

# ច្បារអំពៅ សម្រាប់អ្នកគ្រប់គ្នា

CHBAR AMPOV FOR ALL!



## ភ្នំពេញ ច្បារអំពៅ ការសិក្សាការផ្លាស់ប្តូរឆ្ពោះទៅទីក្រុងអេកូឡូស៊ី

PHNOM PENH - CHBAR AMPOV • ECOCITY TRANSITION LAB 1 • BUILD4PEOPLE • MARCH 2022



PHNOM PENH  
CAPITAL ADMINISTRATION

CONSORTIUM LEADER



PROJECT MANAGEMENT PARTNER



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build4people.org

| Build4People Ecocity Transition Lab 2022 | Presentation Workshop | 18 March 2022



# Build4People Project

Enhancing Quality of Life through Sustainable Urban Transformation in Cambodia

គម្រោងសាងសង់សម្រាប់ប្រជាជន  
ការលើកកម្ពស់ គុណភាពជីវិត របស់  
អ្នកទីក្រុង ដោយ ការ បម្លែង ទៅជា  
ក្រុង មានចីរភាពនៅកម្ពុជា

DEF 2019-2021

R&D 2021-2025

IMP 2025-2027

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## Build4People ECOCITY TRANSITION LAB PRESENTATION WORKSHOP

18 March 2022



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Universität Hamburg  
DER FORSCHUNG | DER LEHRE | DER BILDUNG

Work Package #7  
Work Package #6



CIUS  
CAMBODIAN INSTITUTE FOR URBAN STUDIES

Local Project  
Management Partner



OTTO VON GUERICKE  
UNIVERSITÄT  
MAGDEBURG

Work Package #1



TECHNISCHE  
HOCHSCHULE  
LÜBECK

Work Package #2

EBLE MESSERSCHMIDT PARTNER  
Architekten und Stadtplaner PartGmbH

Work Package #3



Eberswalde University  
for Sustainable  
Development

Work Package #4

INKEK  
institute for  
climate and  
energy strategies

Work Package #5



### Research Partners



### Implementation Partners



### Dissemination Partners





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DEF 2019-2021

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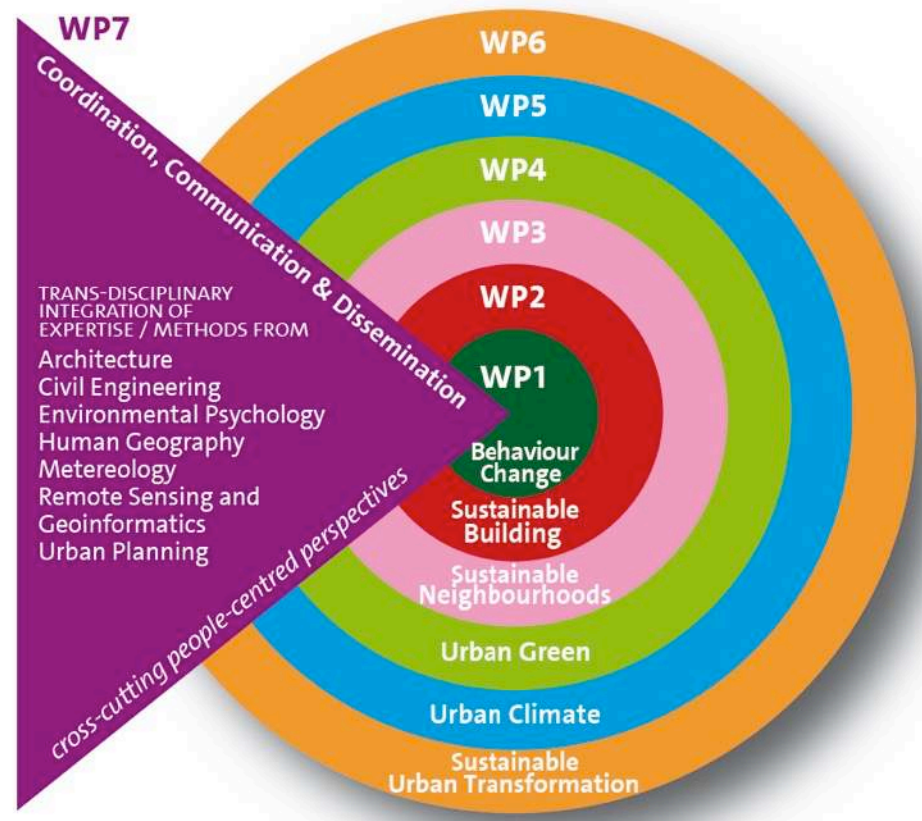
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# លំនៅដ្ឋានដែលមានចីរភាពសម្រាប់ប្រជាជន - BUILD4PEOPLE

## កញ្ចប់ការងារ - Work Packages

### 1. ការផ្លាស់ប្តូរឥរិយាបថ

Behaviour Change

1

Source: Build4People

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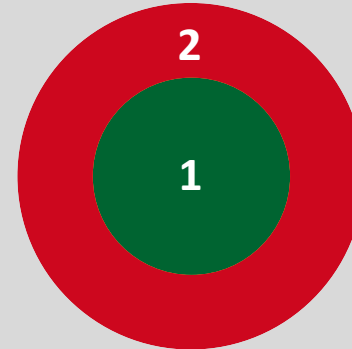




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Behaviour Change
2. អគារដែលមាននិរន្តរភាព  
Sustainable Building



Source: Build4People

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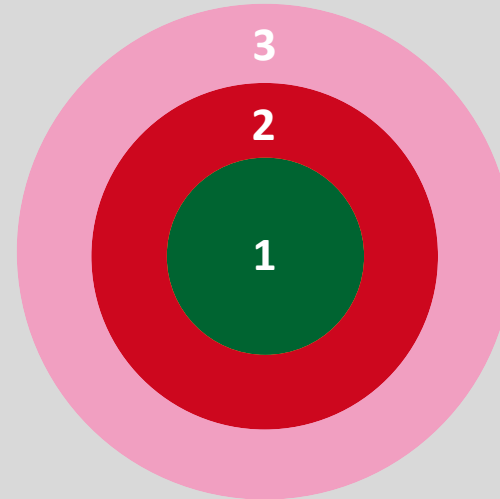




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Sustainable Neighbourhoods



Source: Build4People

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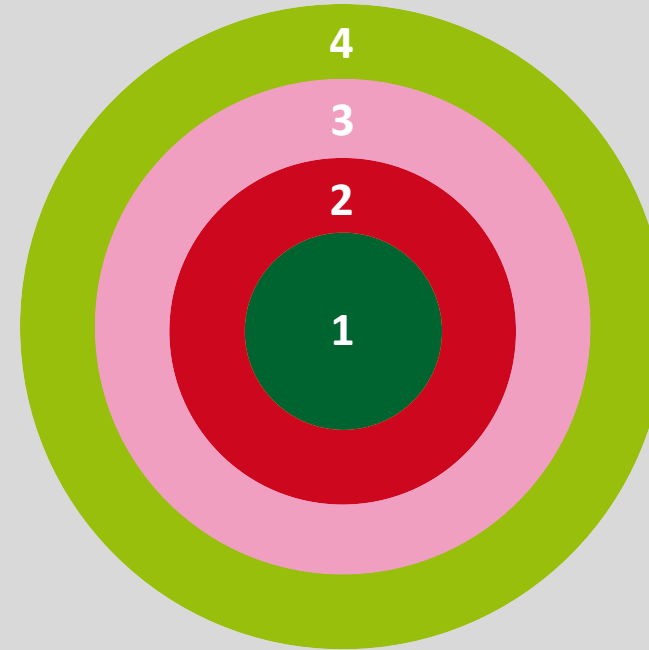




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4. ទីក្រុងបៃតង  
Urban Green



Source: Build4People

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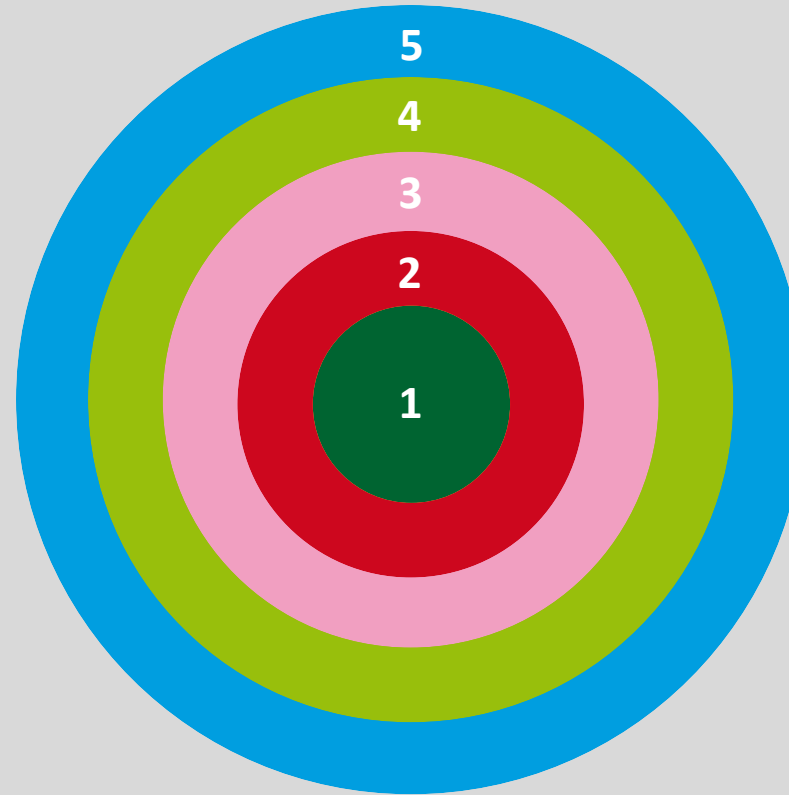




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Urban Climate



Source: Build4People

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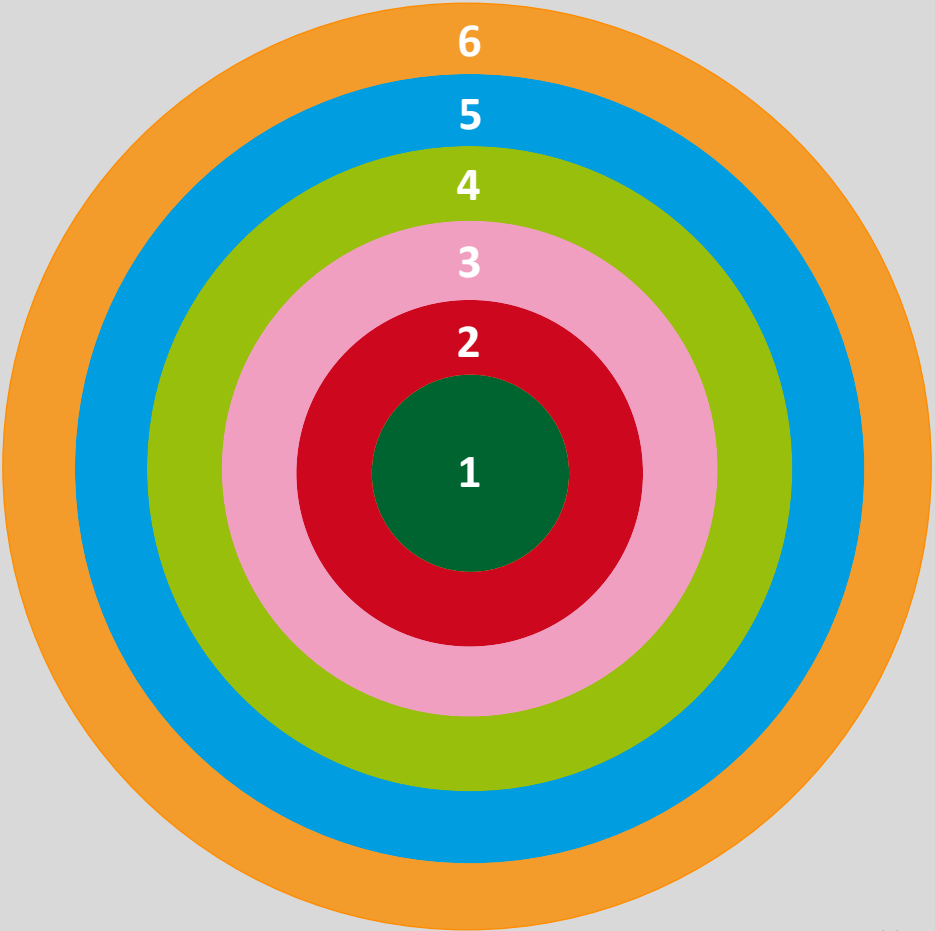




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Sustainable Urban Transformation



Source: Build4People



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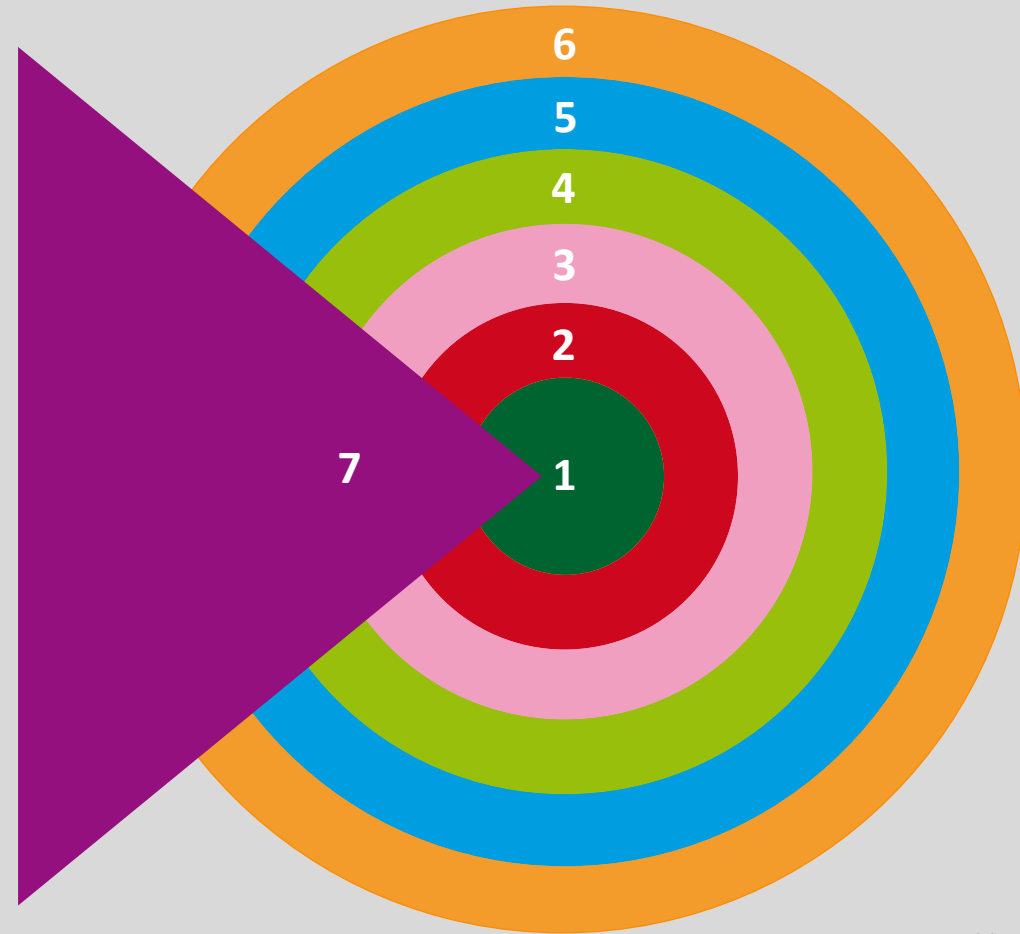




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Sustainable Urban Transformation
7. ការសម្របសម្រួល, ការទំនាក់ទំនង និង ការផ្សព្វផ្សាយ  
Coordination, Communication & Dissemination



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# WP3 Sustainable Neighbourhoods សហគមន៍ដែលមានចីរភាព

Responsible team: Rolf Messerschmidt, Marcelo Rivera, Oliver Lambrecht, Dr Tep Makathy

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## Transdisciplinary collaboration with other WPs

### WP1 Input

- Input / comments on behavior change / participation specific for site (very open)
- Input / comments on strategies / guidelines and assessment system (very open)

### WP2 Input

- Joint work on energy-efficient building typologies
- Input on energy supply systems on neighbourhood level for site
- Input / comments on energy strategies / guidelines and assessment system

### WP4 Input

- Analysis on urban green for site with regard to the urban green typologies
- Input with maps / data
- Input / comments on landscape strategies / guidelines and assessment system

### WP5 Input

- Further analysis of urban climate for site
- Modeling of urban climate based on CAD model by EMP and guidelines for site
- Input / comments on urban climate strategies / guidelines and assessment system

### WP6 Input

- Input / comments on planning process strategies / guidelines and assessment system



B4P Multi-Layered Approach





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# ព័ត៌មានប្រជុំ - B4P ECTL Schedule

	Sunday 13 March	Monday 14 March	Tuesday 15 March	Wednesday 16 March	Thursday 17 March	Friday 18 March
Morning		Build4People Ecocity Kick-off Event	Expert Talks Green, Water & Climate	Expert Talks Private Developments	Open Team Work	Build4People Ecocity Presentation Conference
Afternoon	First Site Visit of German team to Chbar Ampov District	Second Site Visit and Meetings with official in Chbar Ampov District	Open Team Work	Open Team Work		Build4People team talk to Borey Peng Huoth Developer Company
Other Build4People Events			Donor Organisations Luncheon at Raffles Hotel	WP#4 Curriculum Summit with RUA	WP#1 Science Workshop at RUPP	







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# 1. ការចាប់ផ្តើមសន្និសីទ

## OPENING CONFERENCE

# 2. ដំណើរនៃការសហការ

## COLLABORATION PROCESS

# 3. ការចុះវិភាគទីន្តួយ

## SITE ANALYSIS

# 4. ផែនការចក្ខុវិស័យ

## STRATEGIC VISION

# 5. ដំណើរឆ្ពោះទៅមុខរបស់ផែនការធំ

## WAY FORWARD







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## WAY FORWARD





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„ពួកយើងកំពុងតែប្រឈមនឹងបញ្ហា, ប៉ុន្តែយើងត្រូវធ្វើវា: ទីក្រុងមាននិរន្តរភាពគឺជាការរួមចំណែកដល់សន្តិភាព និងលើកកម្ពស់ការរស់នៅរបស់ប្រជាពលរដ្ឋ“ ឯកឧត្តម នួន ផារ៉ាត អភិបាលរង នៃគណៈអភិបាលរាជធានីភ្នំពេញ

„We are facing some challenges, but we have to do it: Sustainable cities are a contribution to peace and raise the living standard of the people!“

HE Nuon Pharat (Vice-Governor of PPCA)







„សាលាក្រុងភ្នំពេញបានគាំទ្រយ៉ាងពេញទំហឹងចំពោះវិធីសាស្ត្រ B4P, មានន័យថា វាមានភាពស្មុគស្មាញ ការងារច្រើនប៉ុន្តែយើងត្រូវបត់បែនតាមកាលៈទេសៈ“ ឯកឧត្តម គ្រីស្ទាន ប៊េរីដេ ឯកអគ្គរដ្ឋទូតនៃសាធារណៈរដ្ឋសហព័ន្ធអាល្លឺម៉ង់ប្រចាំព្រះរាជាណាចក្រកម្ពុជា

„PPCA is fully supporting the multi-stakeholder approach of B4P, which means: a higher complexity, more work, not just top down, but also bottom up!“ Christian Berger (German Ambassador to Cambodia)





„យើងពិតជាសង្ឃឹមថានឹងចូលចំណែកធ្វើអោយភ្នំពេញក្លាយជា  
កន្លែងកាន់តែប្រសើរឡើង“ លោកបណ្ឌិត ម៉ាយខល វ៉ាយប៊ែល  
(ប្រធានគម្រោង, សាកលវិទ្យាល័យហែមបឺក)  
„We really hope to contribute to make Phnom Penh a better place!“  
Dr. Michael Waibel (B4P Consortium Leader, University Hamburg)







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„សិក្ខាសិលាសប្តាហ៍នេះបានរៀបចំឡើងដើម្បីបង្កើនការសហការគ្នា និងសិក្សាពីគ្នាទៅវិញទៅមក!“ អានដ្រាស ហ្វូន ហ្សាដូ(អ្នកសម្របសម្រួលដំណើរការ វិហ្ស៊ីអាយ, ប៊ែរលីន)

„If different sectors like placemaking, social capital, green architecture and planning for biodiversity integrating with each other, sustainable urbanisms get a basis to grow!“

Andreas von Zadow (Process Facilitator VZI, Berlin)





„យើងចង់ផ្តល់នូវគំនិត និងយុទ្ធសាស្ត្រដើម្បីសម្រេចបានលទ្ធផលប្រកបដោយនិរន្តរភាពជាងមុន“ រូលហ្វ ម៉េស៊ីស្គីដ(នាយកប្រតិបត្តិនៃ អ៊ីមេមគី នៅ ធ្វូប៊ីងដិន)

„We want to provide concepts and strategies for you to achieve more sustainable results!“

Rolf Messerschmidt (CEO EMP Tübingen)





„យើងរីករាយដែលខណ្ឌ ច្បារអំពៅត្រូវបានជ្រើសរើសសម្រាប់គម្រោងនេះ។ យើងពិតជាត្រូវការ ការគាំទ្រ“ លោក រស់ សុភ័ក្ត្រ អភិបាលរងនៃគណៈអភិបាលរងខណ្ឌ ច្បារអំពៅ

„We are glad that the district of Chbar Ambov has been selected for this project. We really could need some support!“ Mr. Sopheak (Deputy Governor Chbar Ambov)





„ដើម្បីកែលម្អក្រុងអោយមានសុខុមាលភាព គឺត្រូវមានខ្យល់។ សំខាន់គឺឈប់គិតរឿងព្រំ។ យើងត្រូវគិតអោយបានឆ្ងាយពីការនាំយកខ្យល់ចូលតំបន់អ្នក“ រូលហ្វី ម៉េហ្ស៊ីស្ត៊ីខ(នាយកប្រតិបត្តិនៃ អ៊ីអេមភី នៅ ធ្មបឹងដិន)

*„To improve urban comfort here, you have to catch the wind. Important is therefore not to stop thinking at the boundaries. You need to look far beyond and invite the wind into your areas!“*

*Lutz Katschner (INKEK, University Kassel)*





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## Build4People Project

Enhancing Quality of Life through Sustainable Urban Transformation in Cambodia

គម្រោងសាងសង់សម្រាប់ប្រជាជន  
ការលើកកម្ពស់គុណភាពជីវិតរបស់  
អ្នកទីក្រុង ដោយការប្រែប្រួលទៅជា  
ក្រុងមានចីរភាពនៅកម្ពុជា

DATE: 2019-2023  
R&D: 2021-2025

SPONSORED BY THE  
Federal Ministry  
of Education  
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### កញ្ចប់ការងារ - Work Packages

អគារដែលមាននិរន្តរភាព  
Sustainable Building

### Key Objectives

- Define localized sustainable building dimensions and solutions
- In-depth understanding of aspects of urban living related to buildings like comfort, air quality, health, energy and further resource consumption
- Analysis of the interaction between use, functionality, energy consumption and Quality of Life perception
- Document the current context and draft the desired future performance for residential buildings and develop a technology-oriented pathway to this desired performance

COMFORT  
WELLBEING  
HEALTH  
PRODUCTIVITY  
INDOOR AIR QUALITY  
ACOUSTICS  
THERMAL COMFORT  
LIGHT

HOW TO GET THERE  
ROADWAY  
BUILDING  
URBAN

Methodology of future scenario analysis. Source: Kolow Hannek, Gieseler Robert (2018).

„យើងកំពុងដំណើរការយុទ្ធនាការវាស់វែងផ្ទះជាក់ស្តែង និងចង់ជួយគាំទ្រវិស័យ  
សំណង់ទាំងទម្រង់អគារ និងសម្ភារៈសាងសង់“ រូលហ្វី ម៉េហ្ស៊ែស្ត្រីឌ(នាយក  
ប្រតិបត្តិនៃ អ៊ីអេមភី នៅ ធូបឺងដិន)

„We are running a practical in-house measurement campaign and want to  
support the building sector in terms of building form and construction material!“  
Christina Karagianni (University Stuttgart)







**Build4People Project**  
Enhancing Quality of Life through Sustainable Urban Transformation in Cambodia  
គម្រោងកម្មវិធី - Work Packages  
គម្រោងកម្មវិធី  
គម្រោងកម្មវិធី  
Key Objectives

- Develop understanding of the environmental worldview and behavior patterns (→ explaining behavior)
- Empirical basis for the development of interventions to increase pro-environmental behavior (→ triggering behavior)
- Empirical basis for the analysis of the transdisciplinary determinants of behavior patterns

„យើងផ្តោតសំខាន់ទៅលើអត្តចរិតរបស់ប្រជាពលរដ្ឋ។ សំណួរដ៏ធំមួយគឺសេចក្តីប្រាថ្នា  
នៃជីវិតរៀបរយរបស់ប្រជាពលរដ្ឋប្រកបដោយនិរន្តរភាព “ រូលហ្វ ម៉ែហ្គ្រីស្ទីឌ(នាយក  
ប្រតិបត្តិនៃ អ៊ីអេមភី នៅ ធូបឺងឆិន)  
„Our Focus is behavior change of people. One big question here is the aspirations of  
life versus sustainable lifestyles!“ , Anke Blöbaum (University Magdeburg)





Source: B4P











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# Build4People Project

Enhancing Quality of Life through Sustainable Urban Transformation in Cambodia

## គម្រោងការងារ - Work Packages

ការកសាងប្រព័ន្ធគ្រប់គ្រងដោយនិរន្តរភាព  
Sustainable Urban Transformation

### Key Objectives

- How can we shift from unsustainable structures and practices in the urban built environment sector in Phnom Penh to more sustainable ones?
- What is (de)stabilizing the current socio-technical system?
- Which local processes pushing for more sustainability can we observe?
- How can local processes of change towards sustainability in the sector be actively supported?

គម្រោងសាងសង់សម្រាប់ប្រជាជន  
ការលើកកម្ពស់គុណភាពជីវិតរបស់  
មនុស្សក្នុងរាជធានីភ្នំពេញ ដោយការបម្លែងទៅជា  
ក្រុងមាននិរន្តរភាព

2021-2023-2025  
2021-2023-2025

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„ការអនុវត្តការសាងសង់ប្រកបដោយនិរន្តរភាពជាមុន ត្រូវបានគេរំពឹងទុកថាការងារ ការ  
បង្កើនប្រាក់វិយោគ និងមានហានិភ័យខ្ពស់“ រូលហ្វី ម៉ែហ្សឺស្ត្រីឌ(នាយកប្រតិបត្តិនៃ អ៊ីអេ  
មភី នៅ ធ្វប់ឯងឆិន)

„A more sustainable building practice is expected to increase project length, raise  
investment costs and lead to a higher risk!“, Ravi Jayaweera (University Hamburg)





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„...!“ លោកបណ្ឌិត ទេព ម៉ាកាធី (ព្រឹទ្ធបុរស នៃមហាវិទ្យាល័យស្ថាបត្យកម្ម និងនគរូបនីយវិទ្យា)

„The rapid urban transition bring enormous challenges. B4P gives us a chance to actively involve experts, students and professors!“  
Dr. Makathy Tep (Dean of FAUP)





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ការបាត់ដើមសន្និសីទ – OPENING CONFERENCE

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1. ការចាប់ផ្តើមសន្និសីទ

OPENING CONFERENCE

2. ដំណើរនៃការសហការ

COLLABORATION PROCESS

3. ការចុះវិភាគទីន្លែង

SITE ANALYSIS

4. ផែនការចក្ខុវិស័យ

STRATEGIC VISION

5. ដំណើរឆ្ពោះទៅមុខរបស់ផែនការធំ

WAY FORWARD





















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# ការចុះកម្មសិក្សាជាក្រុម – TEAM EXCURSION

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Page 51





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សំណង់បុរី ដូចៗគ្នា  
Borey  
structures: copy  
+ paste







គ្មានការភ្ជាប់ទៅបរិបទ  
ប្រវត្តិសាស្ត្រ  
Linkage to historical  
context is missing







បុរីមិនមែនវប្បធម៌  
ខ្មែរ

Boreys are not  
cambodian culture?!







