

The background of the slide is a black field with a complex network of thin, light blue lines and a few thicker, bright blue lines that resemble a stylized map or a network of waterways. The lines are irregular and organic in shape, creating a sense of movement and connectivity.

# A Sustainable Urban Blueprint

morphogenesis.  
sustainable urbanism research group



# Urbanization in India

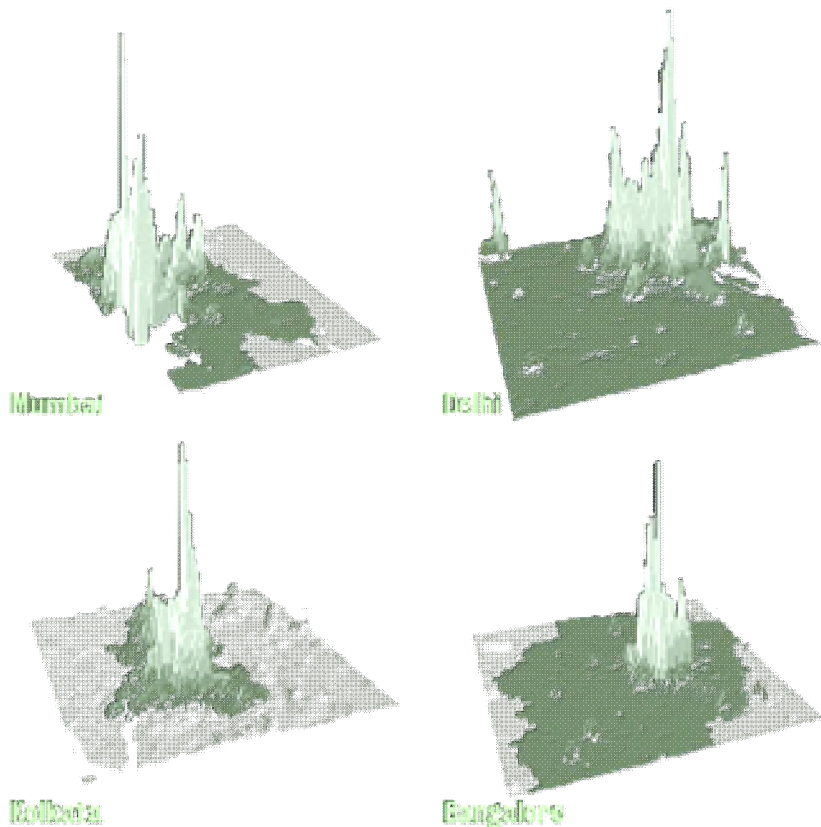
An aerial photograph of a city in India, likely Chennai, showing a large stadium (M. A. Chidambaram Stadium) on the left, a river (Cauvery) at the bottom, and a multi-lane highway running through the center. The city is densely packed with buildings and green spaces.



1.3%: percentage by which the population of India increases

1700 people per train <sup>2</sup>

■ Increase of 1% in Urban population increases Energy consumption by 2.2% <sup>3</sup>

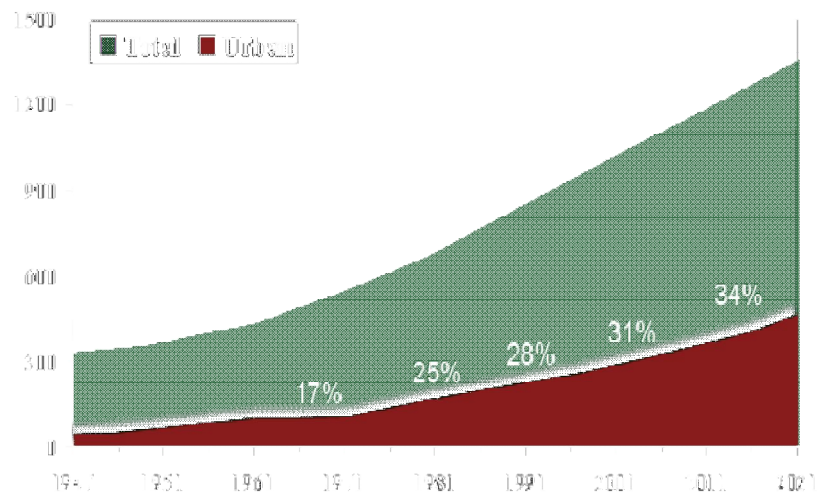




This will go up to 50% by the 2030  
equivalent to 250 million people (UNPD)<sup>4</sup>

10.8 million  
in 1985 to 19 million in 2007 <sup>6</sup>

3.4 million in 1985 to 6.8 million today.<sup>7</sup>



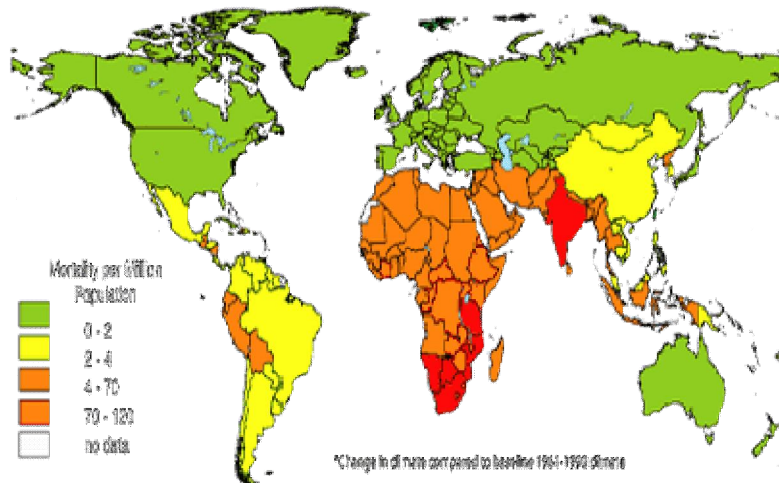


India is and will be one of the worst affected regions from a global rise in temperatures.<sup>8</sup>

