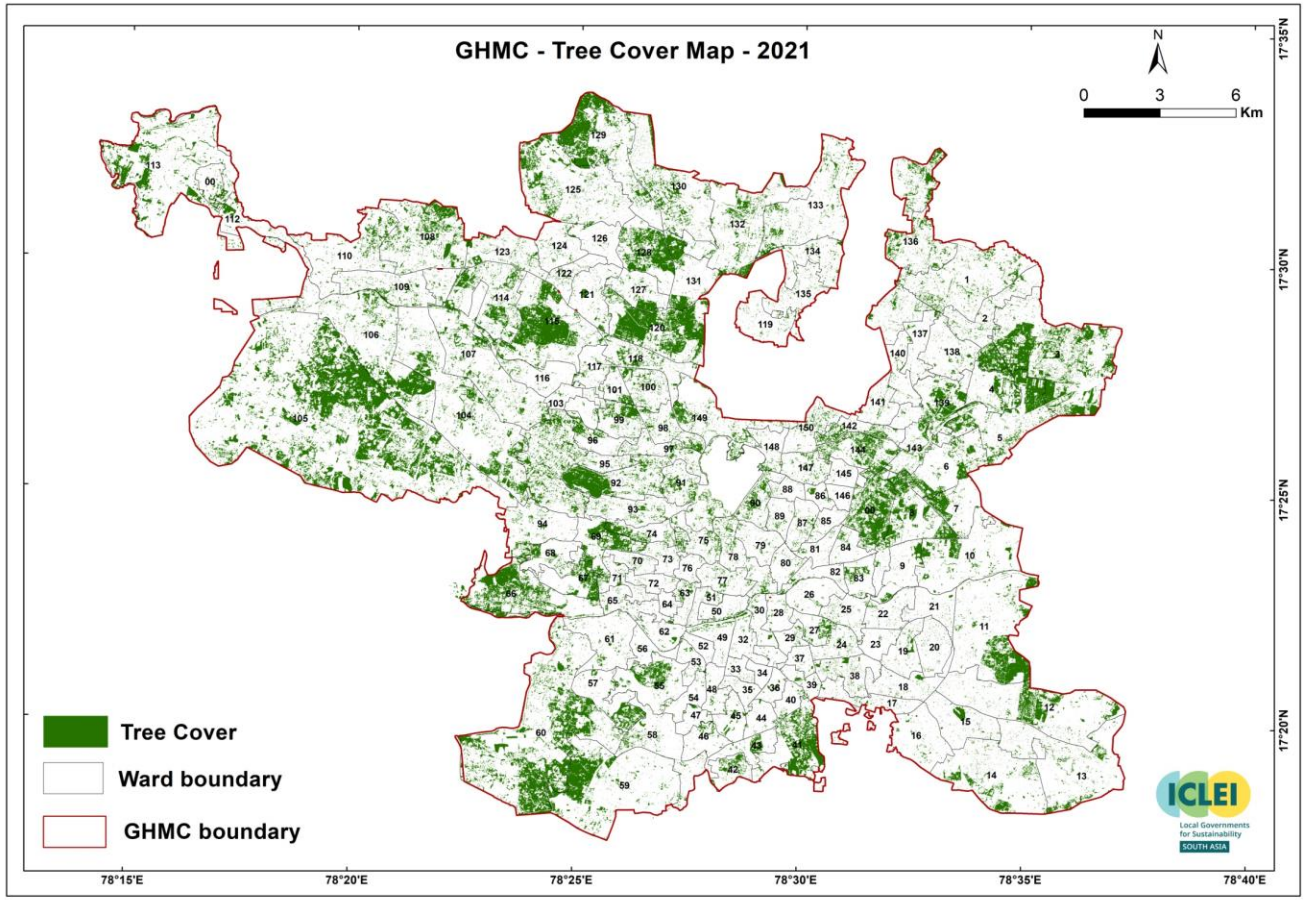
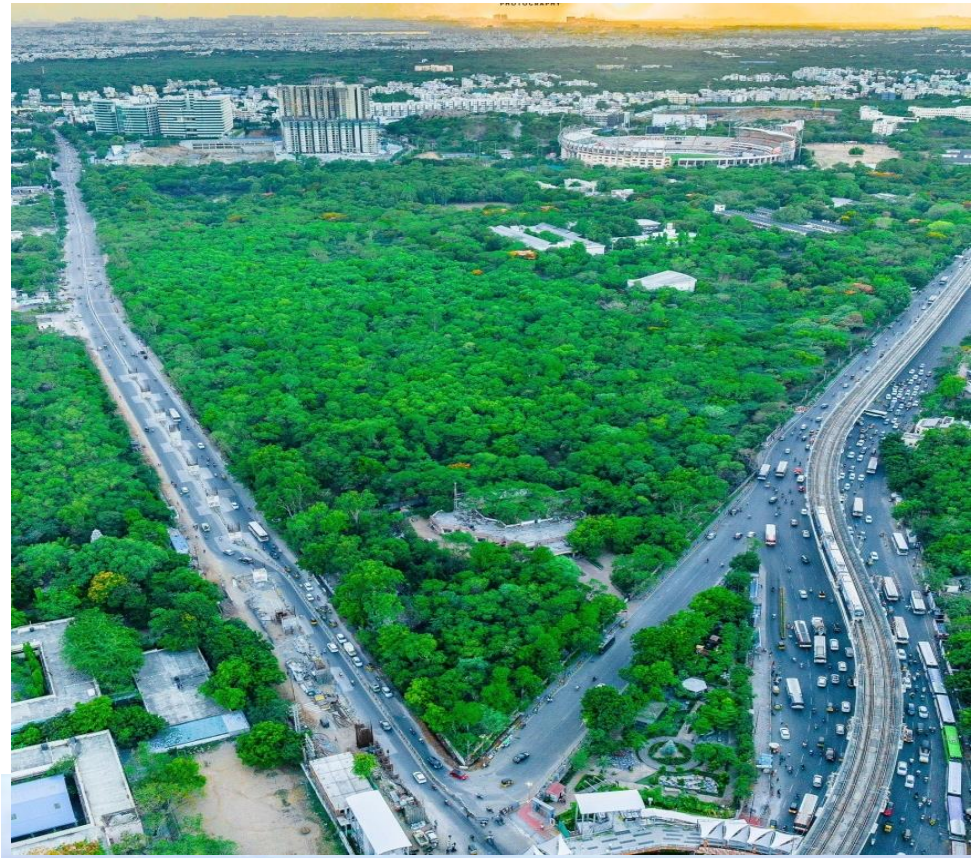




Repositories of City Biodiversity

- The city of Greater Hyderabad has 185 lakes- Wetland related biodiversity in the city.
- Musi Riverine System-24 Kilometers through core city and provides grasslands eco-system.
- 1.60 lakh acres of Reserve Forest land inside and within the radius of 25 kms from city
- About 3000 Urban public places and man-made Parks



Major Parks & City Level Parks

39 Major Parks each having more than 5 Acres in extent

60 Theme Parks having various themes

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PARKS DEVELOPED IN HYDERABAD CITY

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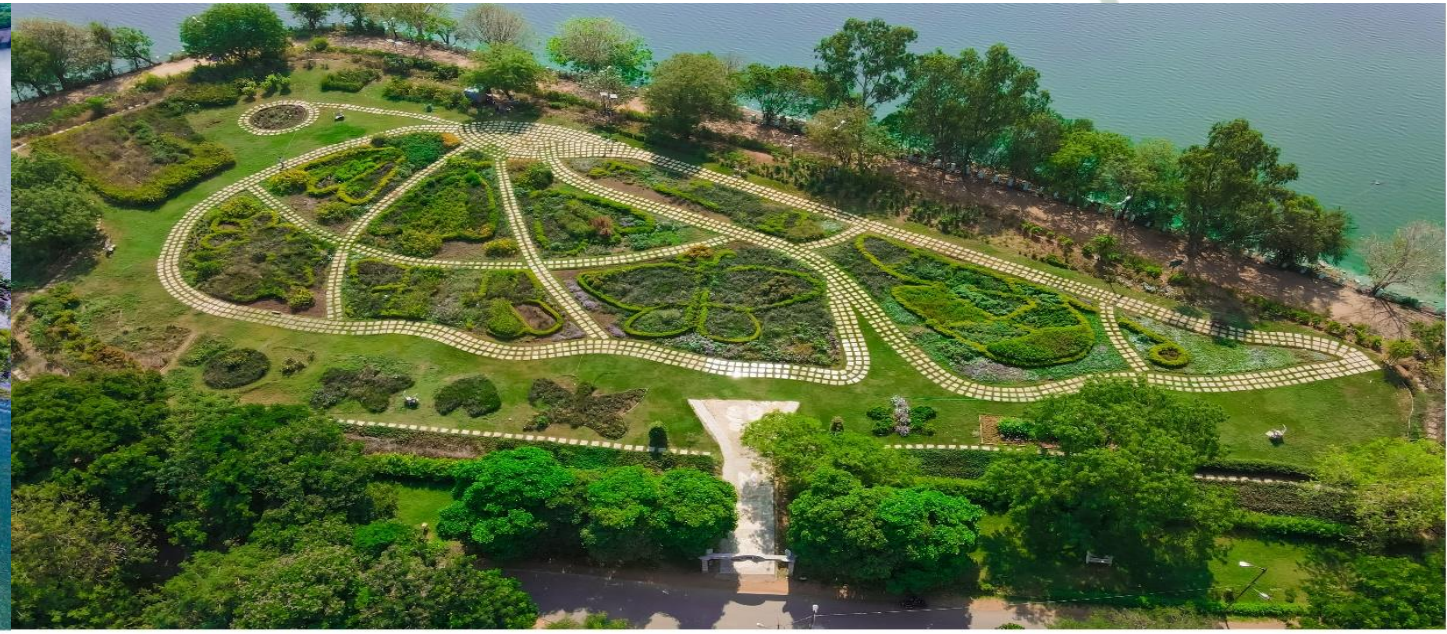
Gandipet Park



Butterfly Garden, Sanjeevaiah Park

Sanjeevaiah Memorial, Sanjeevaiah Park

MAZE Garden Sanjivaiah park

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20 Panchatatva Parks which work on acupressure concept

are developed in the city by GHMC

Colony Parks

1141 Colony parks have been developed.

760 parks are being maintained by CWAs.

"Green Roofs Can Also Contribute Hyderabad Environment!"

- Green roofs make the most of unused space within the increasing density of our cities. It is assessed that about 50000 acres of Roof Top is available in Hyderabad City
- Plants on Roof tops are able to cool down entire cities, reducing the UHI (Urban Heat Island) effect through the daily evaporation cycle
- Terrace gardens are encouraged on subsidy & plants at free of cost benefitting 32100 house holders with 1.6 million sq mt under green roofs in last 7 years.

Central Medians

Greenery was developed in all central verges of roads with Trees & Flowering shrubs

Green Buffer around the City

- Total stretch: 158Km
- 28 Radial Roads (307 Km)connects with the ORR
- Express Way is provided with Fencing
- 14 Entry and Exit Junctions
- 21 Interchange Locations
- The total plants planted on ORR are 77,35,229 Nos. as on 2022- 23

Green Flyovers

- 36 Flyovers were developed with underneath greenery

Vertical Gardens

Vertical Gardens for 129 pillars under flyovers & on bridges

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Vertical Gardens

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Green Curtains

Developed on road margins at **56 Locations**

Lakes Restoration & Beautification

- Restoration of lakes to increase the ground water table with clean water
- Maintain the water balance in the lakes
- Improvement of Lake ecosystem
- 66 lakes are fully restored in Hyderabad city

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Lake View Park, Khairatabad

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- Lake View park has been developed with lot of tree cover **After**

Before

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Lakes Restoration & Beautification

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Bio Diversity Conservation Efforts

- Protection of Existing Greens, wood lots and water bodies
- (30 million in 5 years) massive afforestation programme
- Dedicated tree line along all the roads
- Development of parks
- Involvement of Colony Welfare Associations in maintenance of parks
- Free distribution of saplings through 600 centrally located nurseries
- Development of Urban Parks in Forest Areas adjoining residential areas

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Bio Diversity Conservation Efforts

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- Lake Restoration
- Developing Tiny Forests
- Theme parks to attract butterflies & birds in lakes
- Implementation of WALTA Act
- Tree protection committee
- Amendment of Municipal Act

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Telanganaku Haritha Haram

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- Percentage Forest Cover : 24.05%
- **Telangana Ku Haritha Haram** i.e. (Green Garland to Telangana State) is a large-scale tree-planting program in active collaboration with community organisations
- The program envisages increasing the tree cover from [illegible]% to 33%

STRATEGY

- All sectors of the society are willingly participating in the planting programme.
- Student community is involved in a big way.
- Huge planting is taken up on farm bunds to augment the income of farmers.
- The biggest support is coming from the general public
- The state Government has amended the Panchayati Raj and Municipal Acts
- Nurseries have been established in each and every Gram Panchayat and Municipality

STRATEGY

- The planting material is given free of cost
- A provision for 10% Green Budget has been made
- Continuous funds are made available and so far more than Rs. 106350 million have been spent
- All the Forest Blocks in and around Cities and Towns are being developed as Urban Forest Parks

Quality Planting Stock

- Success of Plantations depend on quality nursery stock
- Total 14,864 nurseries are established in the state.

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14,864 nurseries have been established in the State

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Few Glimpses of Transformation

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THEN

NOW

THEN

NOW

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Lung Spaces created in Colonies

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Densification of Parks through Tree Planting

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Building Forests within the City

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- A Yadadri model concept is developed on the lines of Miyawaki method to develop tiny forests within the colonies to act urban lung spaces. Such plantations are developed in **50 locations**

Institutional Plantations in Hyderabad City

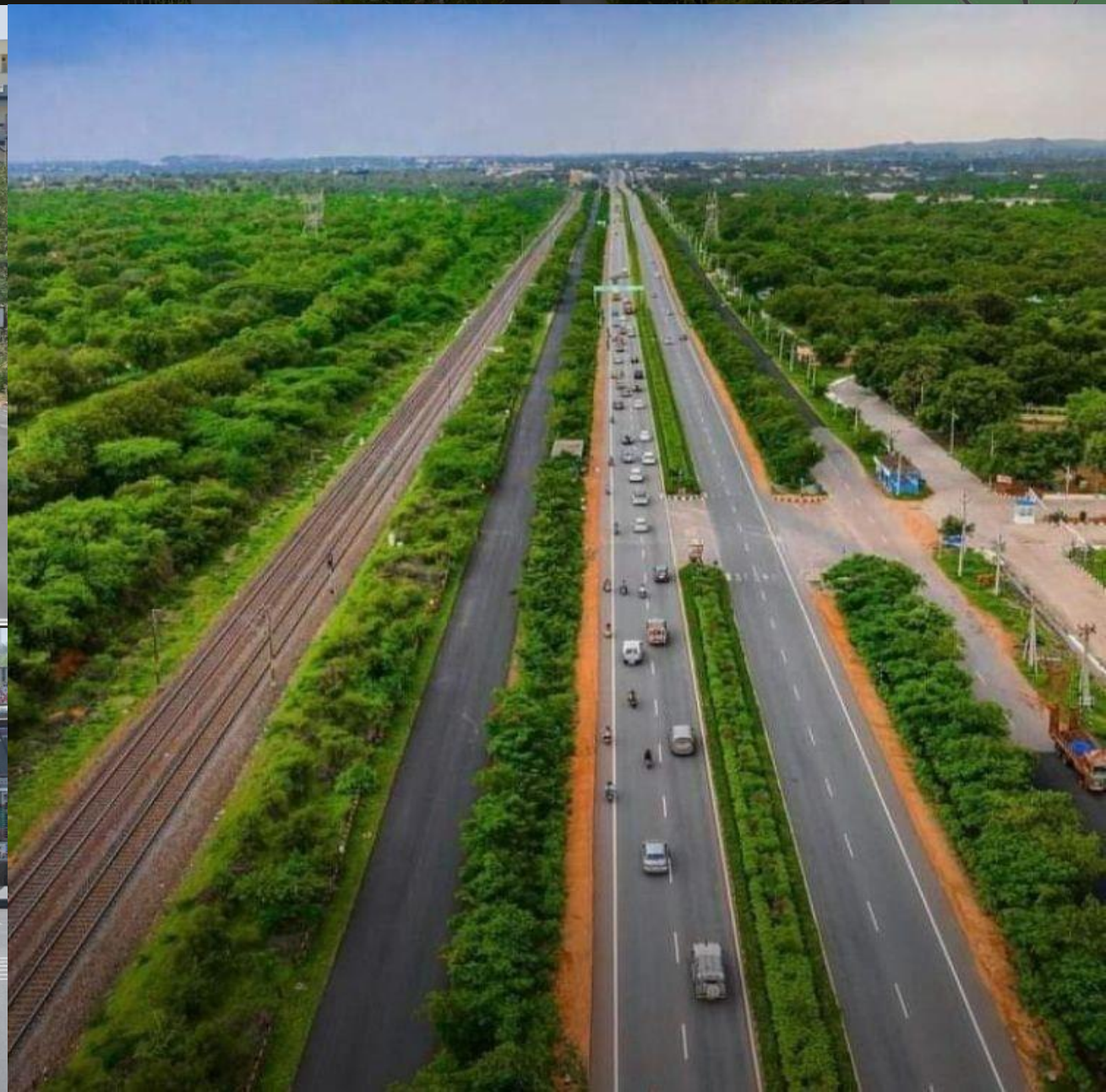
Greenbelts along roadways

- Hydrocarbon related emissions and particulate matter are the major pollutants on the roadside.
- The greenery would help in reducing Air, Noise and Dust pollution, provides bio-aesthetic environment to the commuting public.
- The plantation will be in multiple rows along National Highways.
- Single rows in case of Internal roads

Roadside Plantations

Road Medians in the City

Greenery along Link Roads & Radial Roads



1,00,691 Kilometers/ 62,566 miles of roadside plantation taken up throughout the state

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Inch by Inch Colony Plantations