ការចុះកម្មសិក្សាដោយសិស្សានុសិស្ស – STUDENT EXCURSION



ជើង North



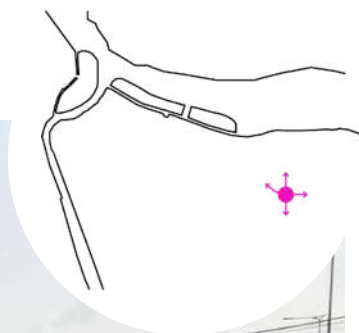
ត្បូង South



កើត East



លិច West



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# ការចុះកម្មសិក្សាដោយសិស្សានុសិស្ស – STUDENT EXCURSION

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ខ្វះតំបន់  
កន្លែងសាធារណៈបៃតង  
Lack of  
public green  
spaces

ស្ទើរតែគ្មាន  
កន្លែងចត  
Almost  
car free

សំរាមនៅលើ  
ដងផ្លូវ  
Garbage on  
the streets

ហេដ្ឋារចនាសម្ព័ន្ធសង្គមជា  
មូលដ្ឋានទាំងអស់ត្រូវបានរក  
ឃើញក្នុងចម្ងាយដើរ 20 នា  
ទឹក។  
All basic social  
infrastructure was found  
in 20 min walking  
distance

ងាយស្រួល  
ដើរ  
Easy to  
walk



ដើរក្នុងរយៈពេល២០នាទី  
20 min Walk

ត្បូង  
South



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Page 67



# ការចុះកម្មសិក្សាដោយសិស្សានុសិស្ស – STUDENT EXCURSION

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ផ្ទះមានដីធំ  
លាយច្រើន  
Houses  
have more  
free land

គ្មាន  
ចរាចរណ៍  
No  
traffic

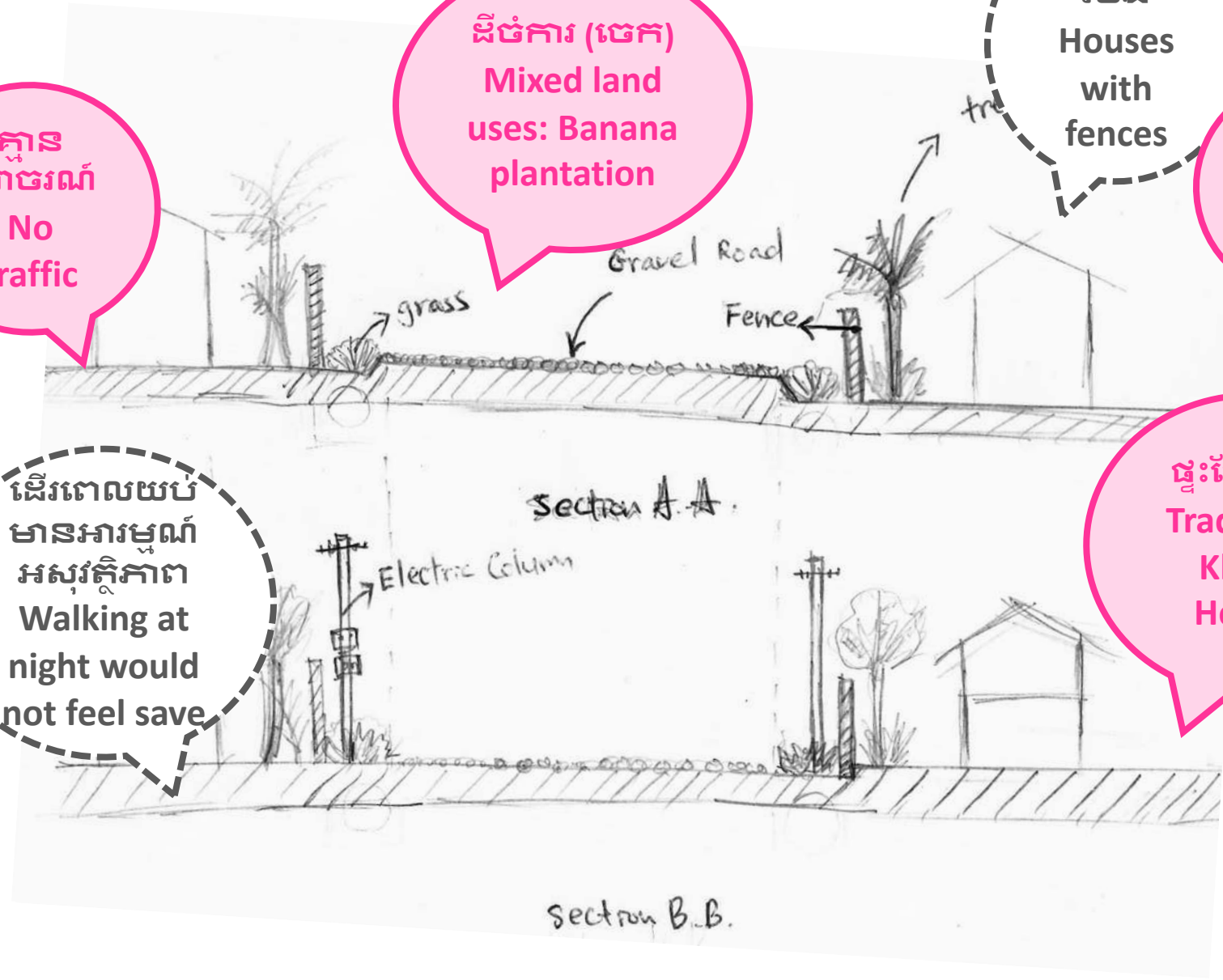
ដីចំការ (ចេក)  
Mixed land  
uses: Banana  
plantation

ផ្ទះមាន  
របង  
Houses  
with  
fences

តំបន់  
ស្ងាត់  
Quiet  
area

ផ្ទះបែបខ្មែរ  
Traditional  
Khmer  
Houses

ដើរពេលយប់  
មានអារម្មណ៍  
អសុវត្ថិភាព  
Walking at  
night would  
not feel save



ដើរក្នុងរយៈពេល២០នាទី  
20 min Walk

ជើង  
North



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ការចុះកម្មសិក្សាដោយសិស្សានុសិស្ស – STUDENT EXCURSION



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## ការចុះកម្មសិក្សាដោយសិស្សានុសិស្ស – STUDENT EXCURSION

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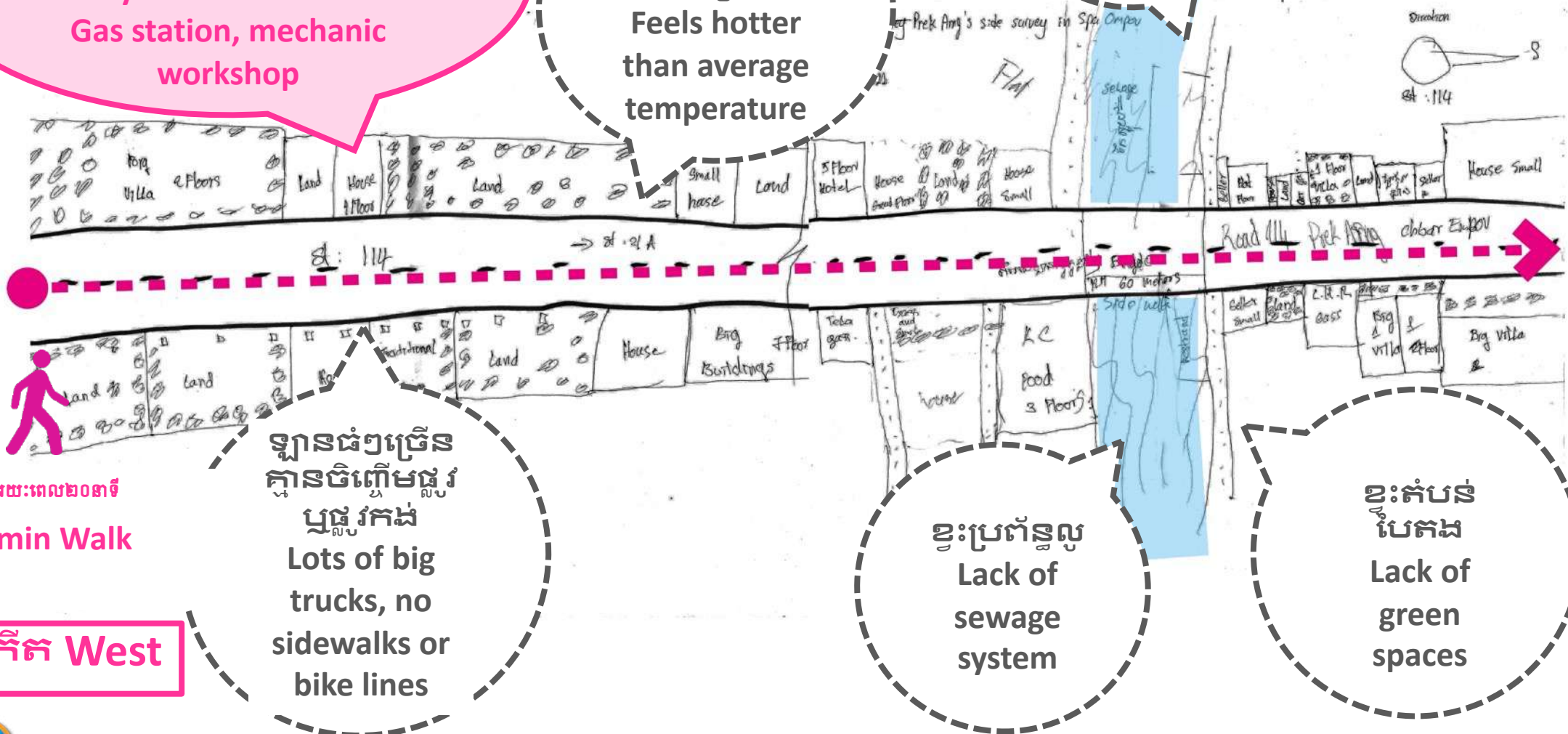
**មានសេវាកម្មជាច្រើន៖ ស្ថានីយ៍  
ប្រេងឥន្ធនៈ សិក្ខាសាលាមេកា  
និក**

**Many services available:  
Gas station, mechanic  
workshop**

**មានអារម្មណ៍ក្តៅ  
ជាងសីតុណ្ហភាព  
មធ្យម**

**Feels hotter  
than average  
temperature**

ទន្លេ  
ប្រឡាយ  
បង្ហូរទឹក  
River or  
drainage  
canal?



**ដើរក្នុងរយៈពេល២០នាទី**

## 20 min Walk

# ເຄີ້ດ West

ឡានធំៗច្រើន  
គ្មានចិញ្ចើមផ្លូវ  
ឬផ្លូវកង់  
Lots of big  
trucks, no  
sidewalks or  
bike lines

**ខ្វះប្រព័ន្ធលូ**  
**Lack of**  
**sewage**  
**system**

ខ៖តំបន់  
បៃតង  
Lack of  
green  
spaces







# សិក្ខាសាលានៅសាលាឧណ្ឌច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# សិក្ខាសាលានៅសាលាឧណ្ណច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# សិក្ខាសាលានៅសាលាឧណ្ណច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# សិក្ខាសាលានៅសាលាឧត្តម្យោងអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# សិក្ខាសាលានៅសាលាឧណ្ឌច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# សិក្ខាសាលានៅសាលាឧណ្ឌច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# សិក្ខាសាលានៅសាលាឧណ្ណច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

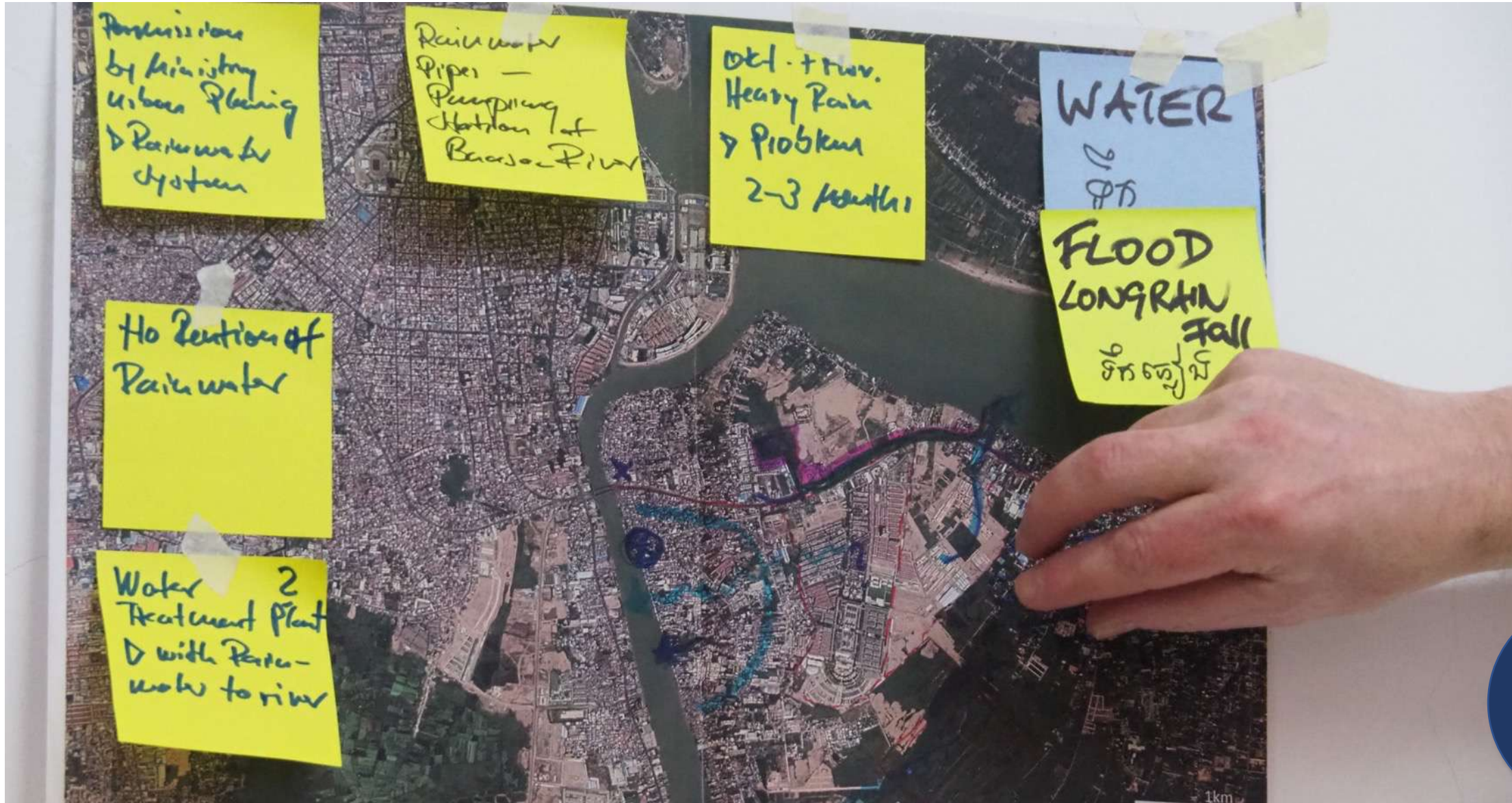
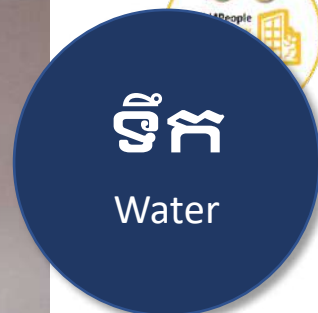
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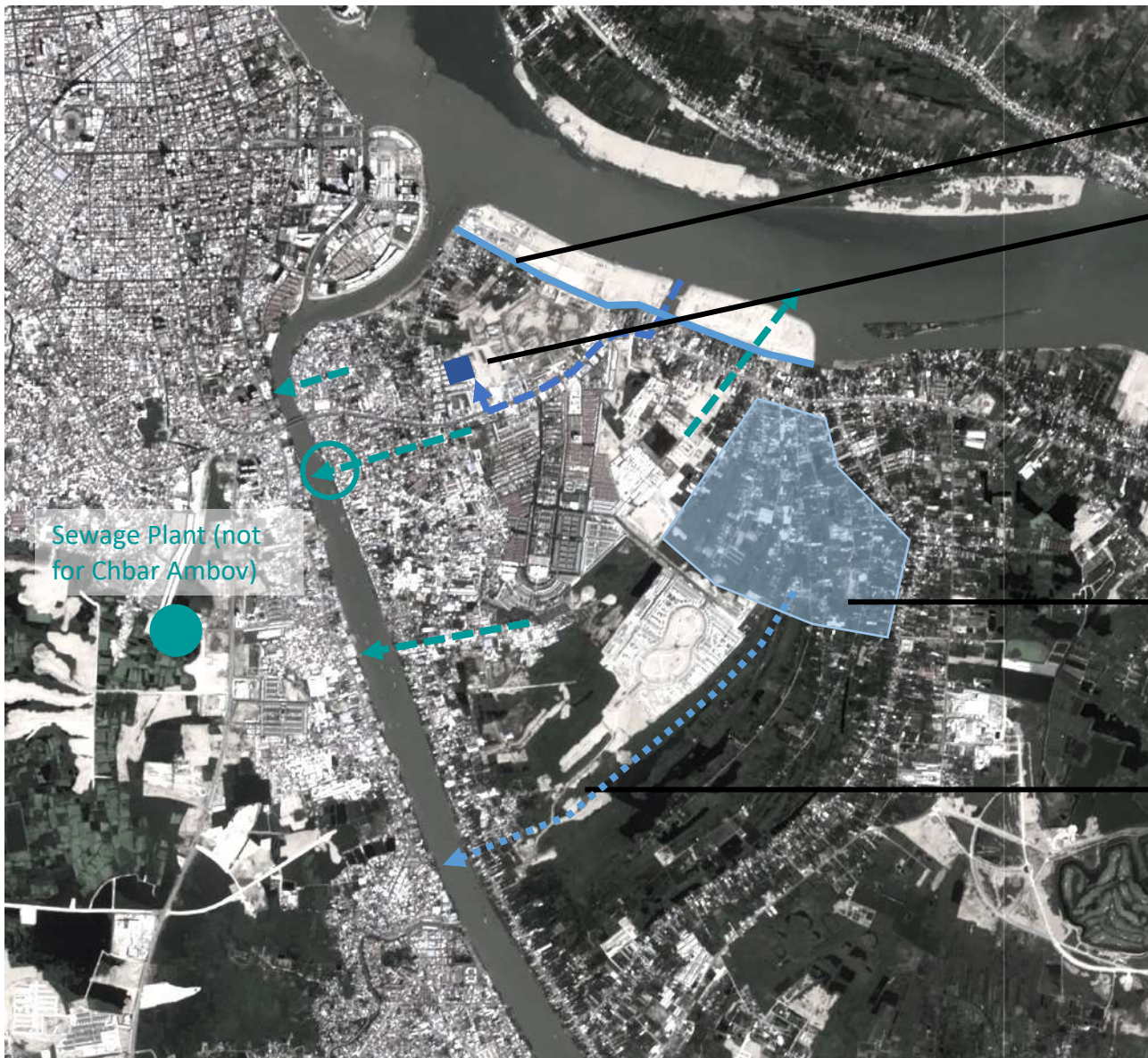


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# EXISTING WATER INFRASTRUCTURE



ប្រឡាយនៅកោះ នរ  
Canal at NohKorea

រោងចក្រទឹកសម្រាប់ផ្គត់ផ្គង់ទឹកស្អាត ពីទន្លេមេគង្គ  
Water Plant for provision of potable water supplied from Mekong River

ទឹកសំណល់ និងបំពង់ទឹកភ្លៀង ភាគច្រើនចូលទៅក្នុងទន្លេបាសាក់ ដោយគ្មានការសម្អាត (មួយផ្នែកជាមួយស្ថានីយ៍បូមទឹក) – មួយផ្នែកទៅទន្លេមេគង្គ  
Wastewater and Rainwater pipe going mainly into Baasac River without treatment (partly with pumping station) – partly to Mekong River

ដីលិចទឹកក្នុងរដូវវស្សា 2-3 ខែ (ខែតុលា និងវិច្ឆិកា) ដែលមានភ្លៀងធ្លាក់ខ្លាំង និងយូរ។  
Flooded land in 2-3 months of rainy season (october and november) with heavy and long rainfall

សាងសង់បំពង់ថ្មីសម្រាប់ដោះទឹកជំនន់ ដើម្បីការពារទឹកជំនន់  
Construction of new pipe for discharging stormwater to prevent flooding

>> មិនទាន់មានការស្តារទឹកស្អុយ

>> No sewage treatment, no retention of stormwater yet

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ចរាចរណ៍  
Traffic











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**ចរាចរណ៍**  
Traffic











## បន្ថយចរាចរនៅលើផ្លូវជាតិលេខ១ „Relieve Road Nr. 1“

ទាក់ទាញប្រព័ន្ធដឹកជញ្ជូនសាធារណៈ

- ខ្សែ BRT ទៅកាន់ក្រុង នៅលើផ្លូវលេខ 1, ខ្សែ BRT (Bus Rapid Transit) លឿនជាង MIC
- បង្កើតមជ្ឈមណ្ឌលចល័តជាកំណត់
- ថ្មី "រថយន្តក្រុង" ដើម្បីភ្ជាប់បុរី BRT និងមជ្ឈមណ្ឌលចល័ត
- ឡានក្រុងឯកជន ជាអ្នកប្រមូលខាងក្នុងបុរី
- បើកប្រាំបុរីសម្រាប់កង់ និងក្រុង

### Attract public transport system

- BRT Line to City Center on Road Nr. 1, BRT Line (Bus Rapid Transit) Faster than MIC
- Create specific Mobility Centres
- New „District Bus“ to connect Boreys, BRT and Mobility Hubs
- New private „E-Borey Bus“ as collector inside boreys to the „District Bus“
- Open Boreyborders for Bikes and Busses

កាត់បន្ថយតម្រូវការធ្វើដំណើរ

- អនុវត្តហេដ្ឋារចនាសម្ព័ន្ធសង្គមអោយកាន់តែល្អប្រសើរ
- បង្កើនការងារជូនប្រជាពលរដ្ឋនៅក្នុងតំបន់ច្បារអំពៅ

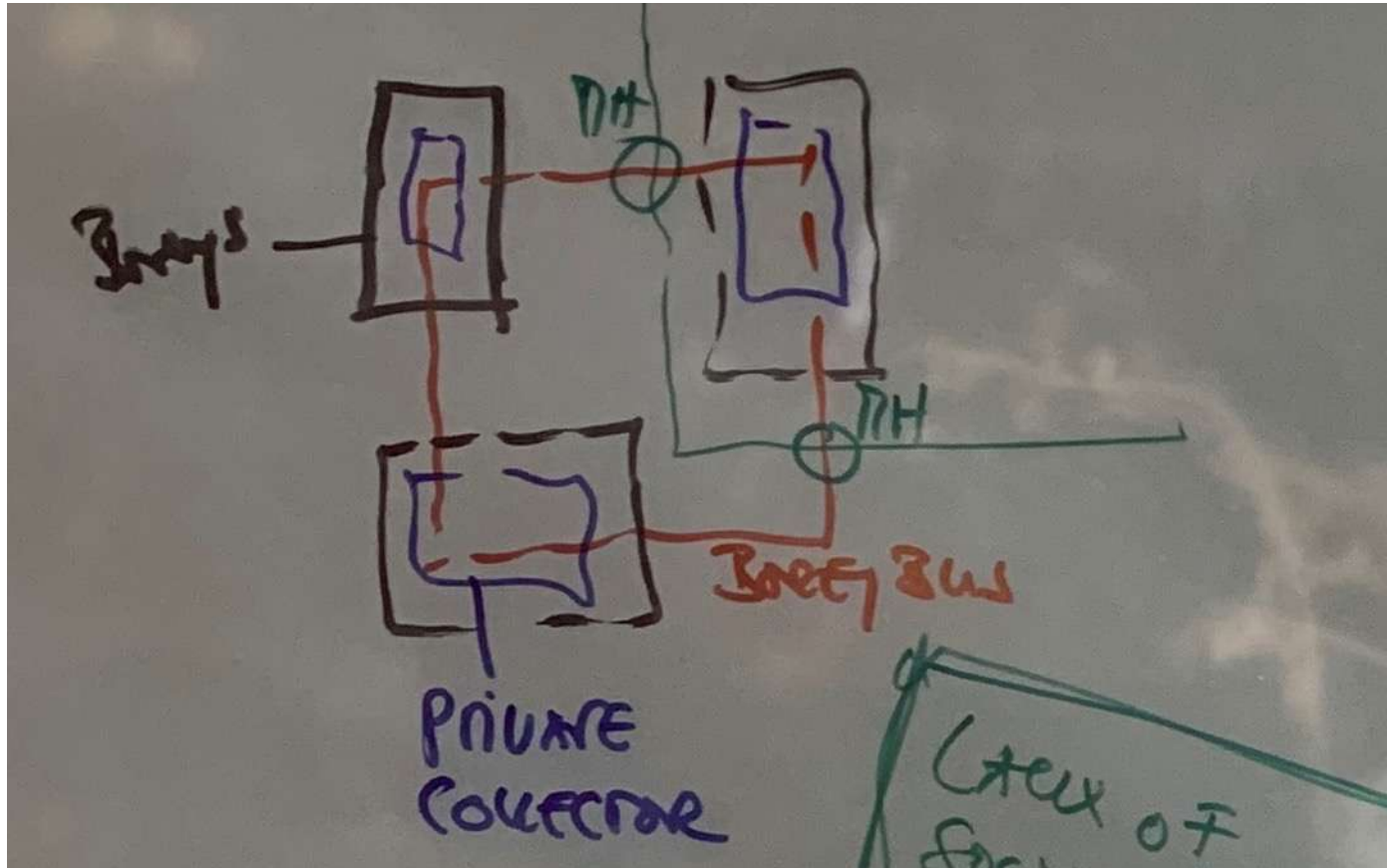
### Reduce the need to travel!

- Implement better social infrastructure
- Create more jobs in Chbar Ampov





**ចរាចរណ៍**  
Traffic



## „Relieve Road Nr. 1“

## Attract public transport system

- BRT Line to City Center on Road Nr. 1, BRT Line (Bus Rapid Transit) Faster than MIV
- New „District Bus“ to connect Boreys, BRT and Mobility Hubs
- New private „E-Borey Bus“ as collector inside boreys to the „District Bus“
- Open Borey borders for Bikes and Busses

## Reduce the need to travel!

- Implement better social infrastructure
- Create more jobs in Chbar Ampov



ការអភិវឌ្ឍន៍ទីក្រុង  
Urban  
Development









# សិក្ខាសាលានៅសាលាឧណ្ឌច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# សិក្ខាសាលានៅសាលាឧណ្ឌច្បារអំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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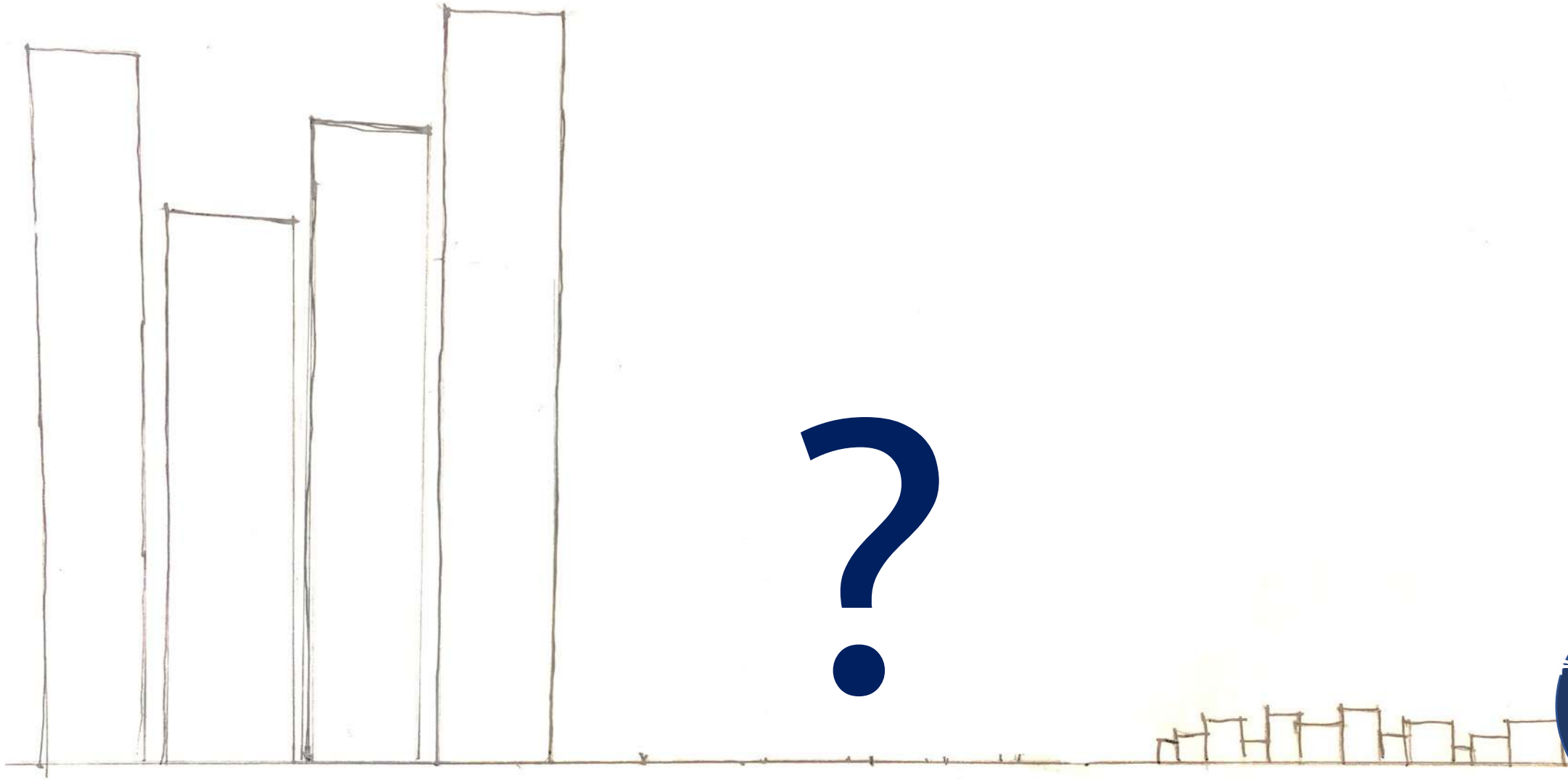
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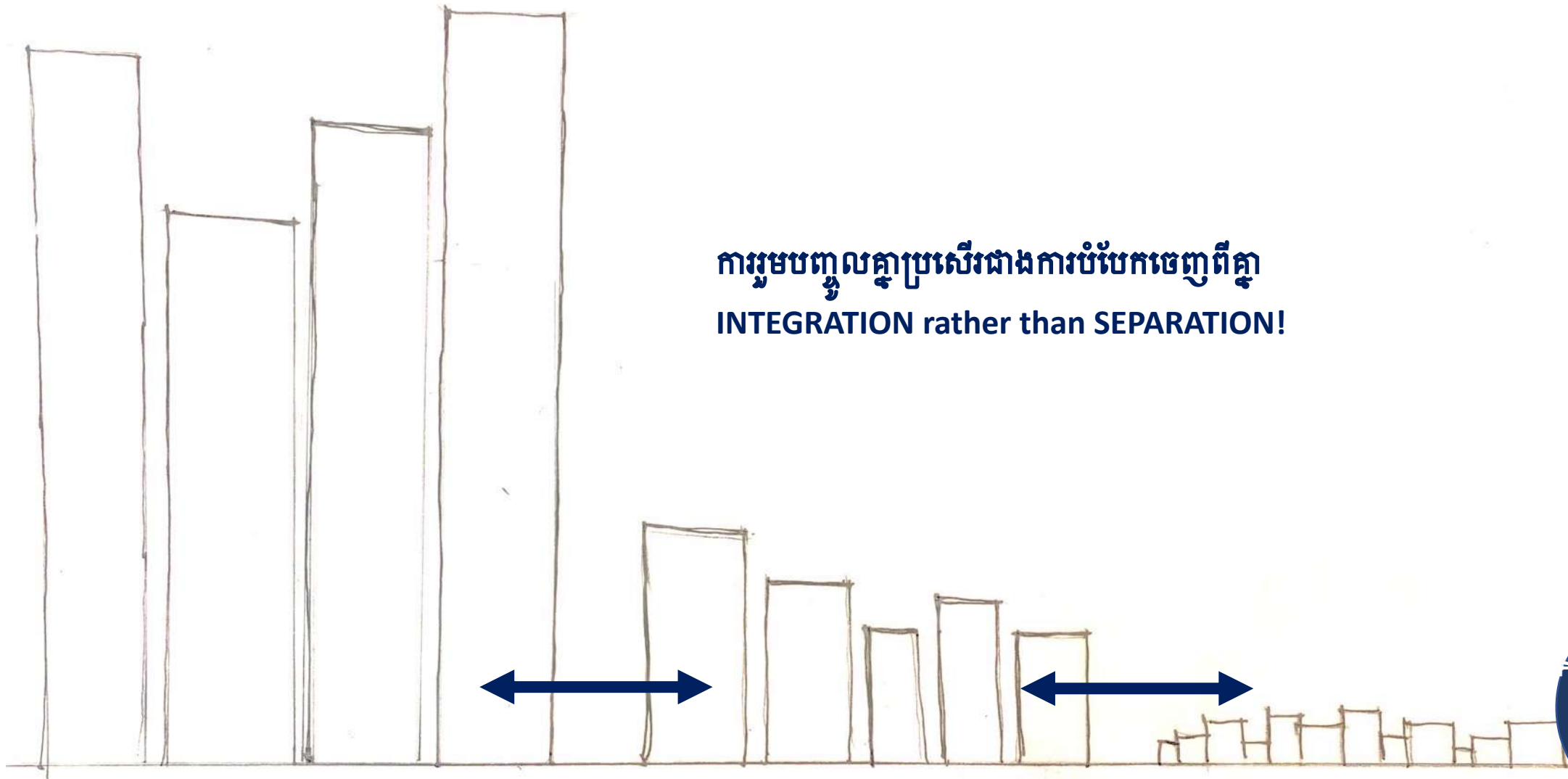
ការអភិវឌ្ឍន៍ទីក្រុង  
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ជំនួសឱ្យការដាក់ផែនការផ្សេងទៀតដែលនឹងត្រូវបានផ្តល់ឱ្យ  
អាជ្ញាធរឧណ្ណច្បារអំពៅចង់ទទួលបានភាពសកម្ម និងចាប់  
អារម្មណ៍ក្នុងការបង្កើតលក្ខណៈវិនិច្ឆ័យគុណភាពសម្រាប់ទីតាំង  
ដែលអ្នកអភិវឌ្ឍន៍នាពេលអនាគតត្រូវតែបំពេញតាមទម្រង់ណា  
ក៏ដោយ។

ប្រើទីតាំងនេះដើម្បីបង្កើតលក្ខណៈវិនិច្ឆ័យគុណភាពសម្រាប់អ្នក  
អភិវឌ្ឍន៍នាពេលអនាគត៖

- ការរួមបញ្ចូលជាជាងការបែងចែក
- ផ្តល់ភាគរយនៃលំនៅដ្ឋានសង្គម
- ផ្តល់ភាគរយនៃធម្មជាតិបៃតង
- គ្មានបុរីបិទជិត ធំជាងមួយប្លុក
- អនុញ្ញាតការឆ្លងកាត់
- ផ្តល់កន្លែងកំសាន្តដល់អ្នកគ្រប់គ្នា

## PILOT AREA តំបន់សាកល្បង

Instead of waiting for any other plan to be given, the  
district authority Chbar Ampov wants to get pro-  
active and is interested to establish binding quality  
criteria for the site, which every future developer  
has to fulfill, in which ever form.