floods  
on an unprecedented scale.<sup>9</sup>

7  
million people would be displaced

loss in agriculture and portable water.<sup>11</sup>







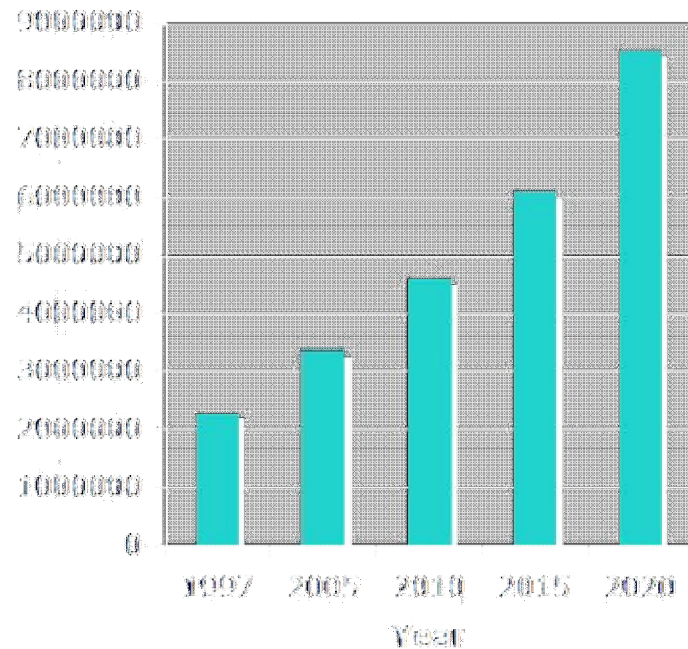
# Case Study: New Delhi



1,100 new vehicles are added to the roads each day

average  
velocity of cars is less than 30km/hr <sup>13</sup>

(Car Density is  
10 times the national average) <sup>14</sup>





Delhi was ranked 2<sup>nd</sup> most polluted city

share of vehicular pollution has increased from 64% to 72%

noise levels exceed limits almost everywhere in the city.<sup>17</sup>



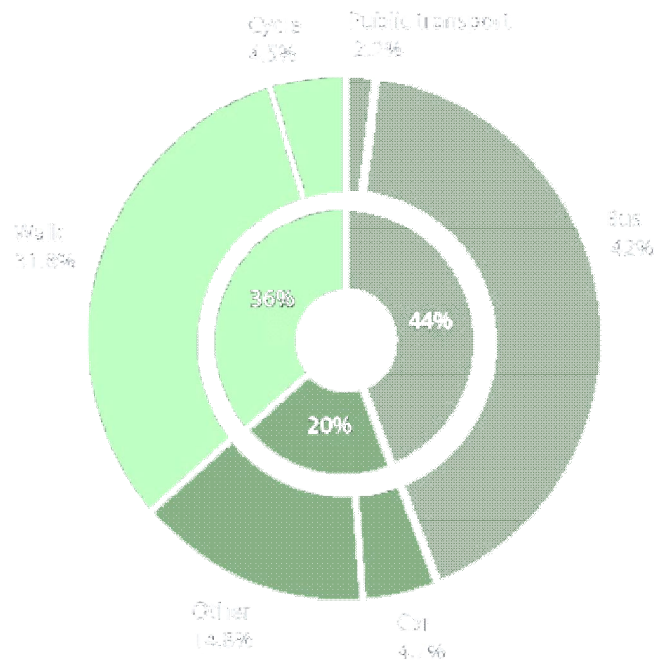



over 415 traffic intersections in the Capital do not have zebra crossings <sup>18</sup>

980 pedestrians were killed by traffic. <sup>19</sup>

60% reduction in bicycles<sup>6</sup>

The last Mile problem still remains unresolved.





17 sewage drains empty into the Yamuna

73  
per cent of Delhi's STPs are functioning below  
design capacity. <sup>22</sup>

Almost 50 per cent of Delhi generates 'illegal'  
sewage

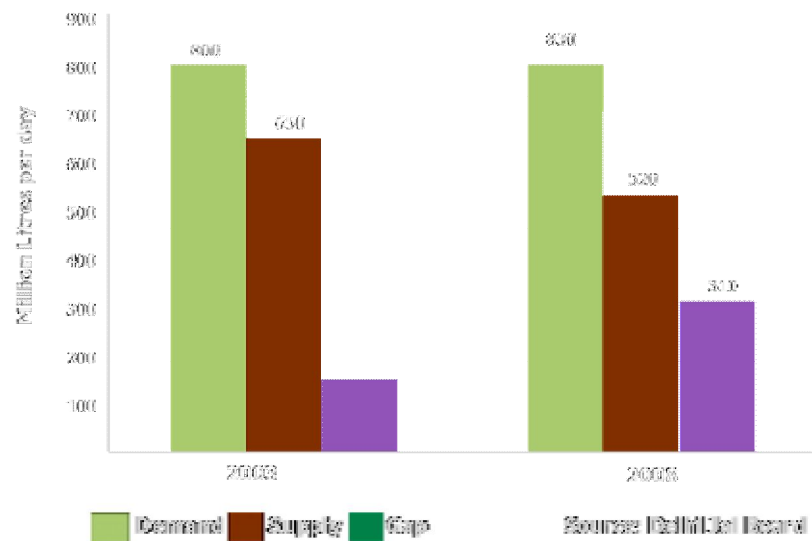
none are being  
used for recharging water. <sup>24</sup>





groundwater table is  
depleted up to 20 –30 m. <sup>25</sup>  
shortage of 1290 million liters

Delhi's loses about 45% of its total water production  
916 lakes, ponds, and reservoirs  
depleted. <sup>29</sup>





these have been  
reduced to 231 in 2000. <sup>30</sup>

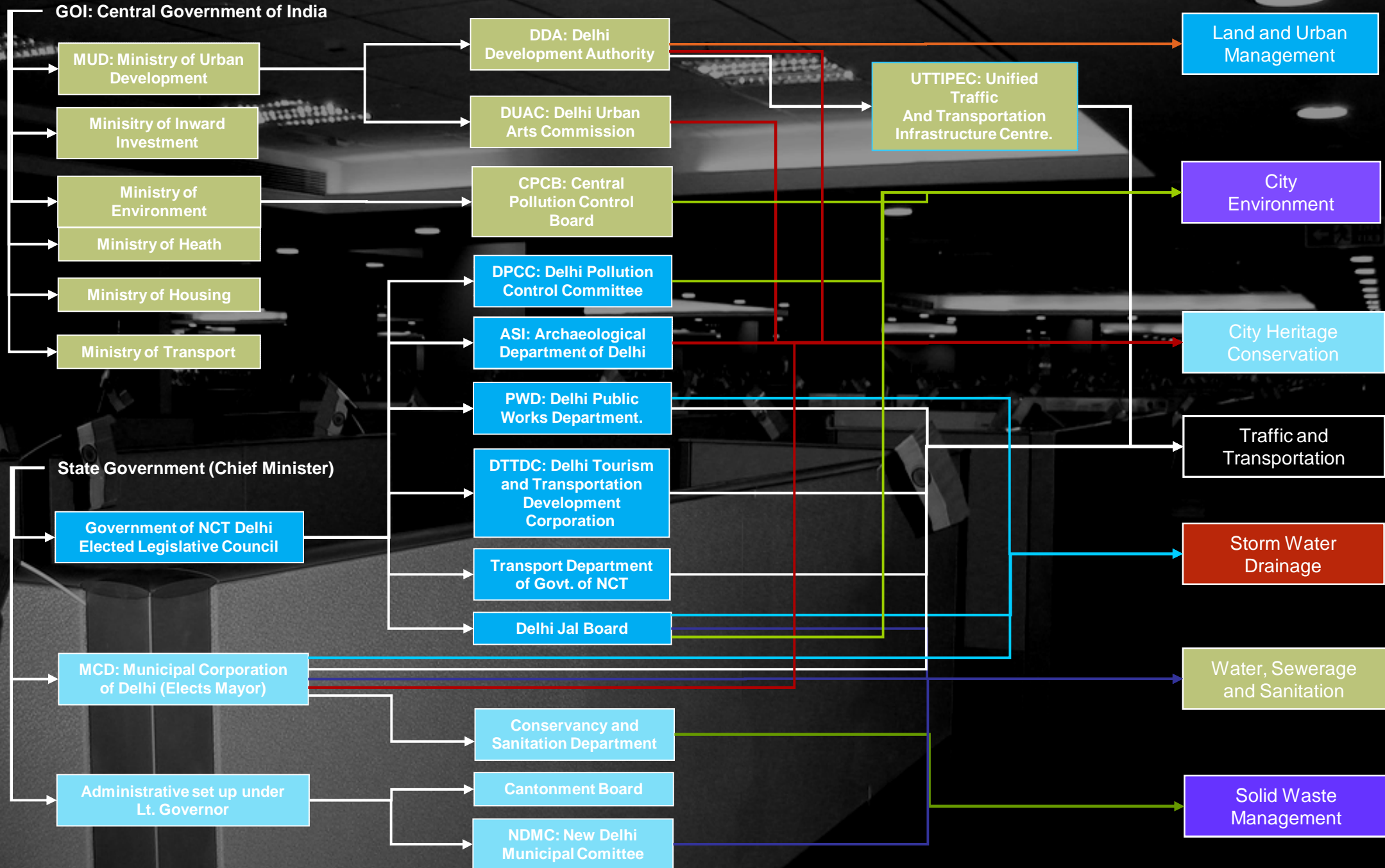
12 buildings on the natural heritage list have  
disappeared