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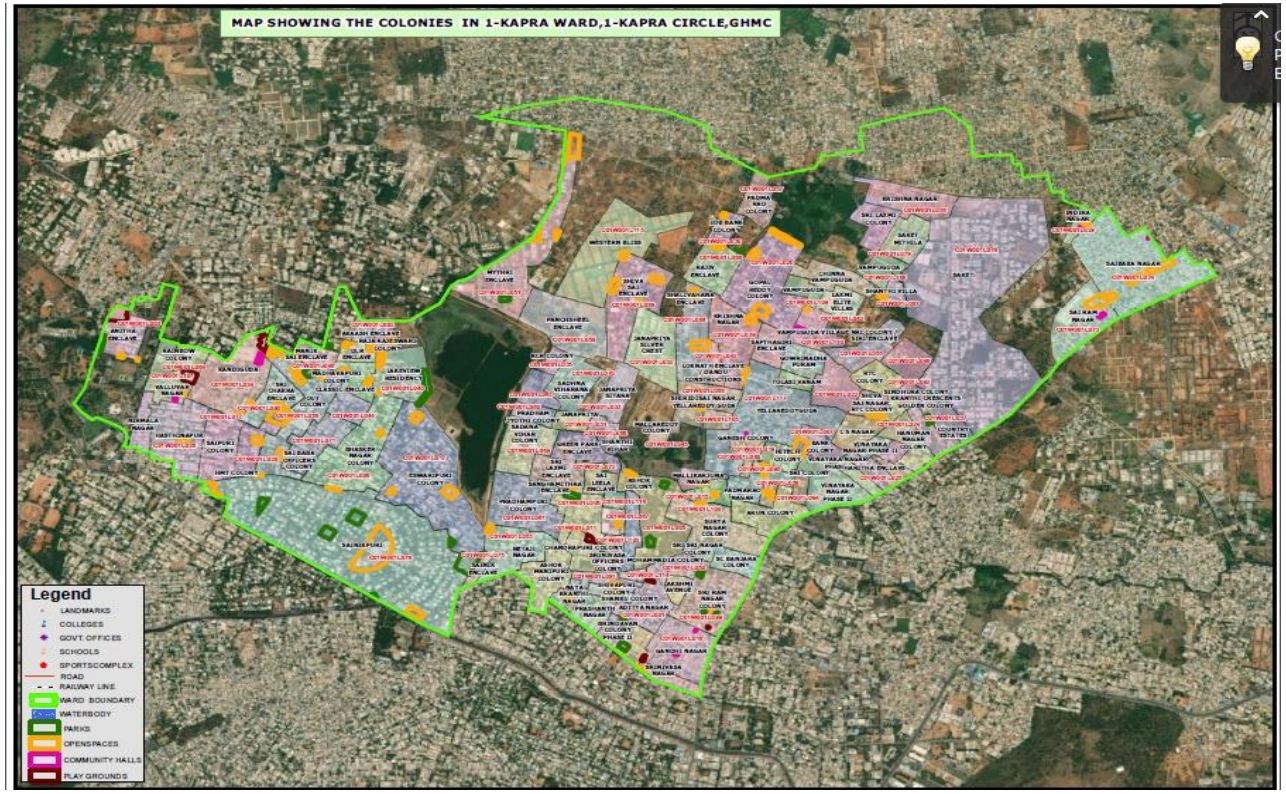
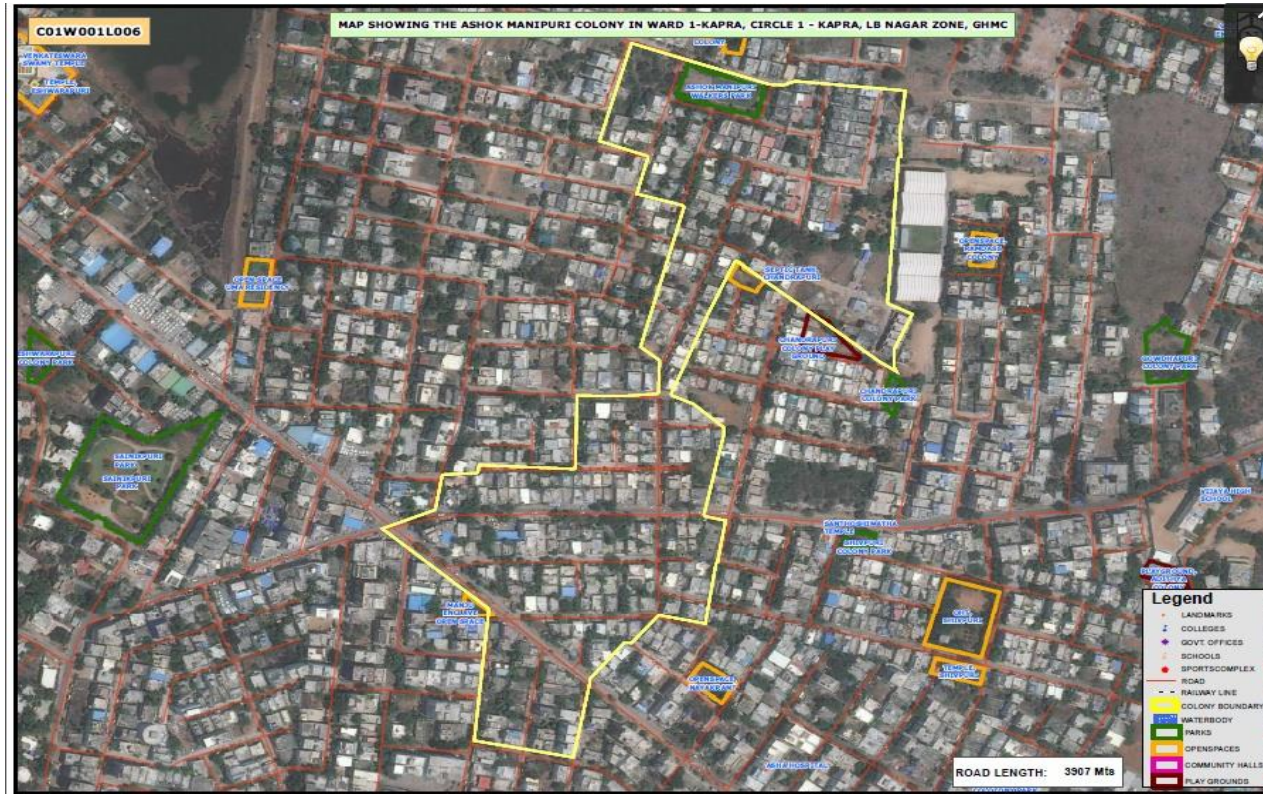
- There are 4846 colonies in GHMC area.
- Concept is to take the colony as the smallest unit and take up plantation in every available space of the colony to saturation level & declare the colony as saturated for plantation.





- GIS Layers for all 4846 Colonies
- Colony wise Green Cover Percentage
- Identification of Areas for planting
- Colonies with less green cover taken on priority

Residential Colony Plantations

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PLANTATIONS IN HYDERABAD CITY

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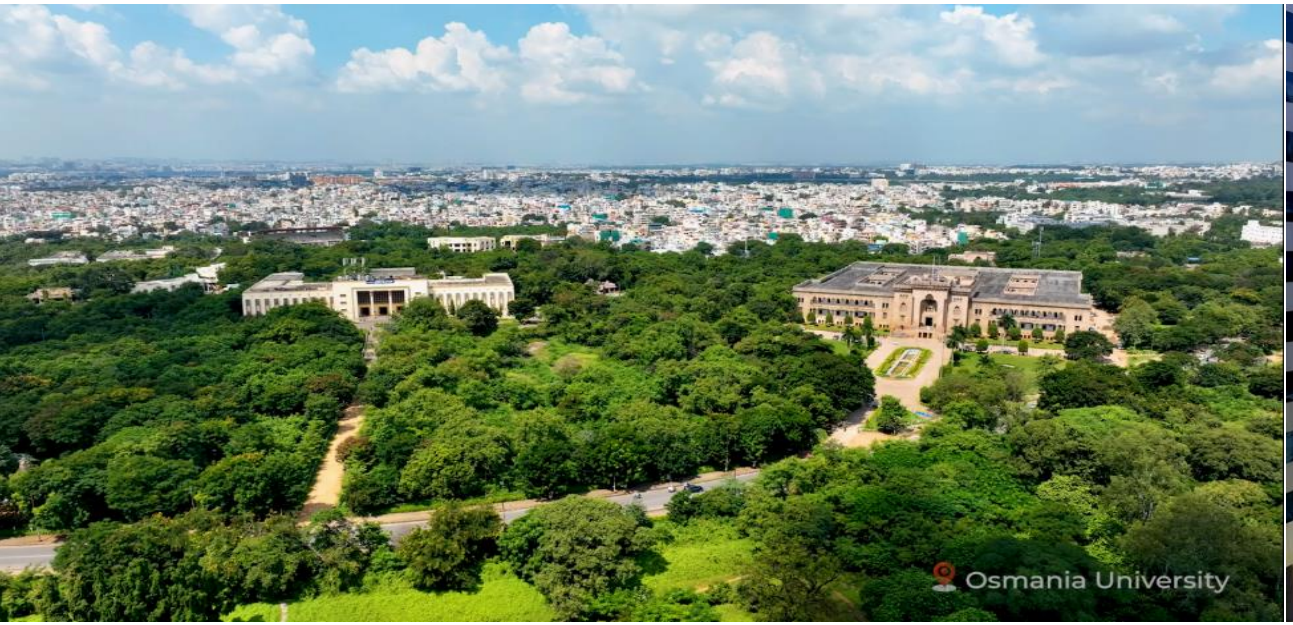
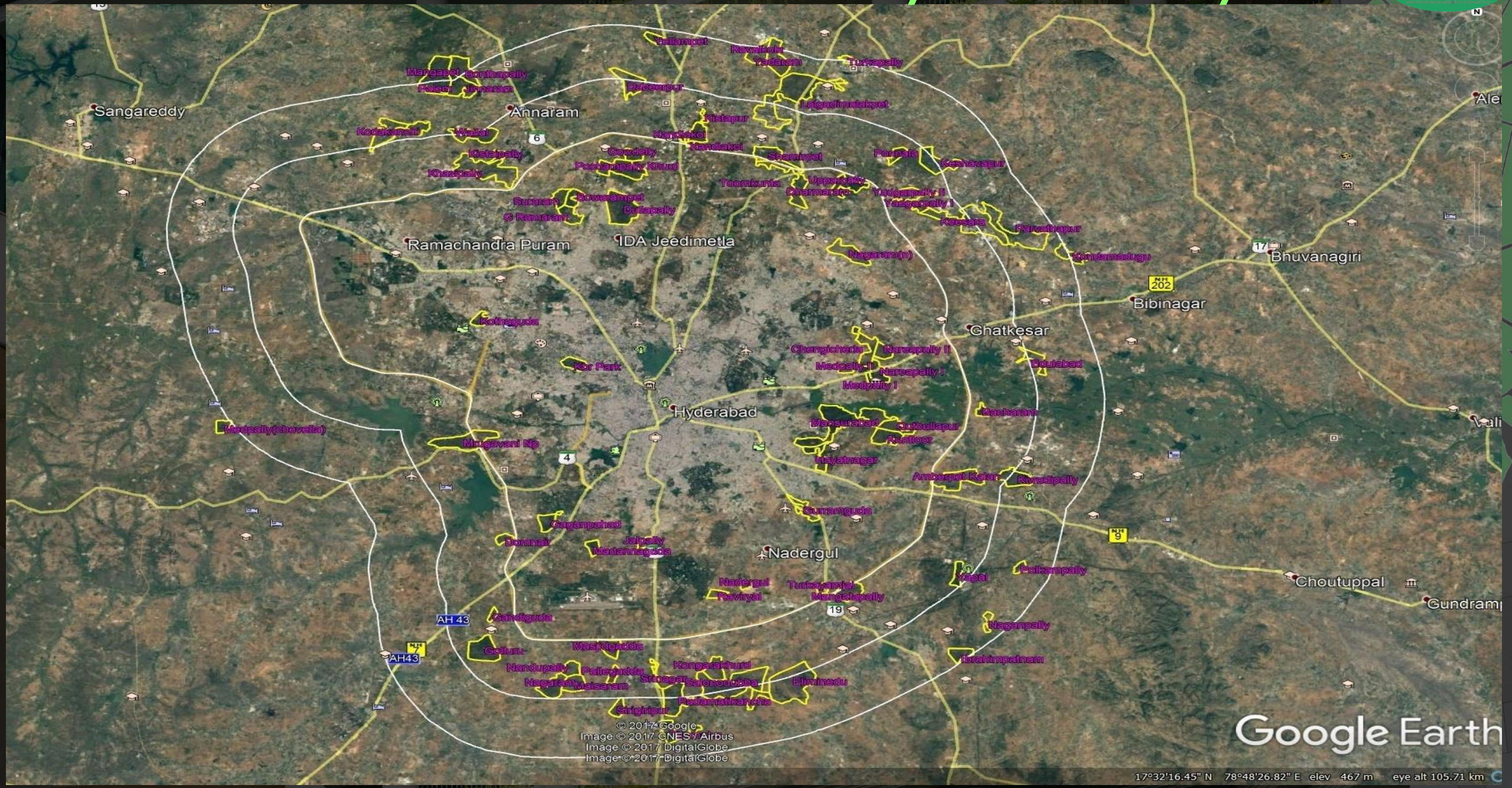


Forest Blocks in & around Hyderabad City



Development of Urban Forest Parks

- To provide adequate lung spaces to the citizens living in and around areas by developing forest blocks.
- Provide healthy living environment
- To contribute to the growth of smart, clean green, sustainable and healthy city.
- Forest Blocks in 129 Locations with Area : 1,60,661 acres
- Urban Forest Parks in 59 Locations
- Conservation Blocks in 70 locations.

Urban Forest Parks

Oxygen Park, Kandlakoya

Shantivanam Park, Medipalli, Uppal

Narsapur Urban Forest Park

Panchavati Park, Shamshabad

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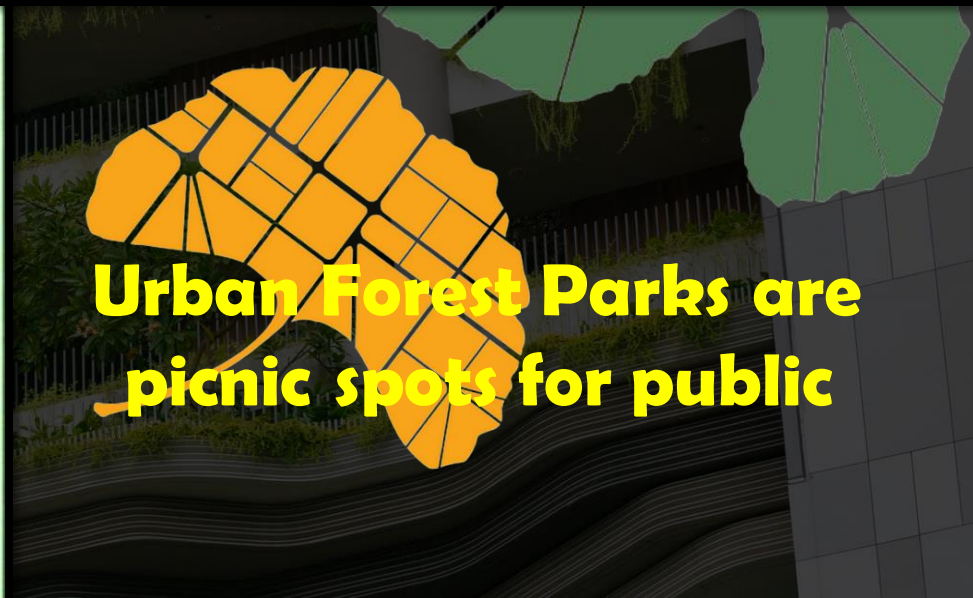
Gandharivanam - Mancherial


Urban Forest Parks are
picnic spots for public

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Greenery in Vaikunta Dhamam

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Eco-friendly crematorium site were developed for public service by keeping it in a clean and efficient condition for the smooth conduct of cremations of the departed souls.

Telangana Haritha Nidhi

- So far Rs. 363.4 millions has been deposited in Telangana Green Fund
- Contributions from the salaries of employees working for State and Public Representatives
- For all issue & renewal of trade licences from all work contracts
- From students one time at the time of admission
- Haritha Nidhi was aimed at bringing a sense of participation among citizens of the State

Telangana Municipal / GHMC Act- 2019

- Specialized Urban Forestry wing & Green Cells
- (5) years Green action plan
- Green Budget of 10%- will be obligatory and will be treated as charged provisions in the budget
- One nursery in every ULB to cater the seedlings
- Responsibility on Public representatives-the ward member shall be disqualified and removed for less survival of plants
- The layout owner shall reserve 10% of the land towards open space for parks
- Certain number of trees shall be planted in the open area in the plot where building is being constructed

Participation by Public Representatives

Participation by Stake Holders

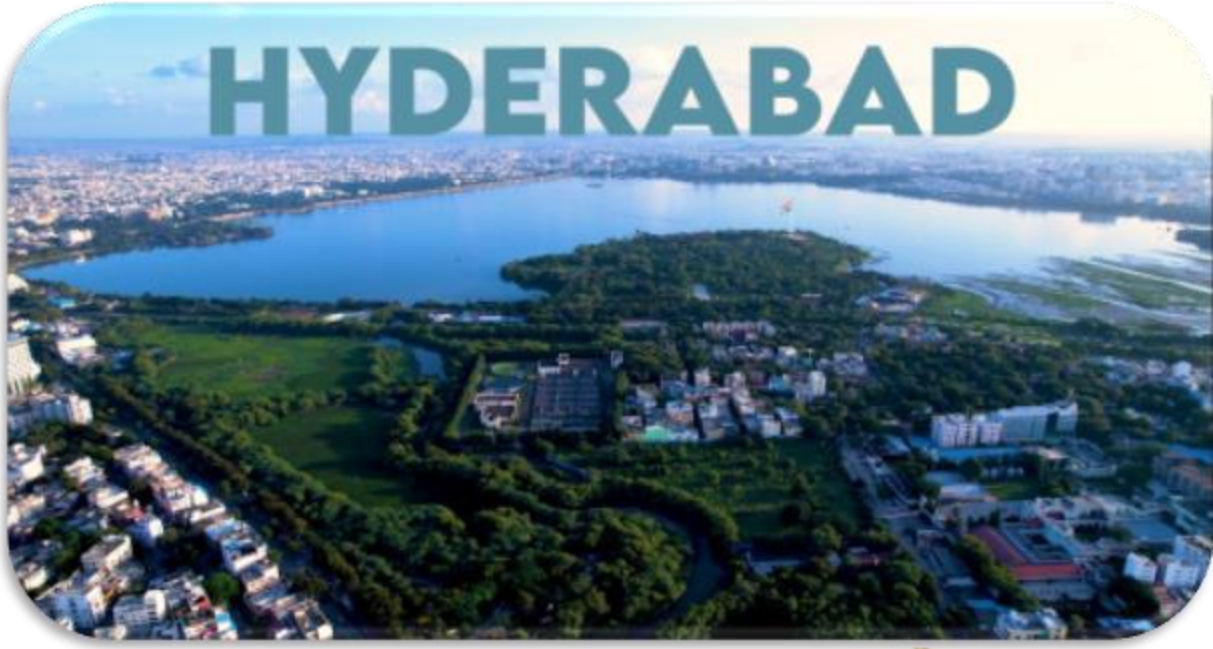
Participation by Students

2nd World Forum on Urban Forests
Washington DC, 2023

City Biodiversity Index

GHMC
GREATER HYDERABAD MUNICIPAL CORPORATION

- In 2012, the Greater Hyderabad Municipal Corporation (GHMC) administered the CBI within Hyderabad city.
- In this exercise the city scored 36 points out of a total 92 points.
- GHMC updated it in 2021.
- City has secured 57 out of 92 points.