Use this site to develop quality criteria for future  
developers:

- Integration rather than separation
- Provide a percentage of social housing
- Provide a percentage of green
- No closed borey bigger than one block
- Allow through traffic
- Provide recreation areas for every one



# សិក្ខាសាលានៅសាលាឧត្តម្យាន់អំពៅ – WORKSHOP AT KHAN OFFICE CHBAR AMPOV

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# ជំនួបជាមួយនឹងក្រសួងដែនដី – MEETING MINISTRY OF LAND MANAGEMENT, URBAN PLANNING & CONSTRUCTION (MLMUPC)

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„យើងបានឃើញក្រុមគំរោងរបស់អ្នកមានជំនាញ និងពហុជំនាញប៉ុណ្ណា។ វាមិនទាន់ជាស្ថានភាពរបស់យើង សូម្បីថ្នាក់ជាតិក៏ដោយ ប៉ុន្តែយើងសង្ឃឹមថានឹងយល់ពីវាឆាប់ៗ” បណ្ឌិត យ៉ាន វ៉ាន់ឌីលុច ផ្នែកសាងសង់នៅ អ៊ឹម អិល អ៊ឹម យូ ភី ស៊ី

„We see how strong and multi-disciplinary your project team is. This not yet our situation, even not at the national level, but we hope to catch up soon“!  
Dr. Yan Vandeluxe (Department of Construction at MLMUPC)



ជំនួបជាមួយនឹងក្រសួងដែនដី – MEETING MINISTRY OF LAND MANAGEMENT, URBAN PLANNING & CONSTRUCTION (MLMUPC)

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**„តំបន់បៃតងគឺជាតំបន់ដែលមានតម្រូវការចាំបាច់ ប៉ុន្តែពិបាកសម្រេចបាន ដោយសារតម្លៃដីខ្ពស់ពេក។ ន្តែការដោះស្រាយបញ្ហាដឹកជញ្ជូនដែលមានការកកស្ទះចរាចរណ៍ខ្លាំងគឺជាបញ្ហាចម្បង! លោកបណ្ឌិត ដុក ដូម៉ា អគ្គនាយករងនៃលំនៅដ្ឋាន អ៊ឹម អិល អ៊ឹម យូ ភី ស៊ី “**  
*“Green spaces are strongly needed, but difficult to achieve due too high land prices. But also solving transport problems with enormous traffic jams is major issue!”*  
*Dr. Dok Doma (Deputy Director General of Housing, MLMUPC)*





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**តើយើងធ្វើអ្វីខ្លះ  
ដើម្បីដោះស្រាយបញ្ហានេះ?**  
WHAT ARE WE DOING ABOUT IT?

**១. បេសកកម្មរបស់នាយកដ្ឋានជីវចម្រុះ**  
1. Mission of Department of Biodiversity

បេសកកម្មនៃនាយកដ្ឋានជីវចម្រុះ គឺធានាថាមានការគ្រប់គ្រង រក្សា និងប្រើប្រាស់ធនធានជីវចម្រុះ ប្រកបដោយសុវត្ថិភាព និងសង្គមដែលមានស្ថិរភាពសម្រាប់ការអភិវឌ្ឍន៍ដោយចីរភាពជាប្រយោជន៍។

១. ការរៀបចំ និងអនុវត្តនយោបាយ គោលនយោបាយ និងកម្មវិធីស្របច្បាប់  
នៃការគ្រប់គ្រងធនធានជីវចម្រុះ ប្រកបដោយសុវត្ថិភាព និងសង្គមដែលមានស្ថិរភាព  
សម្រាប់ការអភិវឌ្ឍន៍ដោយចីរភាព។

២. ការស្រាវជ្រាវ និងការប្រើប្រាស់ធនធានជីវចម្រុះ  
សម្រាប់ការអភិវឌ្ឍន៍ដោយចីរភាព។

៣. ការបង្កើត និងគ្រប់គ្រងប្រព័ន្ធគ្រប់គ្រងធនធានជីវចម្រុះជាតិ។

The Department of Biodiversity's mission is to ensure management of biological resources, ecosystems and biosafety for sustainable development via

1. Developing and implementing policies, legal instruments, plans, strategies, action plans, programs and projects.
2. Developing facilitation mechanism and mobilizing resources.
3. Conducting research and building capacity, and
4. Creating and managing a national biodiversity database system.

**នាយកដ្ឋាន  
ជីវចម្រុះ**

DEPARTMENT OF  
**BIO  
DIVERSITY**

**២. ភារកិច្ចចម្បងៗ**

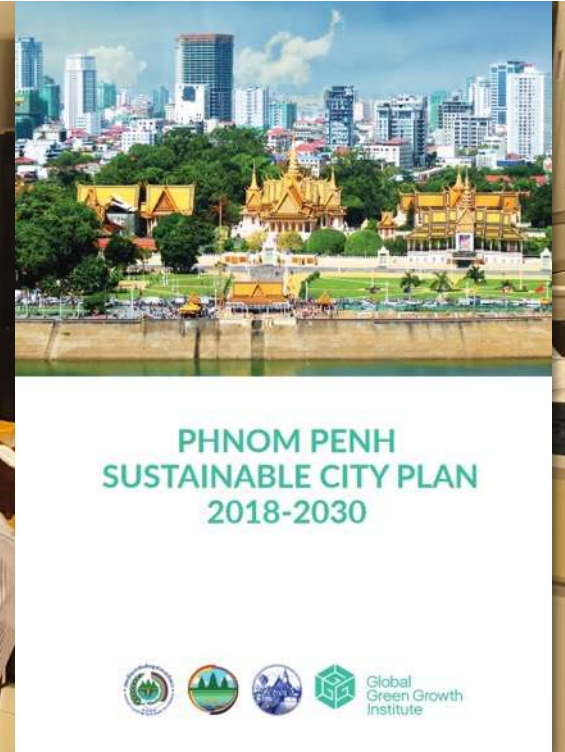
**ប្រភេទសំខាន់ៗ និងប្រព័ន្ធអេកូឡូស៊ីនៅកម្ពុជា**  
**Key species and ecosystems in Cambodia**

ប្រភេទ និងប្រព័ន្ធអេកូឡូស៊ី  
Species and habitats

 <p><b>ក្រណាត់</b> Great Horned Owl Bubo coromanda ក្រណាត់ ក្រណាត់ ក្រណាត់ ក្រណាត់</p>	 <p><b>ស្រូវ</b> Asian Elephant Elephas maximus ស្រូវ ក្រណាត់ ស្រូវ ក្រណាត់</p>	 <p><b>ក្រណាត់</b> Asian Crocodile Crocodylus siamensis ក្រណាត់ ក្រណាត់ ក្រណាត់ ក្រណាត់</p>	 <p><b>ក្រណាត់</b> Asian Cobra Naja nigricollis ក្រណាត់ ក្រណាត់ ក្រណាត់ ក្រណាត់</p>
 <p><b>ត្រី</b> Asian Monocline Monocline elongata ត្រី ក្រណាត់ ត្រី ក្រណាត់</p>	 <p><b>ត្រី</b> Asian Monocline Monocline elongata ត្រី ក្រណាត់ ត្រី ក្រណាត់</p>	 <p><b>ក្រណាត់</b> Asian Cobra Naja nigricollis ក្រណាត់ ក្រណាត់ ក្រណាត់ ក្រណាត់</p>	 <p><b>ក្រណាត់</b> Asian Cobra Naja nigricollis ក្រណាត់ ក្រណាត់ ក្រណាត់ ក្រណាត់</p>
 <p><b>ក្រណាត់</b> Asian Monocline Monocline elongata ត្រី ក្រណាត់ ត្រី ក្រណាត់</p>	 <p><b>ក្រណាត់</b> Asian Monocline Monocline elongata ត្រី ក្រណាត់ ត្រី ក្រណាត់</p>	 <p><b>ក្រណាត់</b> Asian Cobra Naja nigricollis ក្រណាត់ ក្រណាត់ ក្រណាត់ ក្រណាត់</p>	 <p><b>ក្រណាត់</b> Asian Cobra Naja nigricollis ក្រណាត់ ក្រណាត់ ក្រណាត់ ក្រណាត់</p>
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**យើងកំពុងធ្វើការលើការអនុវត្ត "ផែនការមេទីក្រុងប្រកបដោយនិរន្តរភាព។ ទាក់ទងនឹងបុរីយើងគិតថានិយមន័យស្តង់ដារបៃតងសម្រាប់បុរីនឹងមានសារៈសំខាន់បំផុត។" លោក ណាប សុខាត នាយករងក្រសួងបរិស្ថាន**

*We are working at the application of a „Sustainable City Masterplan“. With regards to boreys, we think that the definition of green standards for boreys would be most important!" Mr Sokai Nop (Deputy Director, Ministry of Environment MOE)*



ជំនួបជាមួយនឹងថ្នាក់ដឹកនាំនៃរដ្ឋបាលសាលាក្រុងភ្នំពេញ – MEETING CHIEF OF STAFF AT PPCH



„បញ្ហាប្រឈមដ៏ធំបំផុតនៅក្នុងទីក្រុងស្ទើរតែមិនអាចគ្រប់គ្រងបានគឺ របៀបភ្ជាប់រវាងទៅក្រុងថ្មី  
ជាមួយទីក្រុងចាស់!“ វណ្ណៈសេង(លេខាធិការ នៃផ្នែករដ្ឋបាលរាជធានីភ្នំពេញ ភីភីស៊ីអេ)  
„The biggest challenge in a nearly uncontrollable urbanism is, how to connect a new city with the old?“  
Vannak Seng (Chief of Staff, Phnom Penh Capital Hall PPCH)





„ក្តីស្រមៃរបស់ខ្ញុំគឺចង់កែលម្អលំនៅបែបប្រពៃណីដែលមានស្រាប់ ហើយនាំពួកគេទៅនៅកម្រិតខ្ពស់ ដើម្បីអោយបុរីដែលនៅក្បែរ នោះ បើកទ្វារ និងភ្ជាប់ទំនាក់ទំនងជាមួយពួកគេ!“ វណ្ណៈសេង (លេខាធិការ នៃផ្នែករដ្ឋបាលរាជធានីភ្នំពេញ ភីភីស៊ីអេ)

„My dream is to improve the existing traditional settlements and bring them on to a higher level so that the neighbouring boreys will accept to open gates and connect up with them!“

Vannak Seng (Chief of Staff, Phnom Penh Capital Hall PPCH)



Build4People team work with local students



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Build4People team work with local students



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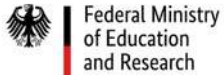




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Build4People team work with local students



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1. ការចាប់ផ្តើមសន្និសីទ

OPENING CONFERENCE

2. ដំណើរនៃការសហការ

COLLABORATION PROCESS

3. ការចុះវិភាគទីន្ទុយ

SITE ANALYSIS

4. ផែនការចក្ខុវិស័យ

STRATEGIC VISION

5. ដំណើរឆ្ពោះទៅមុខរបស់ផែនការធំ

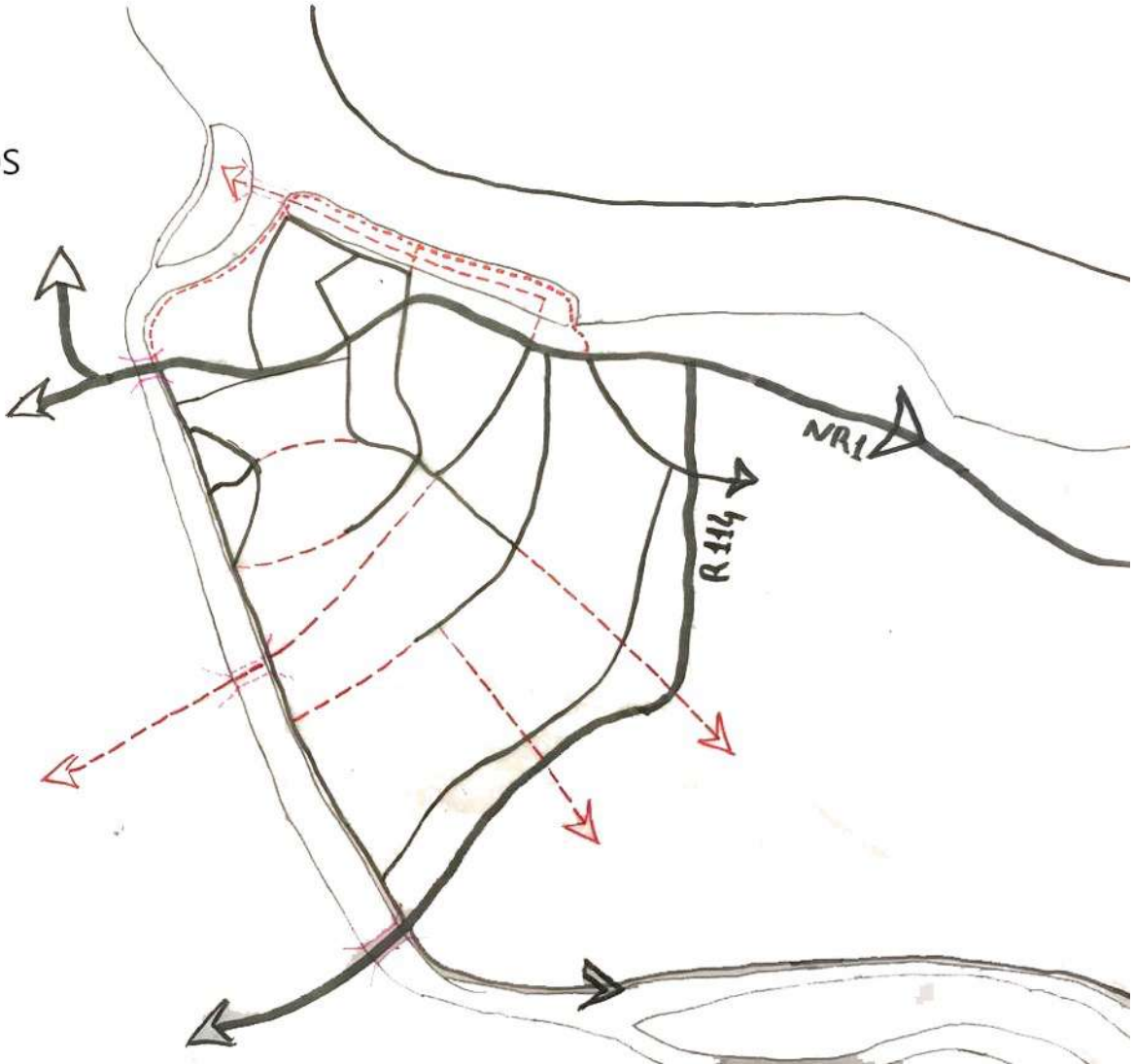
WAY FORWARD





LEGEND

- EXISTING ROADS
- PROPOSAL ROADS
- BRIDGE







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ផ្លូវថ្មីរើងជាប់ត្រាំងទន្លេ -

Pedestrian at Riverside

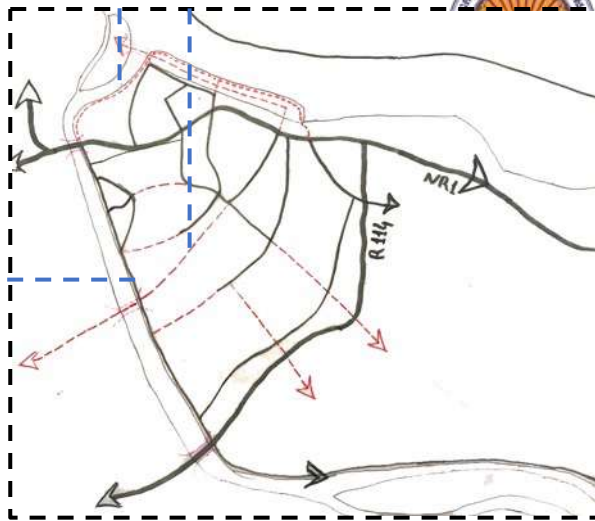


ផ្លូវរង - Sub-Road

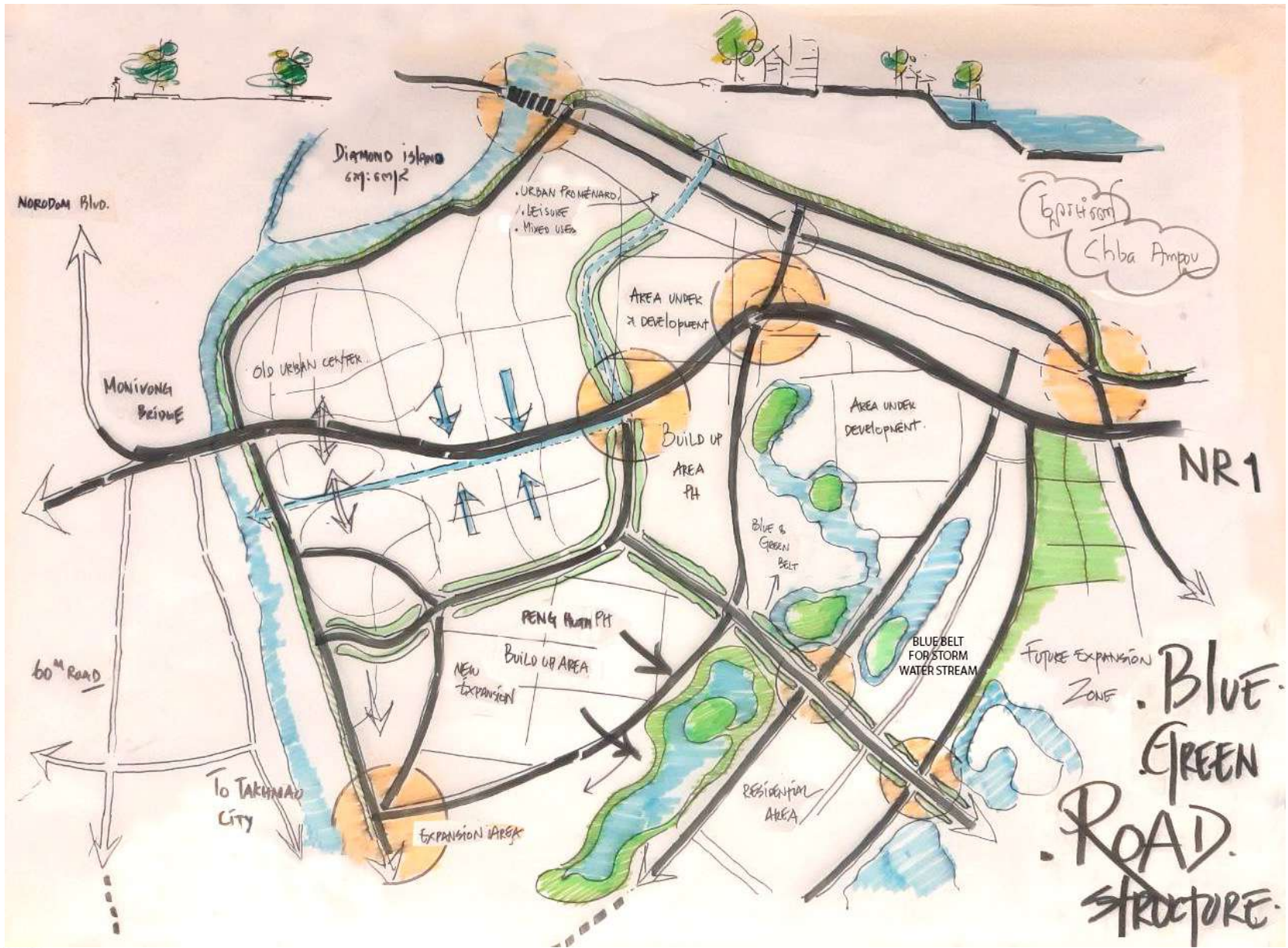


ផ្លូវជាប់ត្រាំងទន្លេ-

Road next to the river











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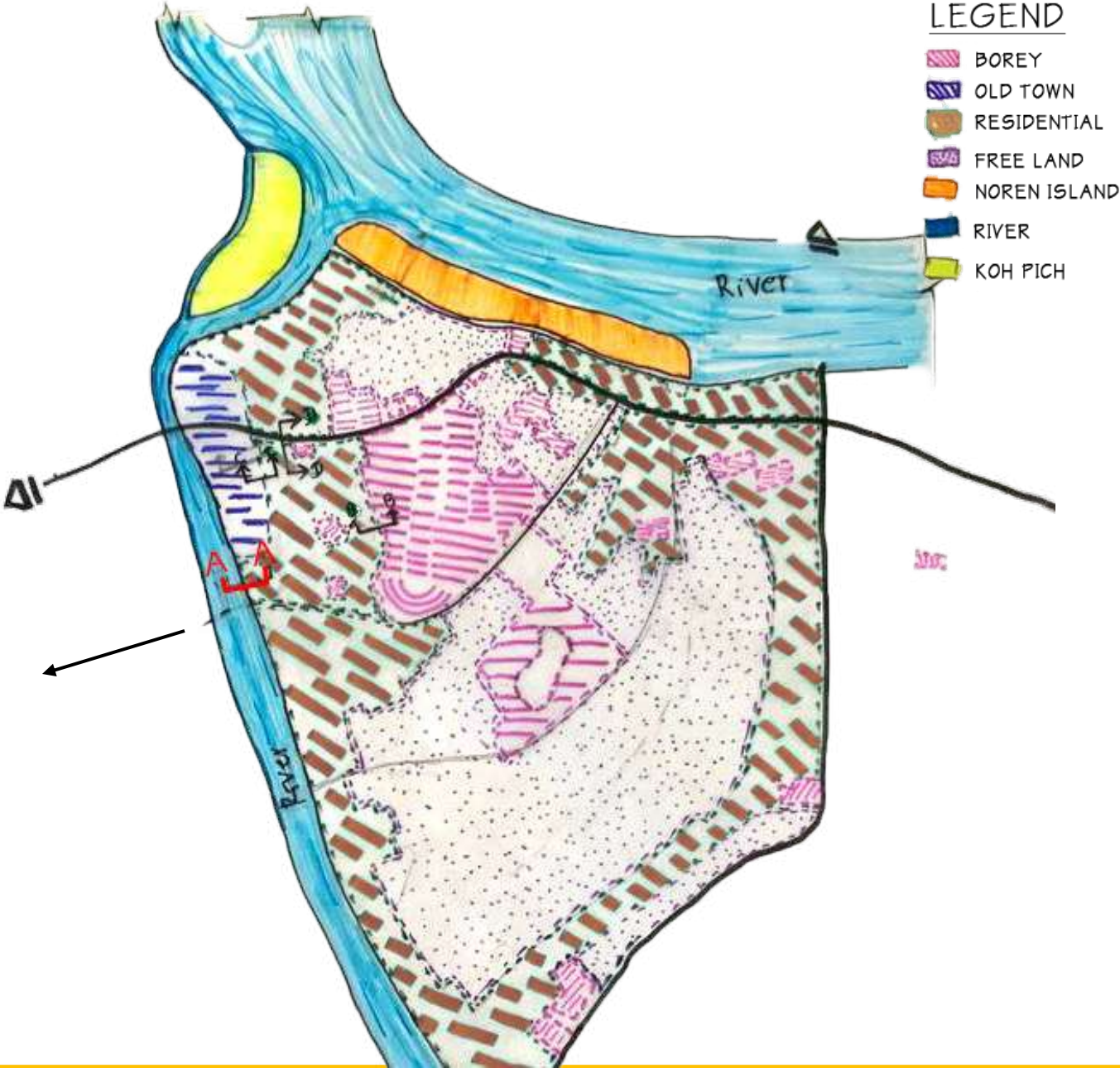
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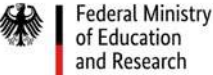


# ការវិភាគទិន្នន័យនៃការប្រើប្រាស់ដី – TYPOLOGIES ANALYSIS

ទីតាំងដែលមានស្រាប់ – SITE EXISTING



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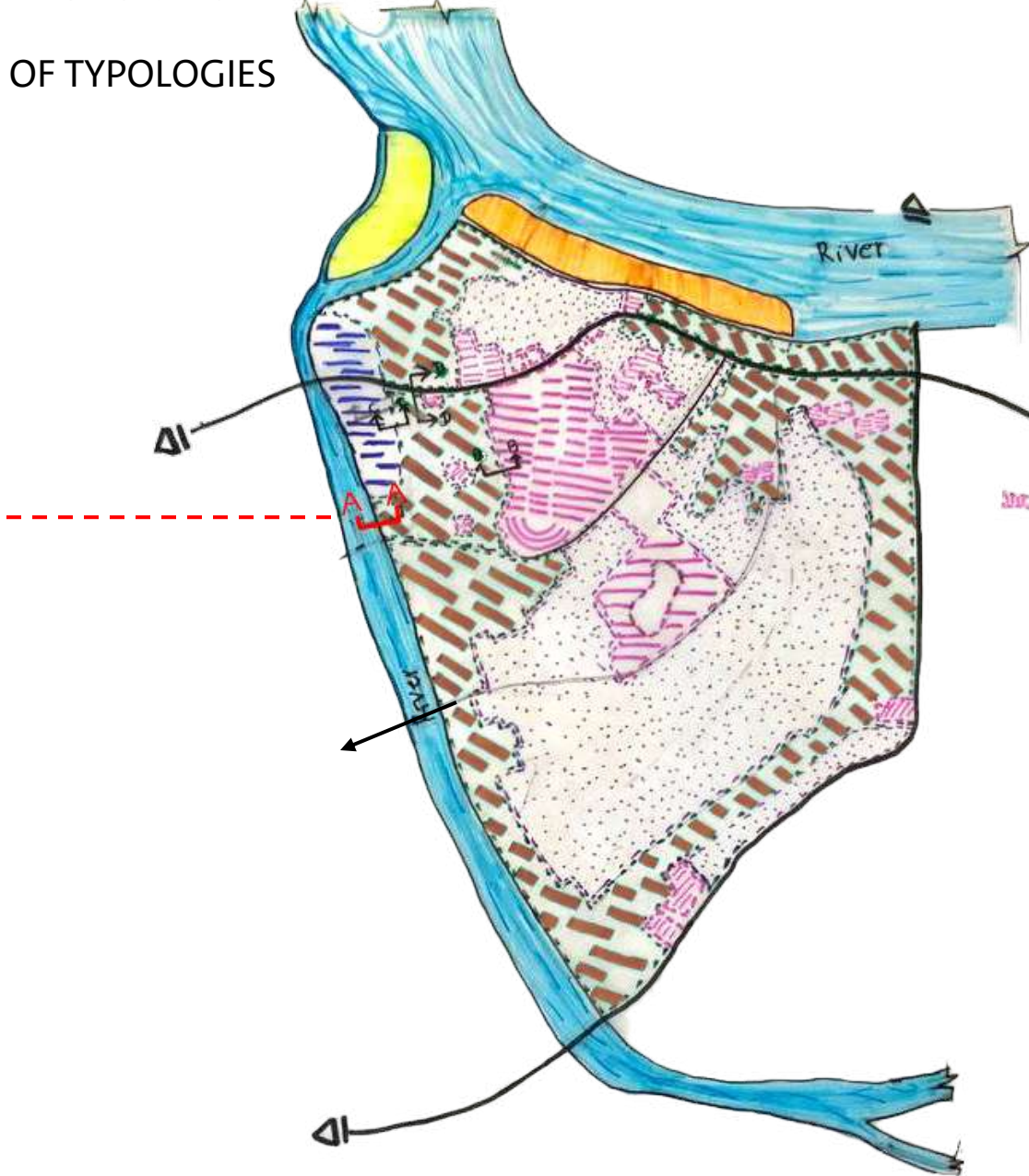
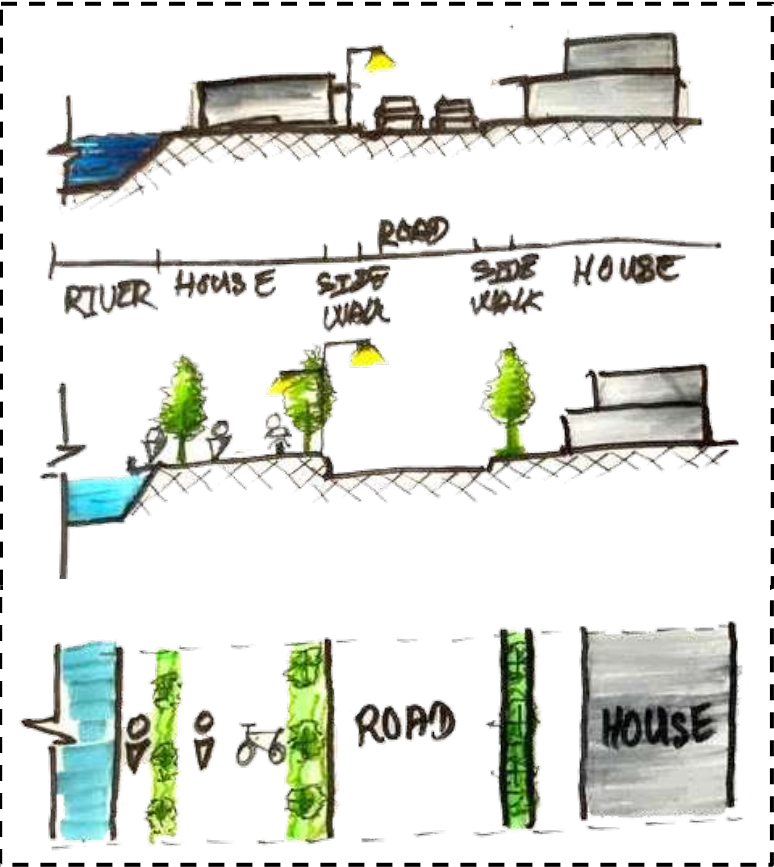