The Delhi Development Authority is ranked as  
the most corrupt institution in India





# CITY MANAGEMENT AGENCY NETWORK: LIMITED CO-ORDINATION











BEFORE





AFTER





BEFORE









BEFORE





AFTER





**BEFORE**



**AFTER**



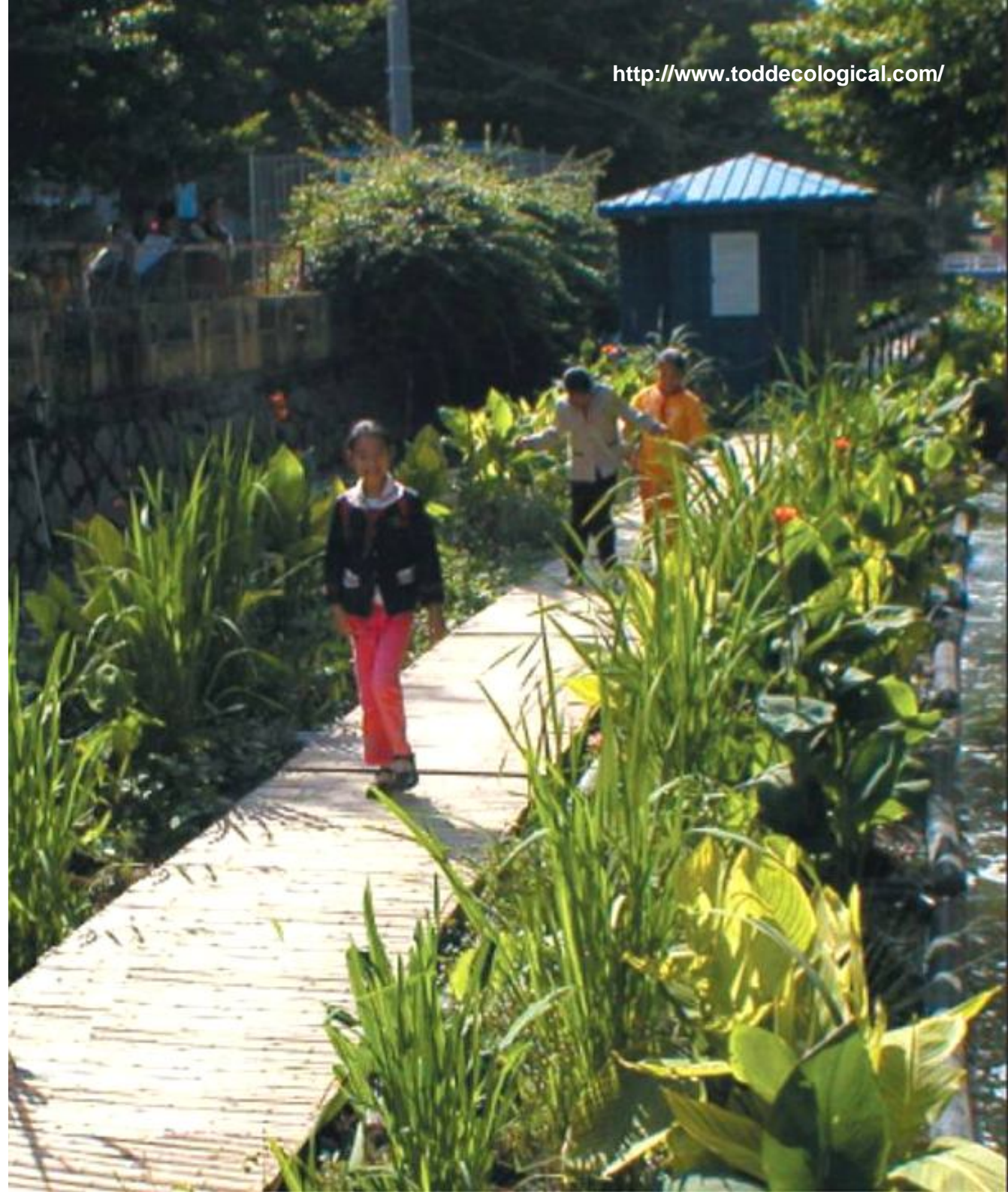






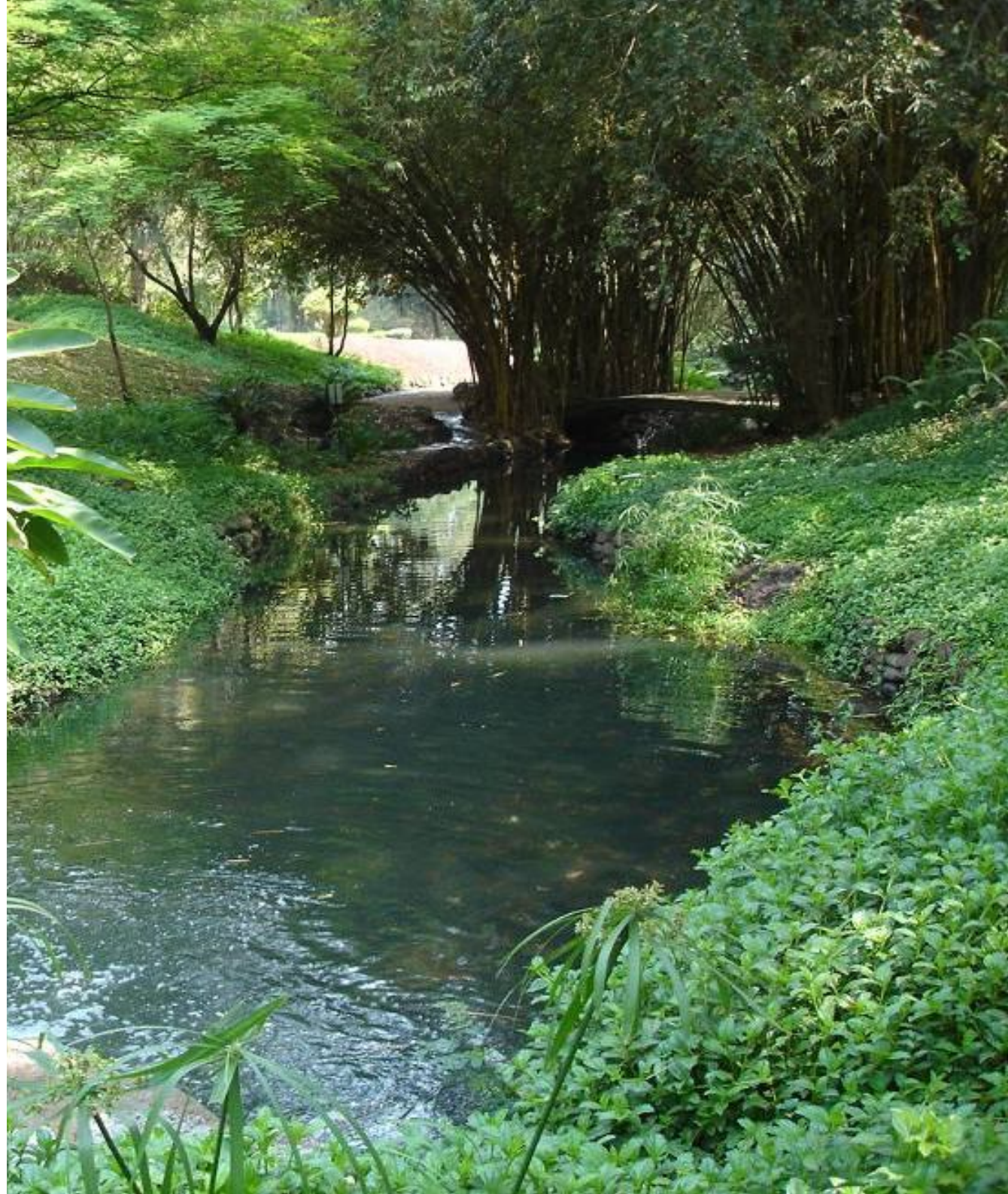
influx of 750,000  
gallons per day of untreated domestic  
sewage.<sup>33</sup>