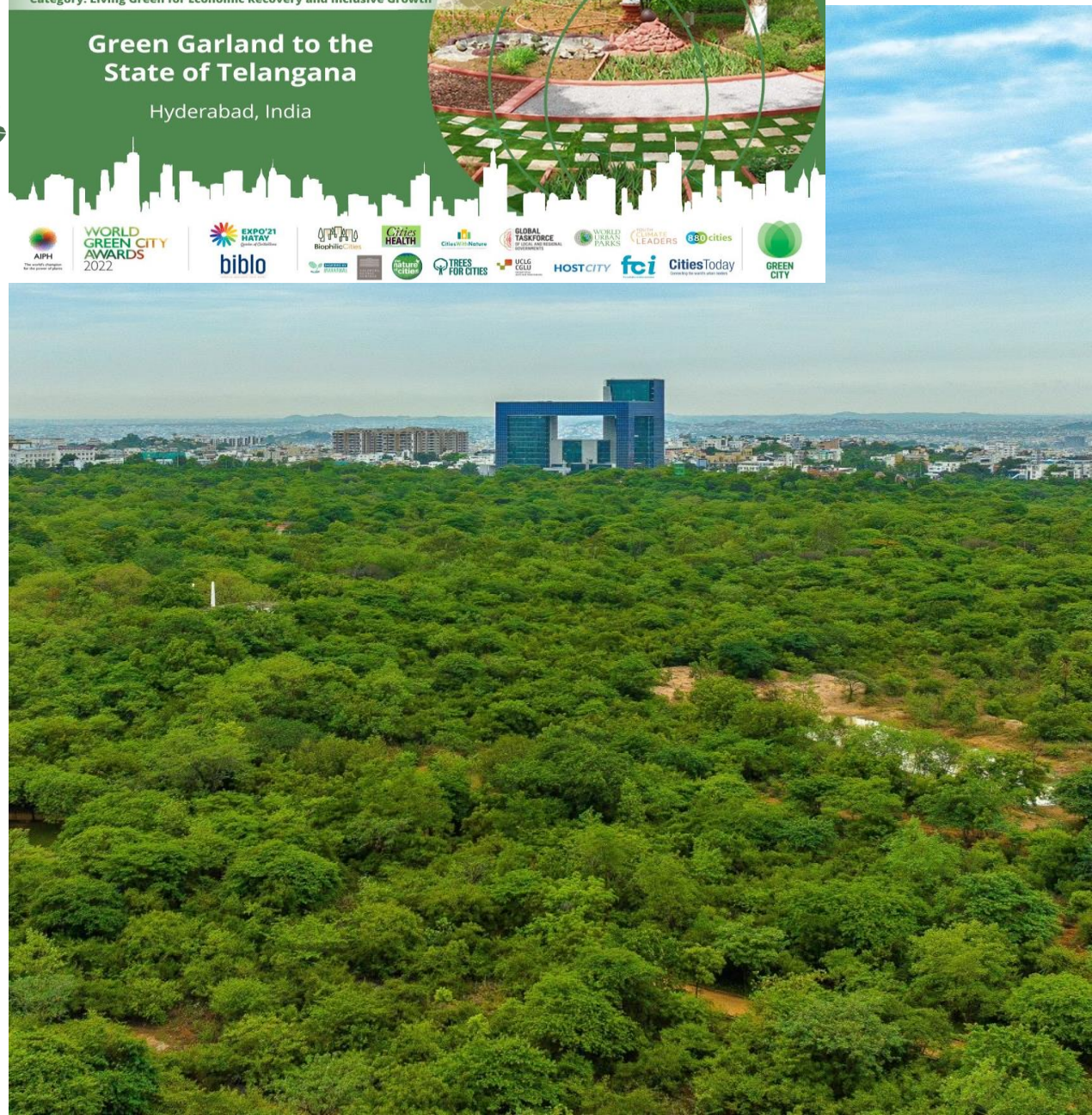


REPORTS

- As per **India State of Forest Report 2021 (ISFR)** Hyderabad city has gained forest cover with 147% in last decade from 12.80 Sq. Miles to 31.59 Sq.Miles.
- Air Quality Index (AQI) during 2015 was as high as 159 at some locations
- In 2022 the pollution levels are decreased compared to 2015 with AQI below 100.

AWARDS

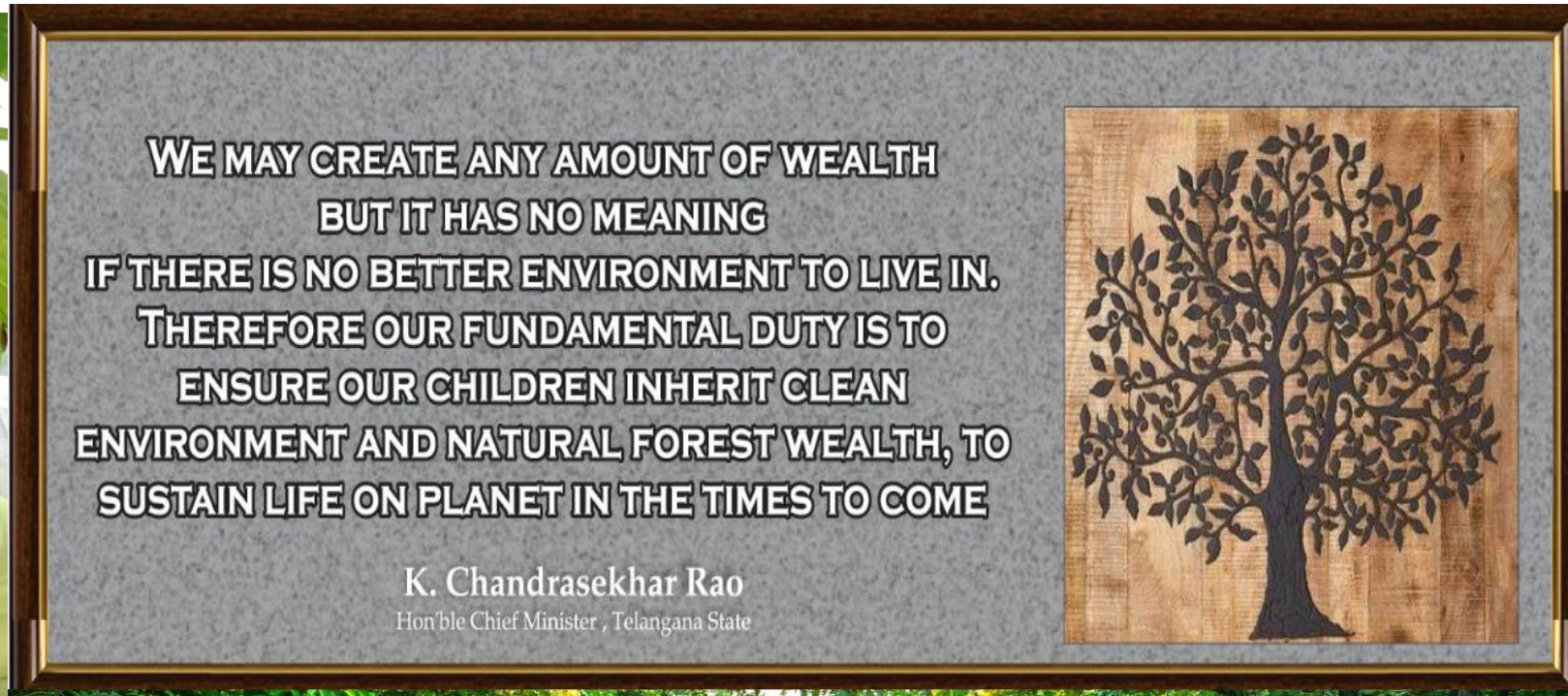
- The Hyderabad City has been recognized as **TREE CITY** by Arbor Foundation & FAO for consecutive years 2020 & 2021
- **The City of Hyderabad** has bagged the prestigious **'World Green City Award 2022'** by **AIPH**



2nd World Forum on Urban Forests
Washington DC, 2023

Hon'ble Chief Minister, Telangana State

GHMC
GREATER HYDERABAD MUNICIPAL CORPORATION



Gadwal Vijayalaxmi

MAYOR, HYDERABAD

GHMC
GREATER HYDERBAD MUNICIPAL CORPORATION

Food and Agriculture Organization of the United Nations

Arbor Day Foundation

POLITECNICO MILANO 1863

ISA

Smithsonian

2nd World Forum on Urban Forests

2023

World Forum on Urban Forests

18 October 2023

World Forum on Urban Forests

C40's Urban Nature Accelerator: Lessons from cities

Amanda Ikert
Head of Adaptation Implementation
C40 Cities

Curitiba, Brazil © Rafael Serathiuk - Getty Images

Lessons in Transformative Urban Nature

1. Public Accountability

2. Quantified Targets

3. Quality

4. Aligning Governance

5. Valuation

C40 CITIES

The C40 Cities network

A network of 97 cities led by Mayors

Directly representing 582 million residents

Influencing 896 million people

AFRICA: ABIDJAN – ACCRA – ADDIS ABABA – CAPE TOWN – DAKAR – DAR ES SALAAM – DURBAN (ETHEKWINI) – EKURHULENI – FREETOWN – JOHANNESBURG – LAGOS – NAIROBI – TSHWANE
CENTRAL EAST ASIA: BEIJING – CHENGDU – DALIAN – FUZHOU – GUANGZHOU – HANGZHOU – HONG KONG – NANJING – SHANGHAI – SHENZEN – QINGDAO – WUHAN – ZHENJIANG
EAST, SOUTHEAST ASIA & OCEANIA: AUCKLAND – BANGKOK – HANOI – HO CHI MINH CITY – JAKARTA – KUALA LUMPUR – MELBOURNE – QUEZON CITY – SEOUL – SINGAPORE – SYDNEY – TOKYO – YOKOHAMA
EUROPE: AMSTERDAM – ATHENS – BARCELONA BERLIN – COPENHAGEN – HEIDELBERG – ISTANBUL – LISBON – LONDON – MADRID – MILAN – OSLO – PARIS – ROME – ROTTERDAM – STOCKHOLM
TEL AVIV – WARSAW | **LATIN AMERICA:** BOGOTÁ – BUENOS AIRES – CURITIBA – GUADALAJARA – LIMA – MEDELLÍN – MEXICO CITY – RIO DE JANEIRO – SALVADOR – SÃO PAULO – SANTIAGO – QUITO
NORTH AMERICA: AUSTIN – BOSTON – CHICAGO – HOUSTON – LOS ANGELES MIAMI – MONTRÉAL – NEW ORLEANS – NEW YORK – PHILADELPHIA – PHOENIX – PORTLAND – SAN FRANCISCO – SEATTLE
TORONTO – VANCOUVER – WASHINGTON DC | **SOUTH & WEST ASIA:** AHMEDABAD – AMMAN – BENGALURU – CHENNAI – DELHI – DHAKA – DUBAI – KARACHI – KOLKATA – MUMBAI

C40 CITIES

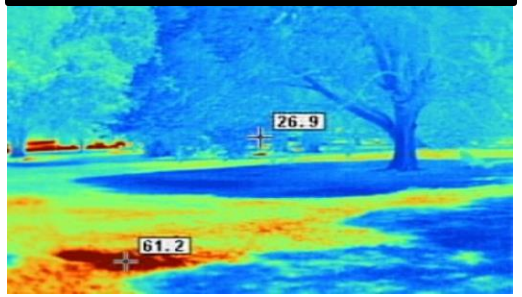
C40 Networks supporting Urban Adaptation

Urban Flooding Network

Water Security Network

Connecting Delta Cities Network

Cool Cities Network



To prevent

C40 MAYORS' AGENDA FOR A GREEN AND JUST RECOVERY

Health and wellbeing:
Give space back to people and nature, rethink and reclaim our streets, clean our air and create liveable, local communities

Action:
Build with nature

We will prioritise nature-based solutions (such as parks, green roofs, green walls, blue infrastructure and permeable pavements) to help reduce the risks of extreme heat, drought, flooding and vector- and water-borne disease while improving liveability and increasing physical and mental health.

C40 Urban Nature Accelerator

Making our Cities Greener and More Resilient

"To protect our communities from climate risk and help meet the goals of the Paris Agreement while improving overall health and wellbeing, our cities pledge to **increase and enhance nature in our urban environments that reduces climate risk and vulnerability,** supports wider ecosystem services, and is equitably distributed and publicly accessible, by 2030."

The objectives of this declaration are to set inclusive and equitable targets to develop **living, climate-ready, and crisis-prepared cities**.

41 Signatories

Amman
Athens
Austin
Barcelona
Berlin
Bogotá
Buenos Aires
Chennai
Copenhagen
Curitiba
Dhaka North
Dhaka South
Delhi
Durban
Freetown
Guadalajara
Haifa (non C40)
Karachi
Lima
London
Los Angeles
Medellín
Milan
Montreal
Mumbai
New Orleans
Paris
Quezon City
Quito
Rio de Janeiro
Rome
Rotterdam
Salvador
San Francisco
San Paulo
Seattle
Stockholm
Sydney
Tel Aviv
Tokyo
Toronto

PATHWAY 1
QUALITY TOTAL COVER

Heat & Water related risk

30-40% of the total built-up city surface area is:
a.) **Green spaces** (e.g., street trees & urban forests, parks, building integrated vegetation)
and/ or
b.) **Permeable spaces** (e.g., pavements, infiltration trenches, swales, detention basins, regenerative urban agriculture)
Which favours protecting and restoring **biodiverse and climate resilient ecosystems**

PATHWAY 2
EQUITABLE SPATIAL DISTRIBUTION

Accessibility and connectivity

70% of the city population has access to a fit for purpose green or blue space within **15 minutes**[7] – equitably prioritised to maximise accessibility and connectivity to nature for the most vulnerable

C40 CITIES

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Toronto

C40 Urban Nature Accelerator Requirements

TWO YEARS COMMITMENTS

- Make nature **goals public** & publicly **report annually** on progress
- Develop support and skills building programmes for **green jobs**
- Develop a process for **involving vulnerable and marginalized communities**
- **Map** current and expected **climate risks** and vulnerability
- Conduct a **gap analysis** and mapping to show where new and improved greening is needed
- Accelerate action to **address governance barriers** to implementation
- Mobilize **access to investments** and resources

FIVE YEARS COMMITMENTS

- **Implement** new or enhanced public green spaces and green streetscapes, in areas with the greatest impact on the most vulnerable
- **Complete a baseline natural vegetation inventory** and undertake natural capital accounting to raise awareness of the associated value of urban nature
- Develop **new inclusive governance frameworks,** practices and programmes
- Update the city's **climate action plan adaptation actions** to reflect ambitious nature targets

C40 CITIES

SNAPSHOTS OF URBAN NATURE

#AFutureWithNature is possible,
if we make it a priority today.

Together, we can create cities that are greener, healthier and more resilient.

A letter to nature in
MEDELLÍN

A letter to nature in
RIO DE JANEIRO

A letter to nature in
PORTLAND

A letter to nature in
DURBAN

#AFutureWithNature

A letter to nature in
COPENHAGEN

#AFutureWithNature

A letter to nature in
MUMBAI

#AFutureWithNature

A letter to nature in
AUCKLAND

#AFutureWithNature

A letter to nature in
BARCELONA

#AFutureWithNature

A letter to nature in
STOCKHOLM

#AFutureWithNature

“In order to be effective, the ecological transition needs to be socially desirable”
Alexander Langer
C40 CITIES

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C40 Urban Nature Accelerator Targets

PATHWAY 1:
QUALITY TOTAL COVER

Heat & Water related risk

30-40% of the total built-up city surface area is:

Green spaces
through street trees & urban forests, parks, gardens, building integrated vegetation

and/or;

Permeable spaces
through green roofs, roads, pavements, green ground, infiltration trenches, swales, detention basins, regenerative urban agriculture

PATHWAY 2:
EQUITABLE SPATIAL DISTRIBUTION

Accessibility and connectivity

70% of the city population has access to a fit for purpose green and/or blue space within 15 minutes

Equitably prioritised to maximise connectivity and accessibility to nature for the most vulnerable

C40 CITIES

中外对话
China Dialogue

NATURE

COP15 reaches historic agreement to protect biodiversity

An agreement has been reached to protect 30% of the planet's land and 30% of its ocean by 2030, among a host of new targets

EN 中文

The Global Biodiversity Framework is adopted at COP 15. Photo by CBD

The New York Times

Nearly Every Country Signs On to a Sweeping Deal to Protect Nature

Roughly 190 nations, aiming to halt a dangerous decline in biodiversity, agreed to preserve 30 percent of the planet's land and seas. The United States is not officially a participant.

MONTREAL, Quebec — Roughly 190 countries early on Monday approved a sweeping United Nations agreement to protect 30 percent of the planet's land and oceans by 2030 and to take a slew of other measures against biodiversity loss, a mounting under-the-radar crisis that, if left unchecked, jeopardizes the planet's food and water supplies as well as the existence of untold species around the world.