# ការវិភាគទិន្នន័យនៃការប្រើប្រាស់ដី – TYPOLOGIES ANALYSIS

## ការតភ្ជាប់តំបន់ប្រើប្រាស់ដី– CONNECTION OF TYPOLOGIES

ប្លង់៖ A-A– SECTION A-A



- LEGEND**
- BOREY
  - OLD TOWN
  - RESIDENTIAL
  - FREE LAND
  - NOREN ISLAND
  - RIVER
  - KOH PICH

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PARASASTRA UNIVERSITY

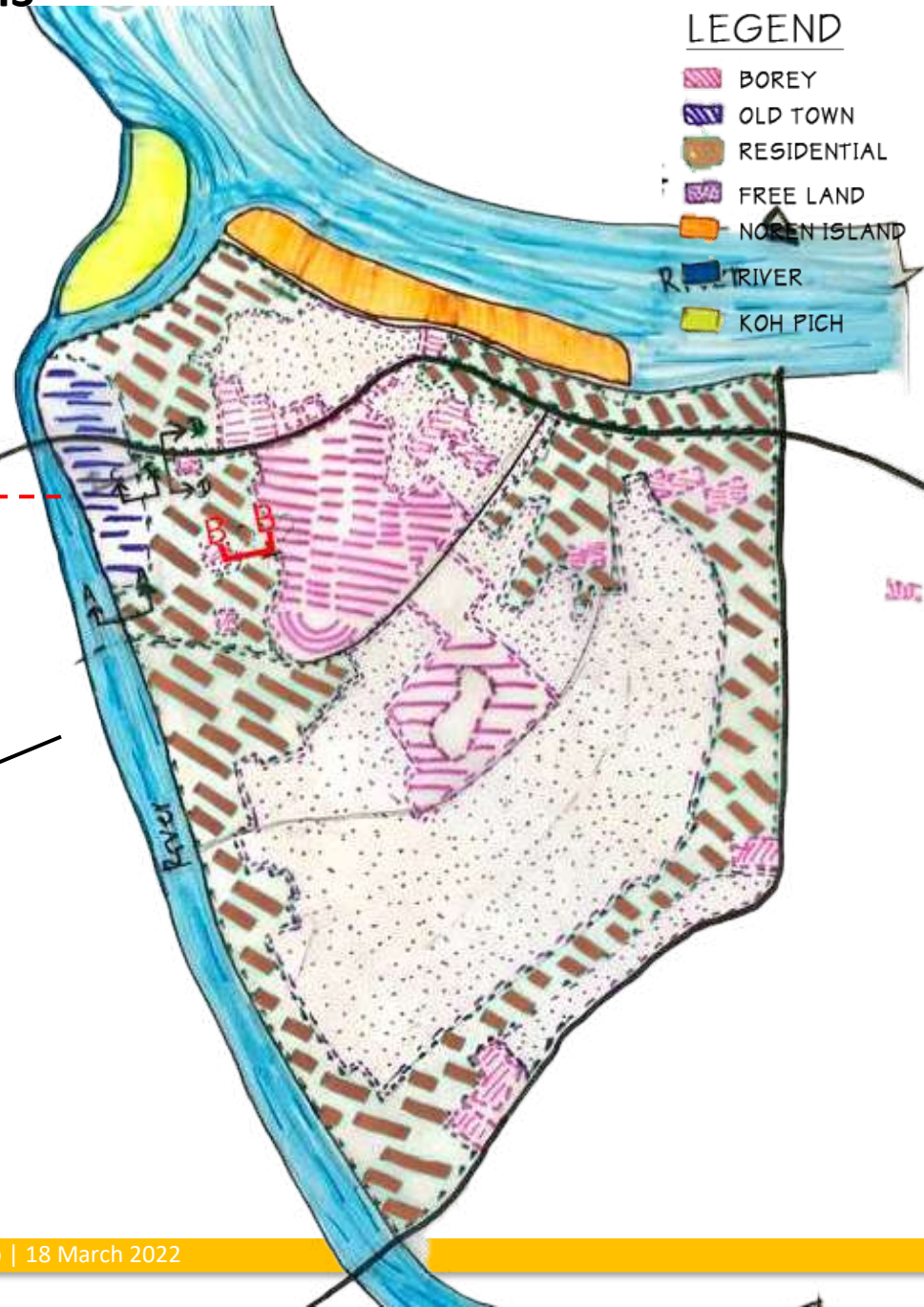
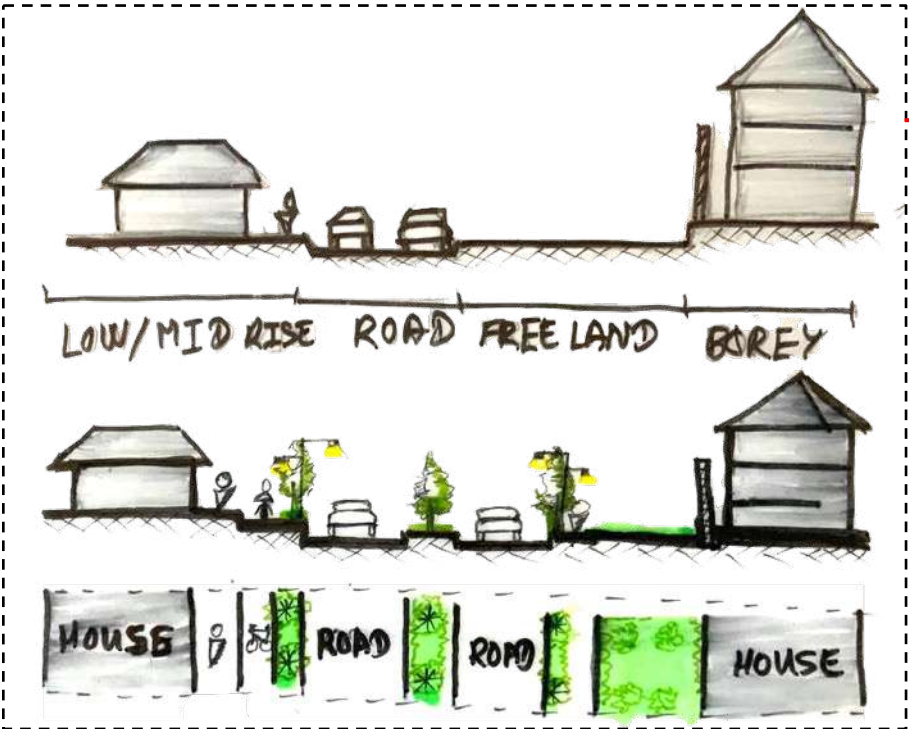
Build4People ECOCITY TRANSITION LAB



# ការវិភាគទិន្នន័យនៃការប្រើប្រាស់ដី – TYPOLOGIES ANALYSIS

## ការតភ្ជាប់តំបន់ប្រើប្រាស់ដី– CONNECTION OF TYPOLOGIES

ប្លង់៖ B-B– SECTION B-B

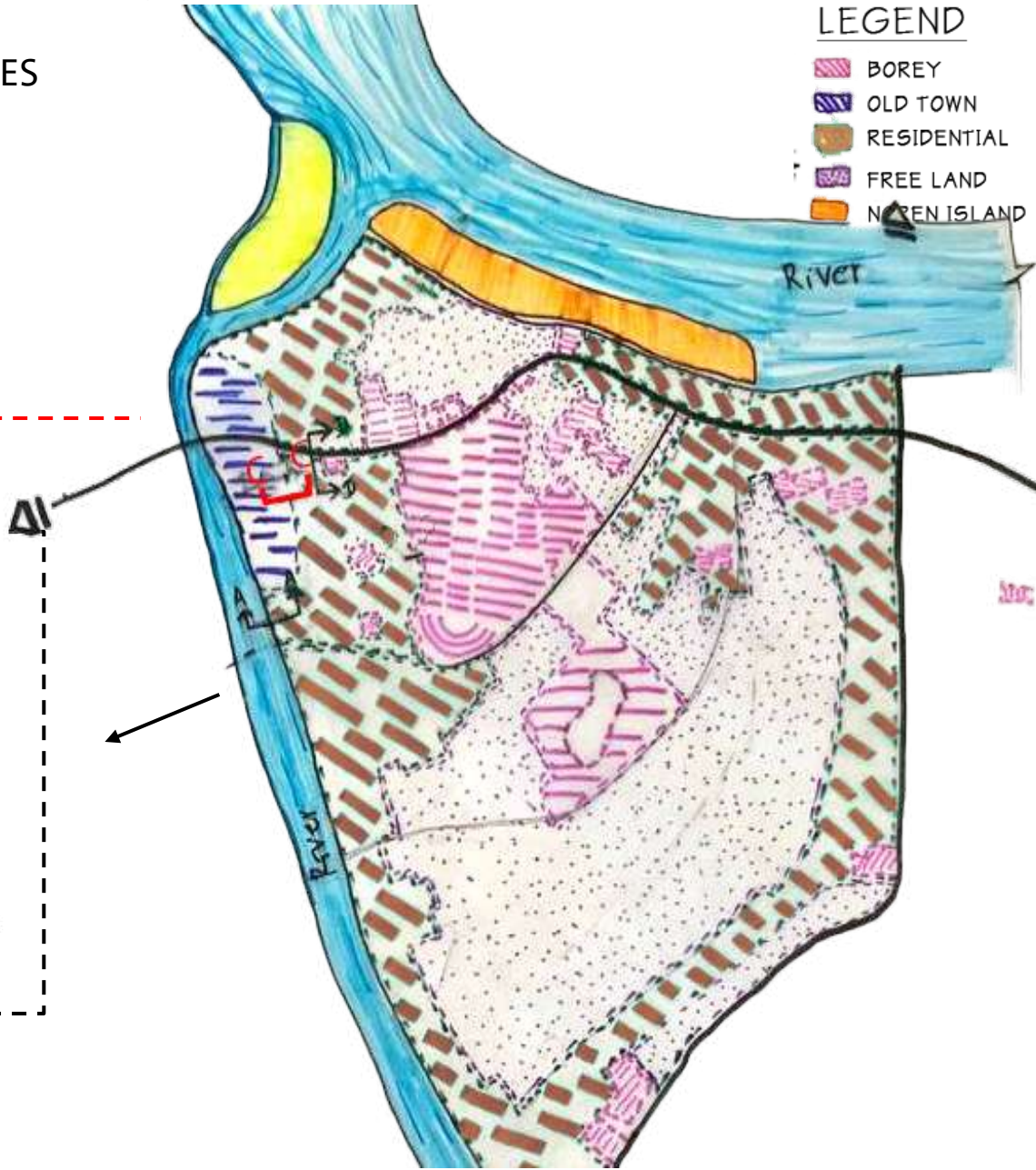
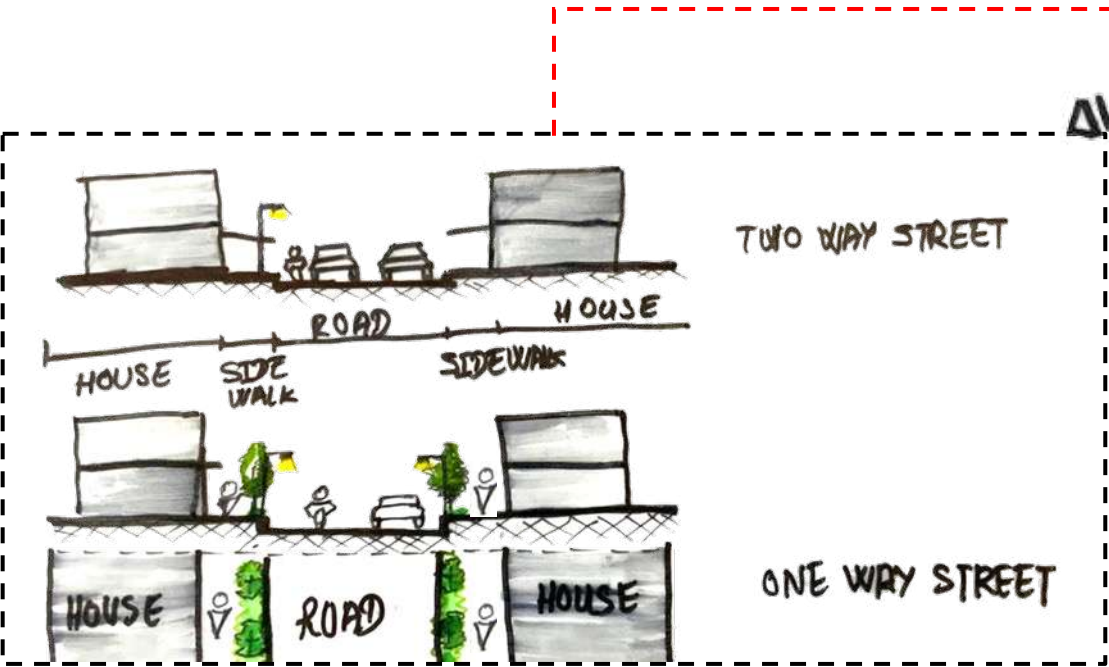




# ការវិភាគទិន្នន័យនៃការប្រើប្រាស់ដី – TYPOLOGIES ANALYSIS

## ការតភ្ជាប់តំបន់ប្រើប្រាស់ដី– CONNECTION OF TYPOLOGIES

ប្លង់៖ C-C– SECTION C-C



### LEGEND

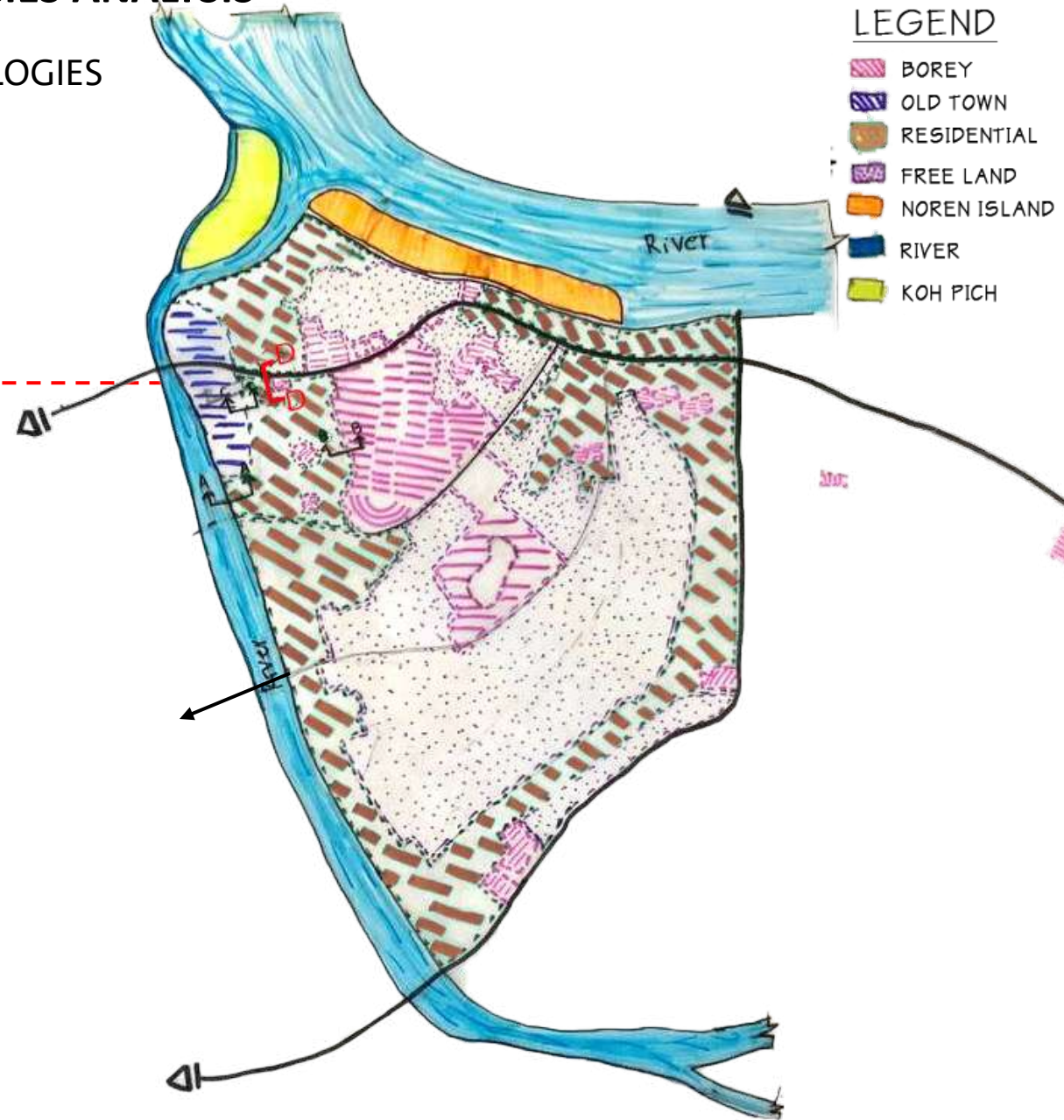
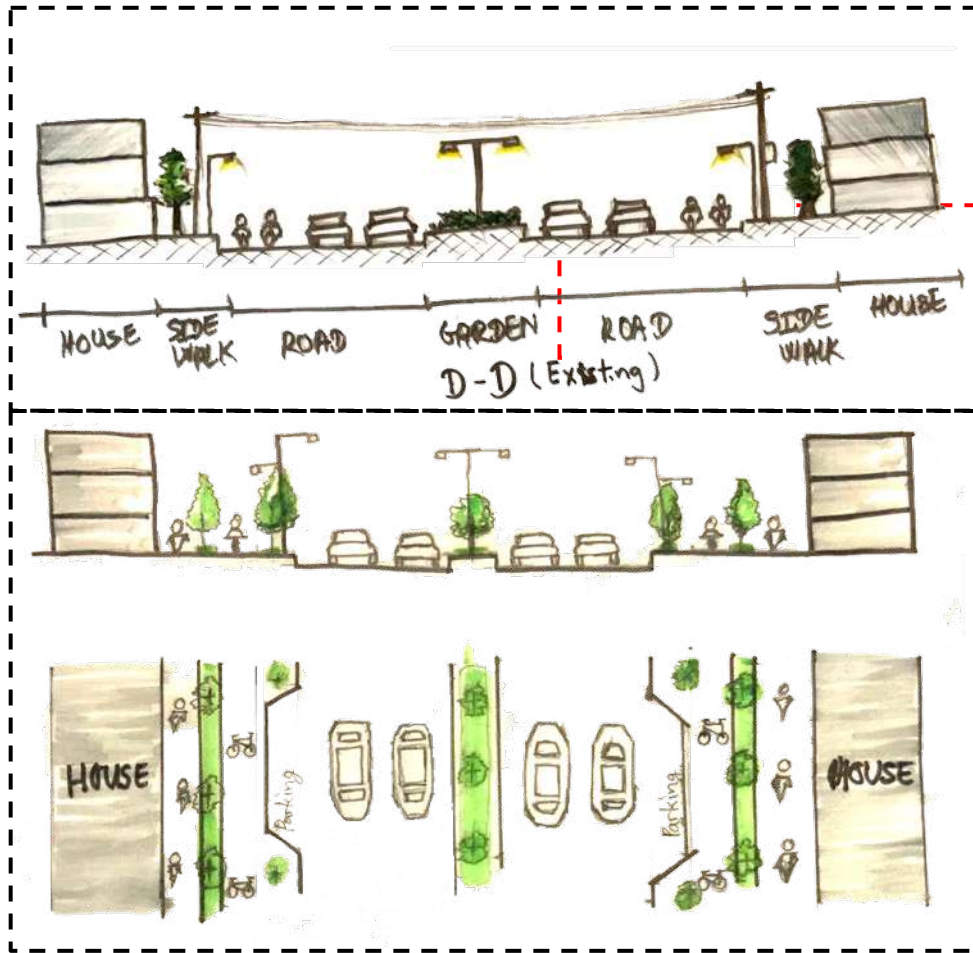
- BOREY
- OLD TOWN
- RESIDENTIAL
- FREE LAND
- NORTH ISLAND



# ការវិភាគទិន្នន័យនៃការប្រើប្រាស់ដី – TYPOLOGIES ANALYSIS

## ការតភ្ជាប់តំបន់ប្រើប្រាស់ដី– CONNECTION OF TYPOLOGIES

ប្លង់ព្យៈ D-D – SECTION D-D



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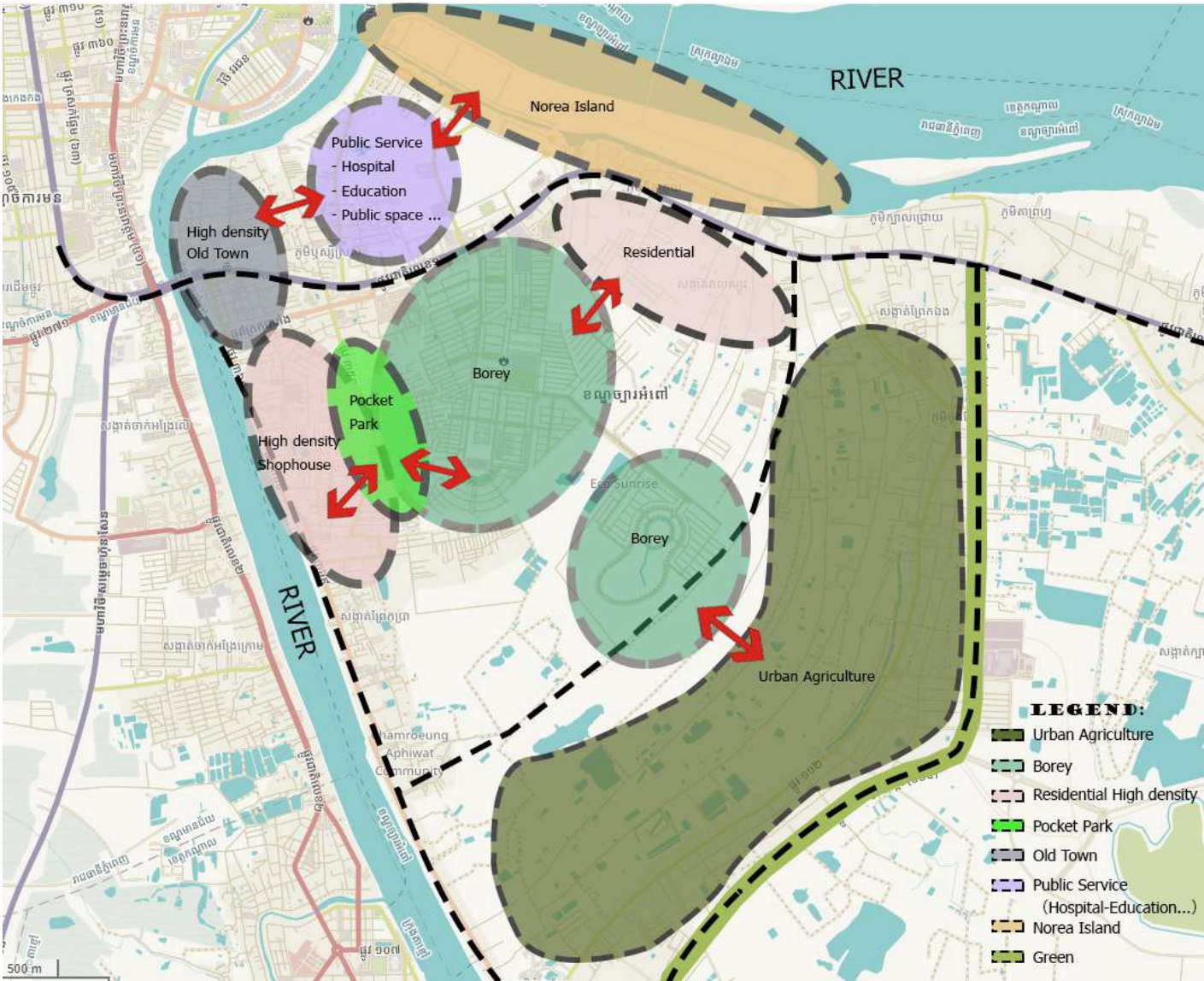
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# ការវិភាគទិន្នន័យនៃការប្រើប្រាស់ដី – TYPOLOGIES ANALYSIS

## គោលគំនិតបង្កើតថ្មី– CONCEPT PROPOSAL



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# សំណង់ដែលបម្រើសេវាកម្មសាធារណៈ – Social Infrastructure – Centre System

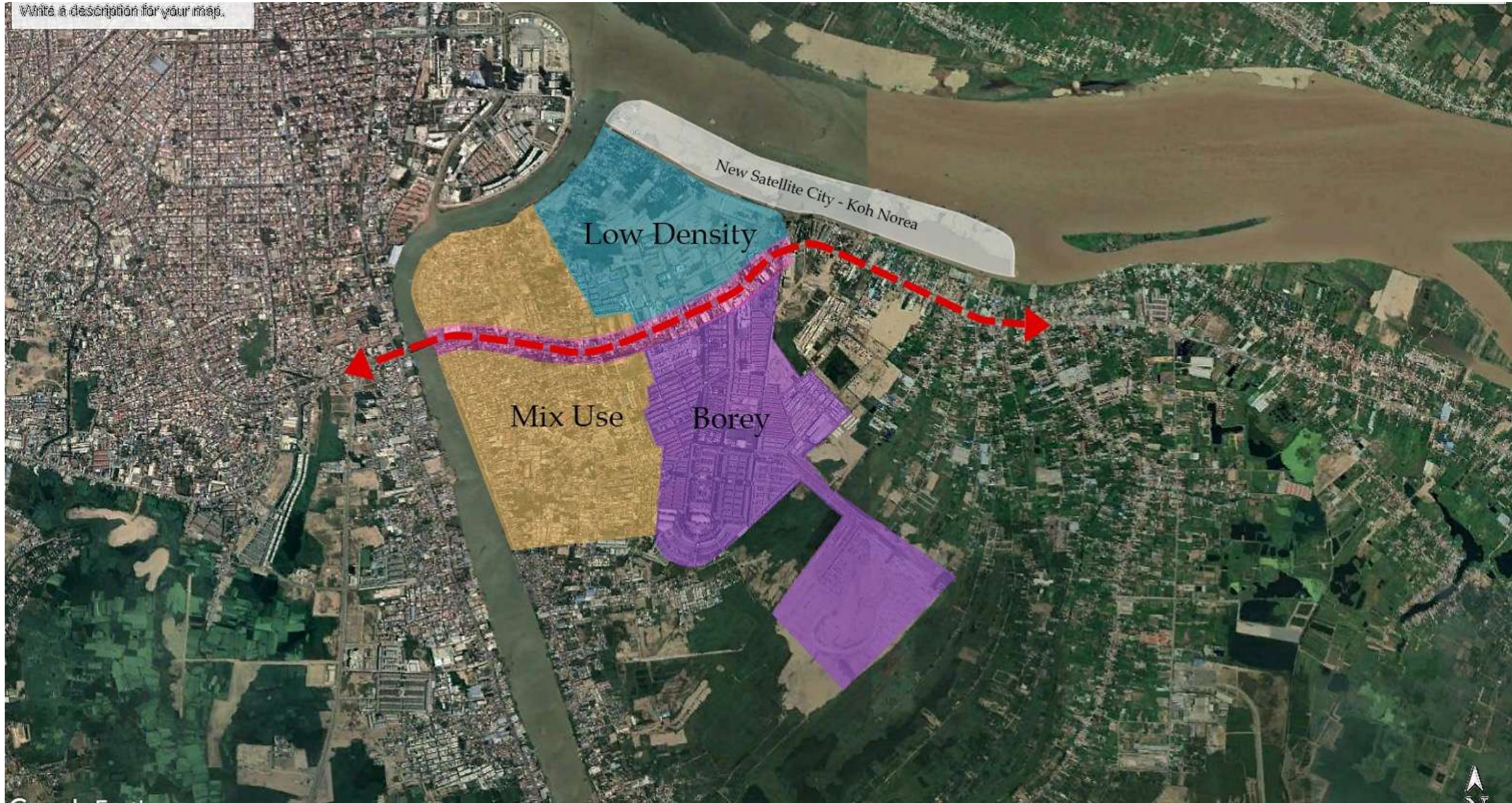
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# ការវិភាគទិន្នន័យដោយសិស្សានុសិស្ស – STUDENT ANALYSIS

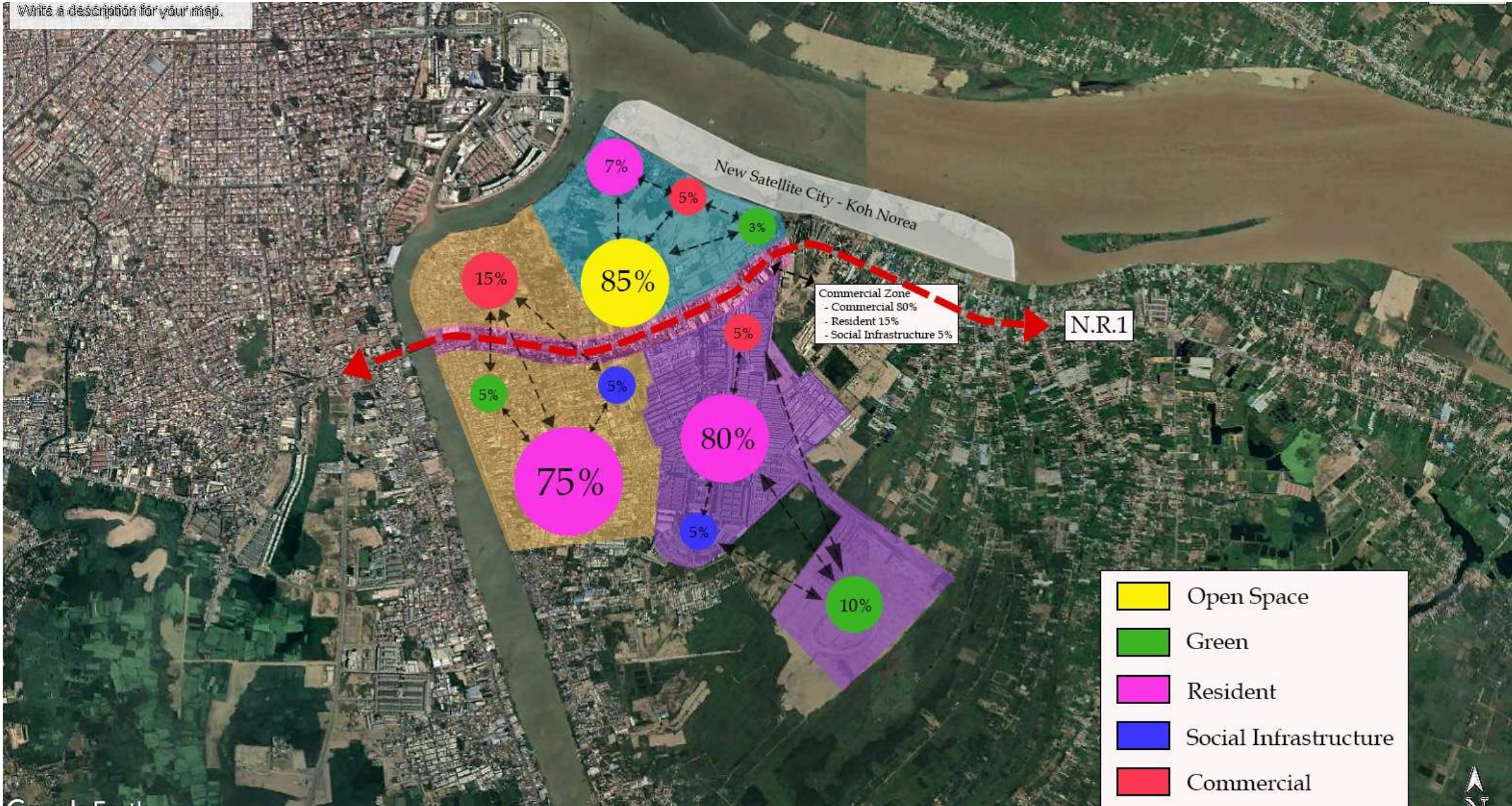
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គោលគំនិតបង្កើតថ្មីដោយសិស្សានុសិស្ស – STUDENT’S CONCEPT PROPOSAL