12,000 plants composed of 20 native species.<sup>34</sup>





The park is 1,852 metres long and cover a basement area of 1,12,600 square metres





alleys,

1,900 miles of public

3,500 acres of paved impermeable  
surface



# The Chicago Green Alley Handbook

An Action Guide to Create a Greener, Environmentally  
Sustainable Chicago



Richard M. Daley, Mayor  
City of Chicago

Cheri Heramb, Acting Commissioner  
Department of Transportation

**CDOT**



10 million visitors the first 3 months and  
166,000 cars





# Delhi's nullahs: Way to go for India

## COMMON CAUSE

MANIT RASTOGI

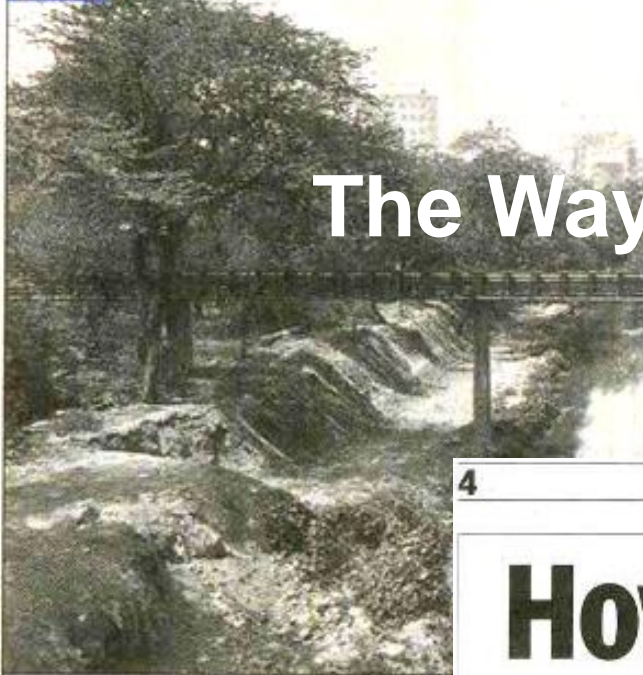


Delhi needs change. As inhabitants, we demand it. We need to claim our city back and be stakeholders. We live in one of the largest metropolises

in the world today but probably have the most limited sphere of engagement with our city compared to anywhere else. Decades of mindless growth have made Delhi a primarily vehicular city. Attempts to provide for pedestrians or cyclists are usually aimed at forcing them to move on the margins of the smoke-spewing traffic, usually on broken or non-existent pavements. Delhi has nearly six million cars today — more than the other three metros put together. Yet, the national capital continues to add more than 1,000 cars to its roads every day. In 1985, cyclists were 60% of the traffic flow; today they are just 4%. Nearly 2,000 pedestrians die every year on the roads of Delhi. Most of them are children.

This is why it is time we claimed the forgotten and derelict lands of Delhi to create green lungs that would create an alternative ecologically sustainable Delhi. Typically, these lands are *nullahs*, miles of garbage-covered embankments, back alleys, setbacks and buffer zones. Paradoxically, Delhi has a big green network of forests and parks and 18 main *nullahs* with

BEFORE



Delhi has a big green network of 15,000 branches, which were once drains. These *nullahs* now lie useless, filled with sewage from illegal colonies.

Similarly, Delhi's embankments have become dumping grounds and breeding sites for disease.

The government's solution is to cover the *nullah* with concrete slabs, chop down the magnificent trees around embankments and install Rs 1,500-crore worth of massive sewage treatment plants on the Yamuna river.

## The Way Forward

AFTER



4

TIMES CITY

## How drains can yield twin

A group of NGOs says that by treating waste locally, the city can make its drains clean as well as cut down pollution in Yamuna by 80%

Rumi Banerjee | TNN

It could turn out to be the perfect solution for the Yamuna's increasing pollution while providing the capital with a sustainable urban development strategy.



social, cultural, natural and historical heritage of the city. This includes thousands of monuments that now sit pathetically vandalized, neglected and like islands in parts of the city.

• Immediately stop slabbing over *nullahs*. Today, the Commonwealth Games are being used as an excuse to create more parking by slabbing over these *nullahs* or to simply hide the mess, literally. Instead, we should be restoring and cleaning the *nullahs* to turn them into a key tourist attraction — a safe pedestrian network across Delhi, linking key socio-cultural sites and revealing a side

done. Says Anupam Yogi of Urban Habitat Forum, an arm of the India Habitat Centre, "There have been several attempts to clean the Yamuna. But this time, we have tried to look at a holistic solution, rather than just aiming for an aesthetic or beautification project."

Yogi admits that a lot needs to be done before the project can get off the ground. "A physical mapping of the drains, followed by a feasibility report is needed before we can have a detailed project report," adds Yogi. That's why the group is hoping that both the government and private enterprises can get together to launch the project. Adds Rastogi, "We have started a public petition as a public outreach programme. Once this is underway, there should be positive response to the project."

The advantages are many. As per the proposal, the cleaning of the *nullahs* is only a part of the plan. Thereafter, native plants can be used to slow the

## Shower water on

Ruhi Bhasin | TNN

New Delhi: The idea was to cover eyesores that are Delhi's drains, the recent rain almost washed such ambitions. The ongoing work covering Kushak and Sunheri nullahs led to flooding in Lodhi Colony, Gurgaon etc. Similarly, the Defence nullah — which is also being covered — overflowed.

MCD is constructing parking facilities for 700 buses for the Commonwealth Games by covering Kushak and Sunheri nullahs at a cost of Rs 3.25 crore. This stretch will be used as a road after that.

There are around 15 storm drains in the city and MCD spends 50 crore cleaning them. According to urban planners, these drains will be water channels leading from the city to the river. Urban villages



An interactive website has been set up where citizens can:

In addition we have also setup groups on facebook and linkedin where people have been commenting on various issues.

facebook
Home
Profile
Friends
Inbox
Balhazar Sieders
Settings
Logout

**Delhi nullahs**  
Global

**Basic Info**  
Type:  
Description:  
Common Interest - Beliefs & Causes  
Delhi has a very large green network of forests and parks, 18 main nullahs with over 15,000 branches which were constructed 7 centuries ago by the Tughlaks for irrigation and drainage. These now lie filled with sewage or are getting slabbed over.  
By cleaning up the sewage laden nullahs and waste piled alleys, a new urban network can be created which can enhance the social, cultural, environmental and transport networks of the city.