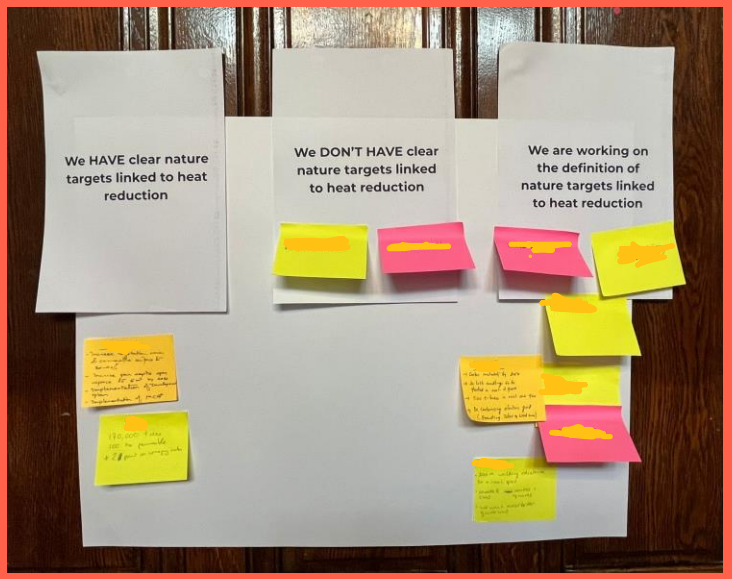
European Commission

NEWS ARTICLE | 21 June 2023 | Directorate-General for Environment

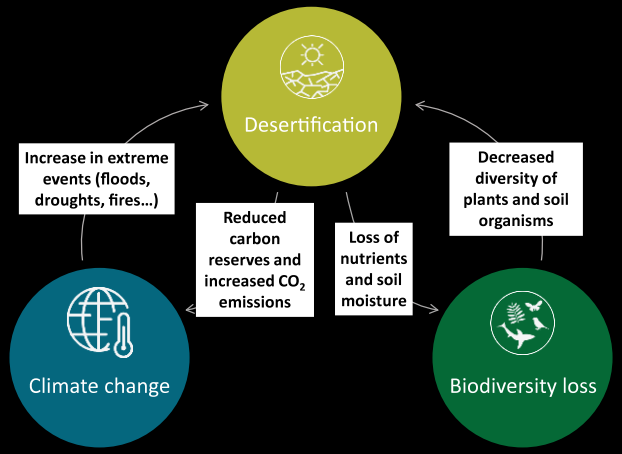
Increasing tree coverage to 30% in European cities could reduce deaths linked to urban heat island effect

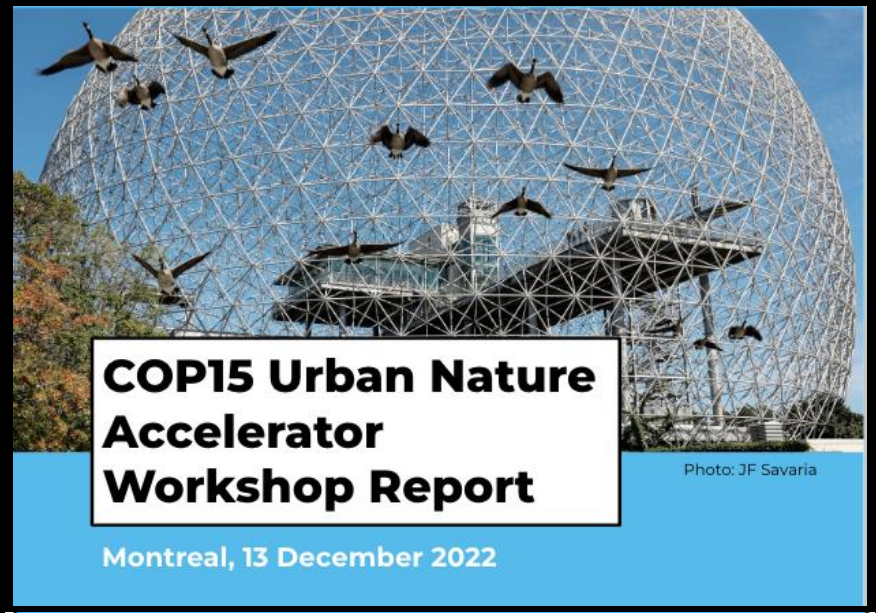
Issue 602: The cooling effect of trees is well known, but no study has so far aimed to quantify how many premature deaths might be prevented through this ecosystem service.

C40 workshop
Managing Heat with Nature
Day 1: Bringing the temperature down in our cities
09-12 October - Paris, France
C40 CITIES
Paris, photo by James O_Neil - Getty Images


We HAVE clear nature targets linked to heat reduction
We DON'T HAVE clear nature targets linked to heat reduction
We are working on the definition of nature targets linked to heat reduction

Aligning the Rio Conventions





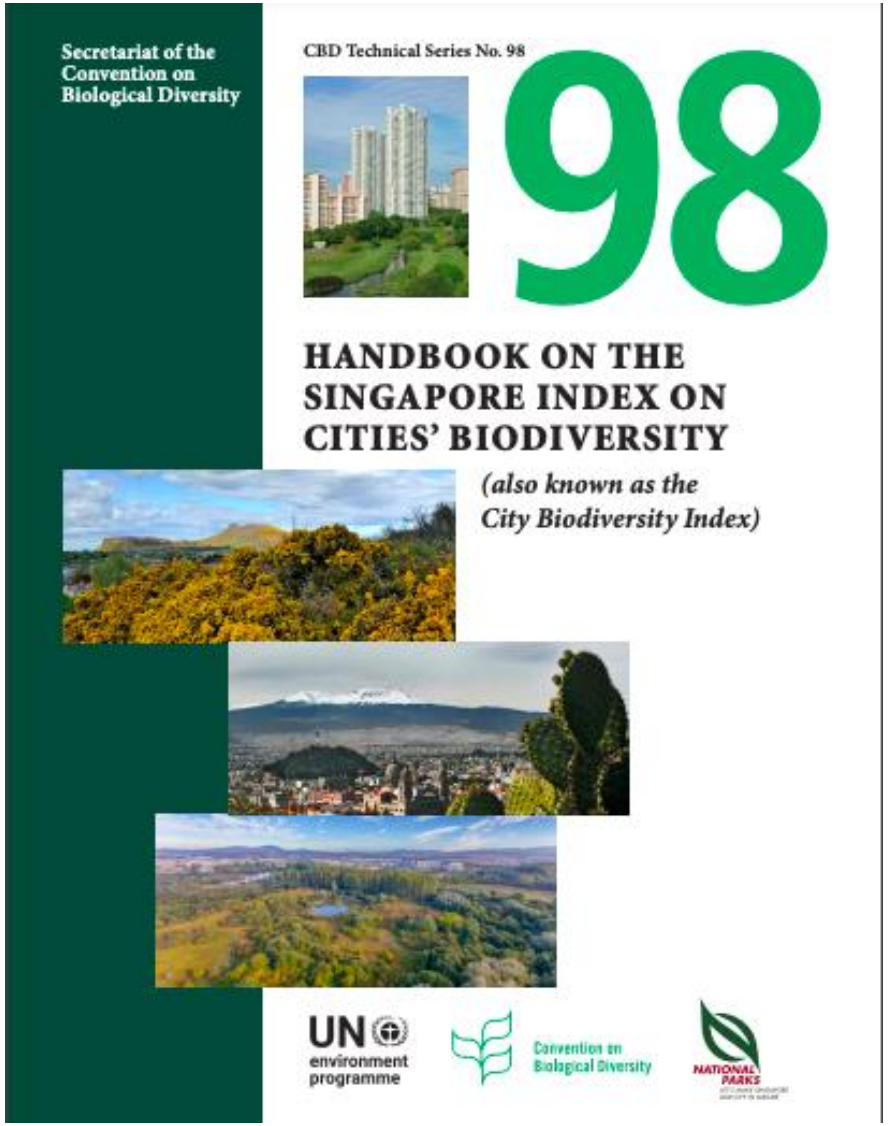
Session	Challenge Question	Seeds for Discussion
Nature As Urban Culture	How do we support a public cultural shift to prioritize nature in cities?	Tokyo Toronto
Reconciling Biodiversity, Climate Risk and Equity in our Cities	Are our climate risk reduction, biodiversity and equity goals in competition?	San Francisco Paris Los Angeles
15 minute one-on-ones	Bilateral meetings between cities	
A Natural Economy: Finance and Green Jobs	How can we build the value of nature into the economies of our cities?	Montreal Freetown

C40 CITIES

Urban Rewilding

The value and co-benefits of nature in urban spaces

City Biodiversity Indices



Berlin
MINZE

Alignment of Actors

Parks

Urban Planning

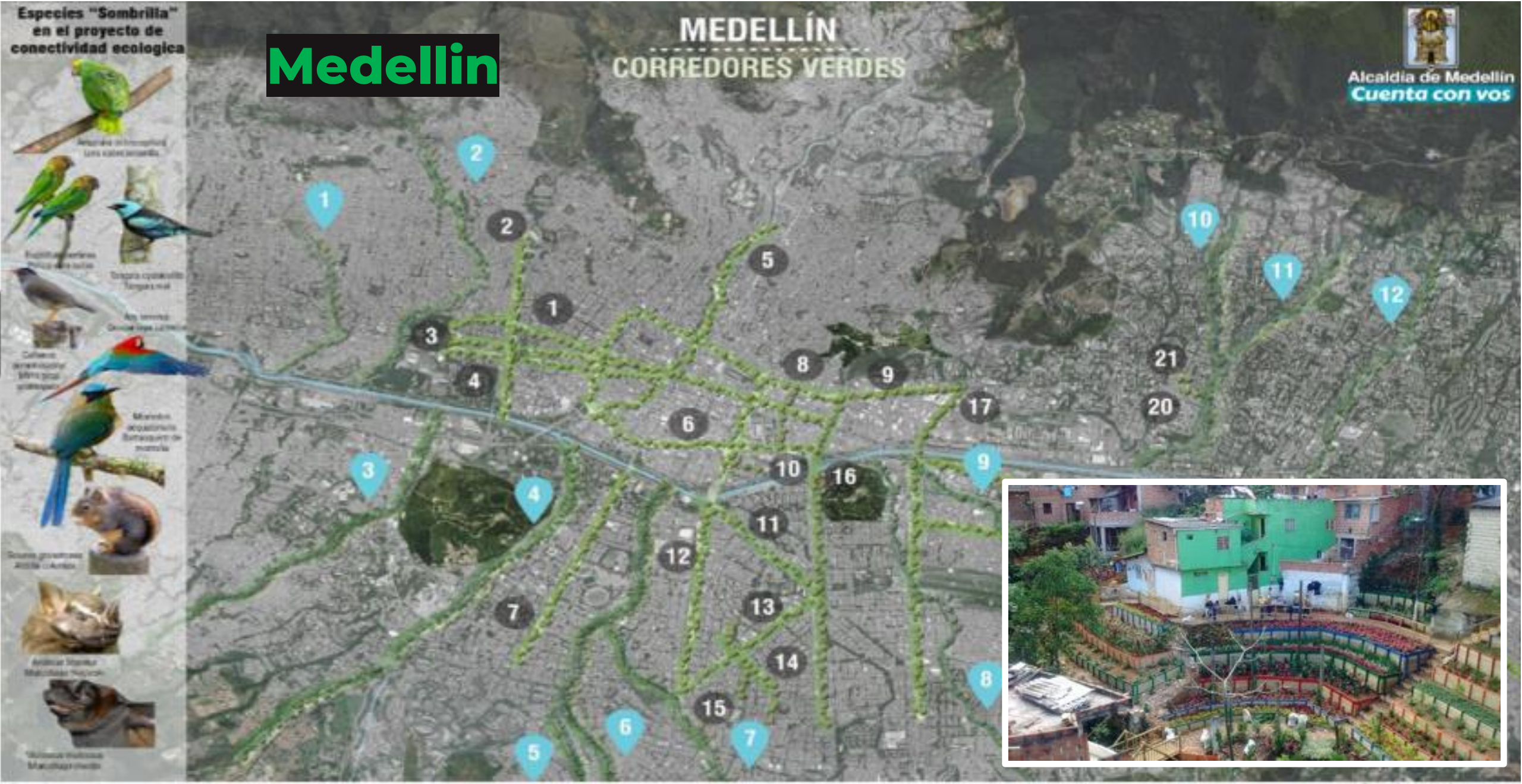
Climate

Health

Curitiba, Brazil © Rafael Serathiuk - Getty Images

C40 CITIES

Medellin


Especies "Sombrilla" en el proyecto de conectividad ecologica
MEDELLÍN
CORREDORES VERDES
Alcaldía de Medellín
Cuenta con vos
Corredores verdes en quebradas
1 Q. La Bermejala
2 Q. El Molino
3 Q. La Malpaso
4 Q. La Iguaná
5 Q. La Pelahueso
6 Q. La Hueso
7 Q. Ana Díaz
8 Q. Altavista
9 Q. La Guayabala
10 Q. La Poblada
1 Q. La Presidenta
1 Q. La Volcana
1 Paseo Bolívar
2 Avenida Barranquilla
3 Carrera Juan del Corral
4 Carrera Carabobo
5 Avenida La Playa
6 Avenida Ferrocarril
7 Avenida Colombia
8 Calle Los Huesos
9 Avenida Oriental
10 Calle 42a
11 Avenida Bolivariana
12 Avenida San Juan
13 Avenida Nutibara
14 Avenida Jardín
15 Calle 38
16 Calle 33
17 Calle 29
18 Avenida Guayabal
19 Carrera 42
Corredores verdes en vías

Tokyo

AN EXAMPLE OF GREENING STREETS IN LONDON BOROUGH OF BRENT

THE PROJECT WOULD BREAK EVEN IN ITS 3RD YEAR

DELIVER £1.9M IN BENEFITS TO THE LOCAL COMMUNITY

£810K OF WHICH IS DERIVED FROM MENTAL WELLBEING BENEFITS

Freetown

Montréal

Montreal's Adaptation Budgeting Methodology

C40 City Clinic
May 31st 2023

Nicolas Dedovic, Acting Head of Division,
Office of Ecological Transition and Resilience

Marie-Ève Marquis, ing., M. Env.
Office of Ecological Transition and Resilience

URBAN FOREST STRATEGY

MAKING A GREAT CITY GREENER 2012-2032

City of Melbourne's Urban forest Strategy A Decade On

Tiffany Crawford
Co-Chief Heat Officer
Director, Climate Change & City Resilience