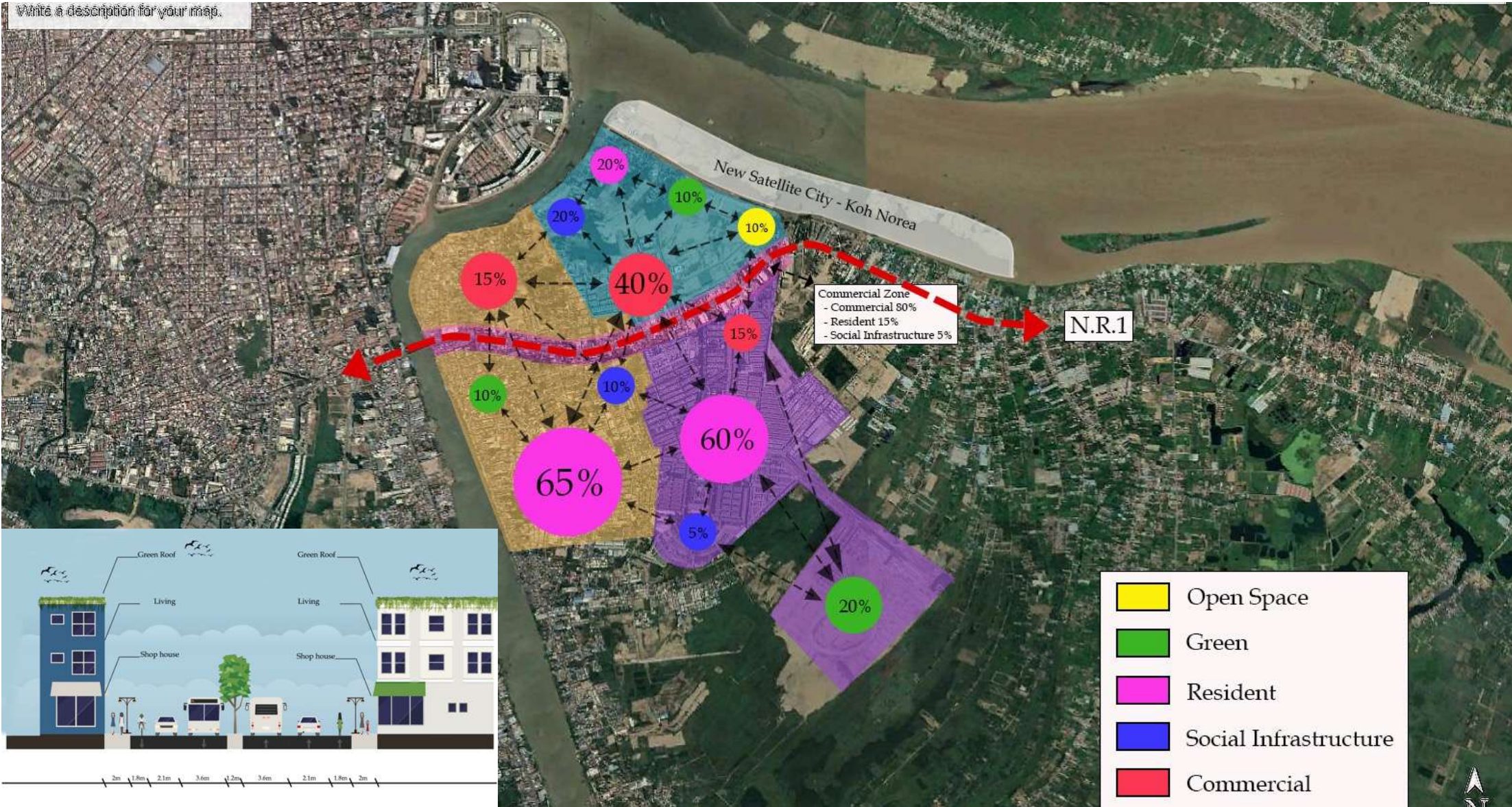
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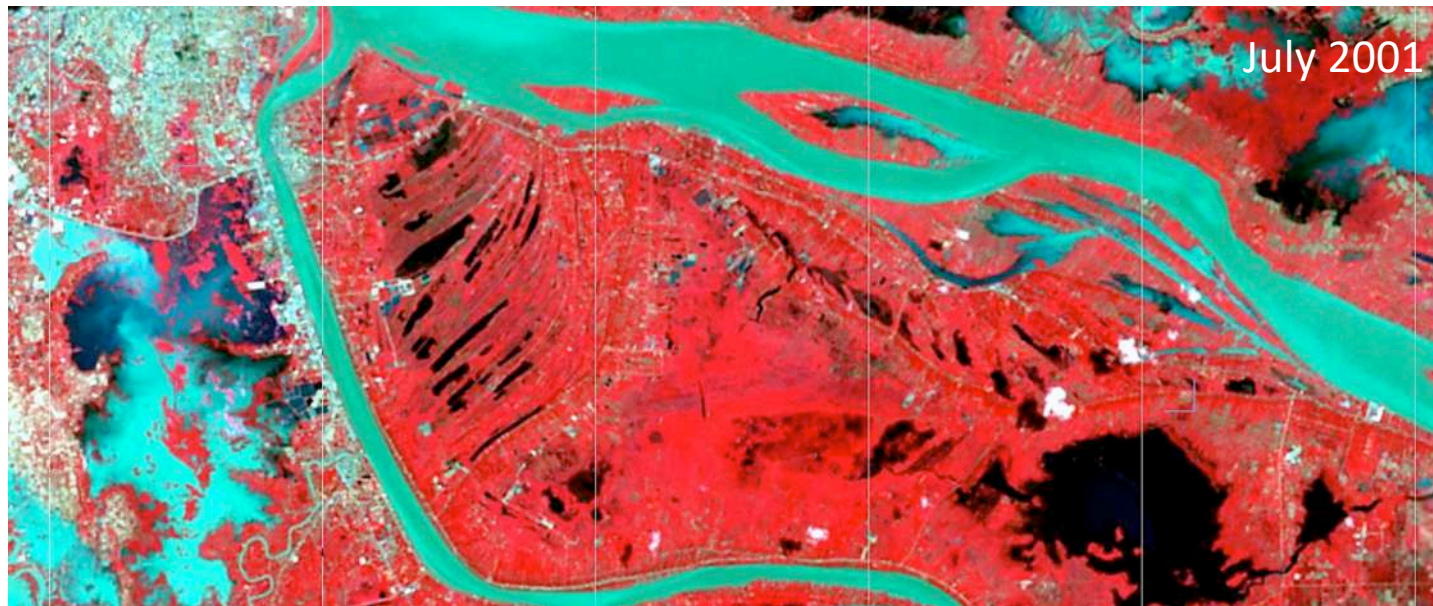


Write a description for your map.





# URBAN GREEN: LAND COVER OVERVIEW 2021 - 2001



Red colours indicate vegetated surfaces, bluish-greyish colours indicate sealed surfaces or build-up area and blue-green represents water

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# URBAN GREEN: LAND COVER OVERVIEW OF OF FEBRUARY 2022

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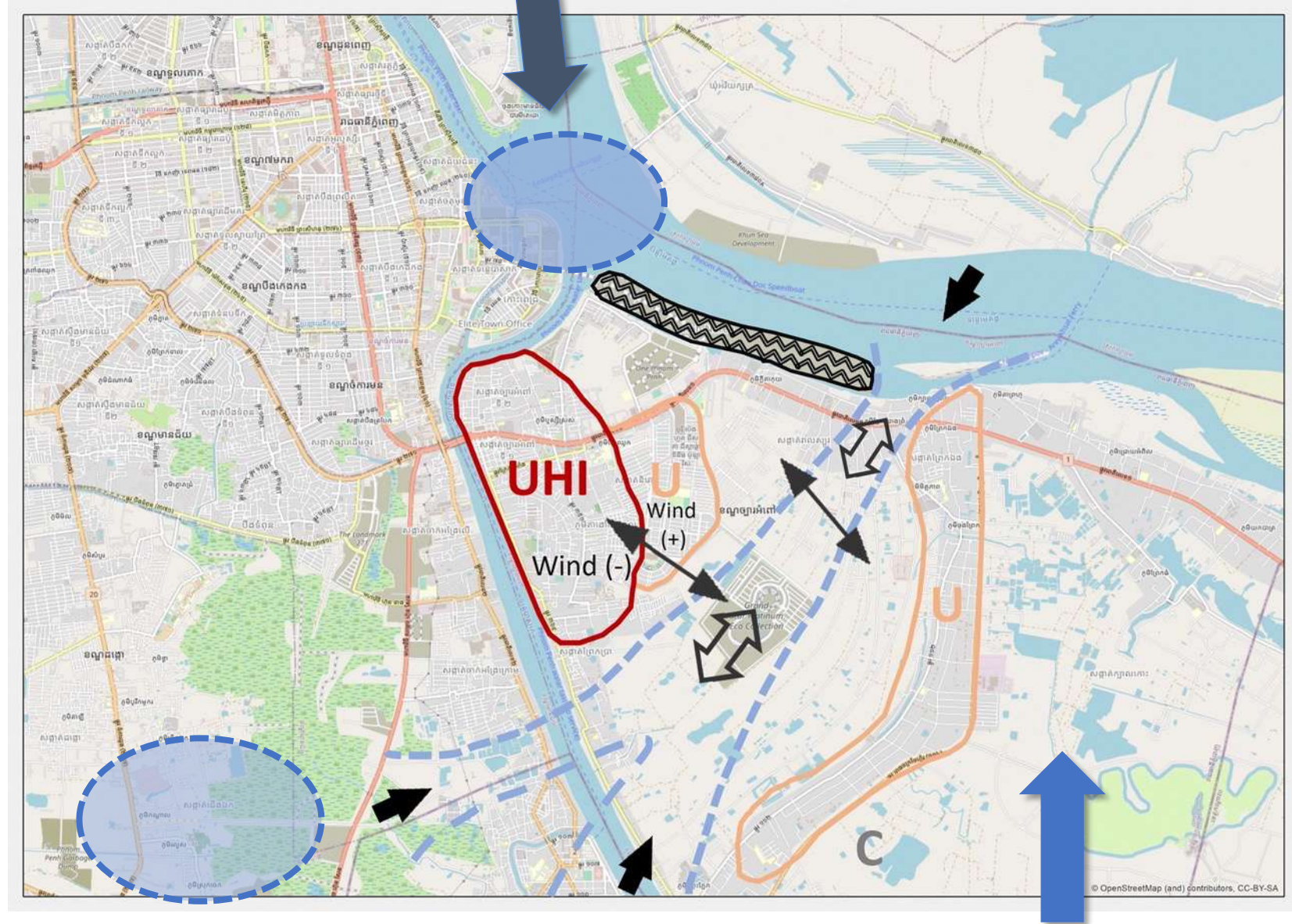
The legend colour-ramp indicates the land cover vegetation density per pixel from 0.0 to 1.0





# URBAN CLIMATE MAP

## Heat Island, Fresh Air Production Zones and Air Paths



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5. ដំណើរឆ្ពោះទៅមុខរបស់ផែនការធំ

WAY FORWARD



# SITE SELECTION WITHIN CHBAR AMPOV



**Infill Development:**  
Incubator for a  
functional, spational and  
sustainable upgrade of  
Chbar Ampov

**Strategies for  
City Edge Development in  
ETCL 2020**

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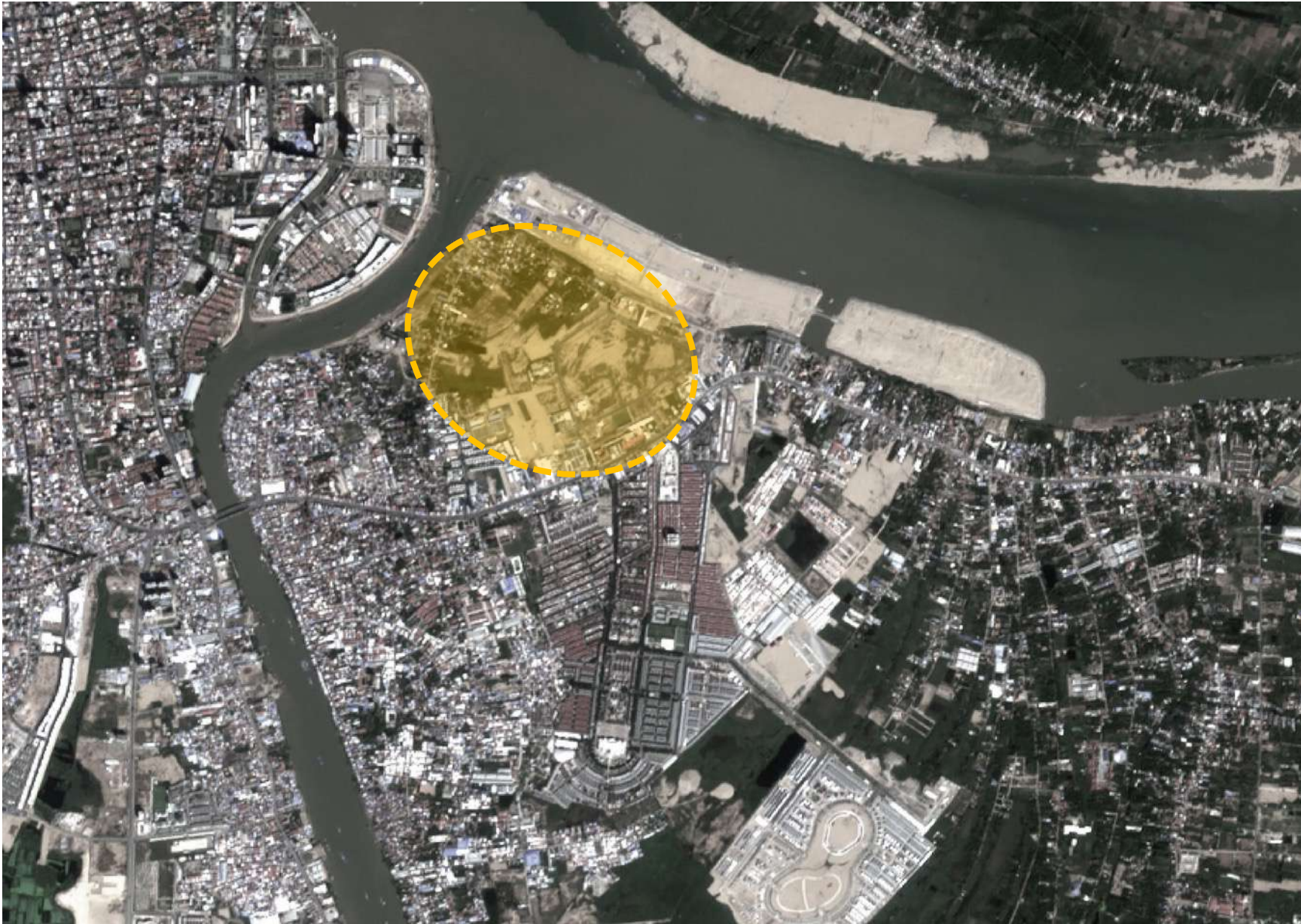


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# SITE SELECTION WITHIN CHBAR AMPOV



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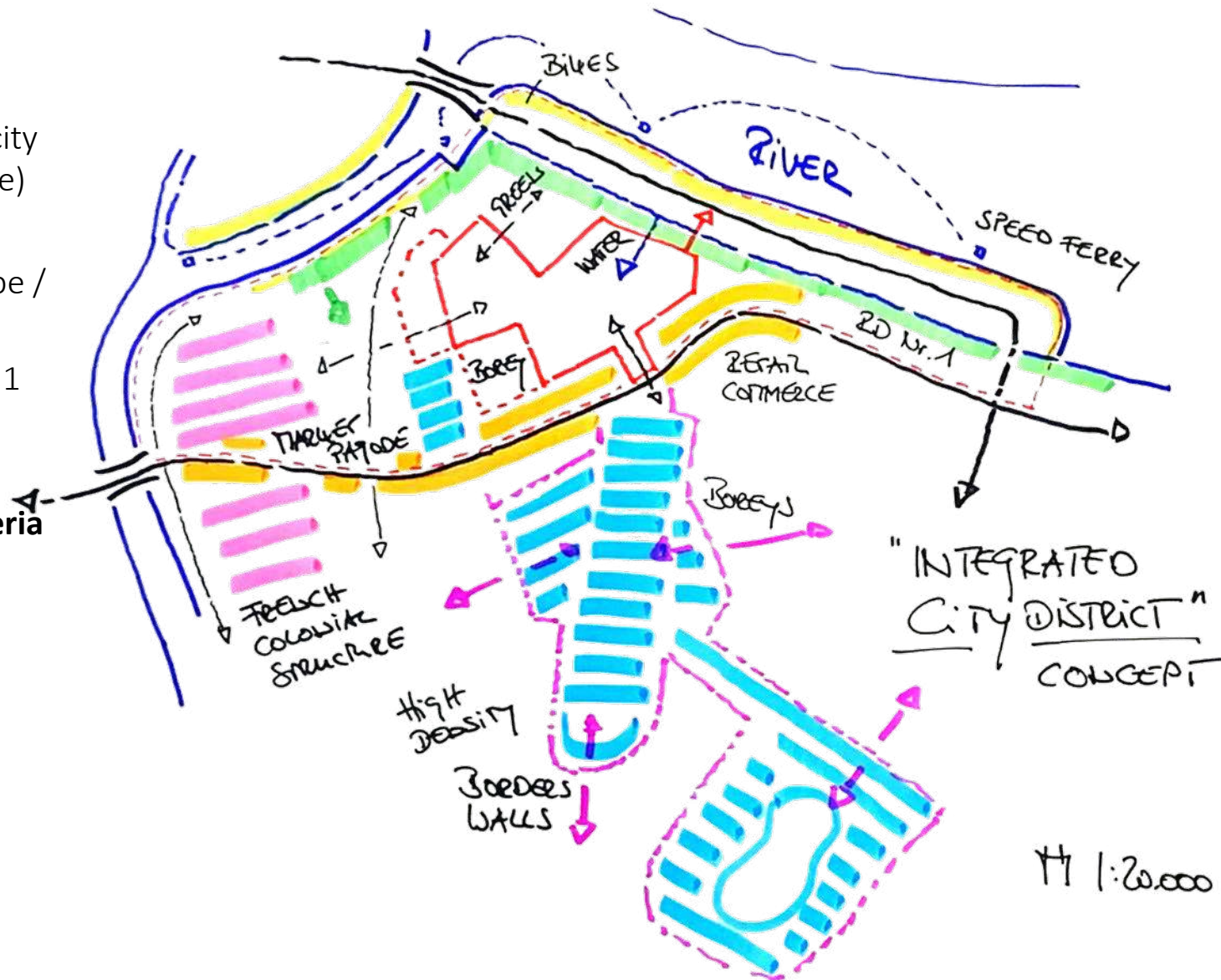
# INTEGRATED CITY DISTRICT WITH NEW CONNECTIONS

## Interfaces between:

- New Development + historic city structure (French colonial style)
- New Development + Boreys
- New Development + Landscape / Water (Channel / River)
- New Development + Road Nr. 1 (Retail and Commercial)

## Development of guidelines, criteria and minimum requirements for developments:

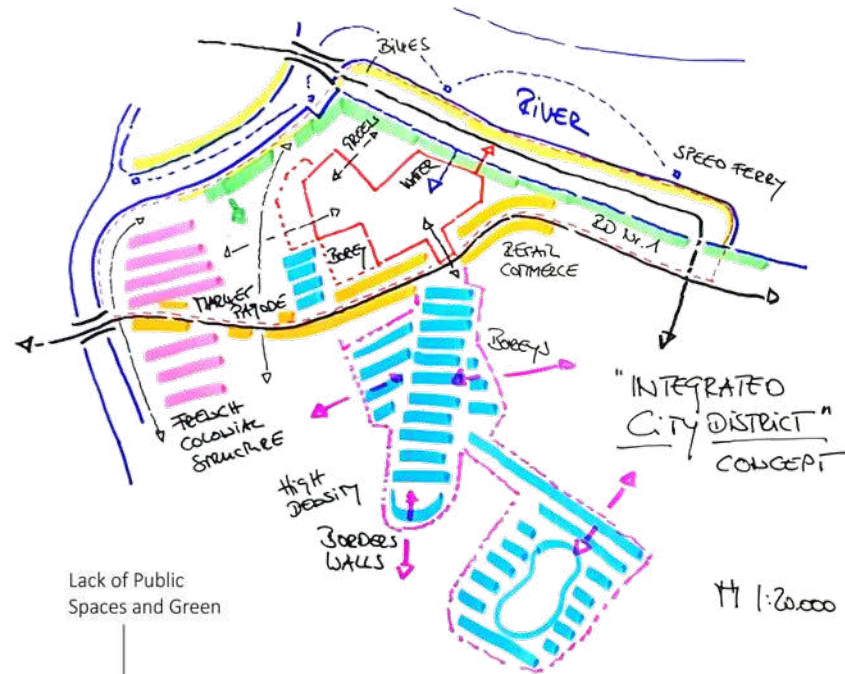
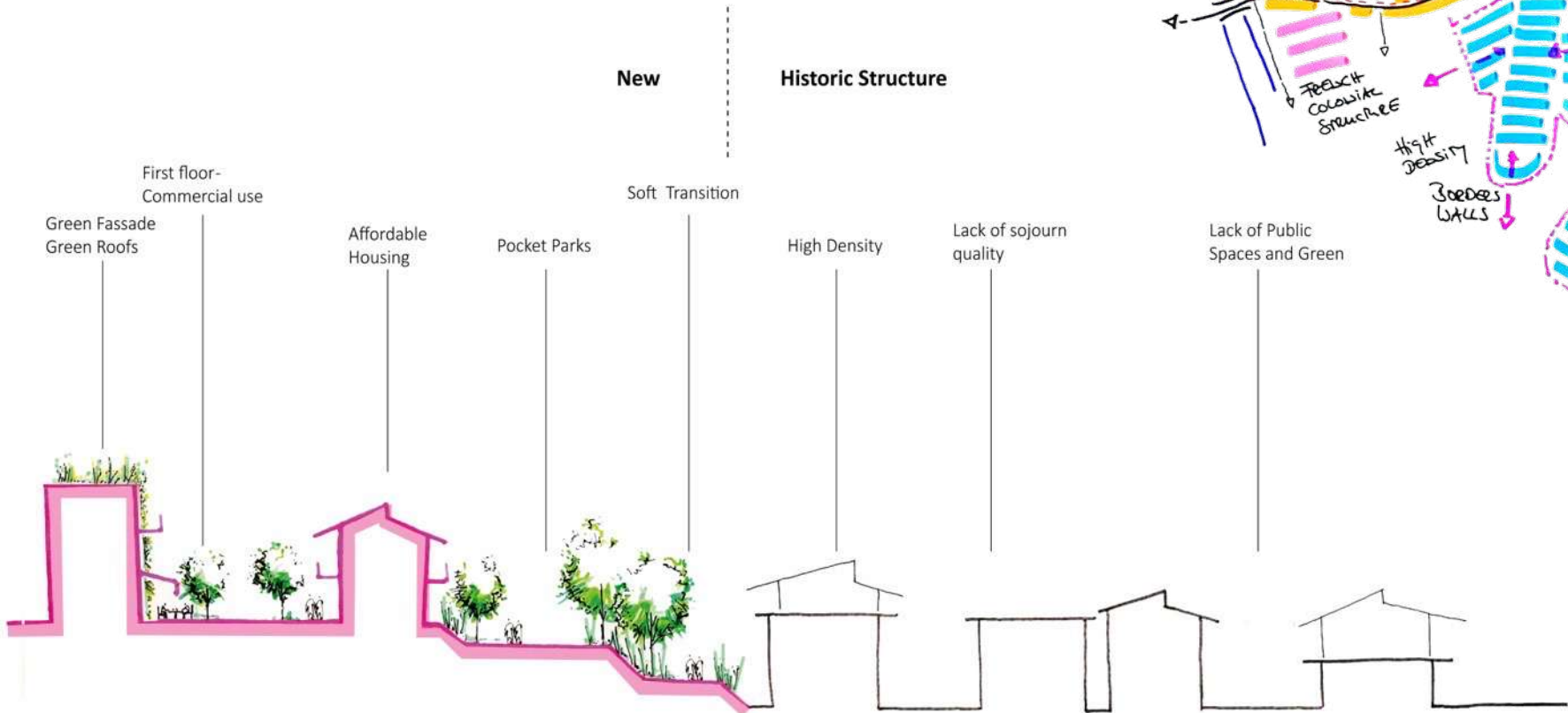
- Urban Green
- Stormwater management
- Affordable Housing
- Mobility infrastructure and management
- Energy-efficiency
- Tbc.





# INTEGRATED CITY DISTRICT WITH NEW CONNECTIONS

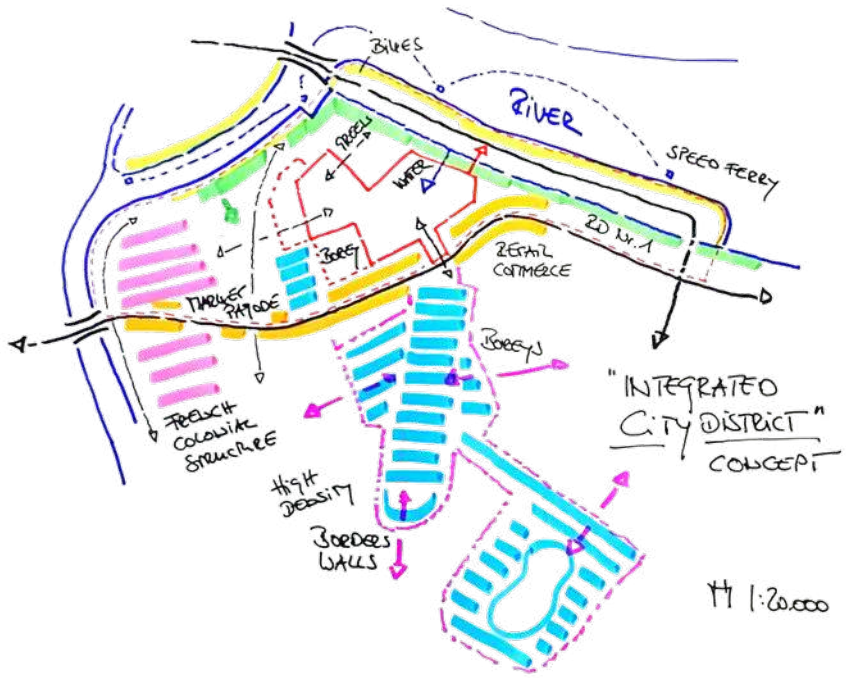
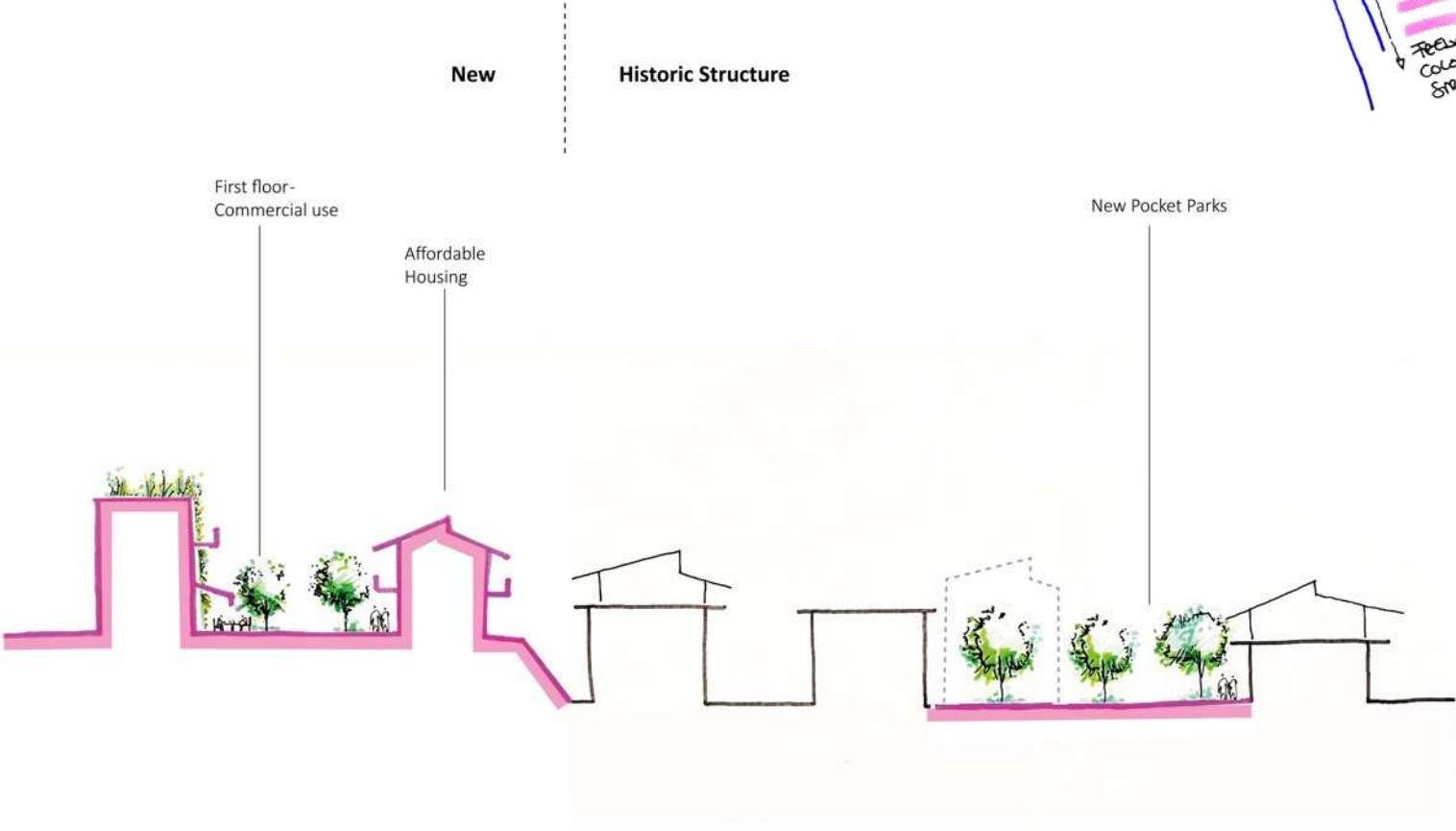
Interfaces between  
New Development + historic city structure (French colonial style)