**Contact Info**  
Email:  
Website:  
Office:  
Location:  
tanya.kohli@morphogenesis.org  
http://www.delhinullahs.org  
Morphogenesis  
New Delhi, India

**Members**  
Displaying 8 of 85 members
See All

Balhazar Sieders
Andre J Fanthome
Dipankar Roy
Abhigyan Neogi
Ashish Agarwal
Gabi Mendoza
Vinayak Hanchate
Jaspreet Oberoi

**Discussion Board**  
Displaying 1 discussion topic
Start New Topic | See All

**Water In The Nullahs**  
5 posts by 4 people. Updated on July 9, 2009 at 3:59pm

View Discussion Board  
Message All Members  
Promote Group with an Ad  
Edit Group  
Edit Members  
Invite People to Join  
Create Related Event  
Leave Group  
Share

**Group Type**  
This is an open group. Anyone can join and invite others to join.

**Officers**  
Tanya Kohli (London)  
Administrator  
Balhazar Sieders  
Administrator [ remove ]

**Admins**

[About the Initiative](#)
[Alliance](#)
[Map](#)
[Contact us](#)

Enter keywords to search



## Take Action

1. Leave Your Opinion
  2. Sign our Petition
  3. Contribute Information
- ShareThis

## Members Login:

Username

\*\*\*\*\*

Login

## ion: Overview

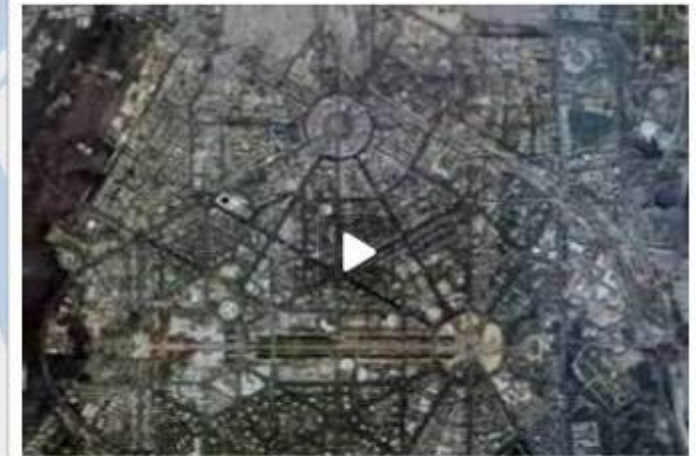
this project is to reuse the neglected water system of Delhi to progressively bring about a change in the city.

g up the sewage laden nullahs and waste piled aw urban network emerges without the need for nmental intervention.

illahs will be transformed and optimized to enhance cultural, environmental and transport networks of

to see the map.

## Videos: South Delhi Nullah



## ews



**International Herald Tribune Features South Korean Nullah Project** 16-07-2009 The July 16th edition of the International Herald Tribune (in Europe) featured a large picture of the Cheonggyecheon str...

**Delhi's nullahs: Way to go for India** 01-06-2009 New Delhi, May 31, 2009: The Times of India, By Manit Rastogi Delhi Needs Change. As inhabitants, we demand it...

**Parking Space For 700 Buses On Nullahs near Jawaharlal Nehru Stadium** 29-05-2009 New Delhi, 18, 2008: Delhi Scoop, By Ugesh Sarkar With a view to strengthen infrastructure for the Commonw...



- **Behtar Dilli**
- **Bridge to India**
- **Delhi Urban Arts Commission**
- **I am Gurgaon**
- **Ministry of New and Renewable Energy**
- **RSA**
- **Sahbaghi Foundation**
- **The American Center**
- **The Sustainable Planet Institute**
- **Times Foundation**
- **Urban Habitat Forum**  
(an advocacy platform for more  
liveable cities in India)

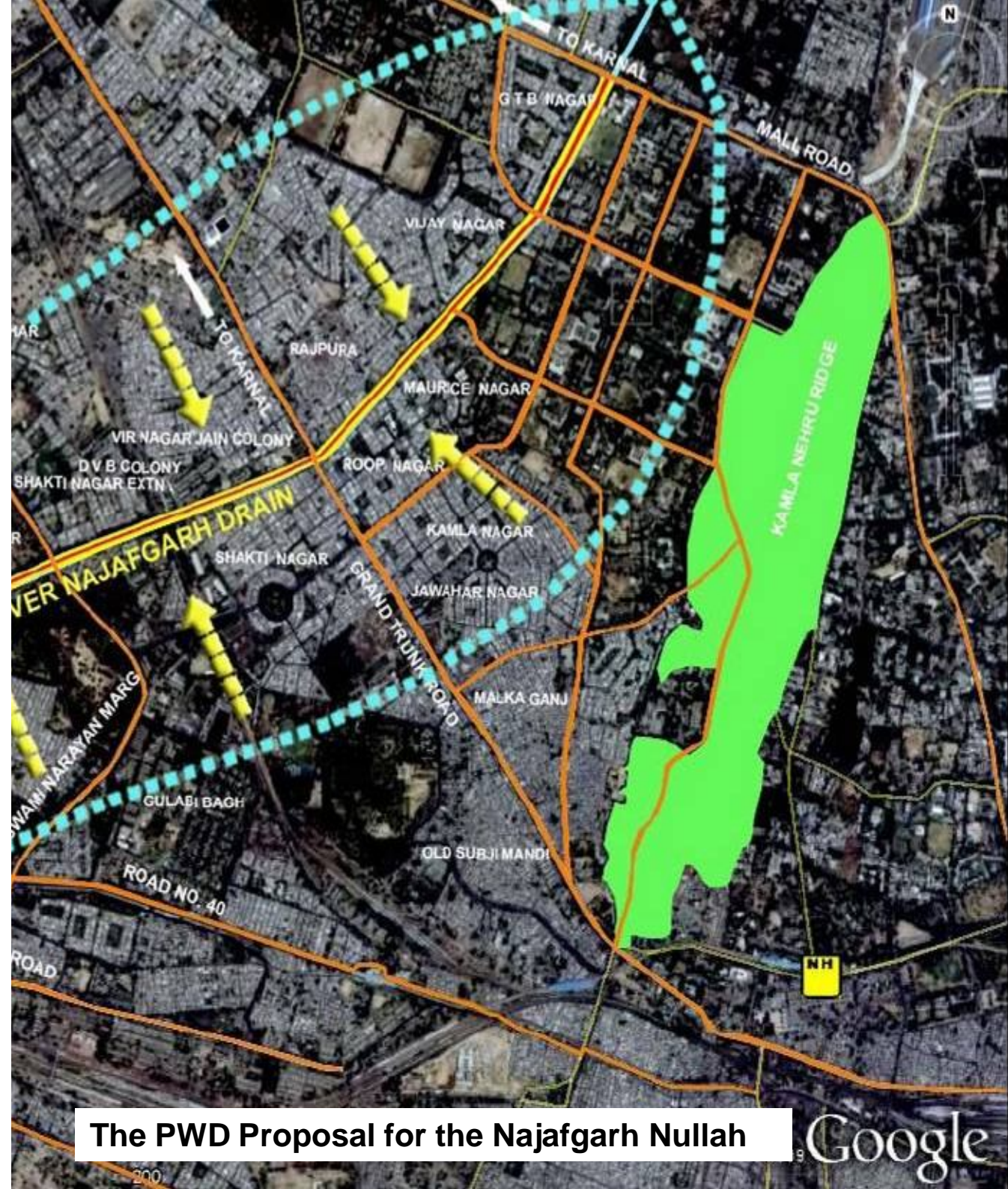




page 57, point 9.1.1 (c):

page 105, point 14.2 (c):