CITY OF MELBOURNE

Melbourne's Rapid Landscape changes

CITY OF MELBOURNE

Significant parks

CITY OF MELBOURNE

Small open spaces

CITY OF MELBOURNE

Central city streets

CITY OF MELBOURNE

Local neighbourhoods

CITY OF MELBOURNE

CITY OF MELBOURNE

CITY OF MELBOURNE

Overall

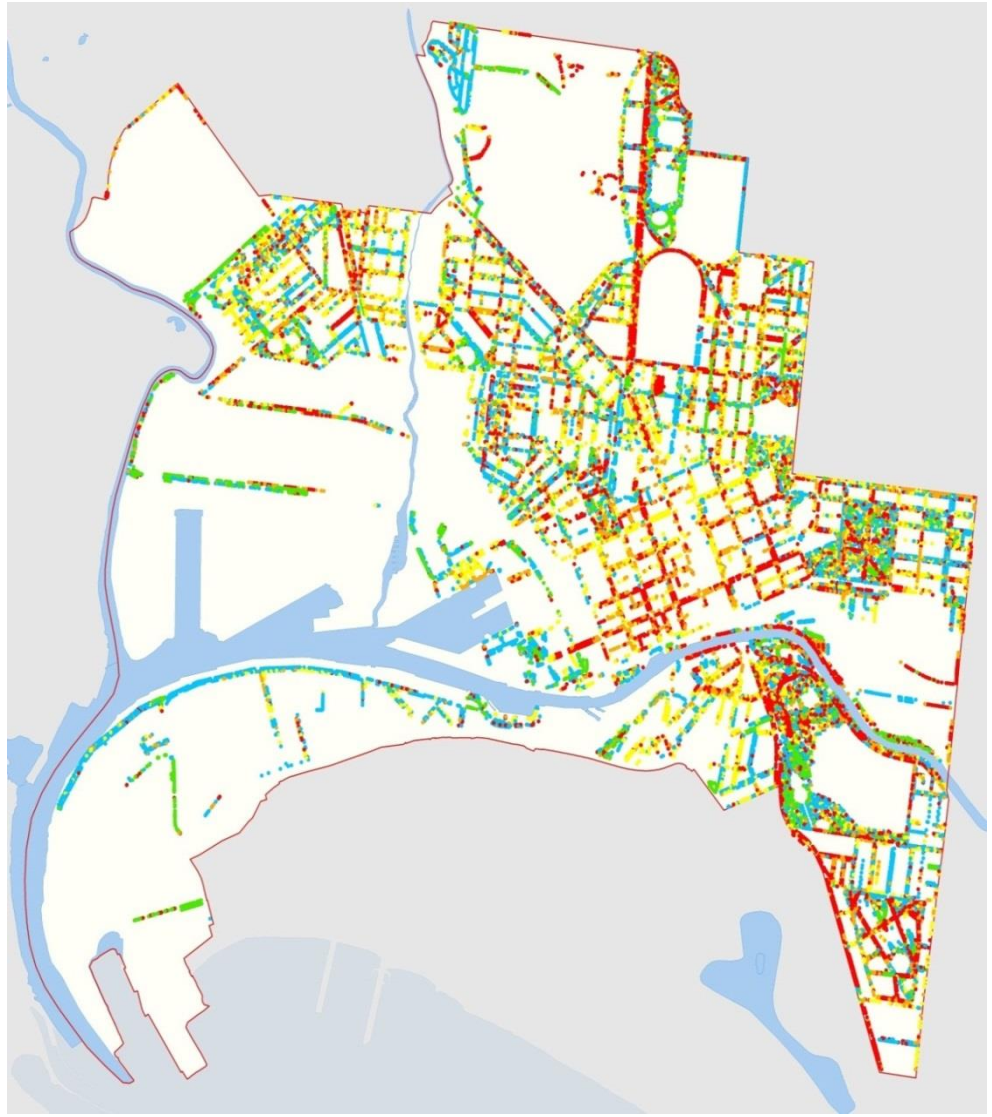
23% loss in 10 years

39% loss in 20 years

Heritage Landscapes

35% loss in 10 years

58% loss in 20 years

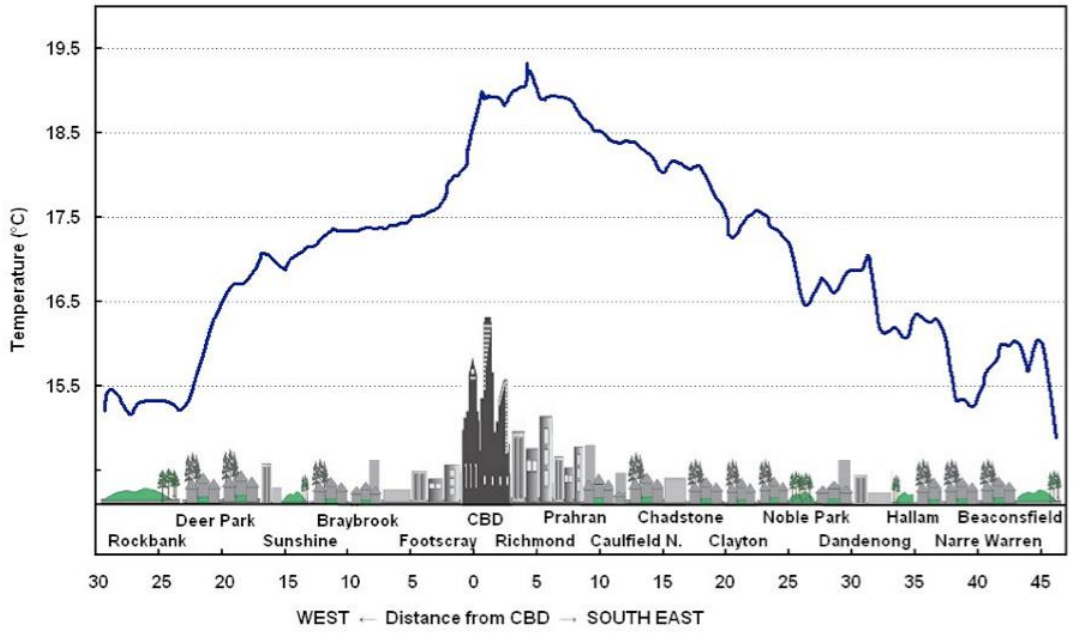


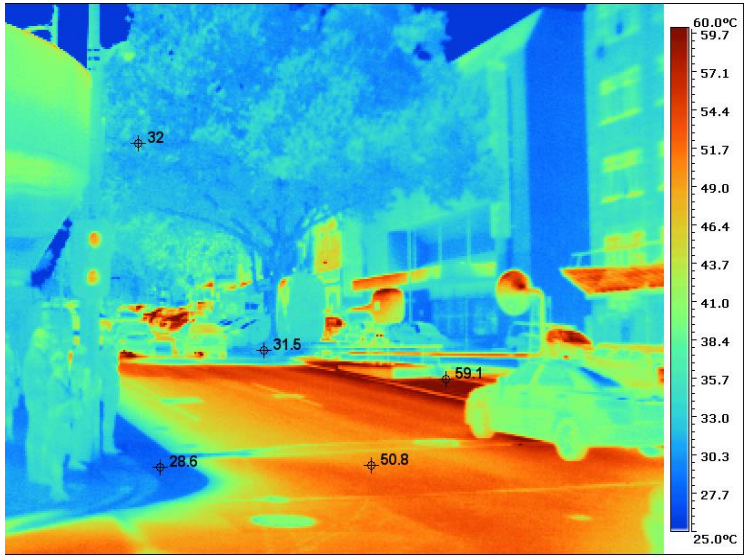
CITY OF MELBOURNE

City of Melbourne Urban Forest Strategy 2012-2032

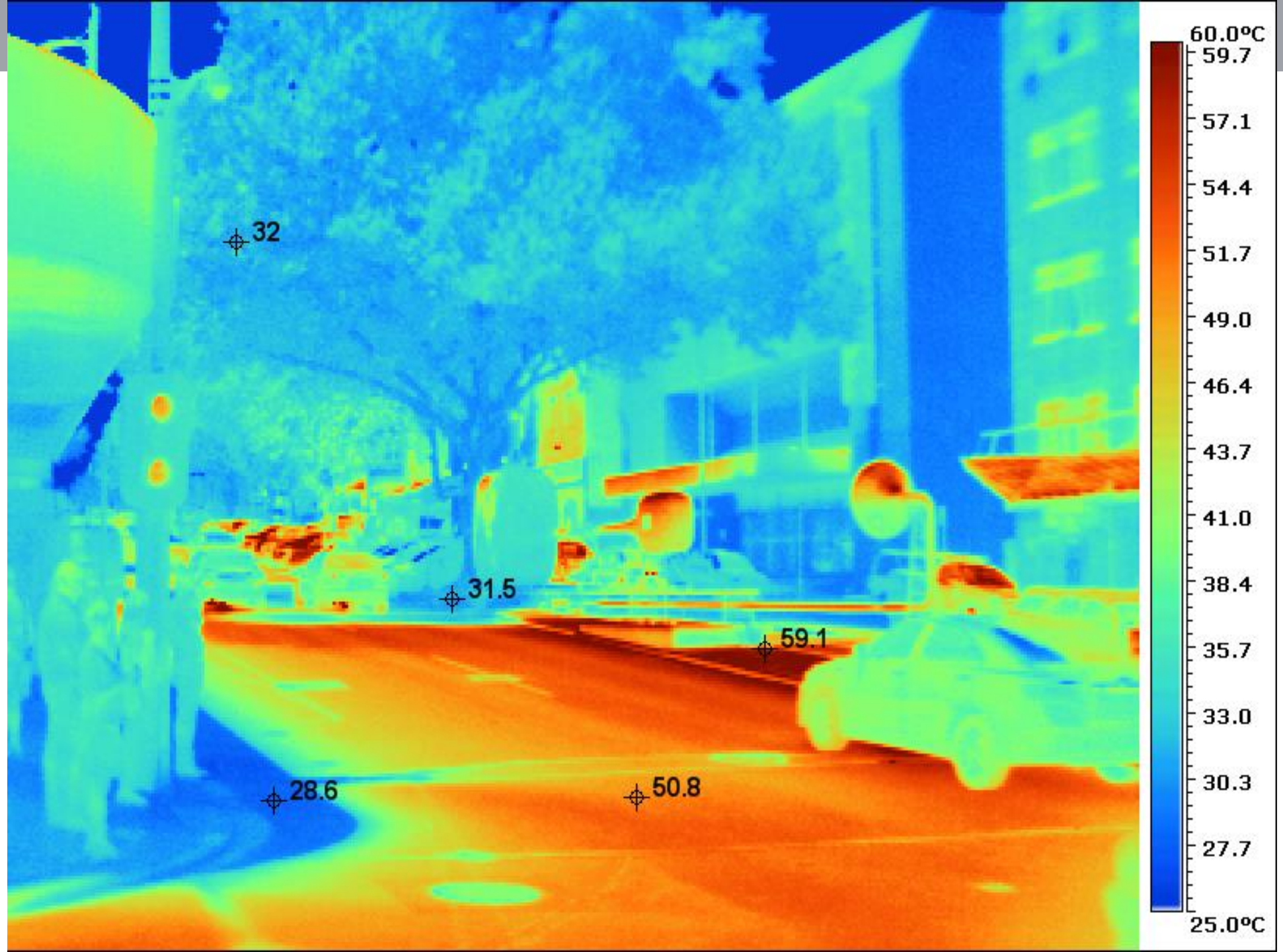
- 80,000 public trees
- $800 million value
- Targets:
  - Increase canopy cover by 40%
  - Increase tree species diversity
  - Improve vegetation health
  - Improve soil moisture and water quality
  - Inform and consult the community

CITY OF MELBOURNE





CITY OF MELBOURNE



CITY OF MELBOURNE

Urban Forest Precinct Plans: ten year review

Key successes:

- Evidence-based and data driven
- Research partnerships
- Regular monitoring
- Engaged community

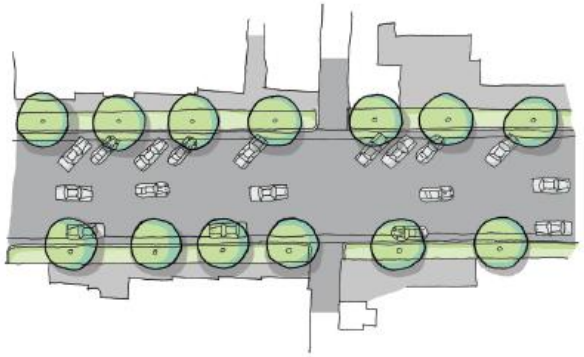
Improvement opportunities:

- 30% of priority streetscape are unable to be planted.
- More equitable distribution of planting
- More diverse community views
- Improved data inputs:
  - Biosecurity
  - Habitat connectivity
  - Heat vulnerability

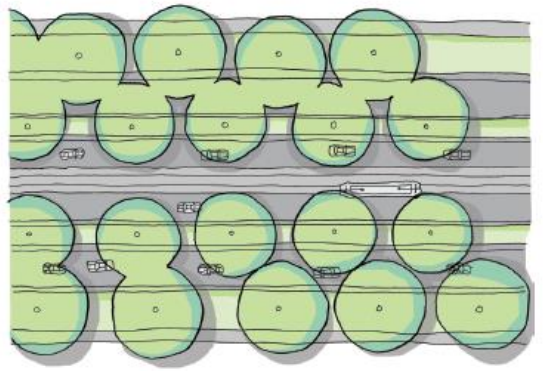
CITY OF MELBOURNE

TREE CANOPY COVER

22% (2012)

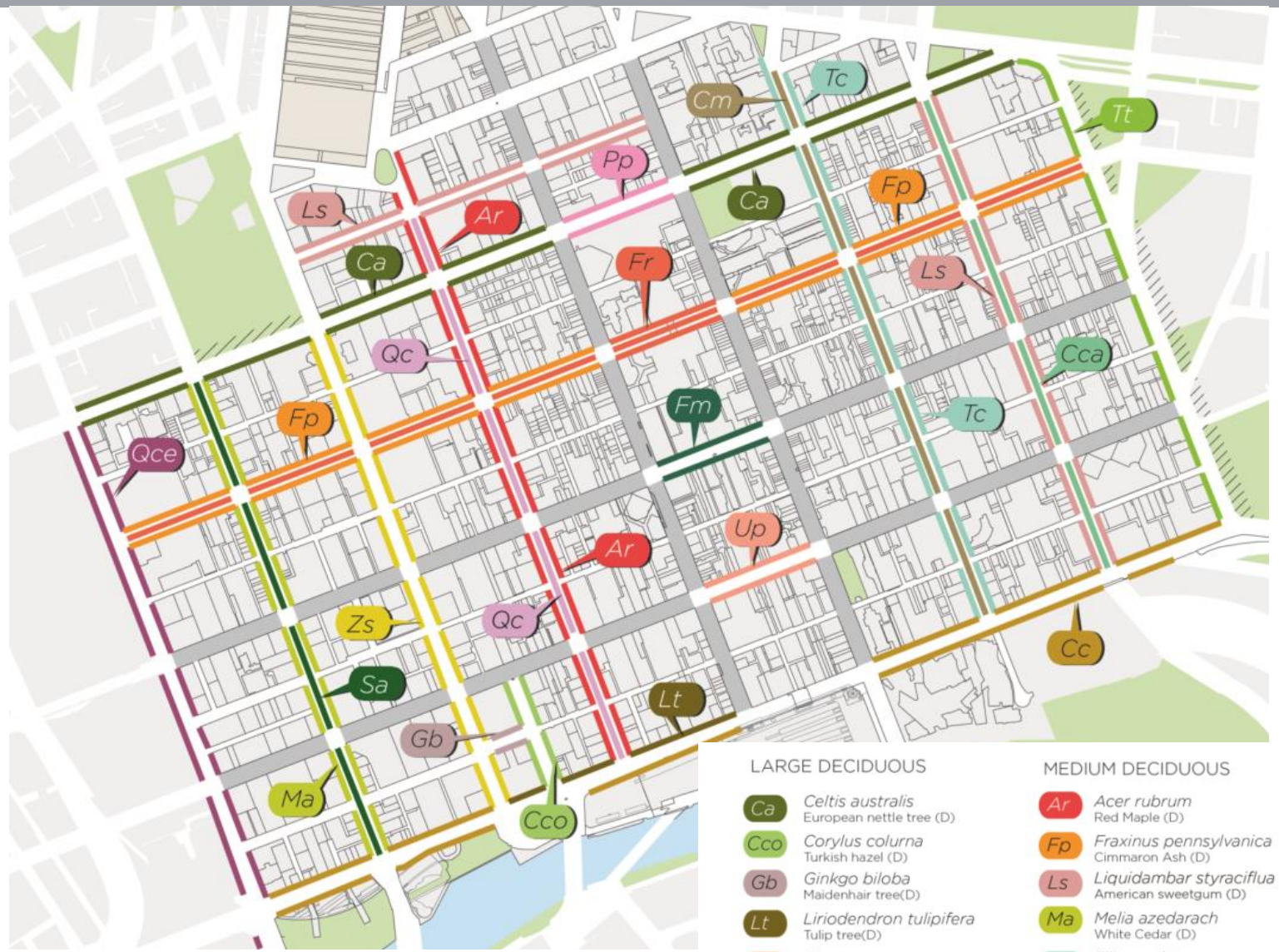


40% (2040)



CITY OF MELBOURNE

Creating species diversity



LARGE DECIDUOUS

- Ca — *Celtis australis* — European nettle tree (D)
- Cco — *Corylus colurna* — Turkish hazel (D)
- Gb — *Ginkgo biloba* — Maidenhair tree(D)
- Lt — *Liriodendron tulipifera* — Tulip tree(D)
- Up — *Ulmus procera* — English Elm (D)
- Qc — *Quercus canariensis* — Algerian oak (D)
- Qce — *Quercus cerris* — Turkey oak (D)
- *Platanus × acerifolia* — London Plane (D)

MEDIUM DECIDUOUS

- Ar — *Acer rubrum* — Red Maple (D)
- Fp — *Fraxinus pennsylvanica* — Cimmaron Ash (D)
- Ls — *Liquidambar styraciflua* — American sweetgum (D)
- Ma — *Melia azedarach* — White Cedar (D)
- Tc — *Tilia cordata* — Small-leaved Lime (D)
- Tt — *Tipuana tipu* — Rosewood (D)
- Zs — *Zelkova serrata* — Green Vase (D)

LARGE EVERGREEN

- Cc — *Corymbia citriodora* — Lemon-scented gum (E)
- Cca — *Cinnamomum camphora* — Camphor tree (E)
- Cm — *Corymbia maculata* — Spotted Gum (E)
- Fm — *Ficus macrophylla* — Moreton Bay Fig (E)
- Fr — *Ficus rubiginosa* — Port Jackson fig (E)
- Pp — *Pinus pinea* — Umbrella pine (E)
- Sa — *Schinus areira* — Pepper Tree (E)

CITY OF MELBOURNE

Citizen science data collection

CITY OF MELBOURNE

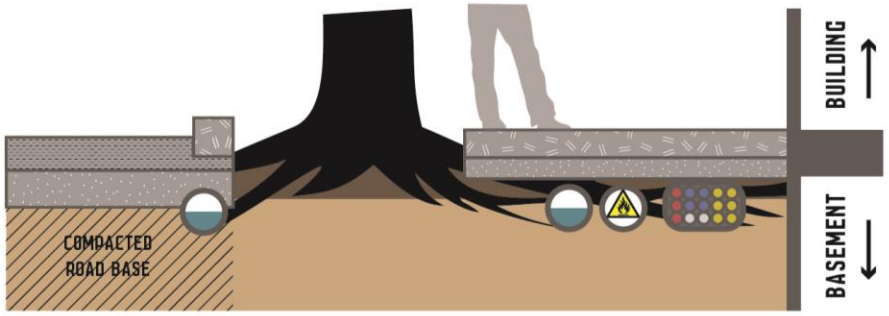
Turning roads into parks

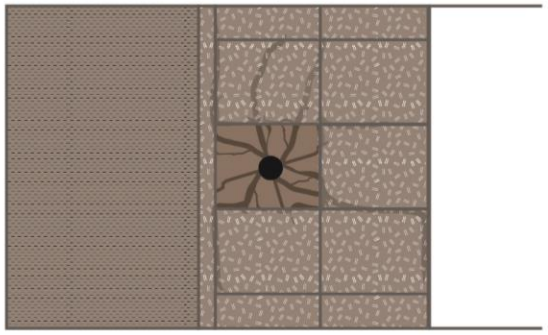
CITY OF MELBOURNE

Challenges

CITY OF MELBOURNE

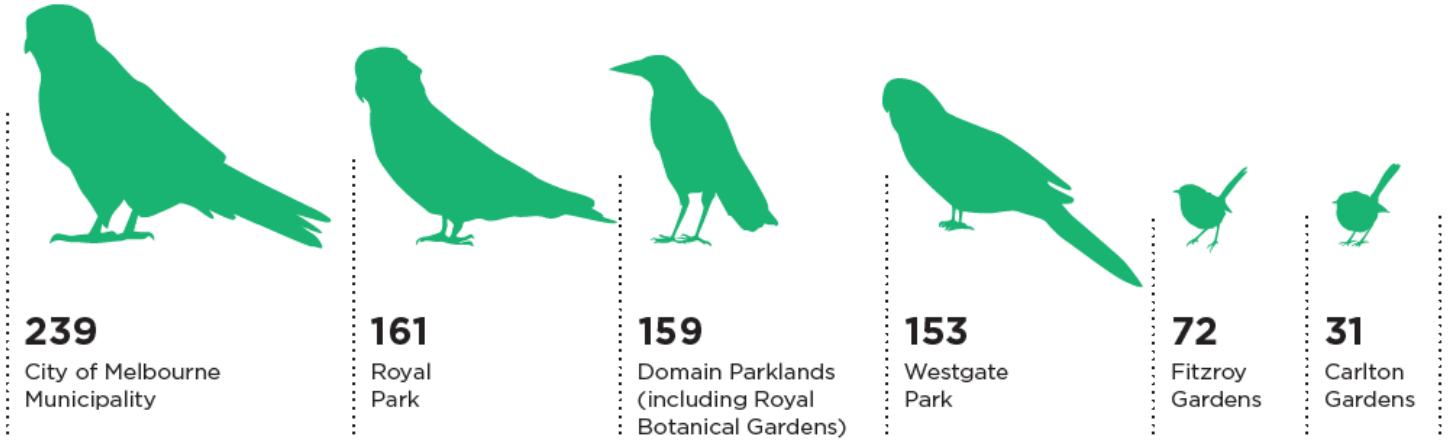
Contested urban space and hostile growing environments





CITY OF MELBOURNE

Climate and biodiversity emergency



239
City of Melbourne Municipality

161
Royal Park

159
Domain Parklands (including Royal Botanical Gardens)

153
Westgate Park

72
Fitzroy Gardens

31
Carlton Gardens

CITY OF MELBOURNE

Development impacts

CITY OF MELBOURNE

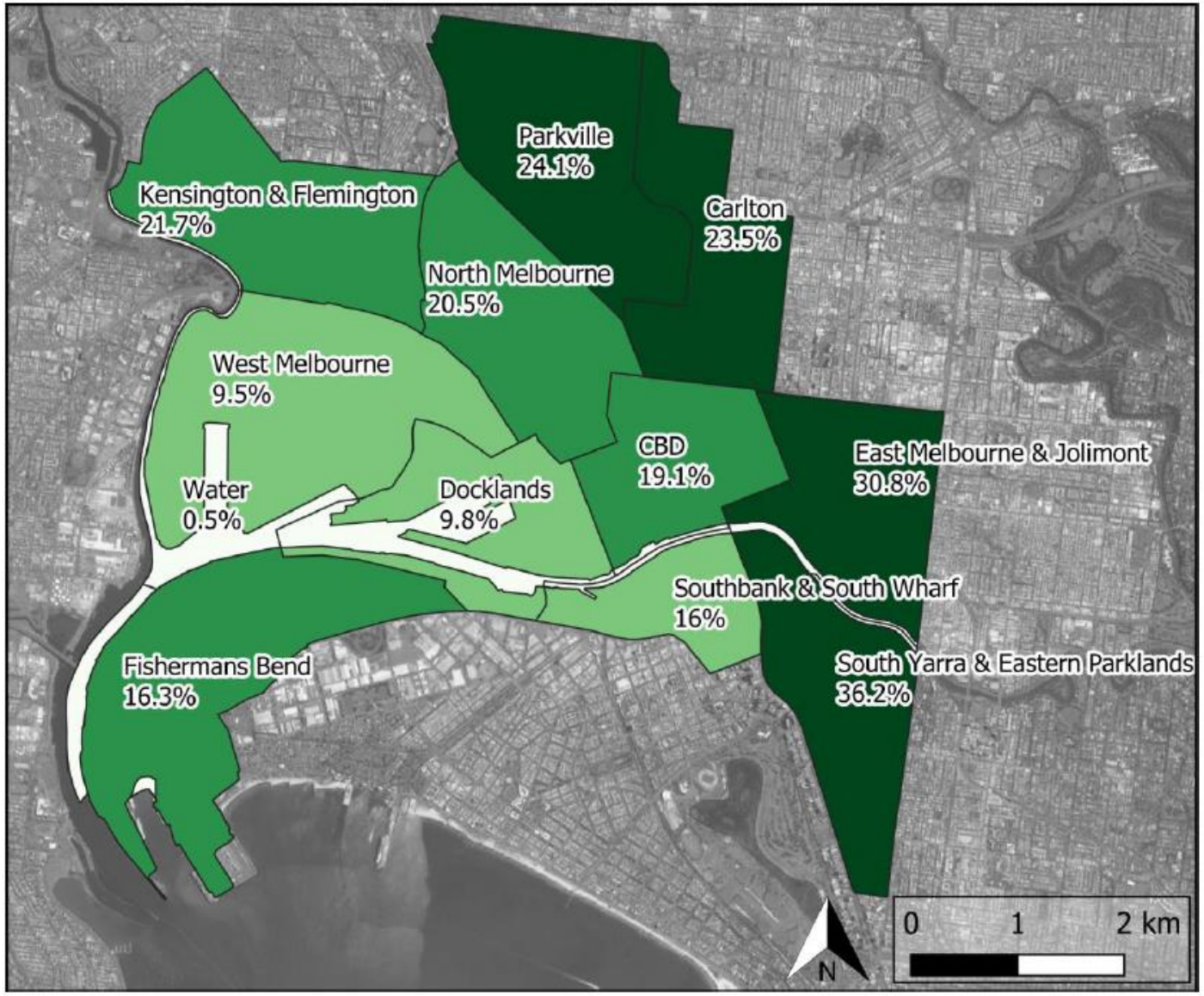


Figure 11: Thematic map showing canopy cover as a percentage of public land within precinct area. The darker green indicates higher relative canopy cover.