# INTEGRATED CITY DISTRICT WITH NEW CONNECTIONS

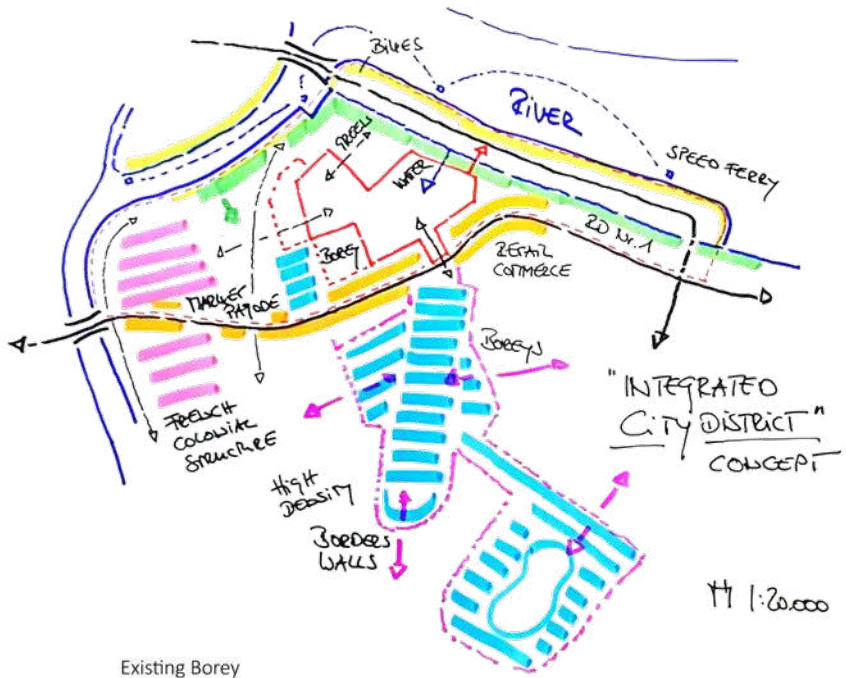
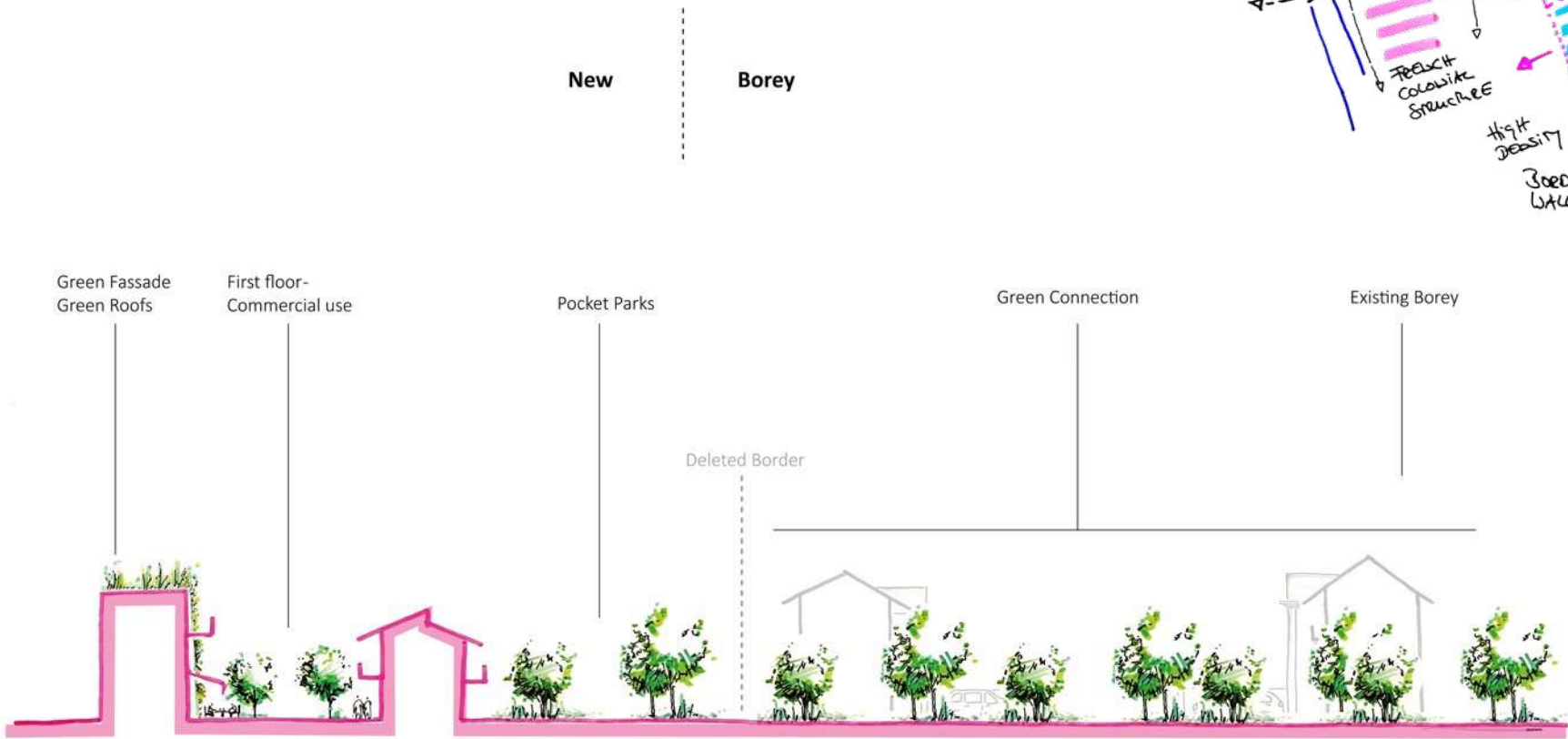
Interfaces between  
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# INTEGRATED CITY DISTRICT WITH NEW CONNECTIONS

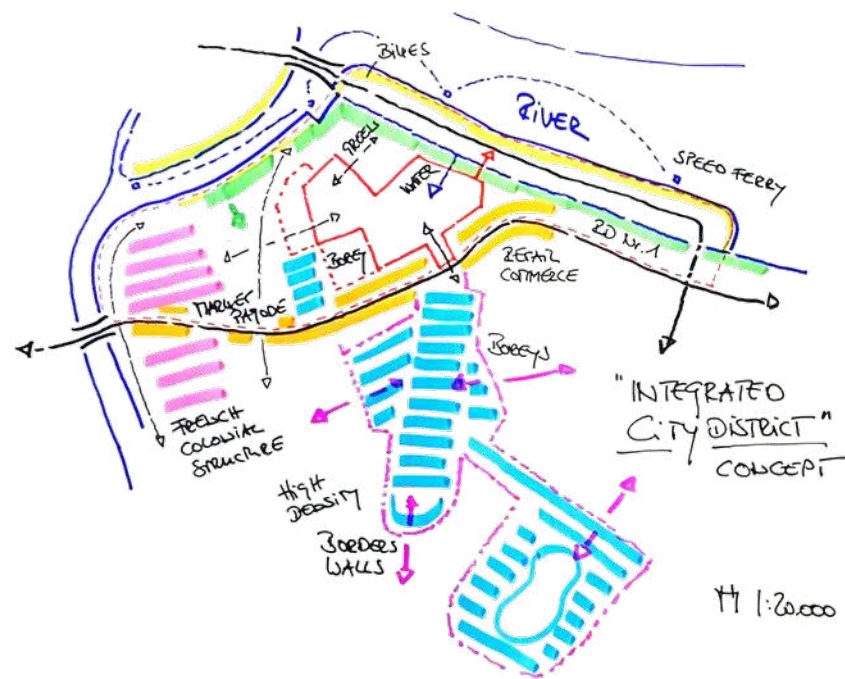
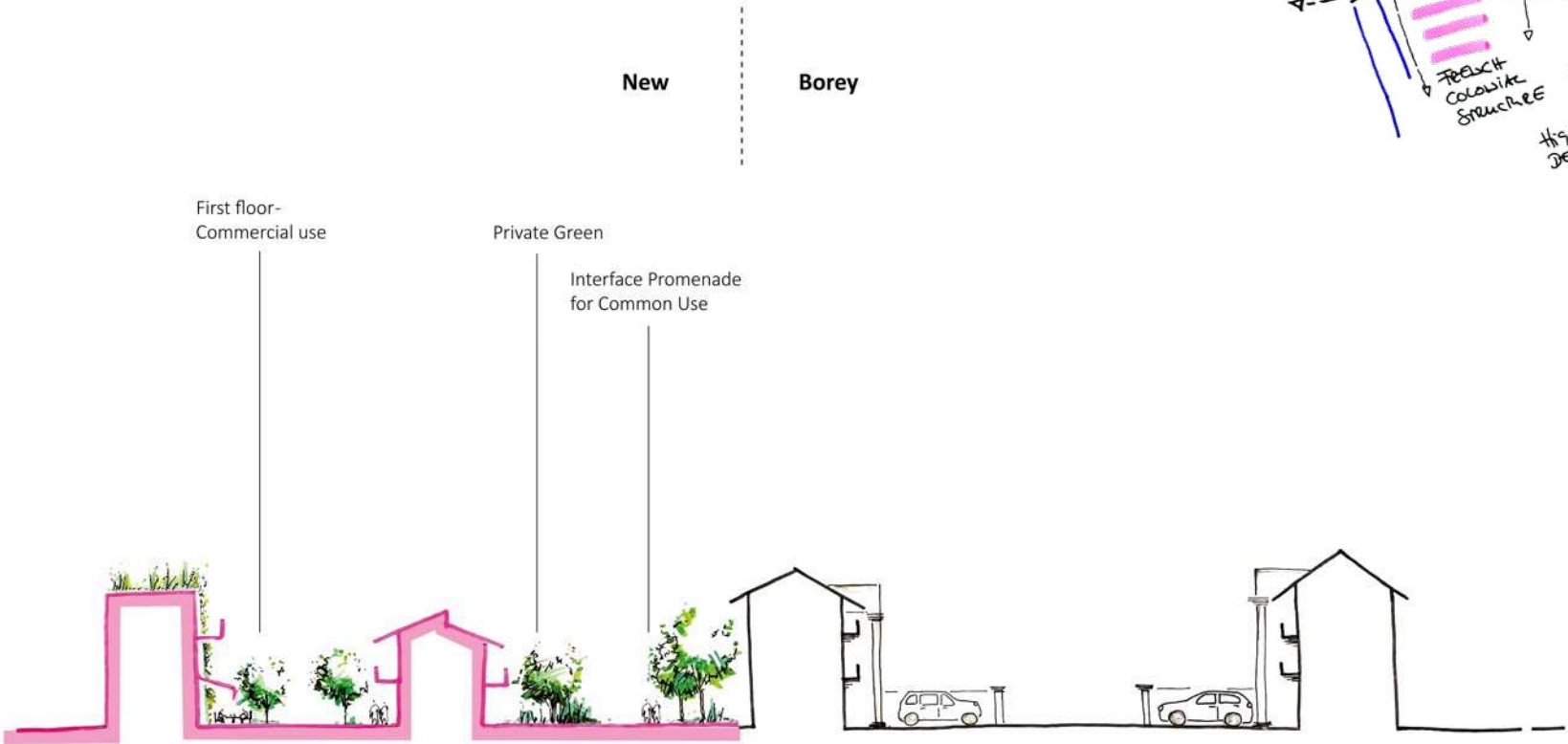
## Interfaces between New Development + Boreys





# INTEGRATED CITY DISTRICT WITH NEW CONNECTIONS

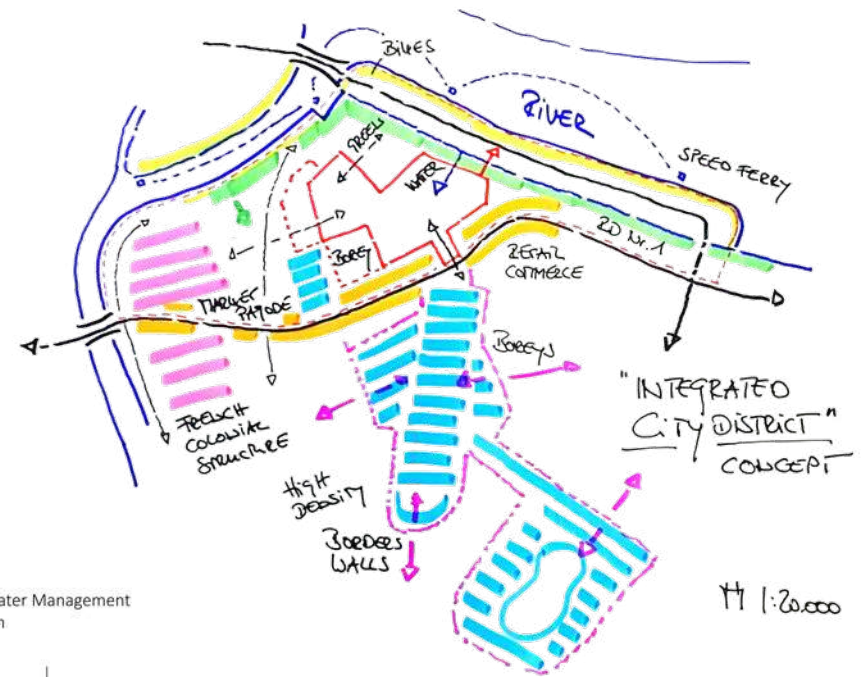
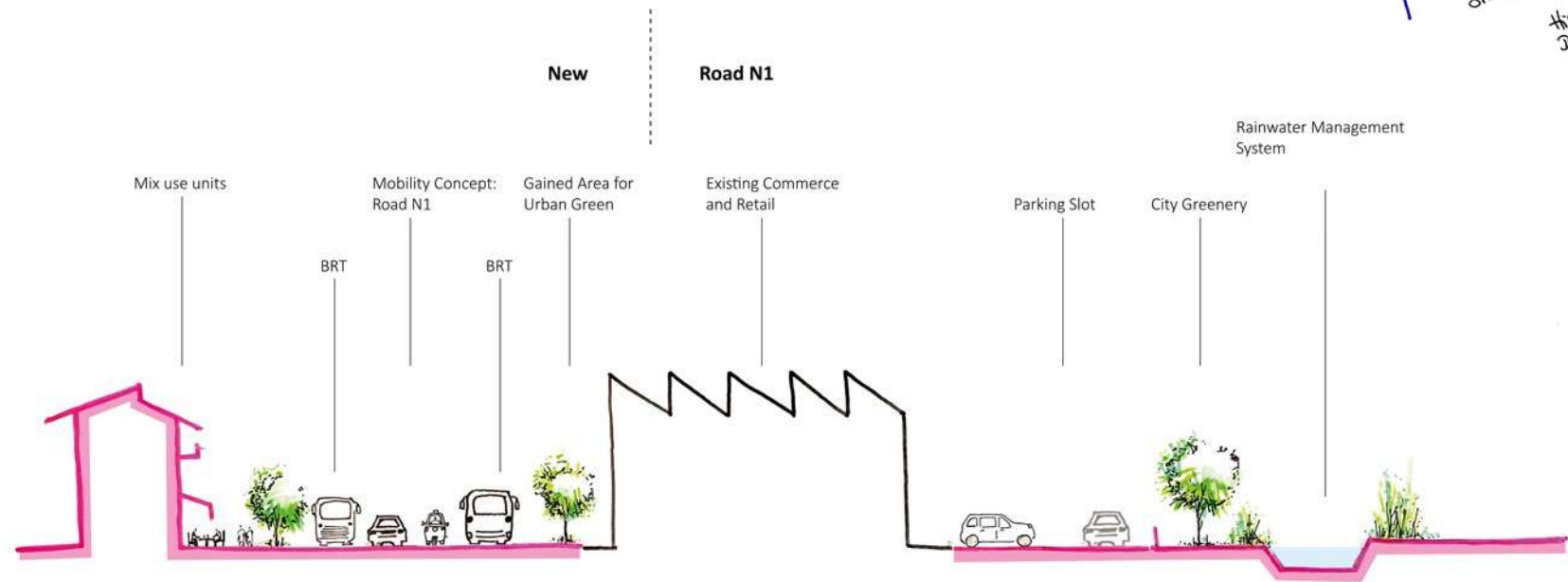
## Interfaces between New Development + Boreys



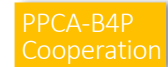


# INTEGRATED CITY DISTRICT WITH NEW CONNECTIONS

Interfaces between  
New Development + Road Nr. 1 (Retail and Commercial)



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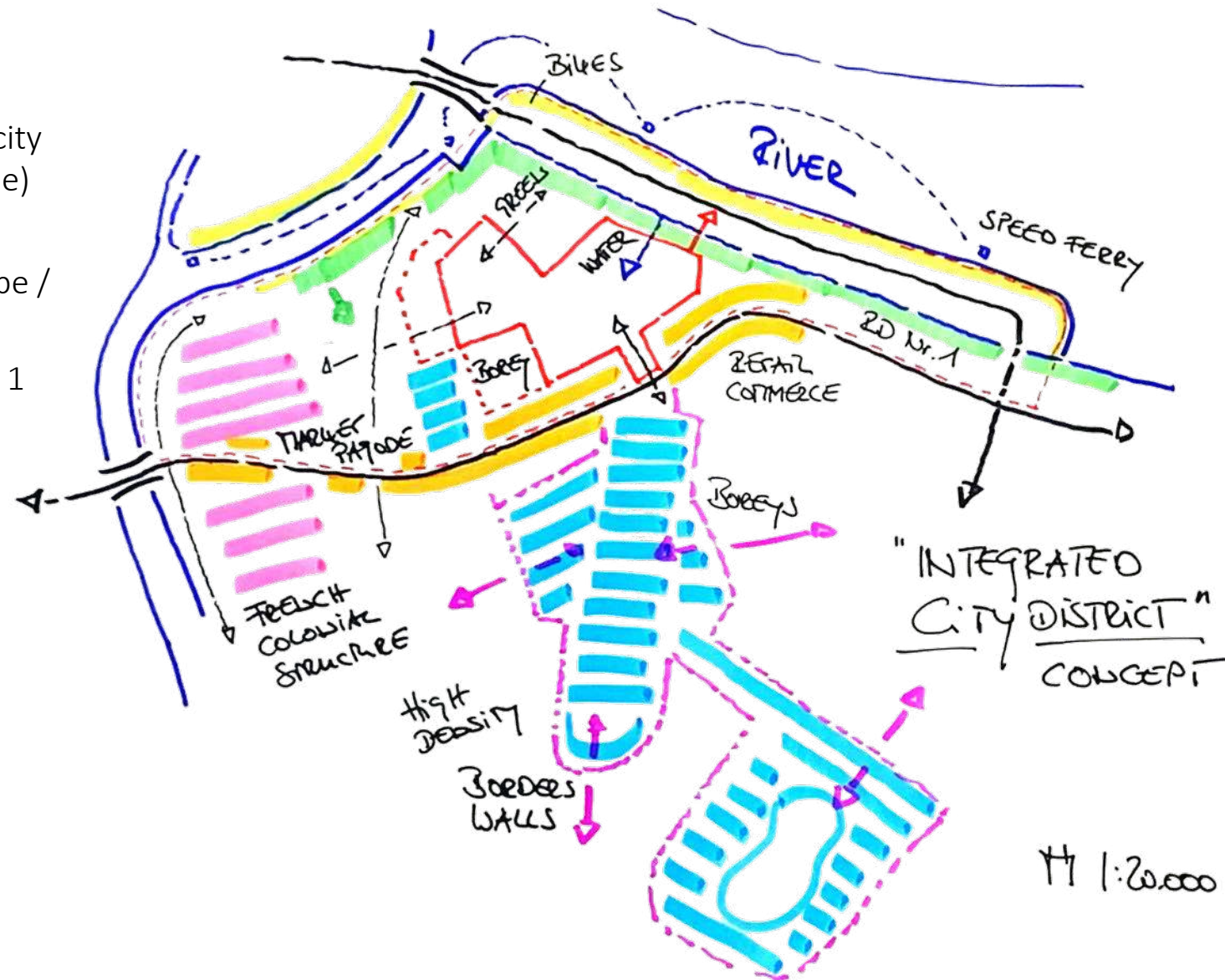




# INTEGRATED CITY DISTRICT WITH NEW CONNECTIONS

## Interfaces between:

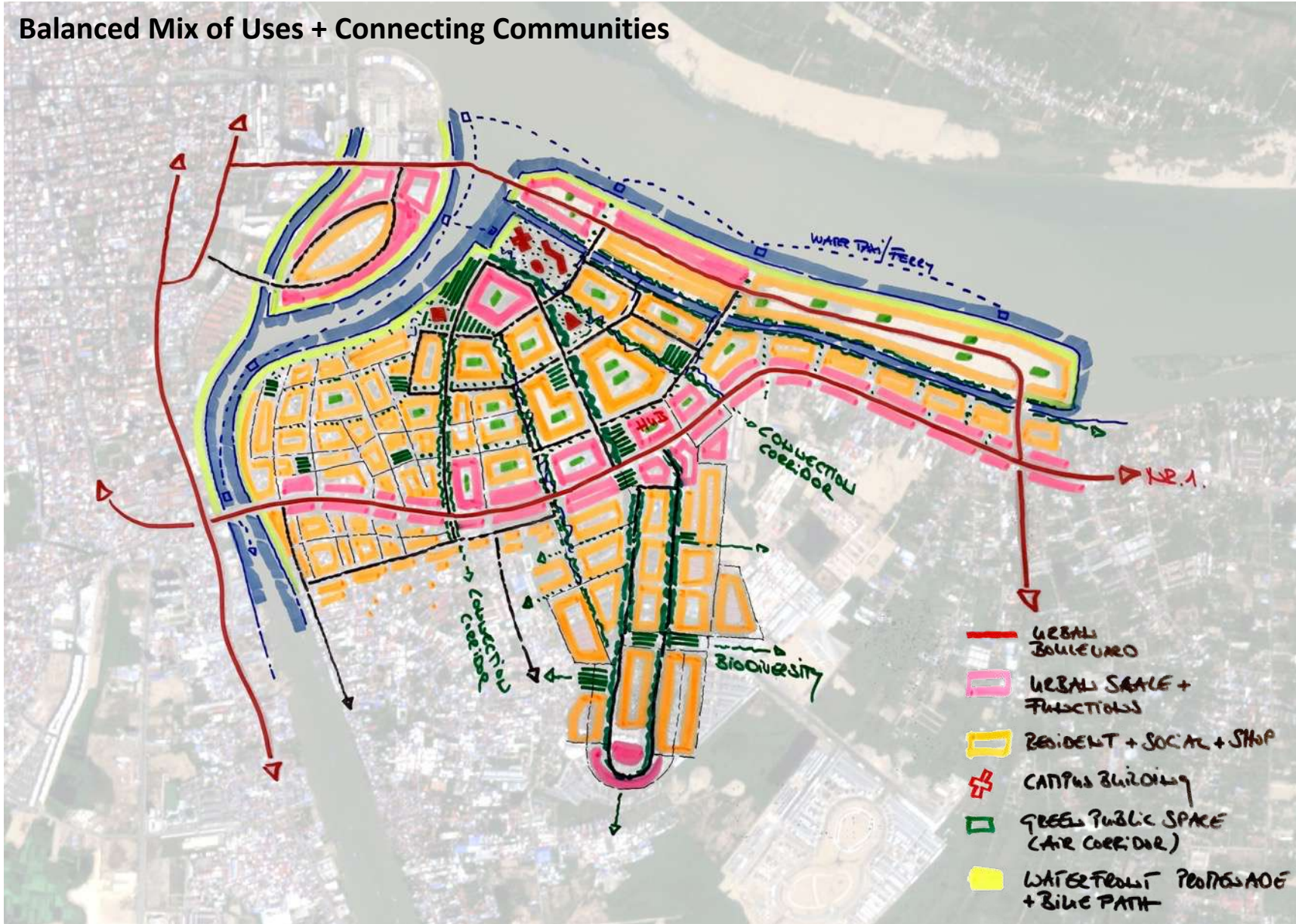
- New Development + historic city structure (French colonial style)
- New Development + Boreys
- New Development + Landscape / Water (Channel / River)
- New Development + Road Nr. 1 (Retail and Commercial)





## ទម្រង់នៃការប្រើប្រាស់ដី – LAND-USE CONCEPT

## Balanced Mix of Uses + Connecting Communities



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# រចនាសម្ព័ន្ធទីក្រុង – URBAN STRUCTURE FOR A BLUE GREEN CITY APPROACH

## Sustainable Urban Planning + Physical Connections



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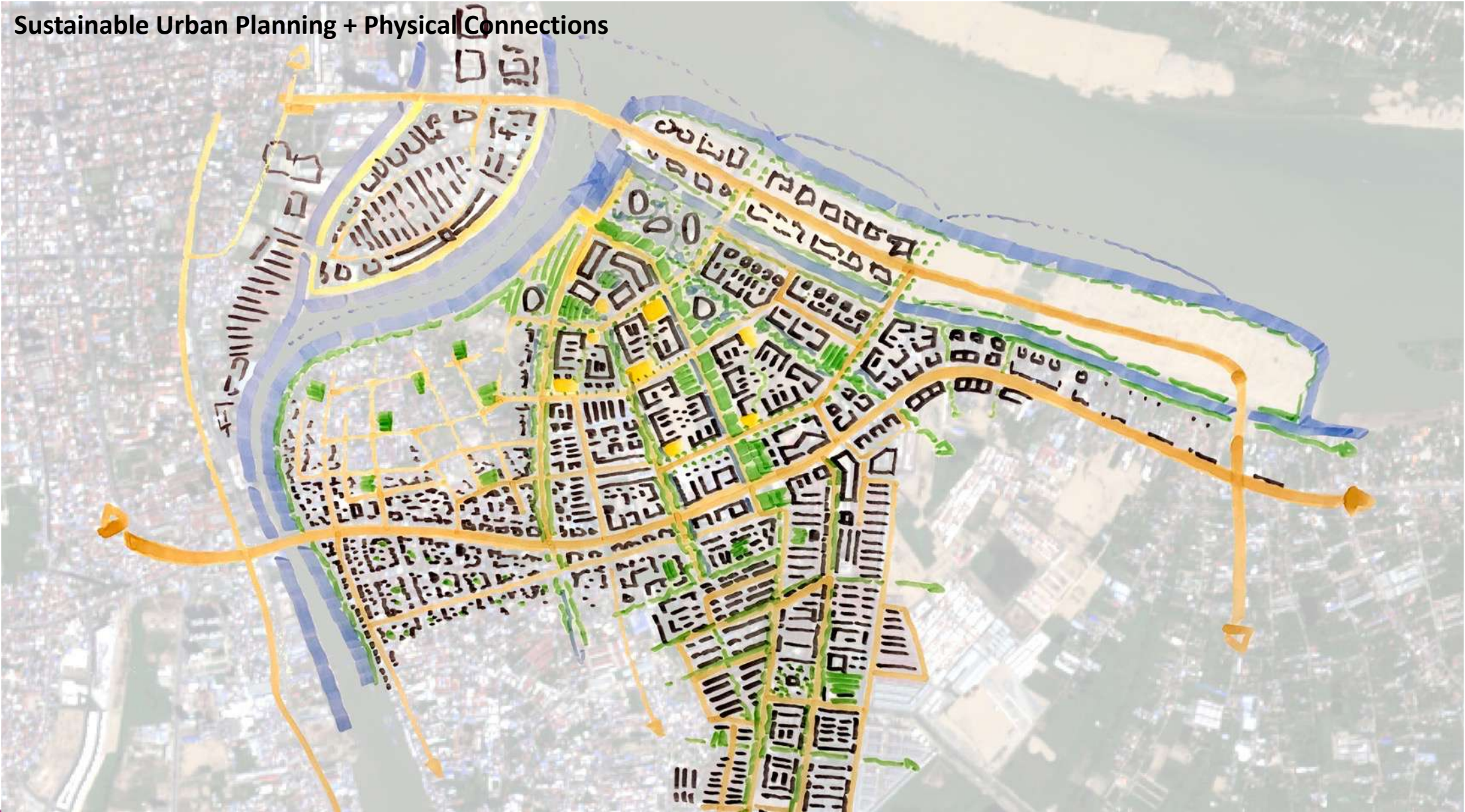
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Sustainable Urban Planning + Physical Connections



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# SUSTAINABILITY STRATEGIES - យុទ្ធសាស្ត្រប្រកបដោយចីរភាព



Sustainable Urban Planning



Balanced Mix of Uses



Social Diversity



Attractive and Green Open Spaces



Climate Responsive Urban Design



Water Sensitive Urban Design



Carbon-Zero Energy Neighbourhoods



Post-Fossil Mobility



Circular Economy Neighbourhoods

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# MULTI-LAYERED, TRANSDISCIPLINARY AND INTEGRATED PLANNING APPROACH

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## WP1 Input

- Input / comments on behavior change / participation specific for site (very open)
- Input / comments on strategies / guidelines and assessment system (very open)

## WP2 Input

- Joint work on energy-efficient building typologies
- Input on energy supply systems on neighbourhood level for site
- Input / comments on energy strategies / guidelines and assessment system

## WP4 Input

- Analysis on urban green for site with regard to the urban green typologies
- Input with maps / data
- Input / comments on landscape strategies / guidelines and assessment system

## WP5 Input

- Further analysis of urban climate for site
- Modeling of urban climate based on CAD model by EMP and guidelines for site
- Input / comments on urban climate strategies / guidelines and assessment system

## WP6 Input

- Input / comments on planning process strategies / guidelines and assessment system

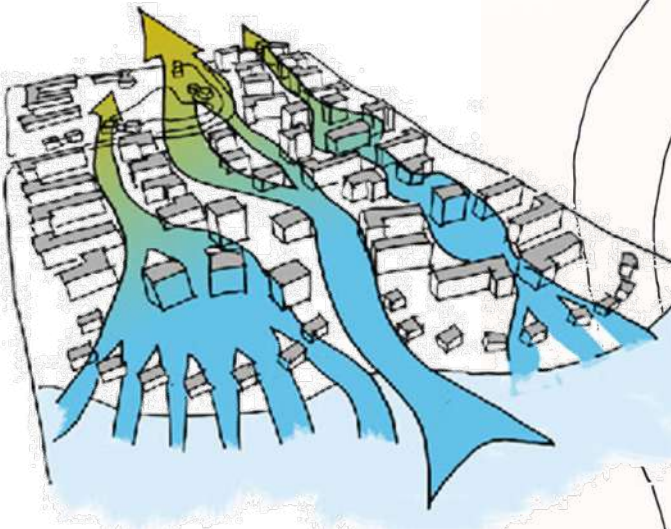




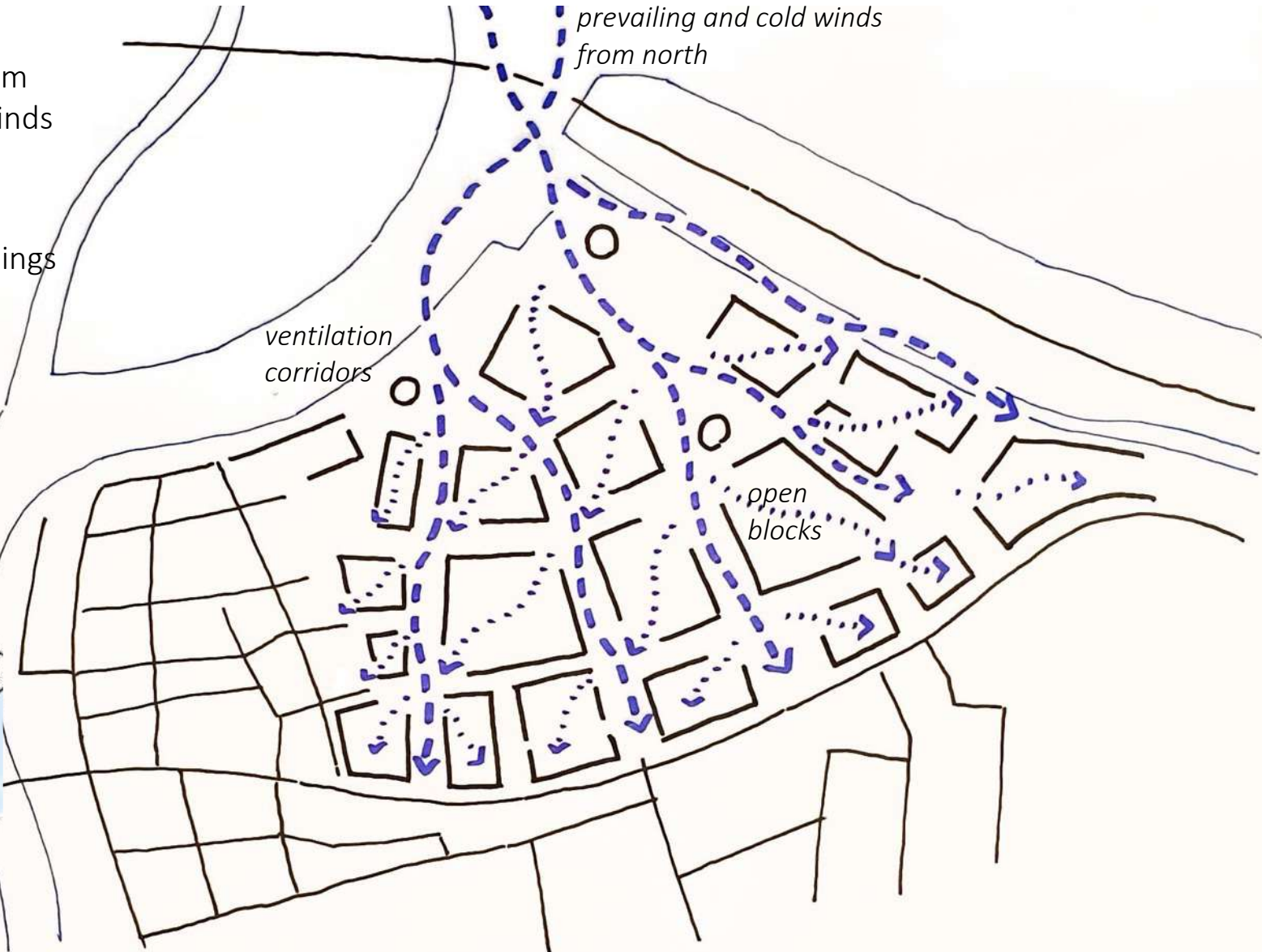
# ឧទាហរណ៍គោលការណ៍ក្នុងក្រុង – Urban Climate Concept