*The covering of Nallahs in all ongoing projects therefore must be immediately stopped.*



The PWD Proposal for the Najafgarh Nallah



### *Concluding Remarks*

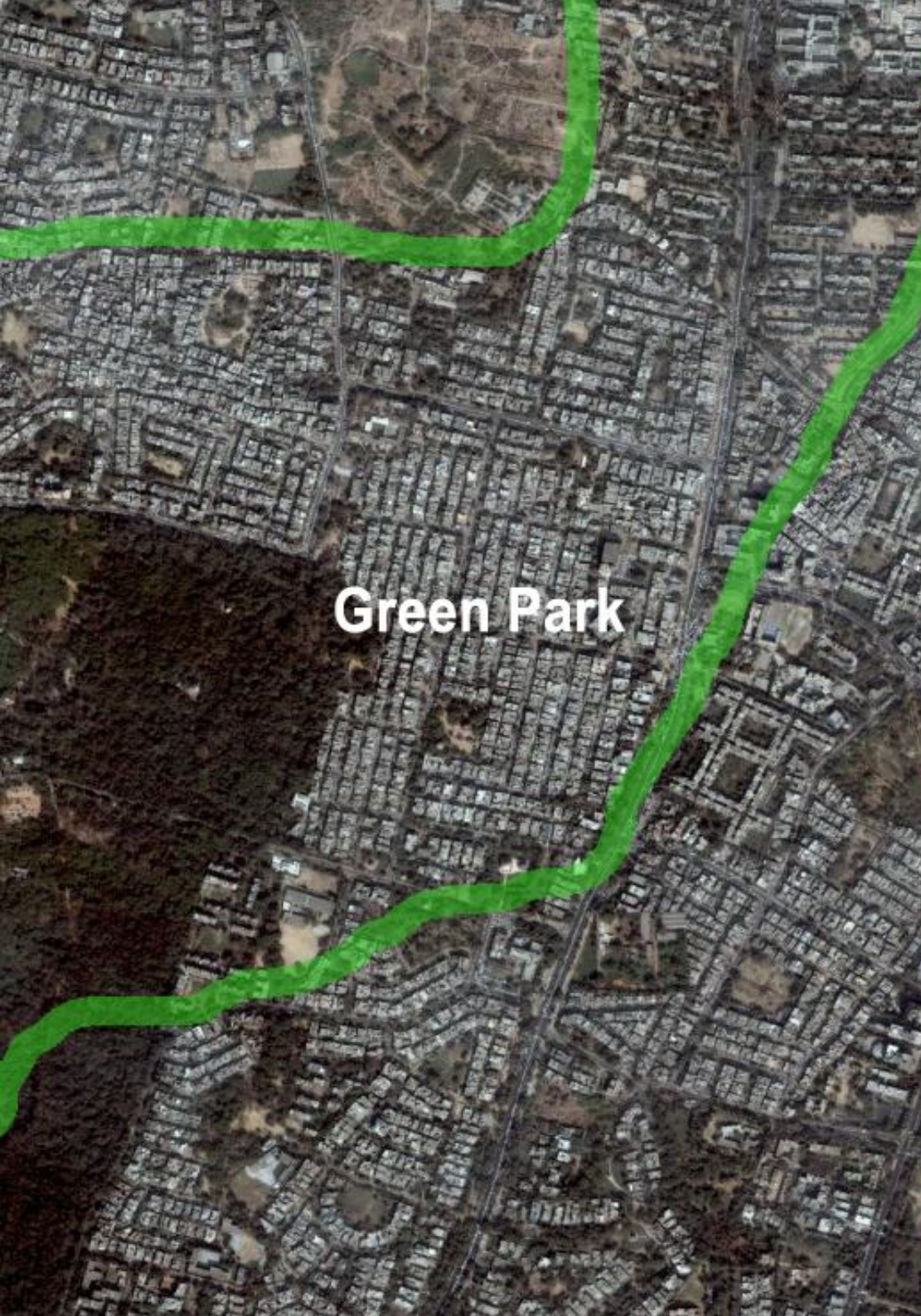
24. In conclusion, Hon'ble LG stressed the need of addressing the issue of ecological sustainability in the National Capital Territory of Delhi in a holistic manner with particular reference to carbon sequestration by increasing the green cover and sinks, converting *nallahs* into streams and recharging the groundwater. He thanked all participants for their valuable inputs and requested the concerned HODs from the Government to expeditiously examine the suggestions made by Resource Persons for appropriate action. He said that the next meeting would be held after six months.

25. The meeting ended with a vote of thanks to the Chair.

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*[Handwritten Signature]* 9/9/19