CITY OF MELBOURNE

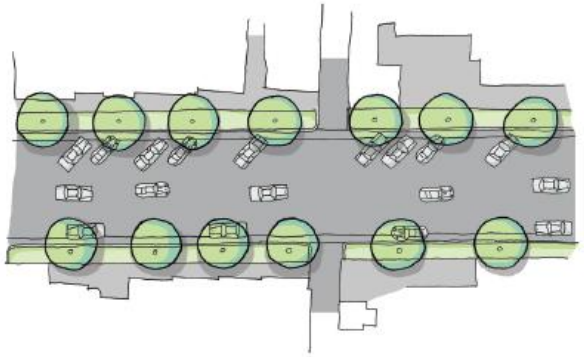
Opportunities

CITY OF MELBOURNE

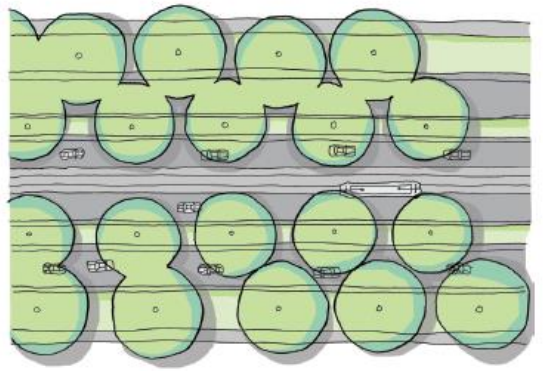
Tree canopy in streets

TREE CANOPY COVER

22% (2012)



40% (2040)



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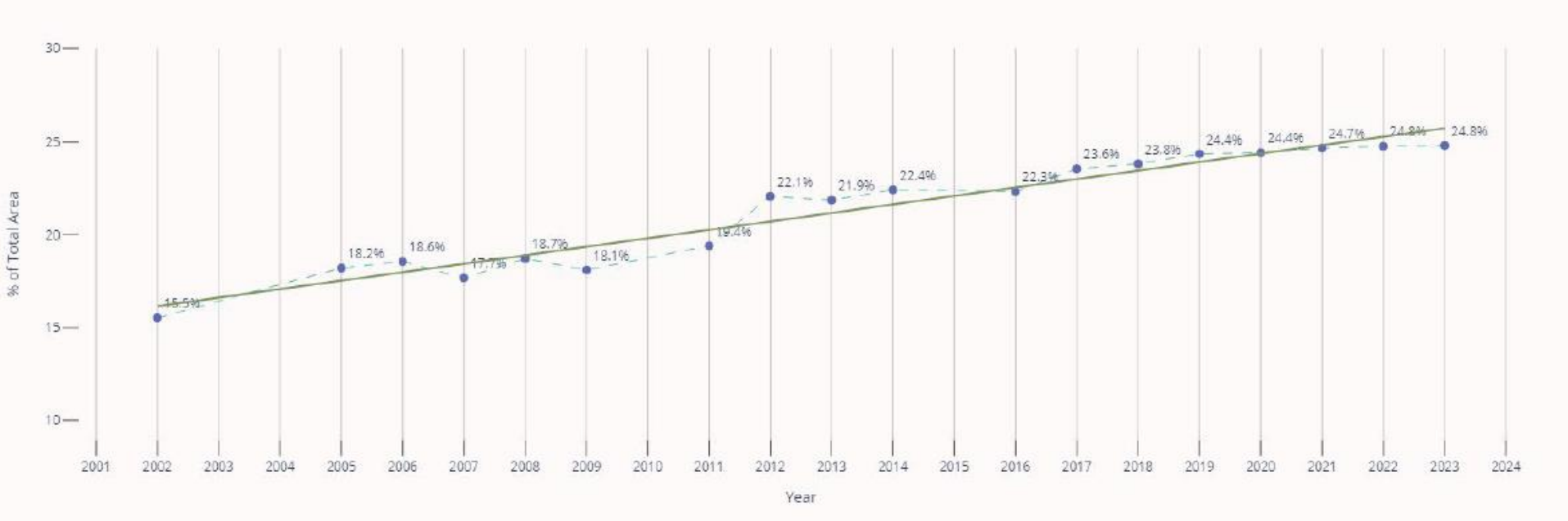
Tree canopy cover through time



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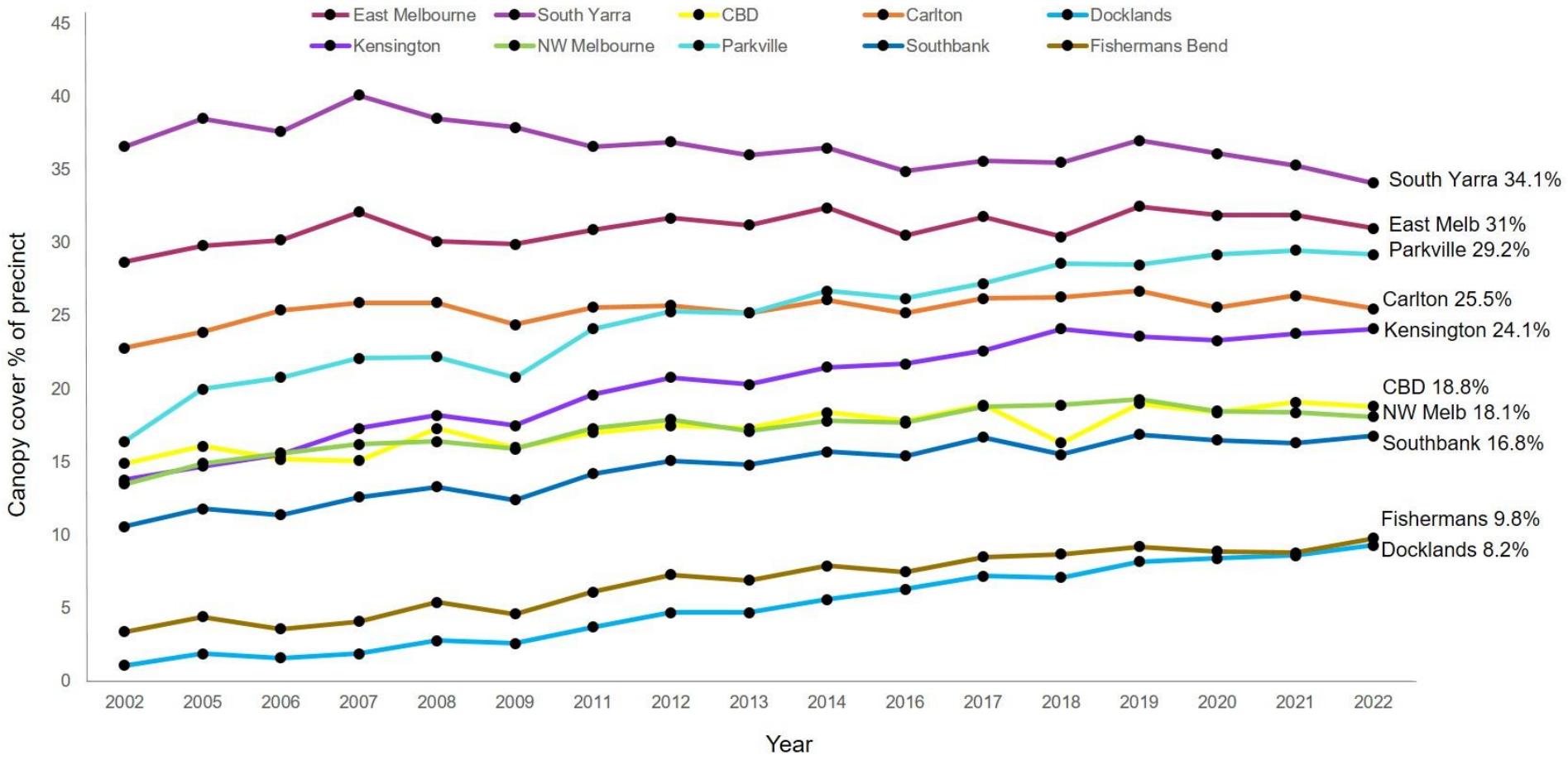
Canopy cover distribution



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Example: Canopy uplift program

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Protecting our trees

Tree Policy update in 2021:

- Pruning rules clarified for sightlines and advertising signage
- Pruning fees introduced
- Updated tree valuation method, includes higher values for:
  - Habitat corridors
  - Indigenous and native trees
  - Trees in priority planting areas
  - Social cost of carbon

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Canopy replacement ratios

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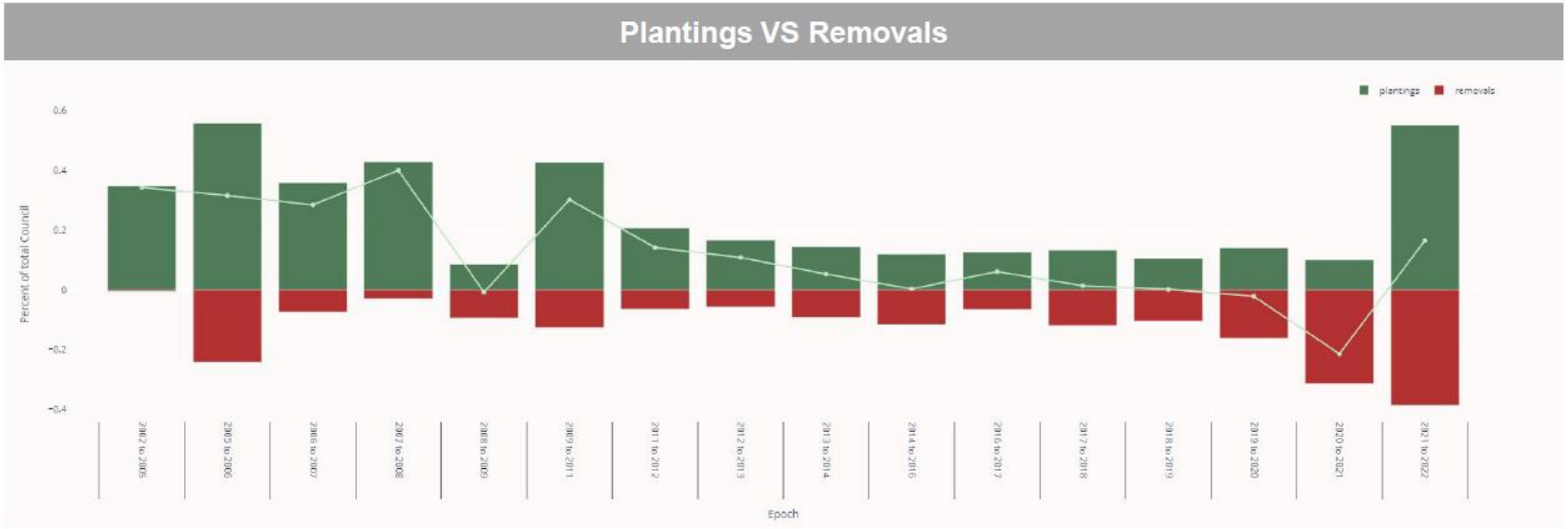
Protecting our trees



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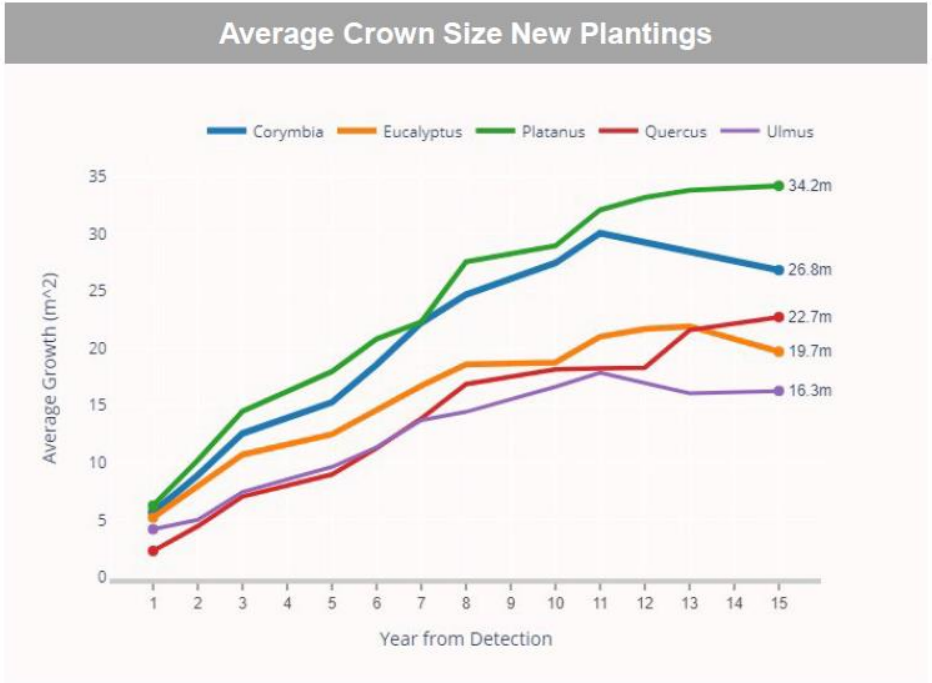
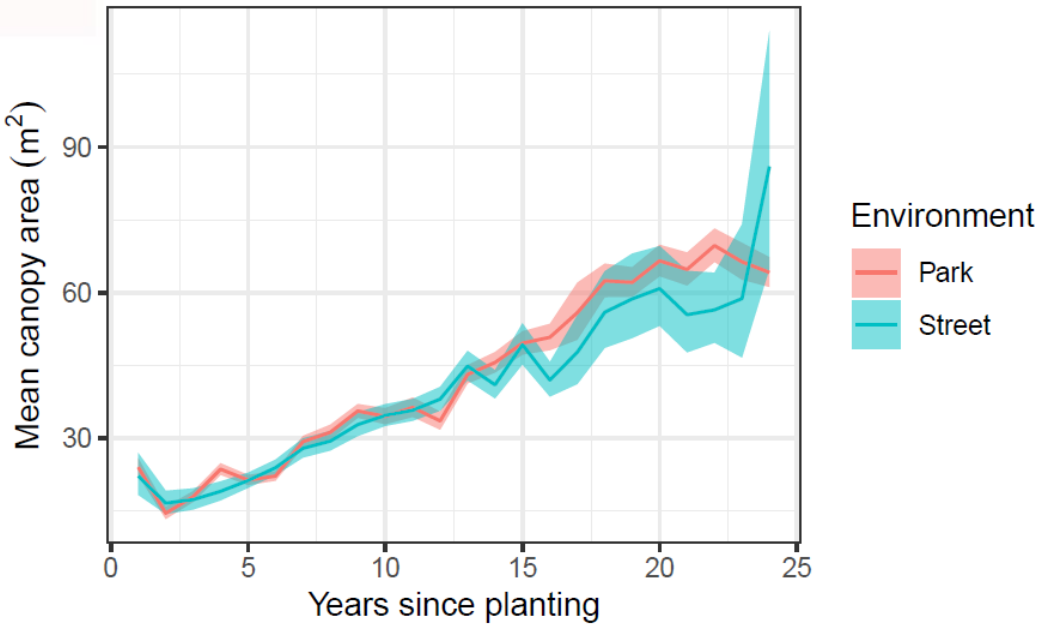
Growth modelling





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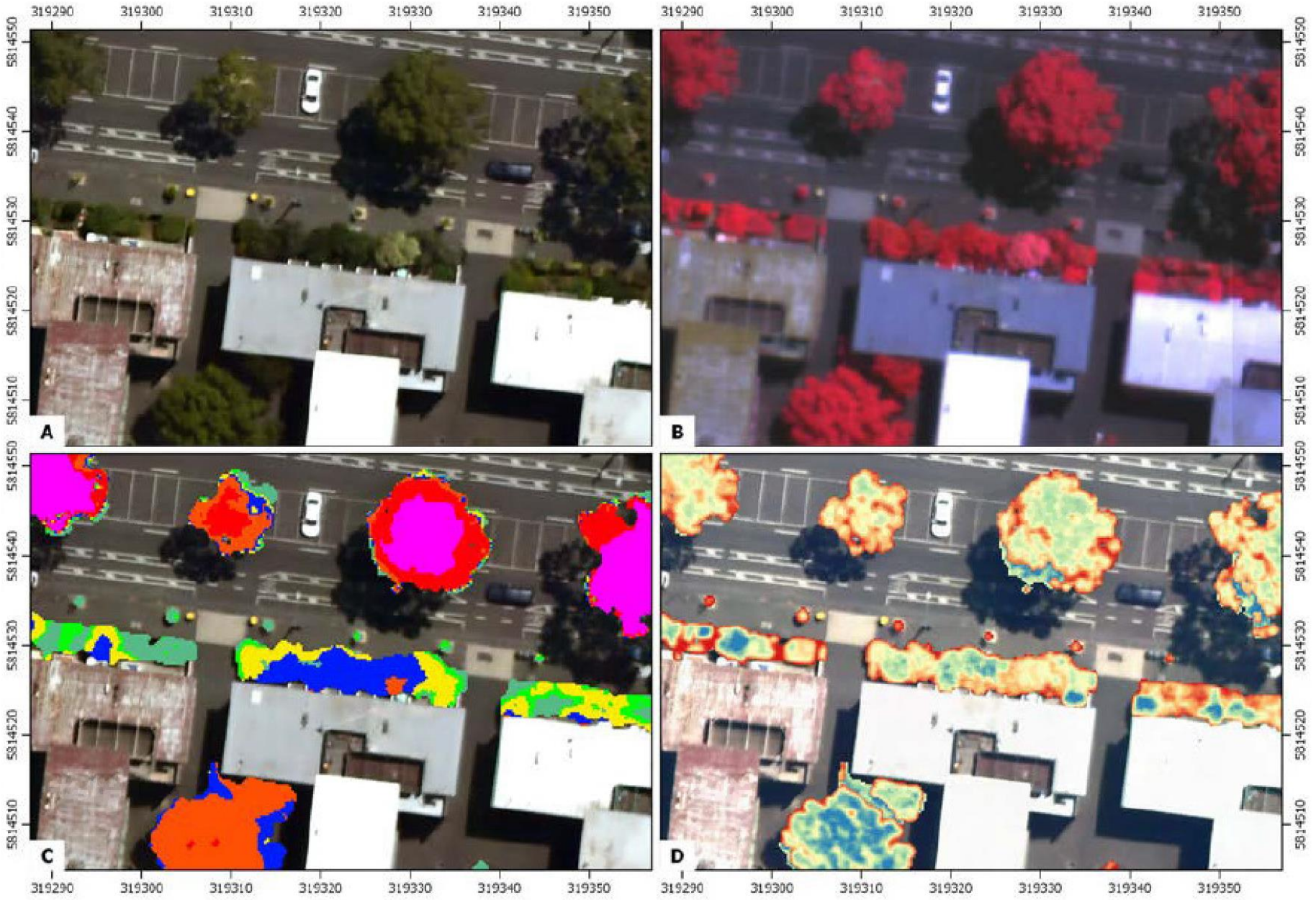
Canopy cover