## Climate Responsive Urban Design:

- Deriving of ventilation corridors from air paths and prevailing and cold winds
- Opening of blocks to ventilation corridors for fresh air supply
- Differentiated height levels of buildings



Source: JTP, Gillespies, Eble Messerschmidt Partner, Yen-Yi LI



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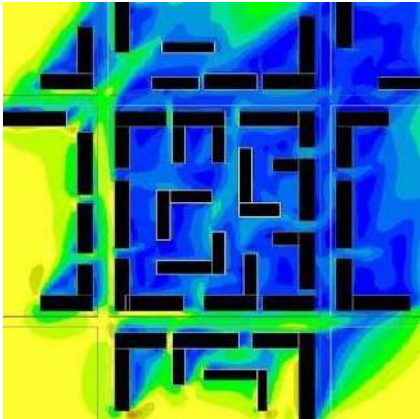
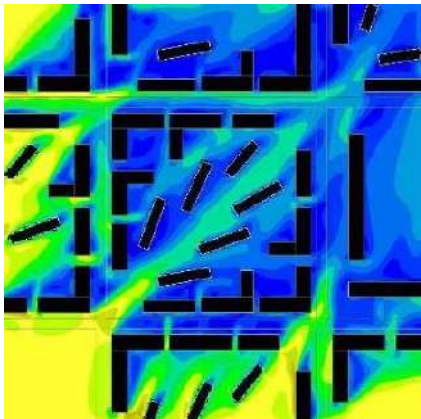
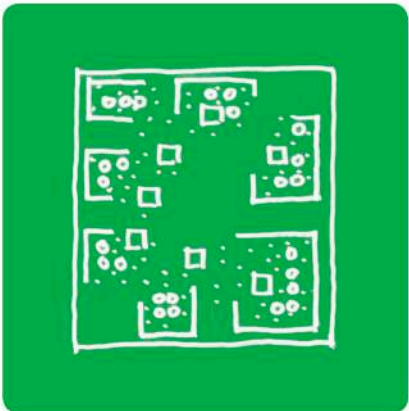
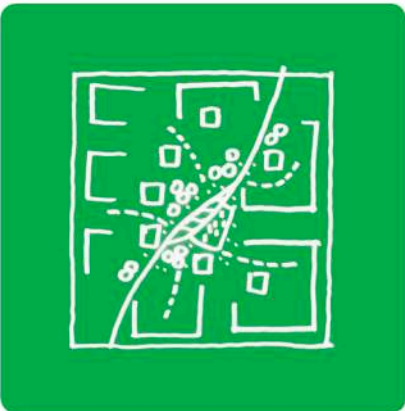
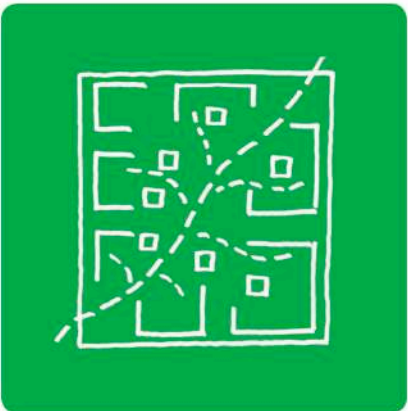
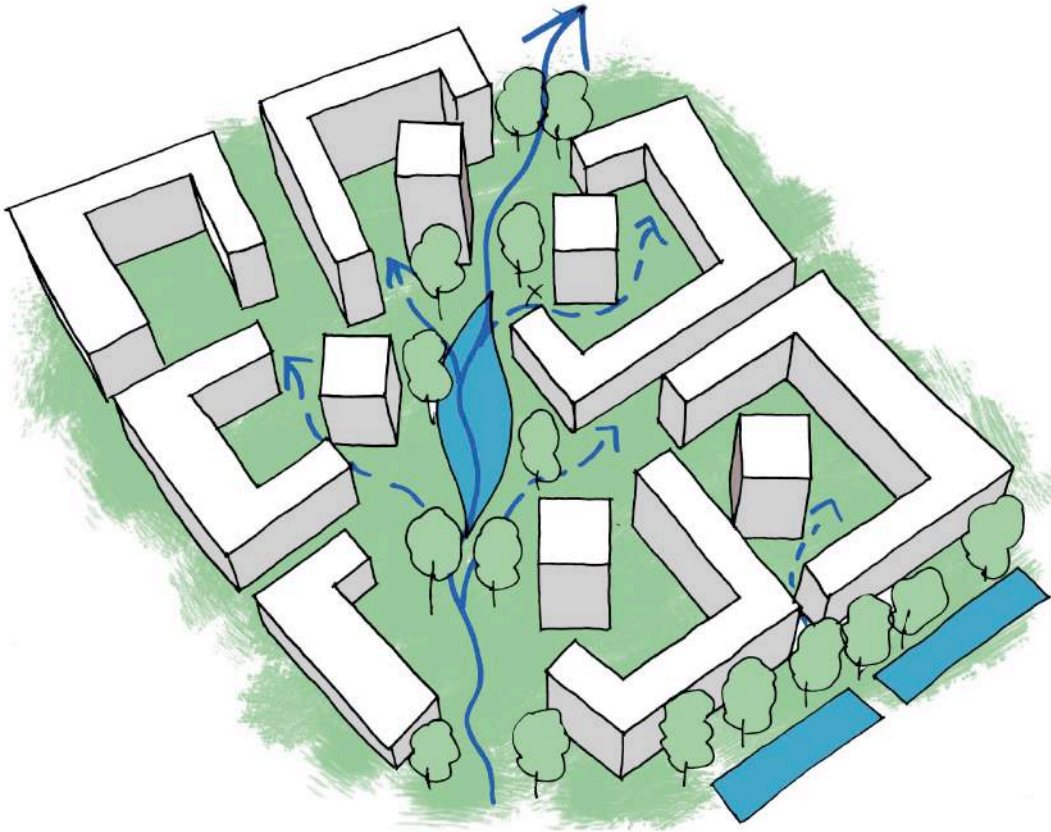




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- Opening of blocks to ventilation corridors for fresh air supply
- Differentiated height levels of buildings



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## Attractive and Green Open Spaces:

- Open space design is essential for communication and encounter, for slow movement within the neighbourhoods, for the urban climate and for creating or restoring biodiversity





## ទម្រង់ប្លង់ទេសភាព – Landscape Concept

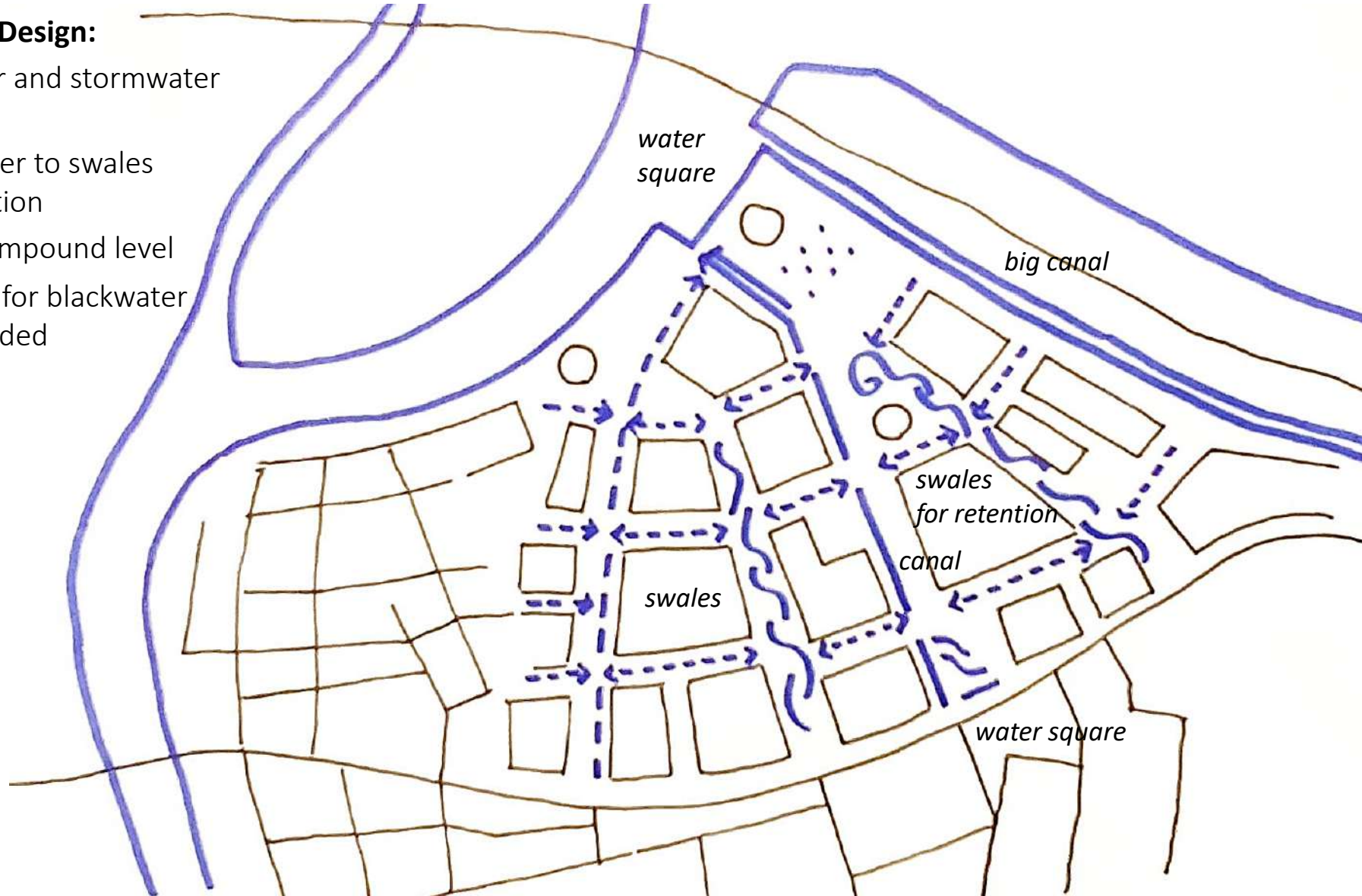
### Attractive and Green Open Spaces incl. Sustainable Stormwater Management:





## Water Sensitive Urban Design:

- Separate wastewater and stormwater management
- Discharge of rainwater to swales and canals for retention
- Rainwater use on compound level
- New sewage system for blackwater in Chbar Ampov needed





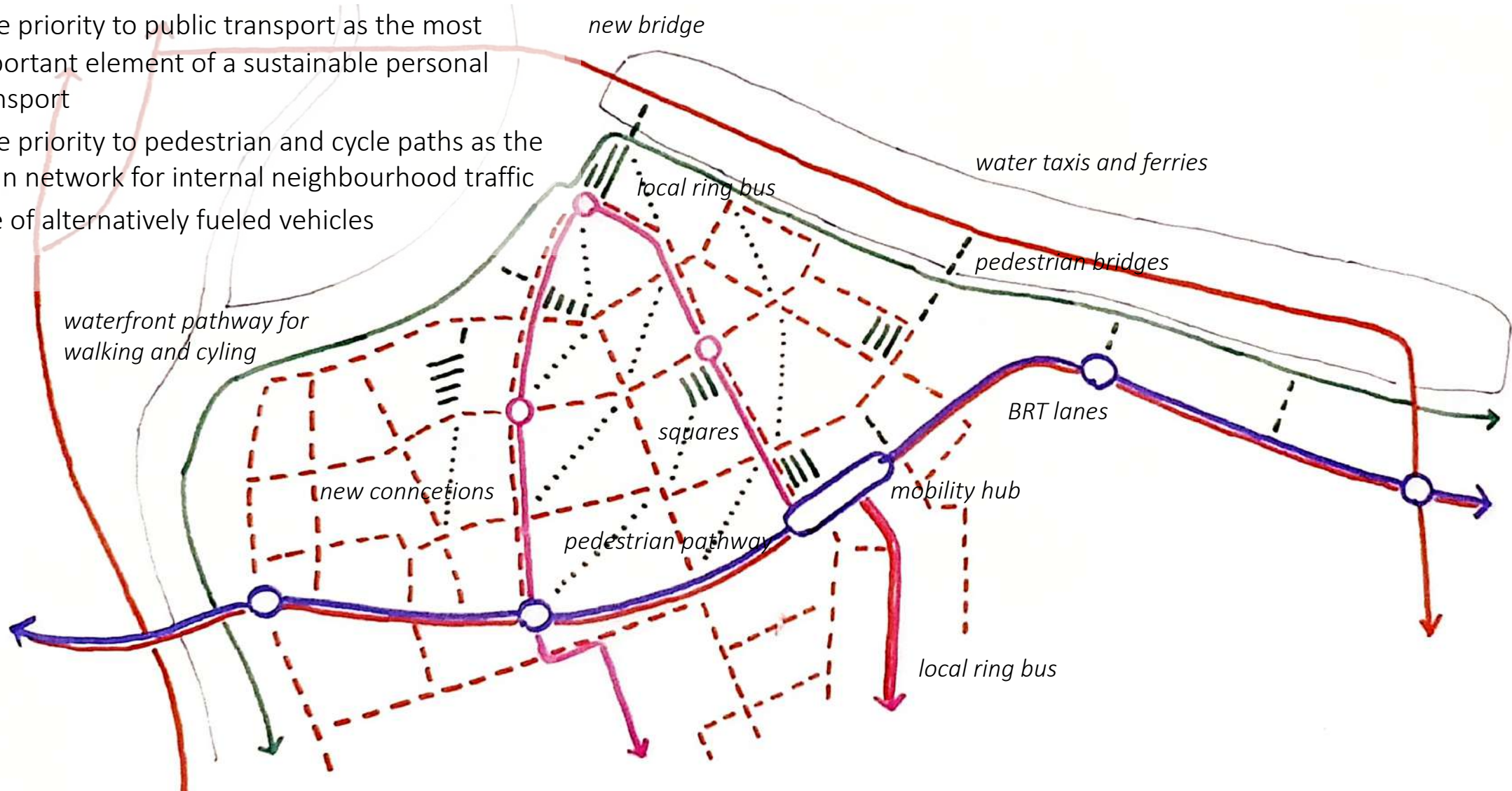
Water Sensitive Urban Design – Example Copenhagen





## Post-fossil Mobility:

- Give priority to public transport as the most important element of a sustainable personal transport
- Give priority to pedestrian and cycle paths as the main network for internal neighbourhood traffic
- Use of alternatively fueled vehicles

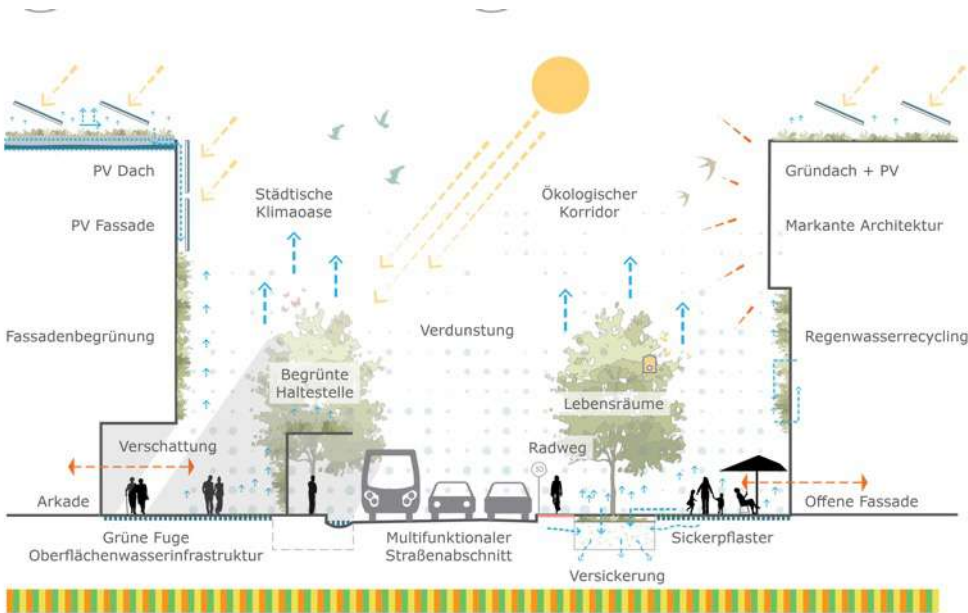
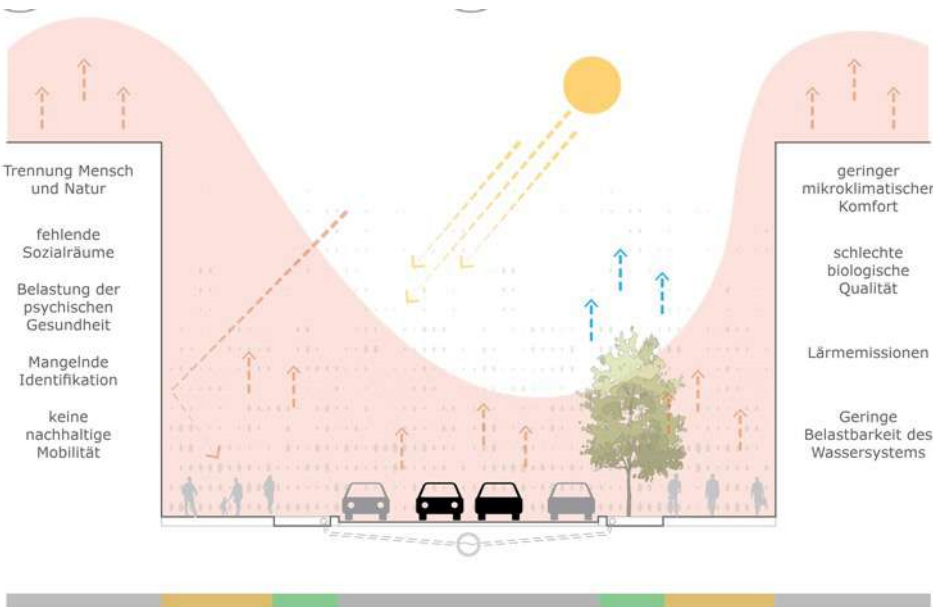




# ទម្រង់មធ្យោបាយធ្វើតំណើរ – Transport Concept

## Post-fossil Mobility:

- Give priority to public transport as the most important element of a sustainable personal transport
- Give priority to pedestrian and cycle paths as the main network for internal neighbourhood traffic
- Use of alternatively fueled vehicles



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# ទម្រង់មធ្យោបាយធ្វើតំណើរ – Transport Concept

## 15 min Living in Paris

LE PARIS DU 1/4 HEURE



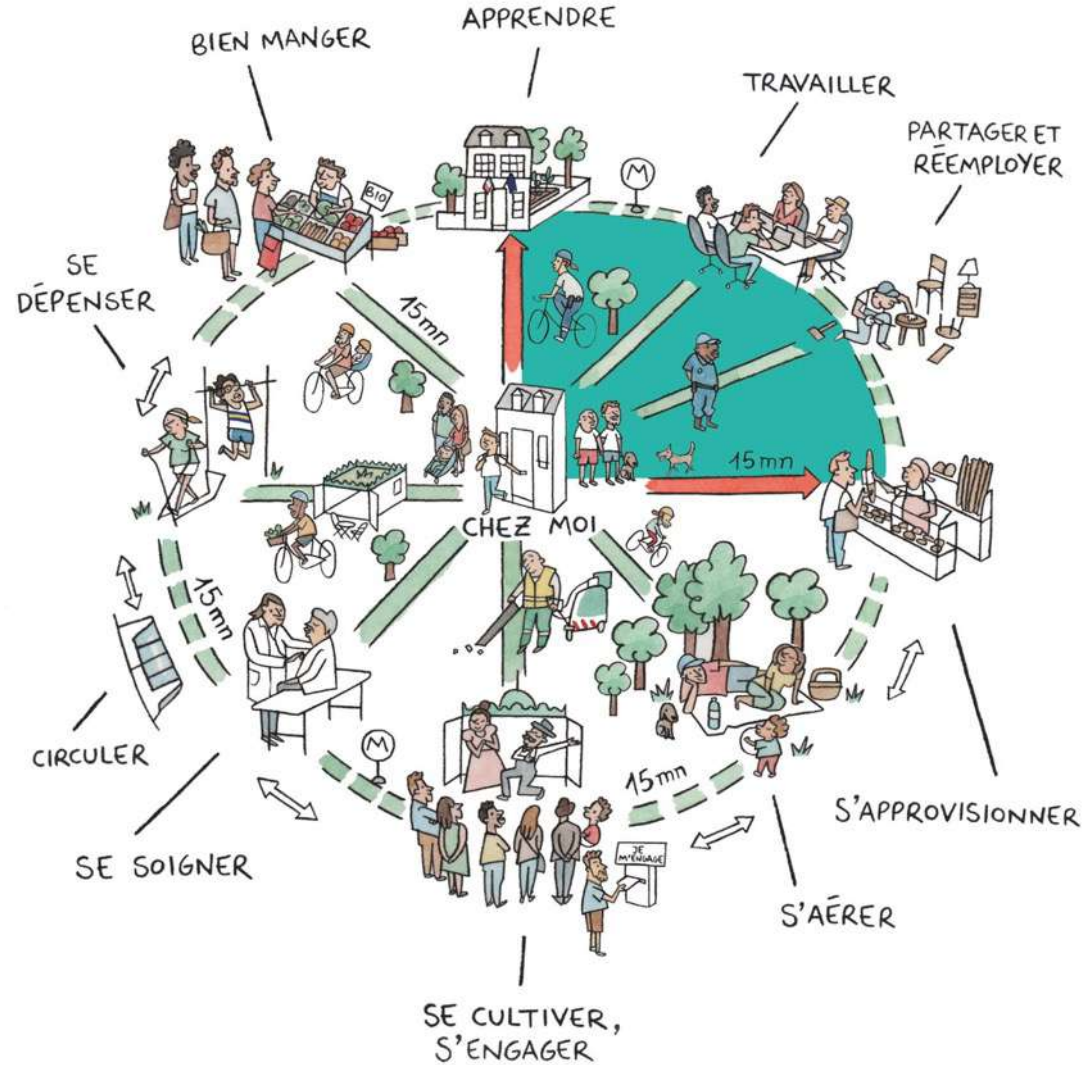
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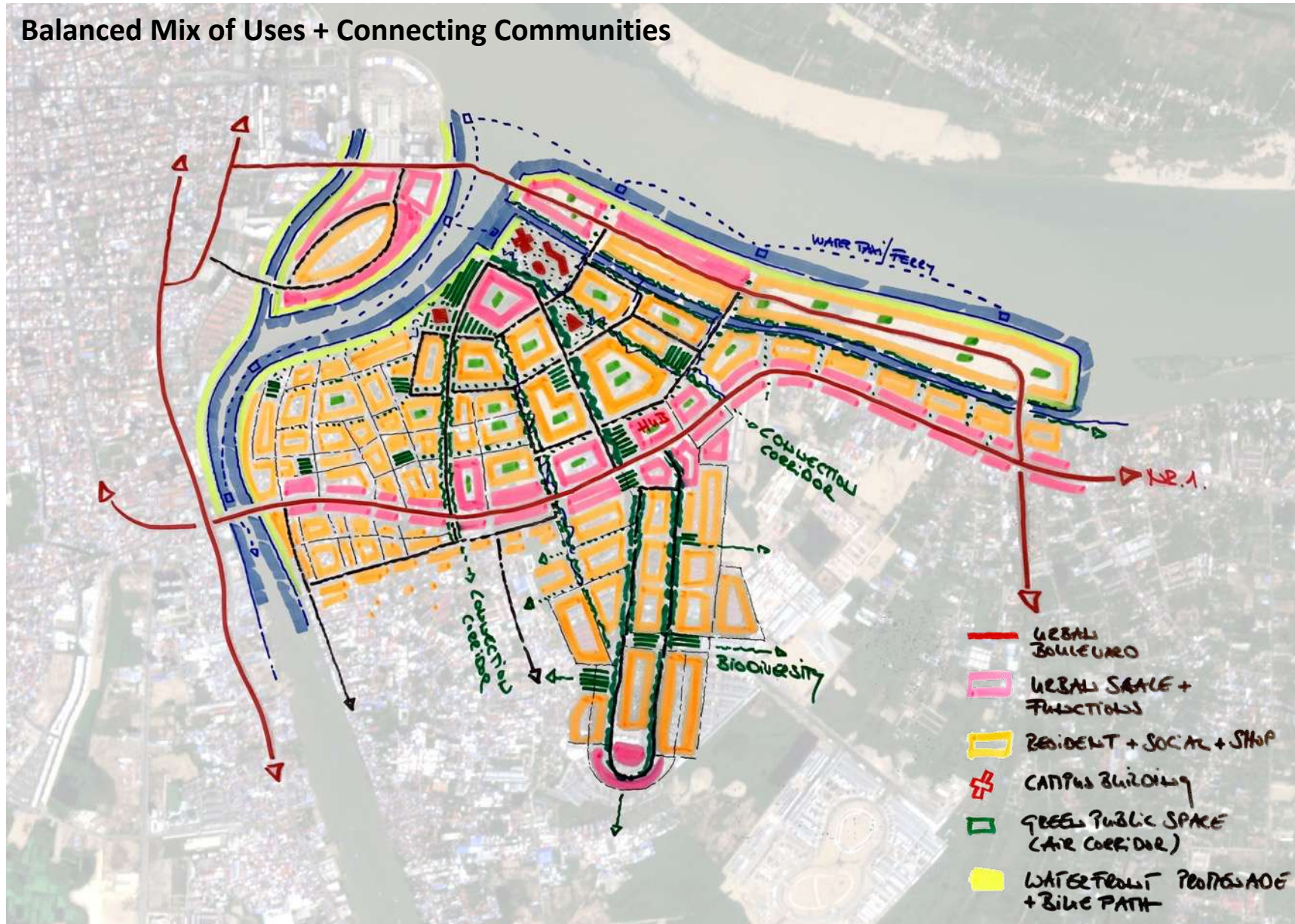
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# ឧទ្ទេសនៃការប្រើប្រាស់ដី – LAND-USE CONCEPT

## Balanced Mix of Uses + Connecting Communities



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# រចនាសម្ព័ន្ធទីក្រុង – URBAN STRUCTURE FOR A BLUE GREEN CITY APPROACH

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Sustainable Urban Planning + Physical Connections







**SMMR**

Sustainable Mobility in Metropolitan Regions (SMMR) is an ASEAN-German cooperation project with the objective to implement concepts and strategies for Integrated and Sustainable Mobility across the 10 ASEAN member states.