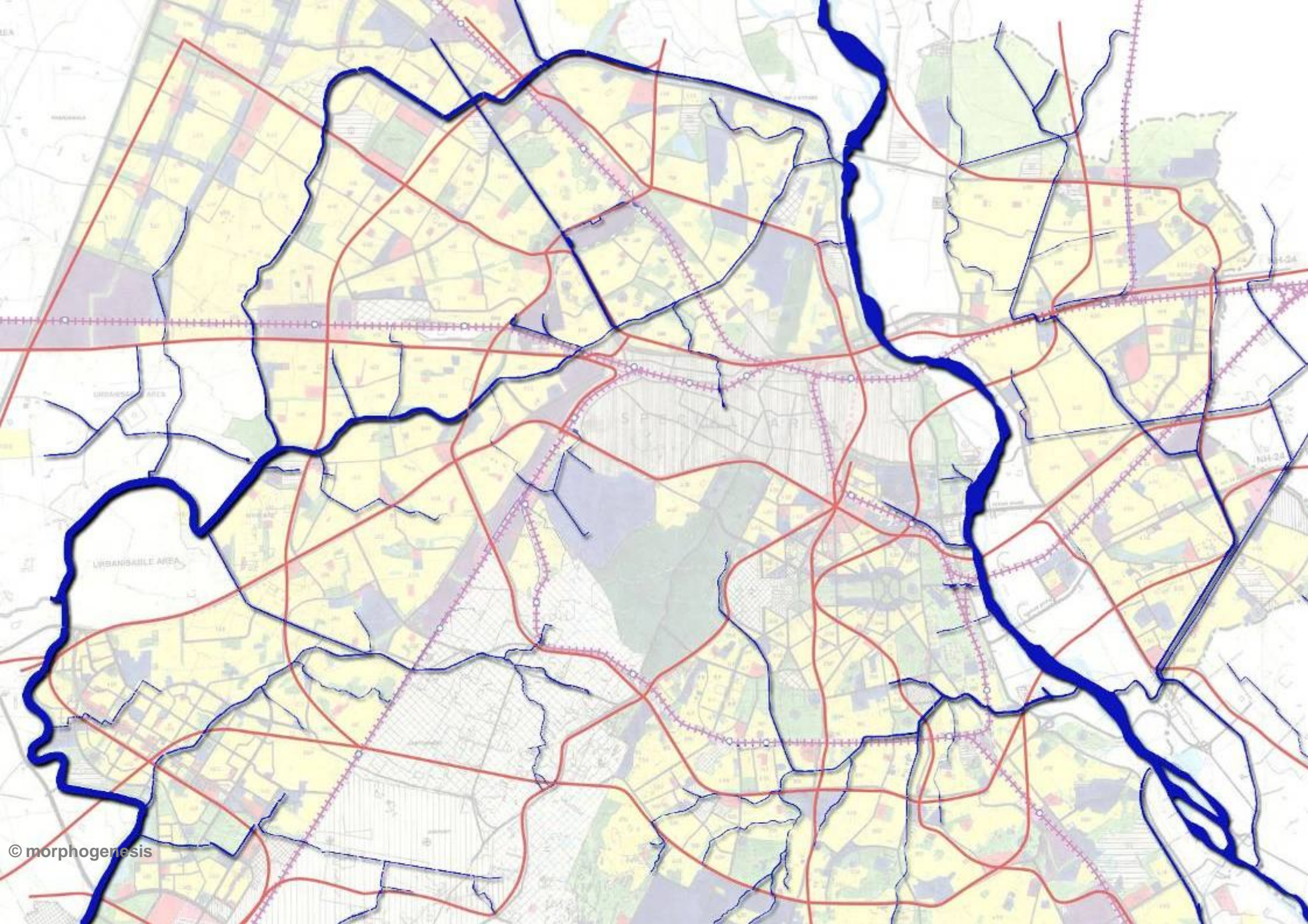


**Green Park**



**Mayur Vihar**



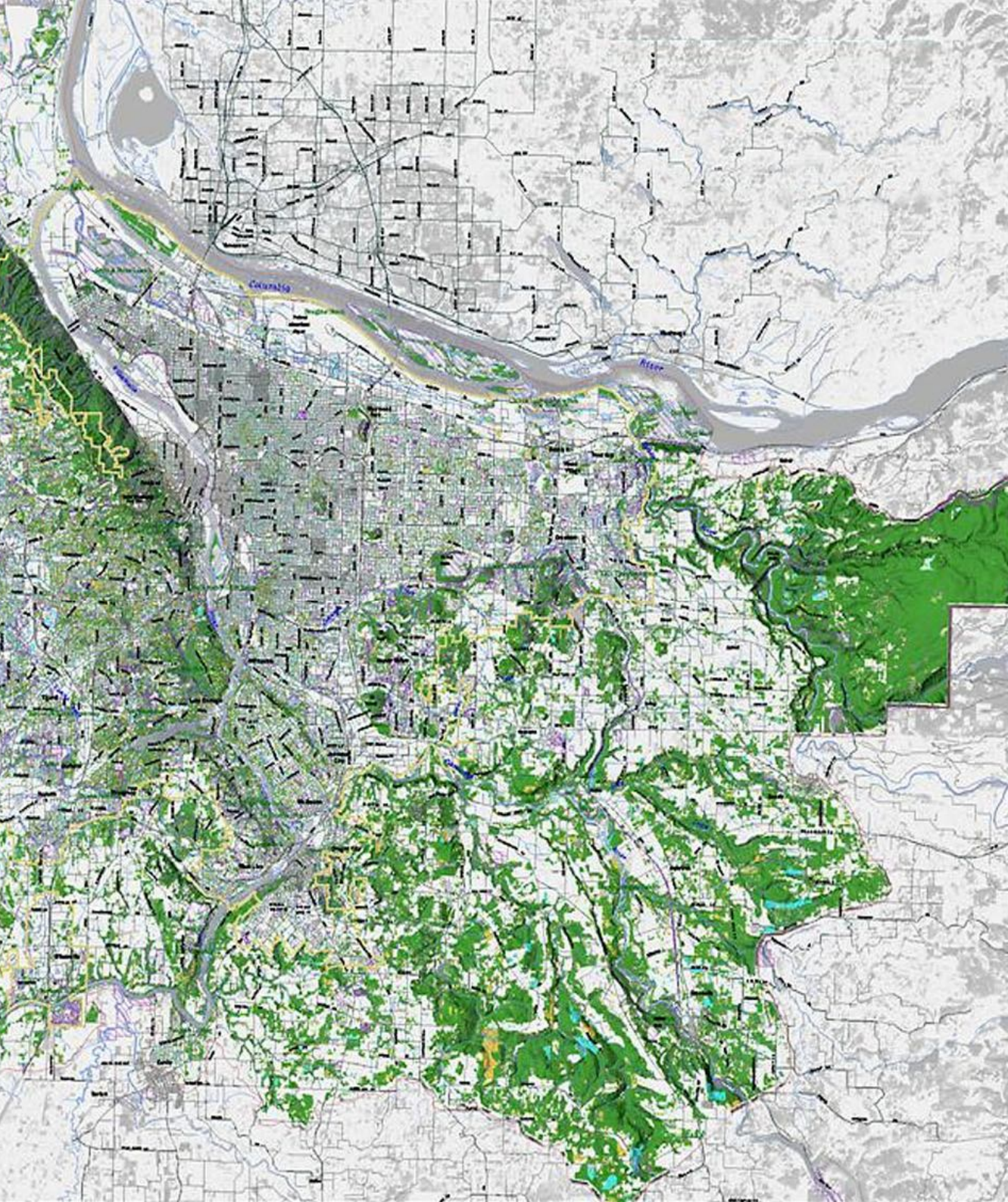




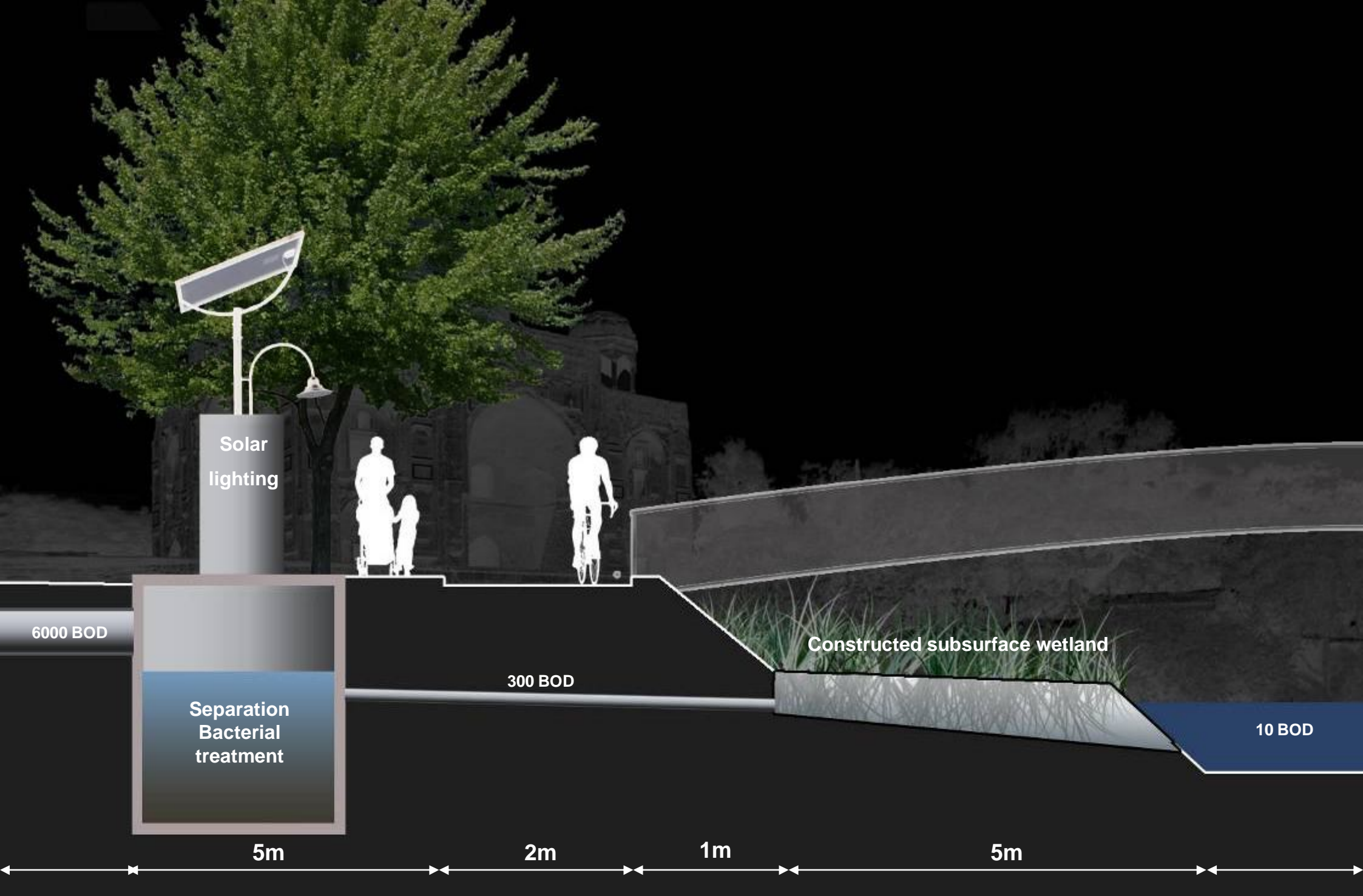
Vision:

Agenda:

Projects:

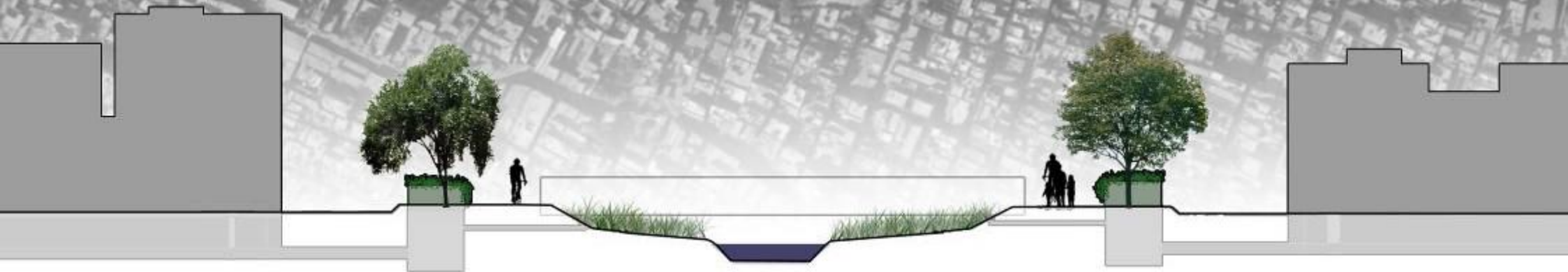








small



aerobic tanks/  
bacterial treatment

subsurface  
wetlands

Flow:  
5-50ml/d

Planting Arrests  
storm water runoff

Public arts  
Projects



Treatment and  
recycling of water



Introducing bicycle  
and walking paths



Expanding to unused  
service roads and alleys





medium



multistage treatment/  
micro stps

subsurface  
wetlands

Flow:  
50-300ml/d

Planting Arrests  
storm water runoff

food stands  
art expos



Treatment and  
recycling of water

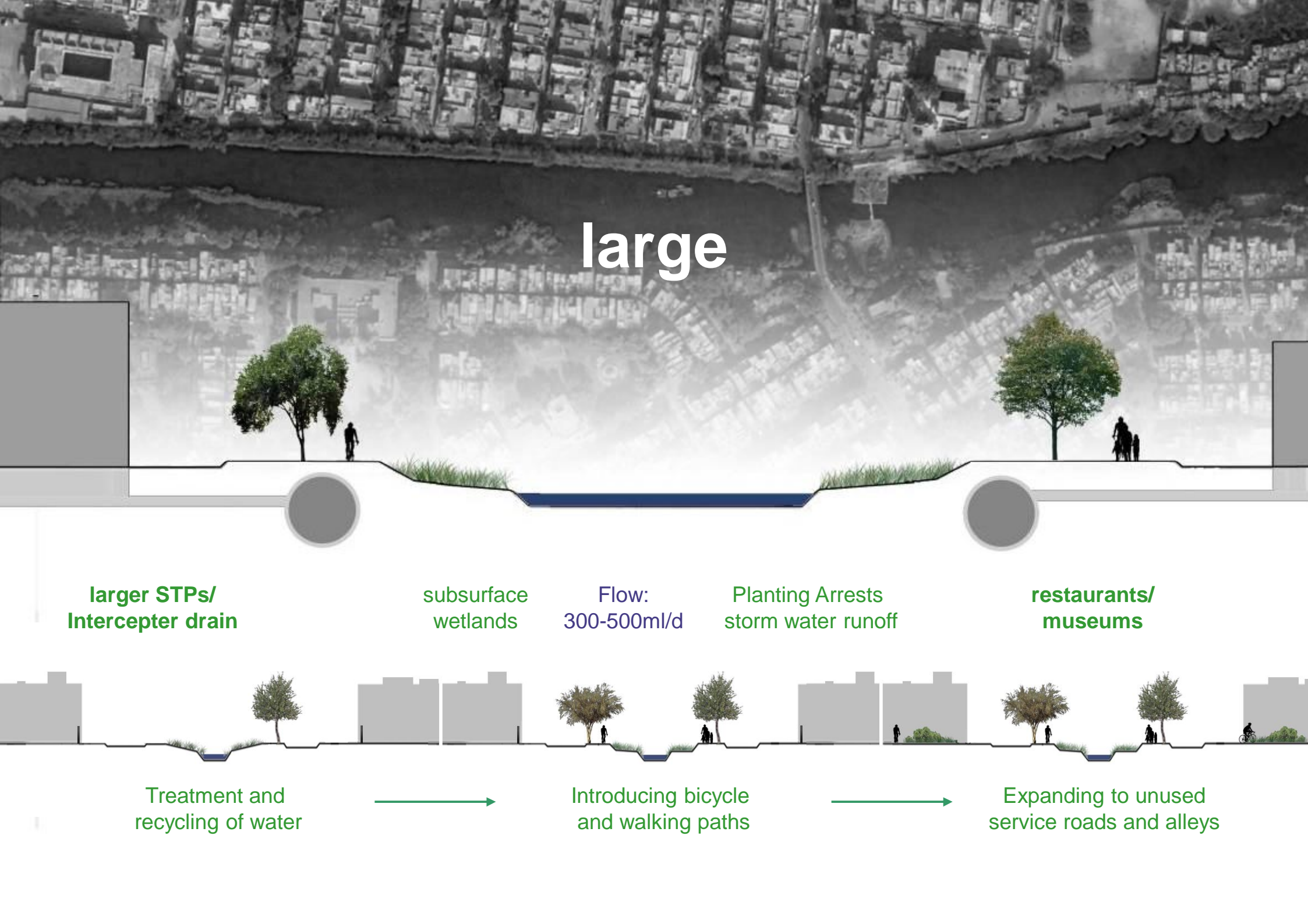


Introducing bicycle  
and walking paths



Expanding to unused  
service roads and alleys





large

larger STPs/  
Interceptor drain

subsurface  
wetlands

Flow:  
300-500ml/d

Planting Arrests  
storm water runoff

restaurants/  
museums

Treatment and  
recycling of water

Introducing bicycle  
and walking paths

Expanding to unused  
service roads and alleys