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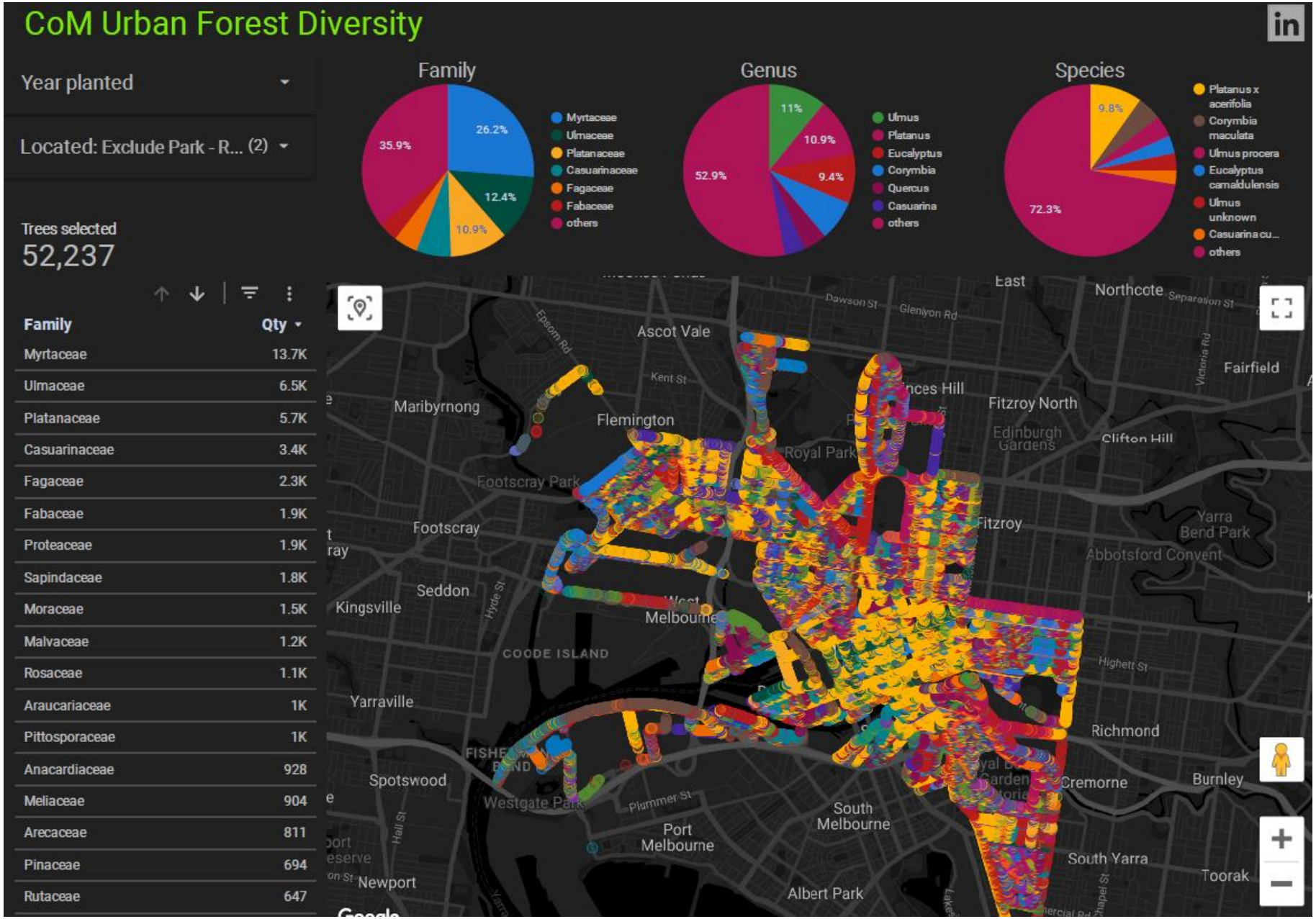

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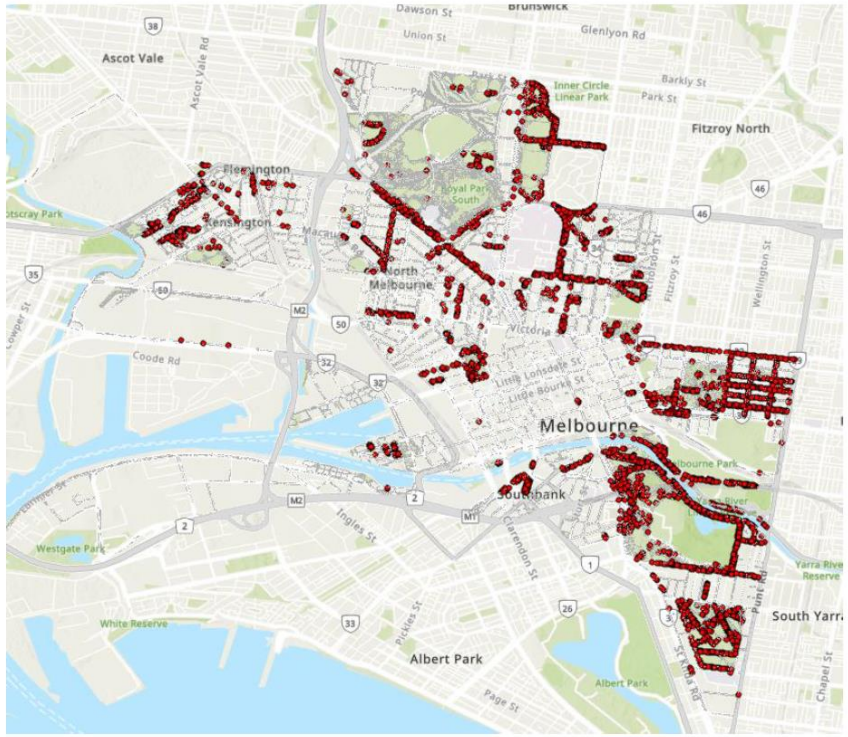
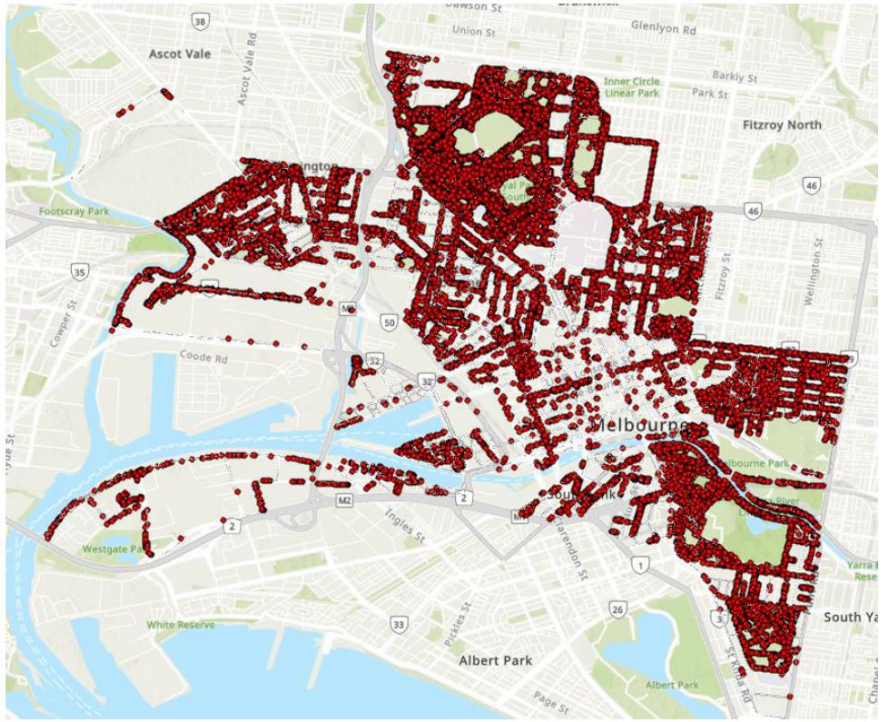
Monitor and mitigate biosecurity risks



Dutch Elm Disease



Spongy Moth

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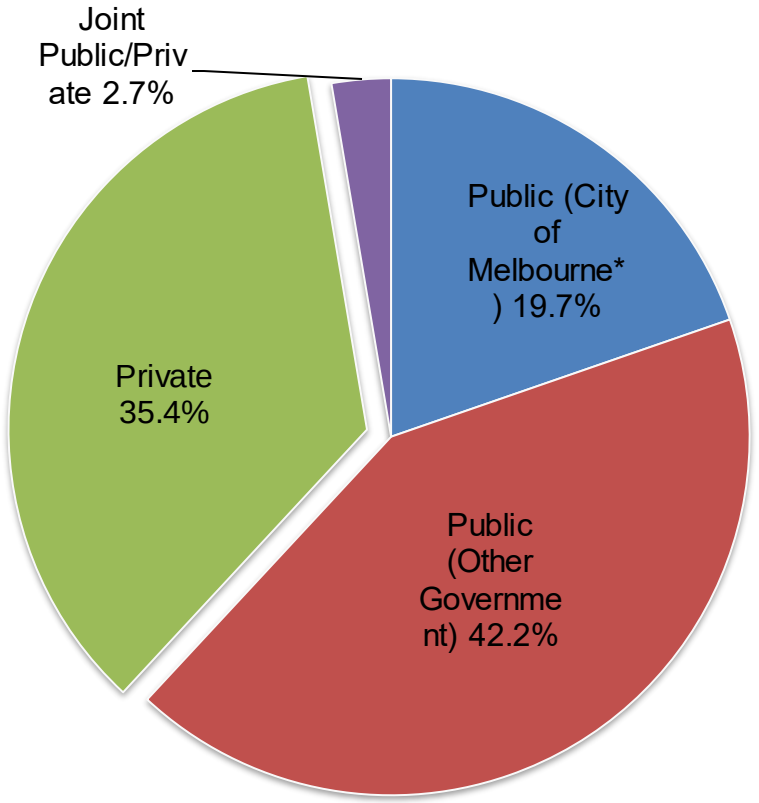
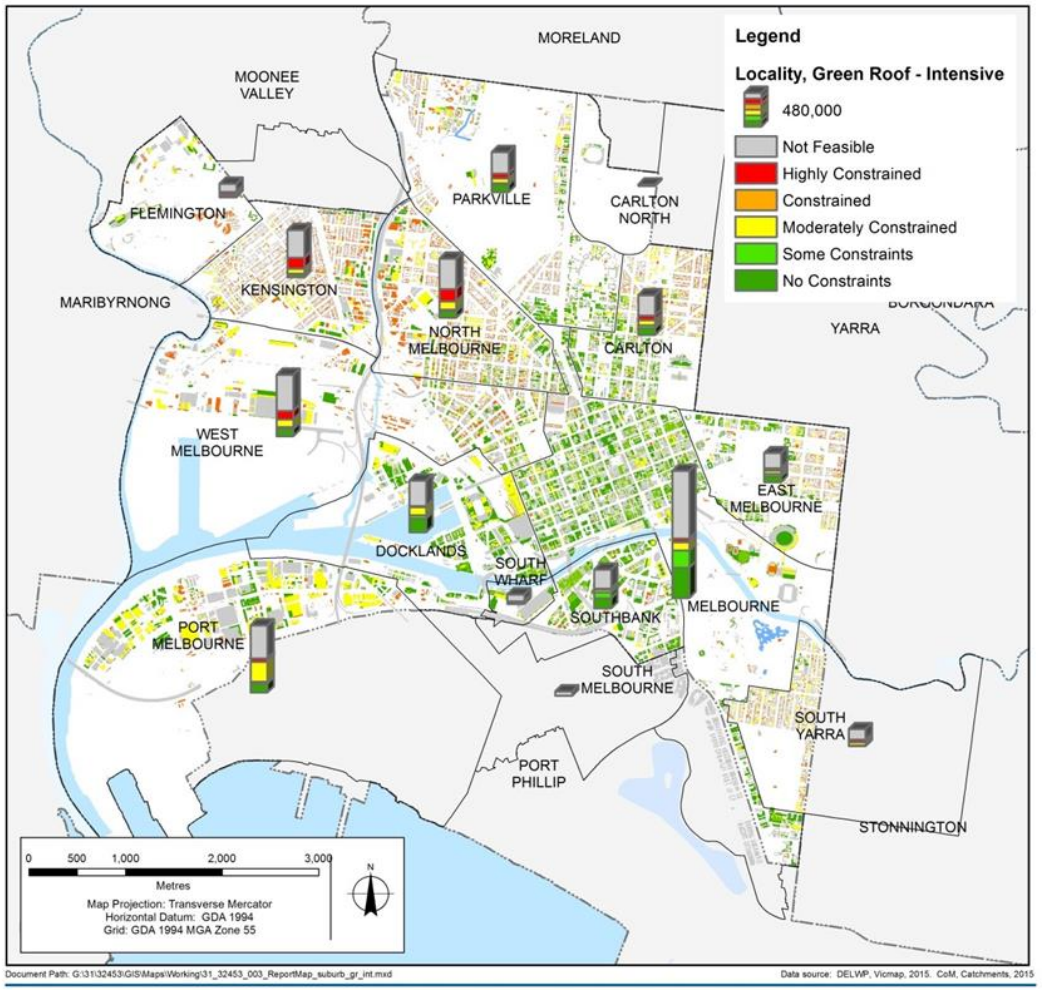
Private realm potential





880 ha of rooftops

150 ha of useable vertical space for greening

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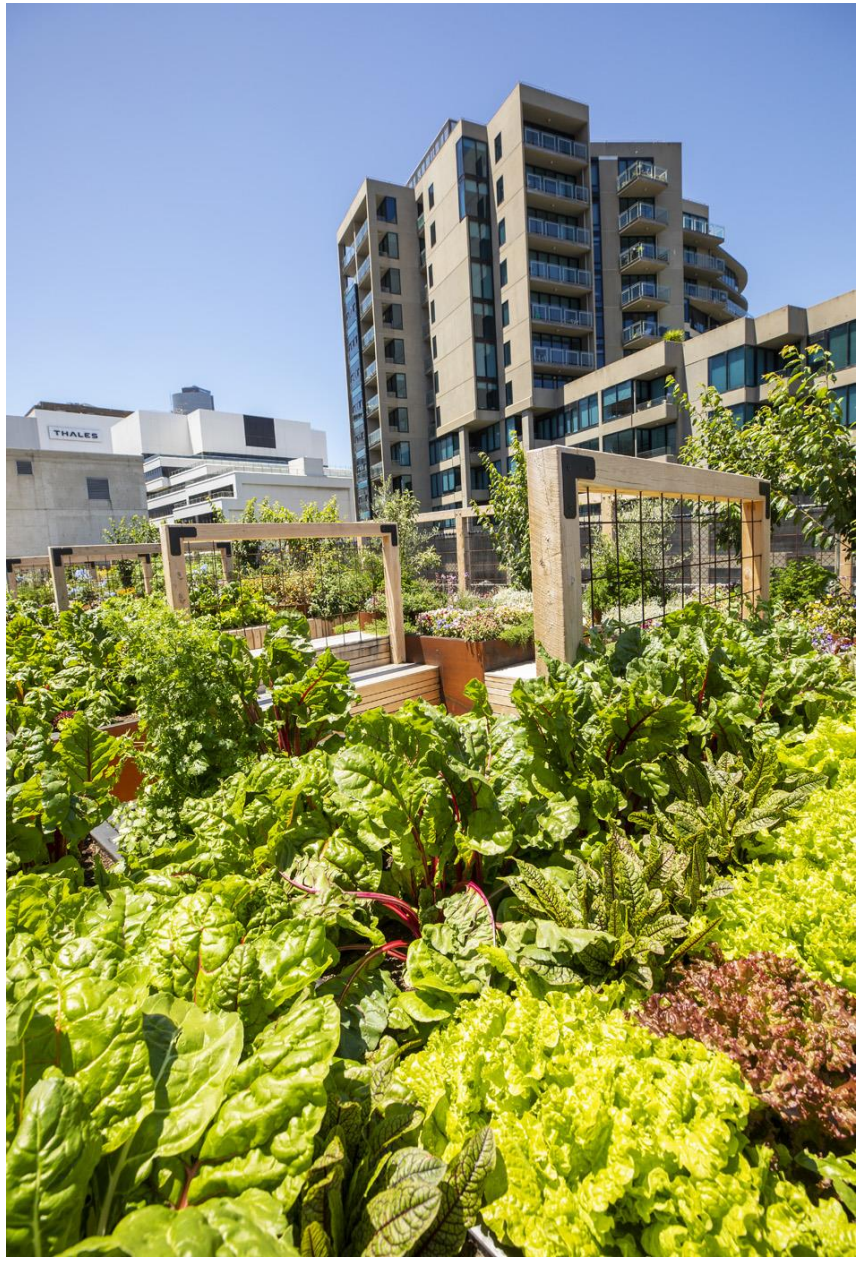
Urban Forest Fund: Melbourne Skyfarm



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Other projects

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Exceptional Tree Register

- 200+ trees protected by Environmental Significance Overlay
- Trees nominated by the public and must be on private property
- Permits required to undertake any works on or around exceptional trees

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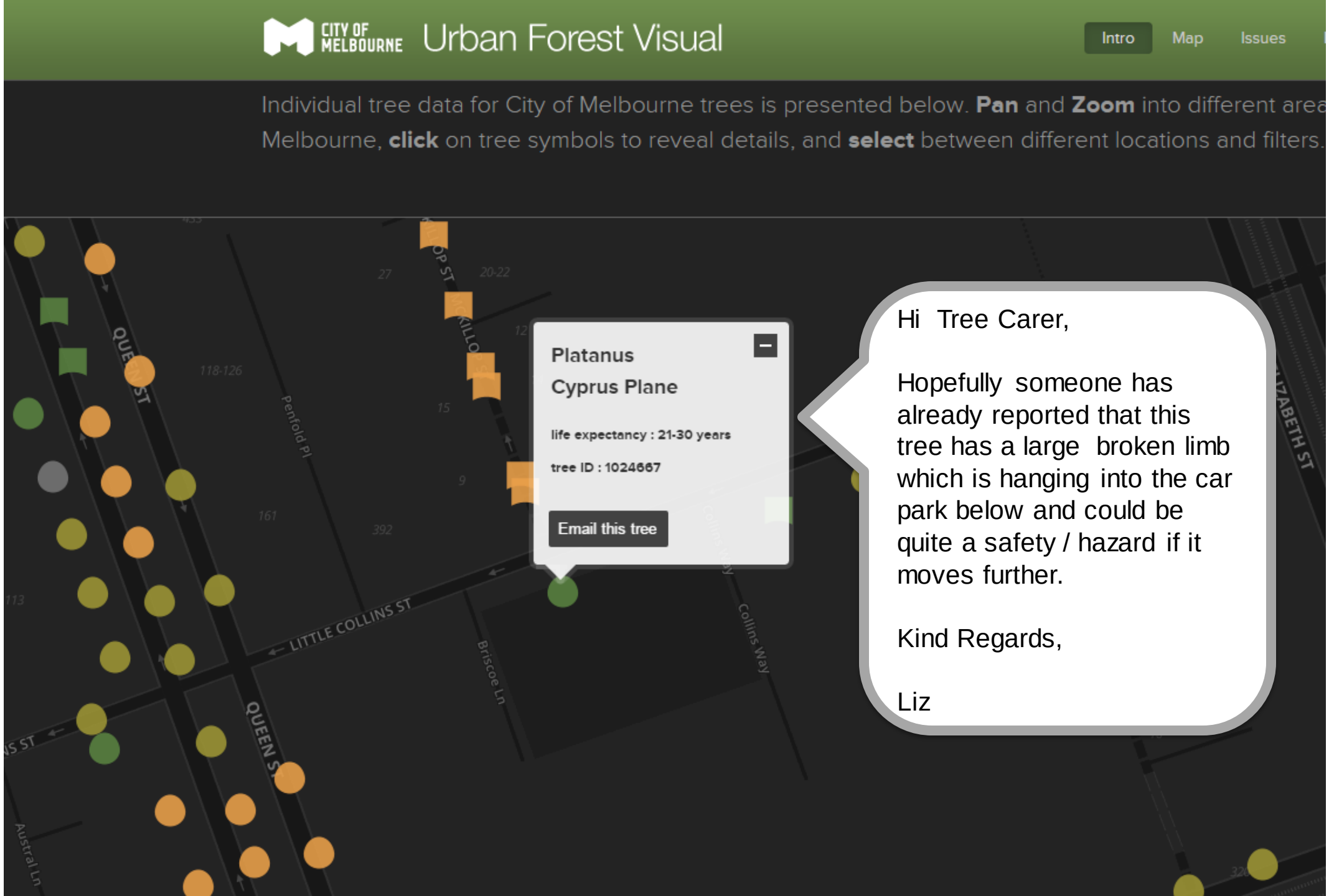

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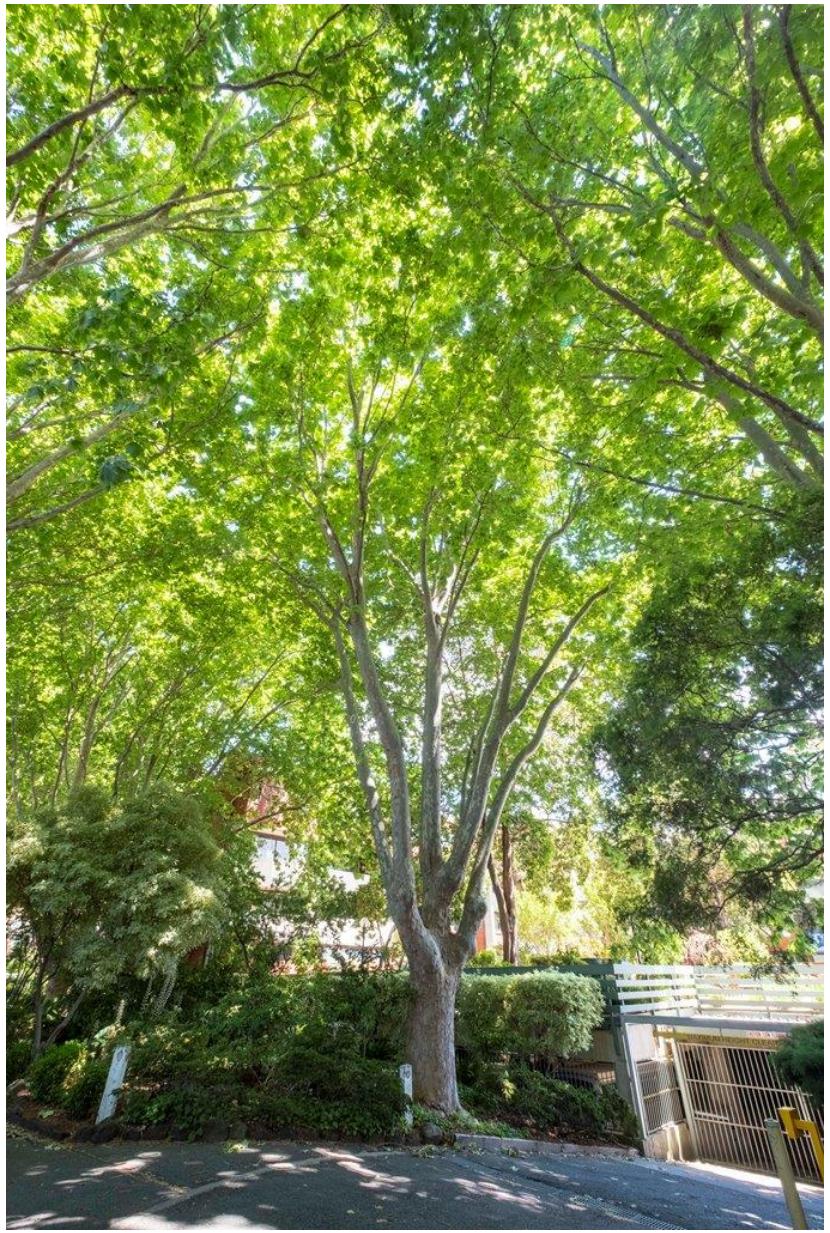
Love letters to trees



Dear London,
I am saddened to see that your life expectancy is only around five years.

I am also saddened to see that you have been labelled as a 'Plane Tree' - I do not think you are plane at all, in fact I think the way you wear your bark is quite alluring.

Meg

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Love letters to trees

Hey Tree 1066821, what stunning view you have across the Yarra from your home at The Arbory Eatery.

The view was so good, I had to sketch it.

Enjoy your portrait.

Happy Easter.

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Canopy Uplift Program

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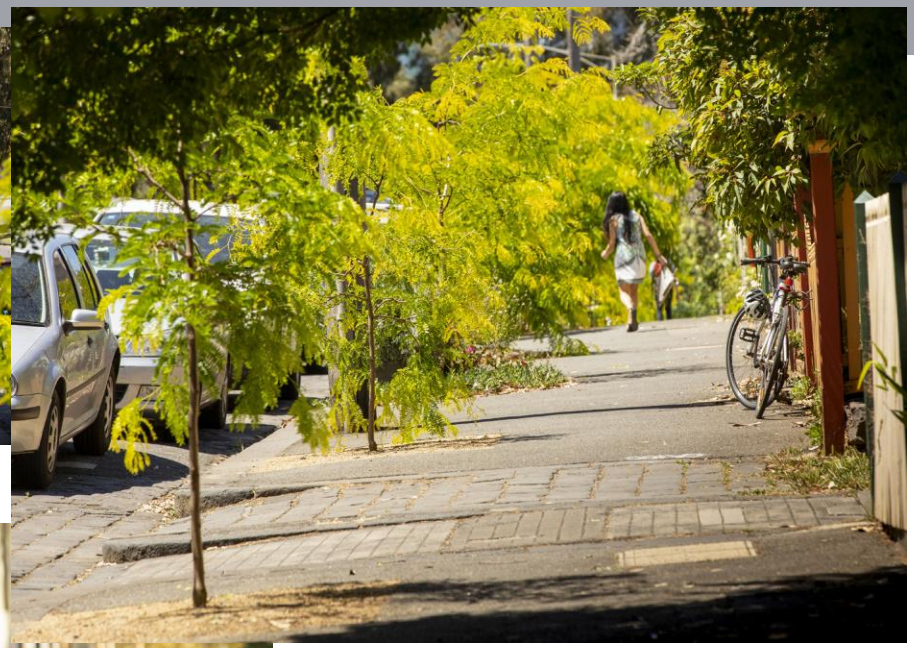
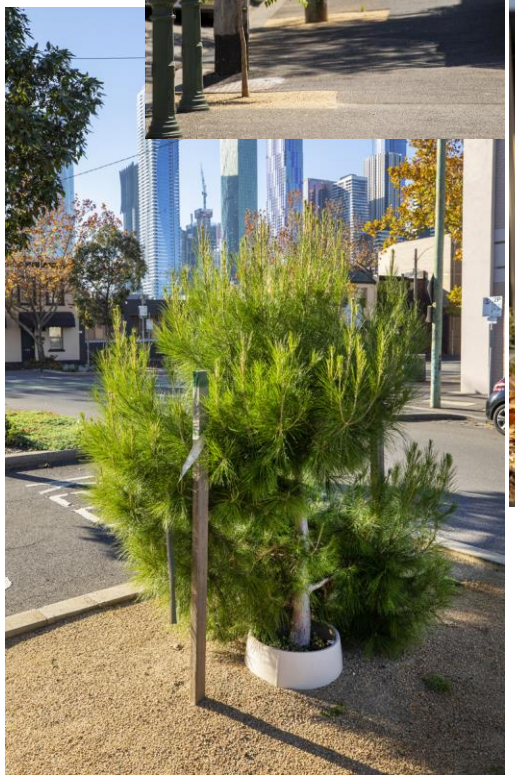
Tree health monitoring





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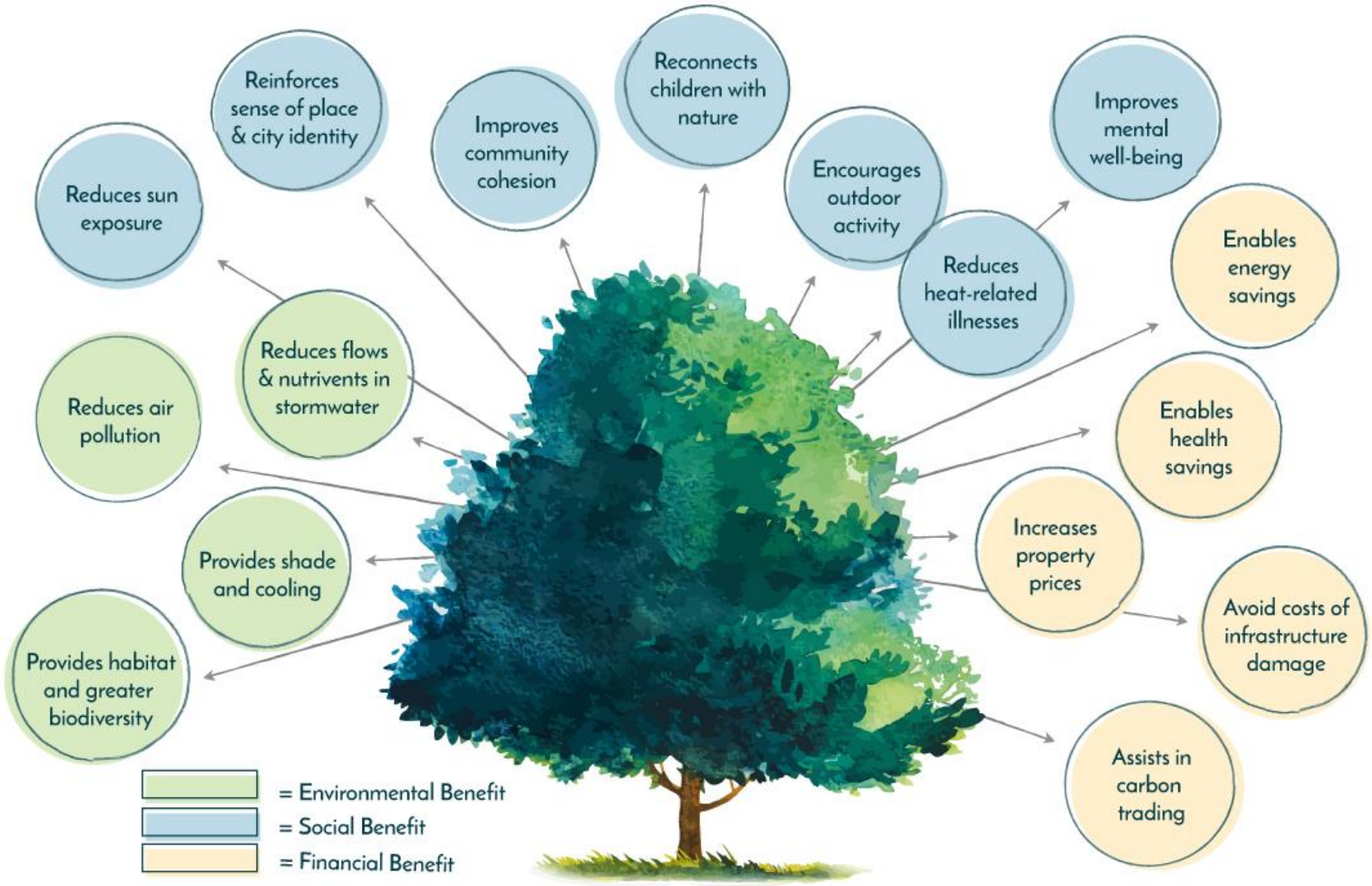
Urban forest benefits



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Precinct focus

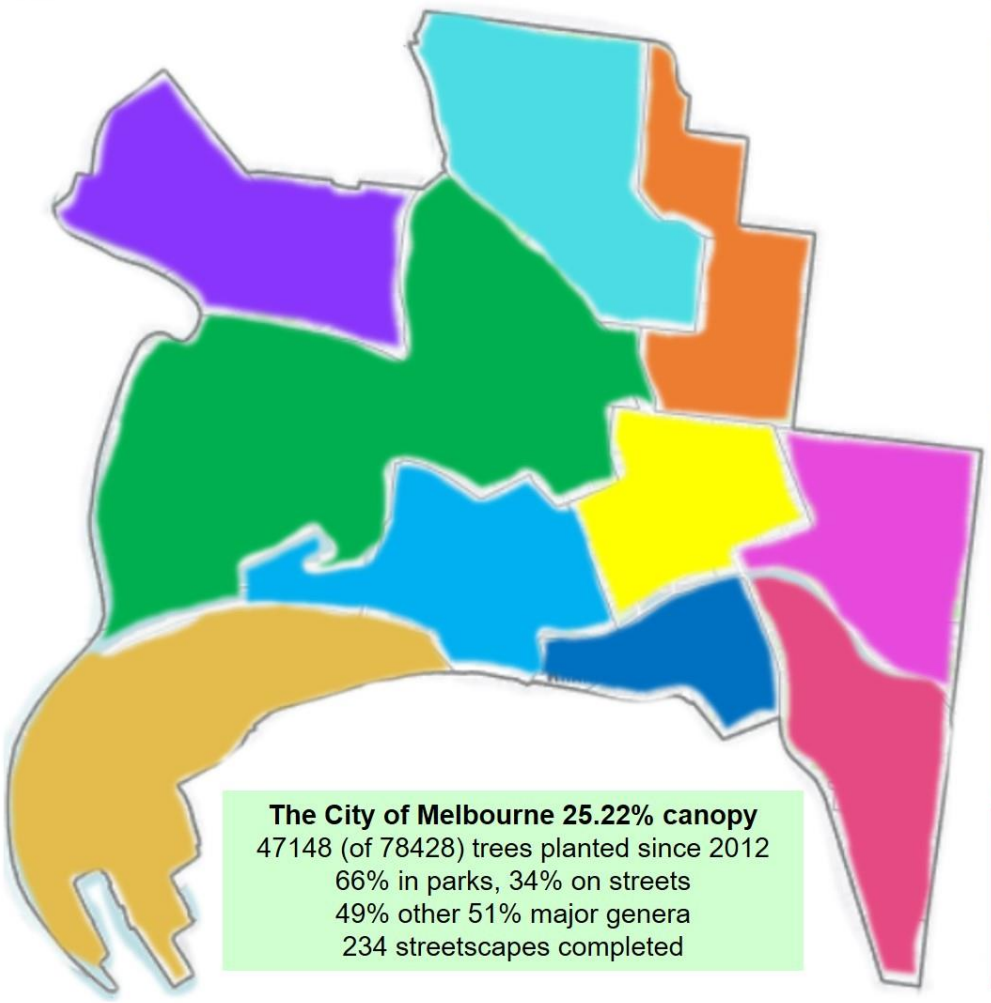
Kensington 24.1% canopy
4195 trees planted since 2012
58% in parks, 32% on streets
64% other 36% major genera
21 streetscapes completed

NW Melbourne 18.1% canopy
8797 trees planted since 2012
46% in parks, 54% on streets
69% other 31% major genera
74 streetscapes completed

Docklands 9.3% canopy
5240 trees planted since 2012
62% in parks, 38% in streets
60% other 40% major genera
7 streetscapes completed

Southbank 16.8% canopy
1397 trees planted since 2012
36% in parks, 74% on streets
56% other 44% major genera
9 streetscapes completed

Fishermans 9.8% canopy
1646 trees planted since 2012
7% in parks, 93% on streets
45% other 55% major genera
8 streetscapes completed



The City of Melbourne 25.22% canopy
47148 (of 78428) trees planted since 2012
66% in parks, 34% on streets
49% other 51% major genera
234 streetscapes completed

Parkville 29.2% canopy
15692 trees planted since 2012
92% in parks, 8% on streets
36% other 64% major genera
13 streetscapes completed

Carlton 25.5% canopy
3500 trees planted since 2012
40% in parks, 60% on streets
54% other 46% major genera
35 streetscapes completed

Central City 18.8% canopy
1304 trees planted since 2012
2% in parks, 92% on streets
32% other 68% major genera
32 streetscapes completed

East Melbourne 31% canopy
3522 trees planted since 2012
70% in parks, 30% on streets
57% other 43% major genera
15 streetscapes completed

South Yarra 34.1% canopy
1855 trees planted since 2012
50% in parks, 50% on streets
41% other 55% major genera
15 streetscapes completed

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2nd World Forum on Urban Forests

2023

World Forum on Urban Forests