[www.SMMR.asia](http://www.SMMR.asia)



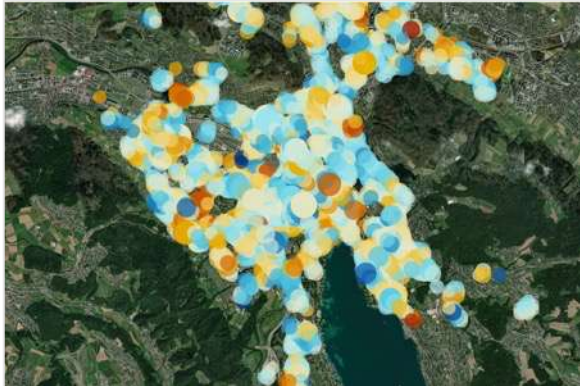




SUMP



MTE



DATA



HUBS



Light Electric Vehicles



Freight and City Logistics





SUMP(light)



IRSAQ (data)



ACTIVE MOBILITY



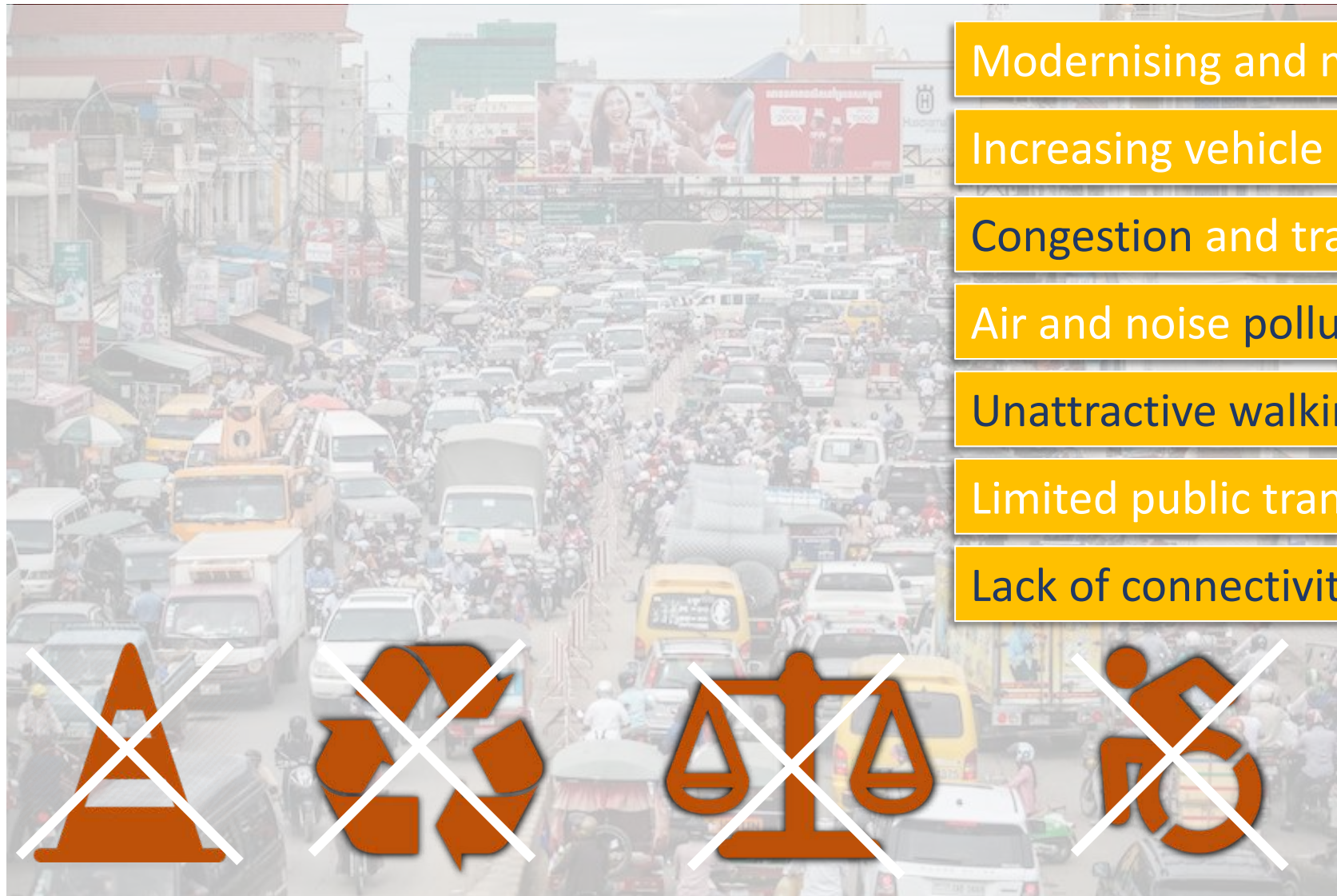
MODELLING











Modernising and motorising

Increasing vehicle ownership

Congestion and traffic safety

Air and noise pollution

Unattractive walking environment

Limited public transport options

Lack of connectivity & permeability



# SUMP – SUSTAINABLE URBAN MOBILITY PLAN

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**Bikes4Kids\_Cambodia**  
@Bikes4KidsKH · Charity Organization

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Promote



Participatory Planning

Safety  
Training/Maintenance

Quantitative & Qualitative Feedback



BUYING 100 BICYCLES FOR  
KIDS IN CAMBODIA |...  
1K views • 5 months ago





# ACTIVE MOBILITY – CYCLING

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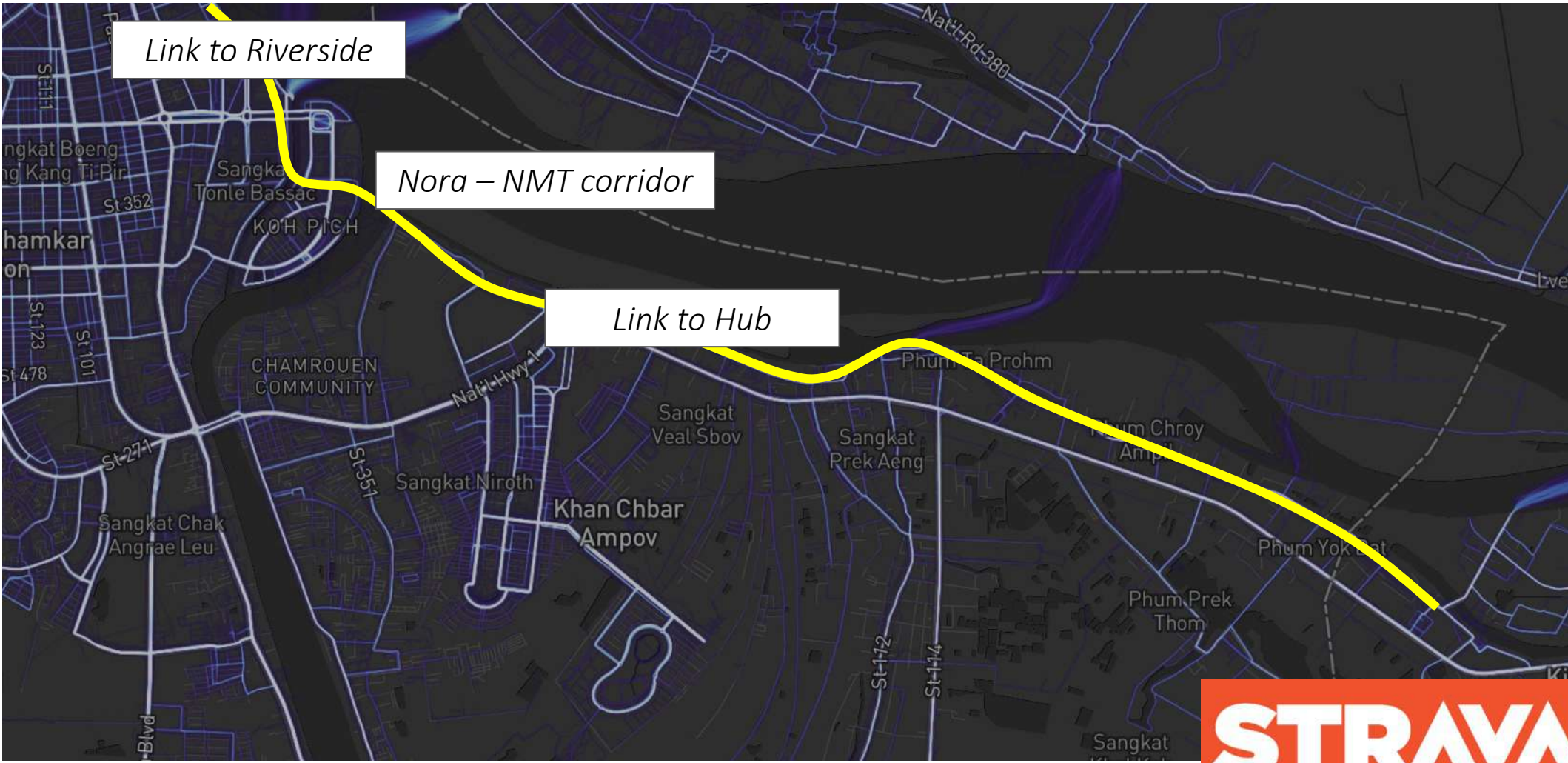


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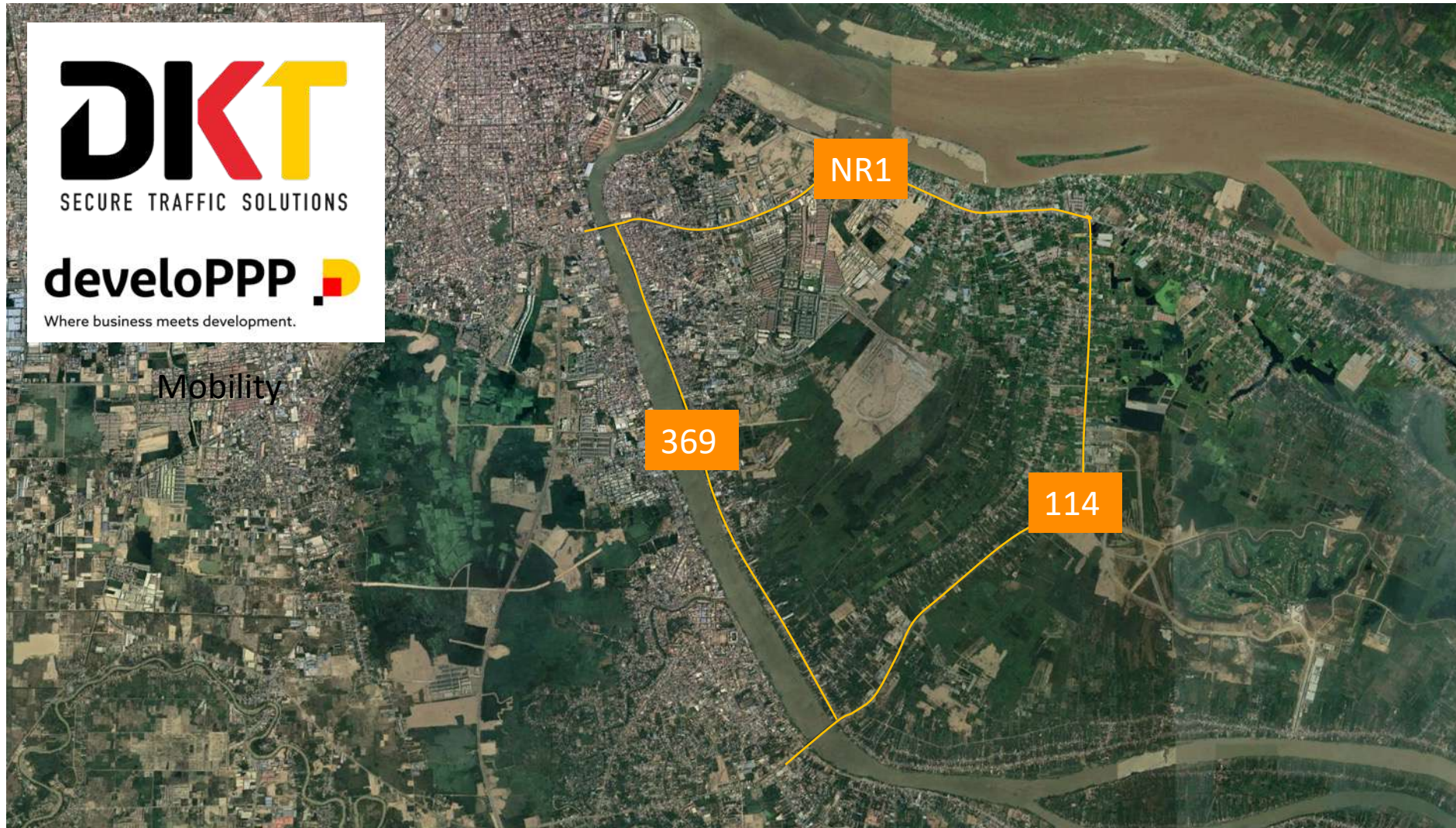




# ACTIVE MOBILITY – CYCLING COORIDOR









# MOBILITY ANALYSIS – CCTV ANALYTICS

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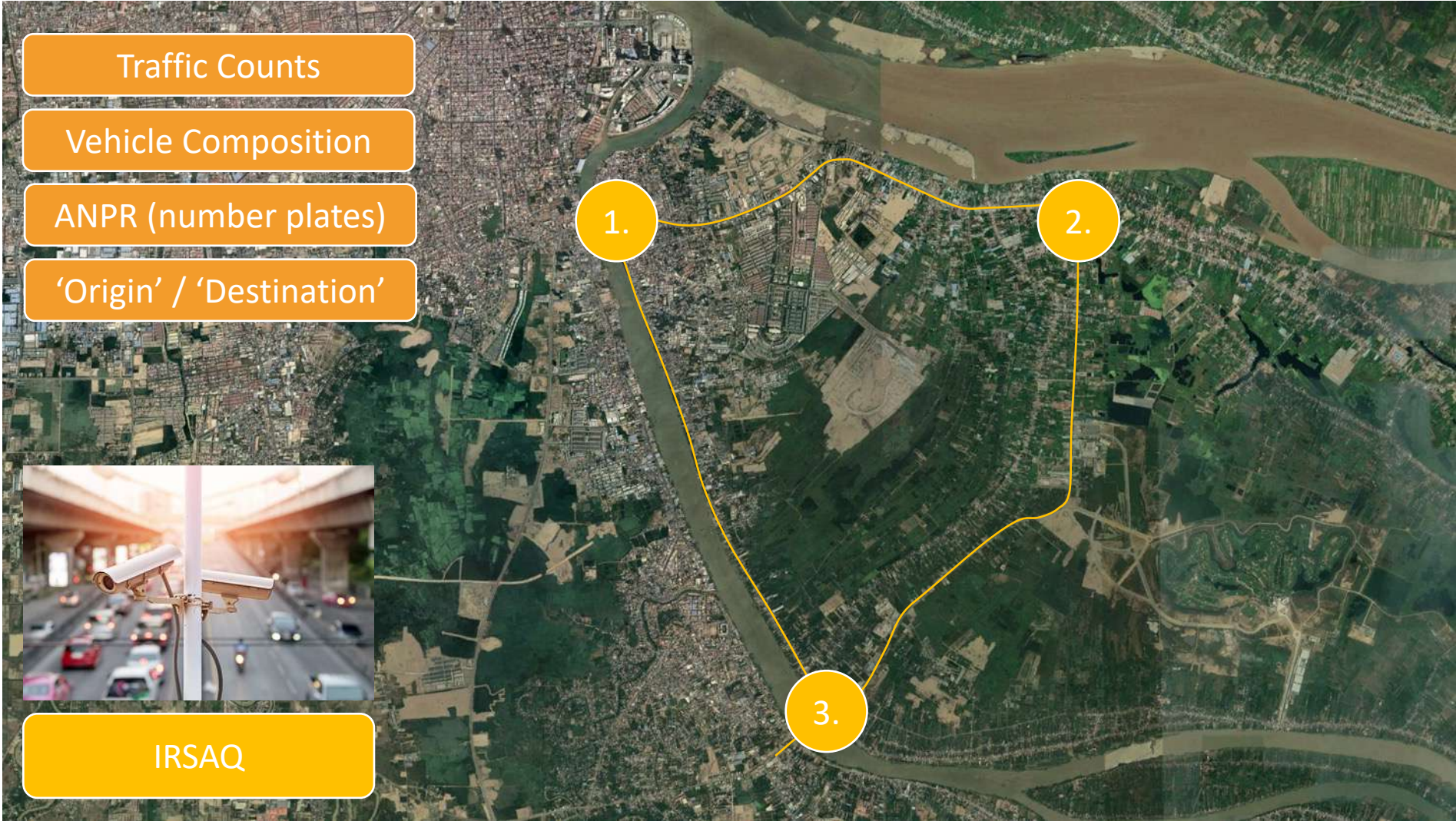
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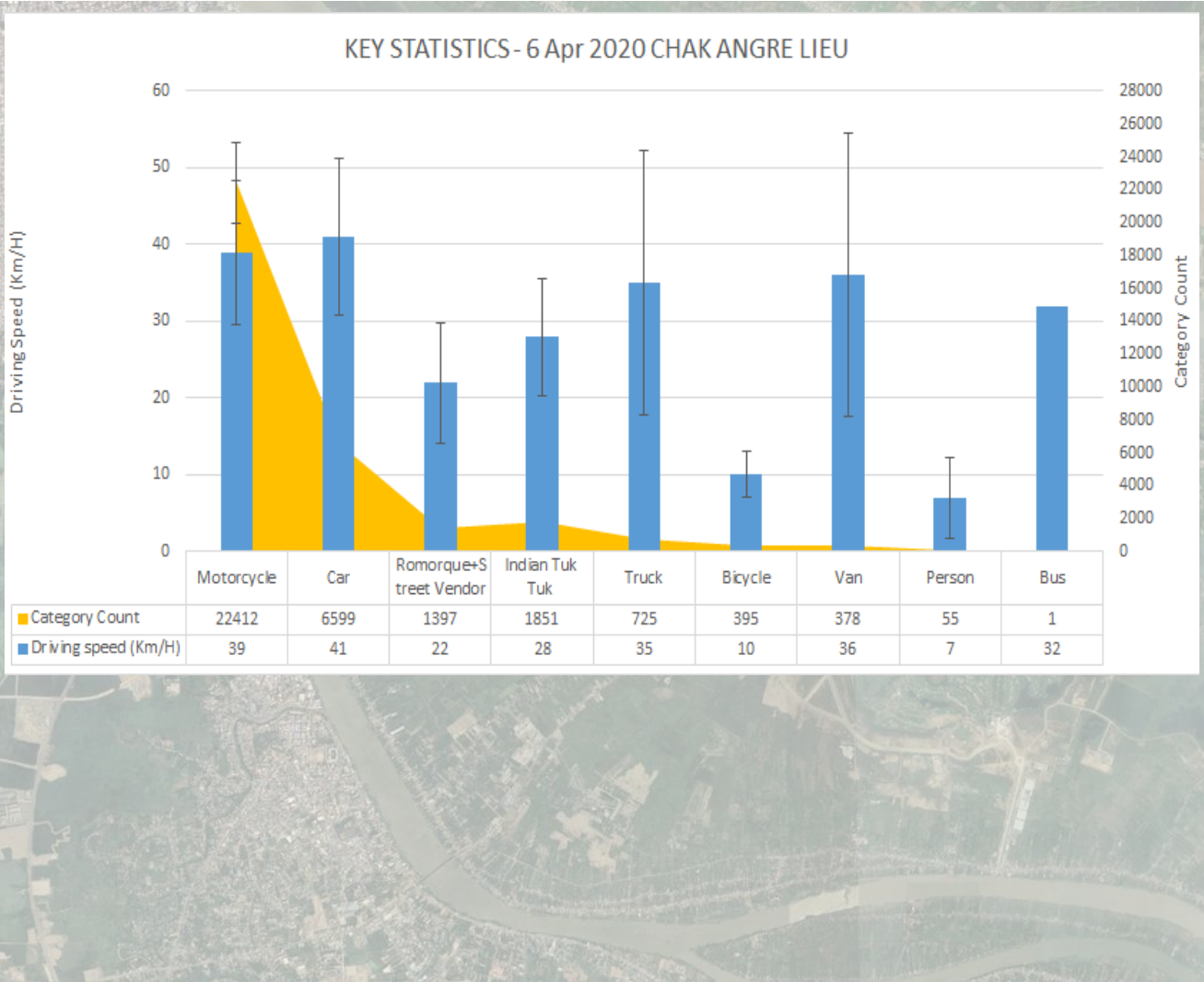








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# MOBILITY ANALYSIS – DATA USE CASES



MACROSCOPIC MODELLING (PLANNING)



MICROSCOPIC MODELLING (ENGINEERING)









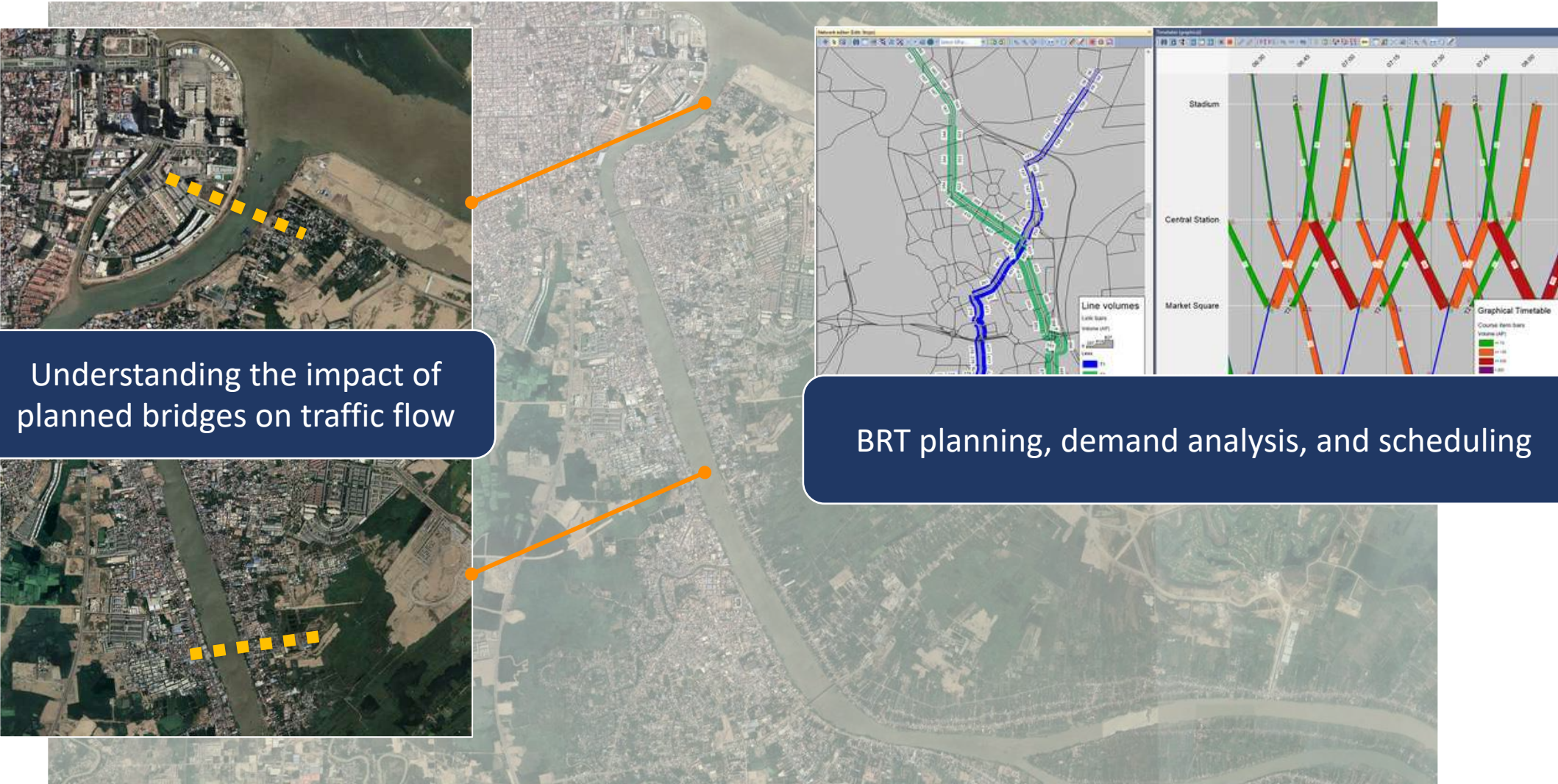












Understanding the impact of  
planned bridges on traffic flow

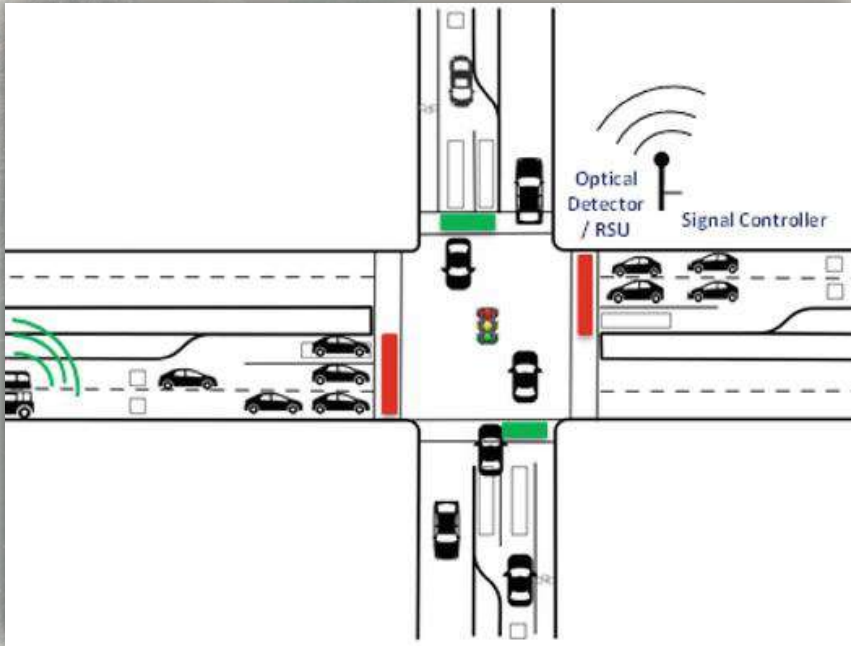
BRT planning, demand analysis, and scheduling







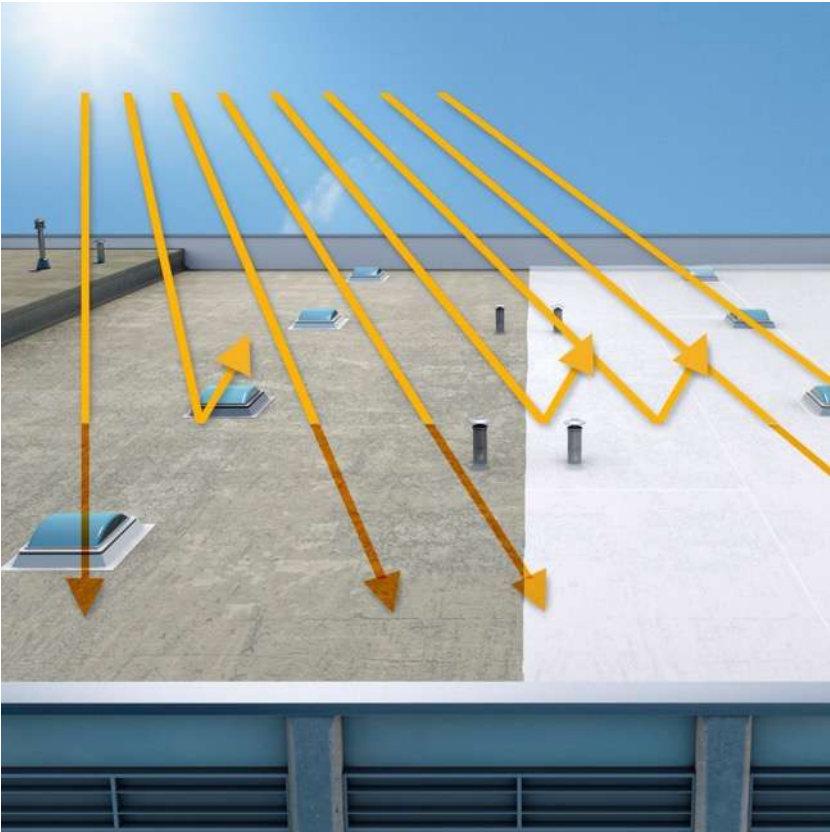
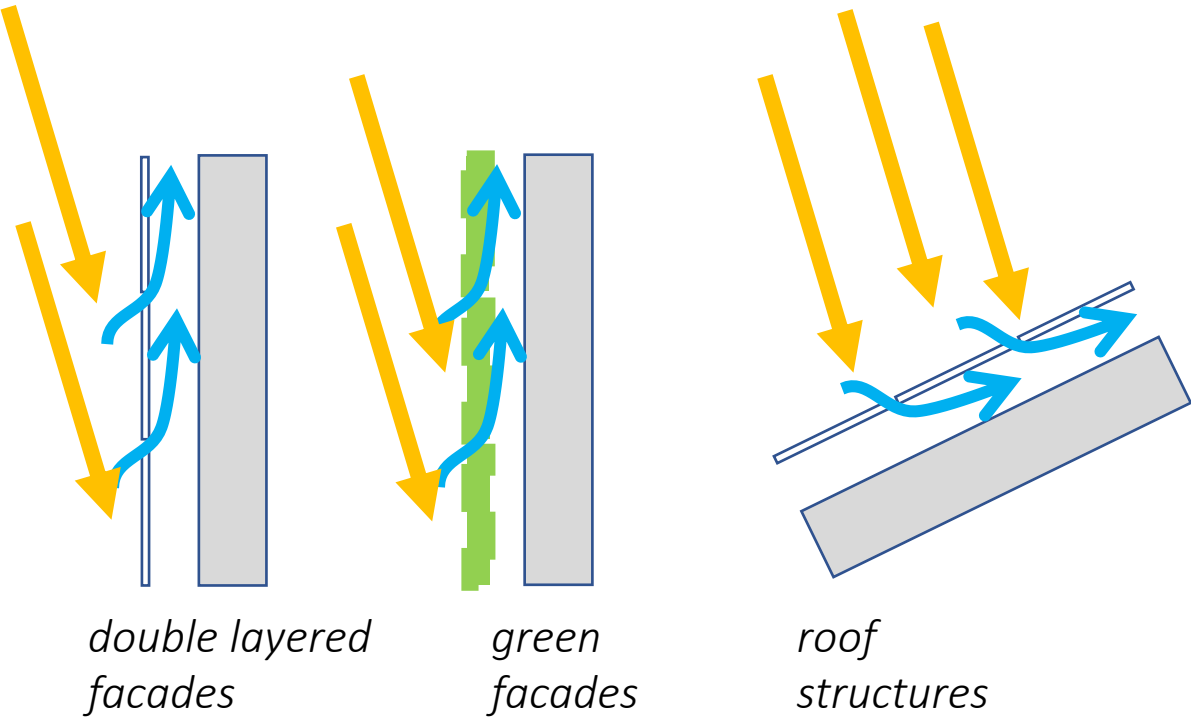
Modelling of Mobility Hub & BRT corridor



Signal actuation / BRT priority signals



Building Envelope



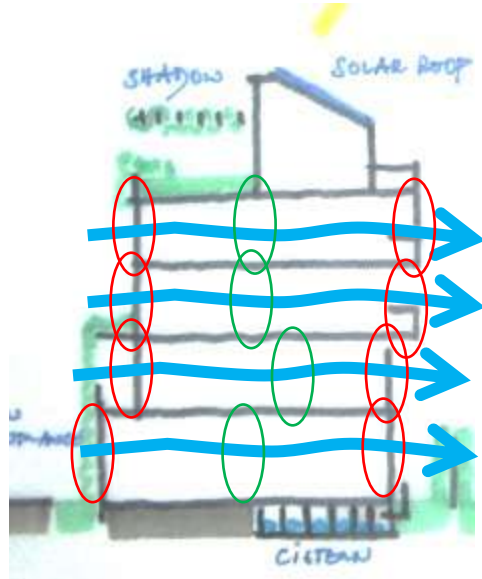


## Passive Building Design

sufficient openings  
for cross ventilation

indoor partitions need  
to be designed to allow  
cross ventilation

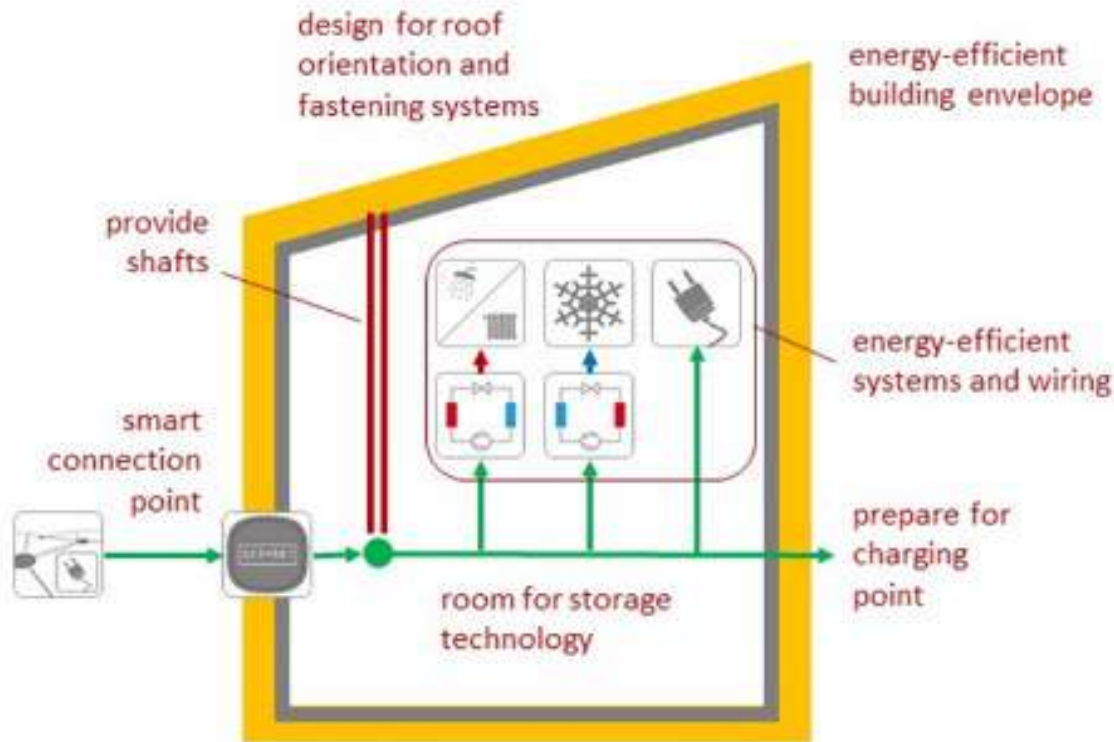
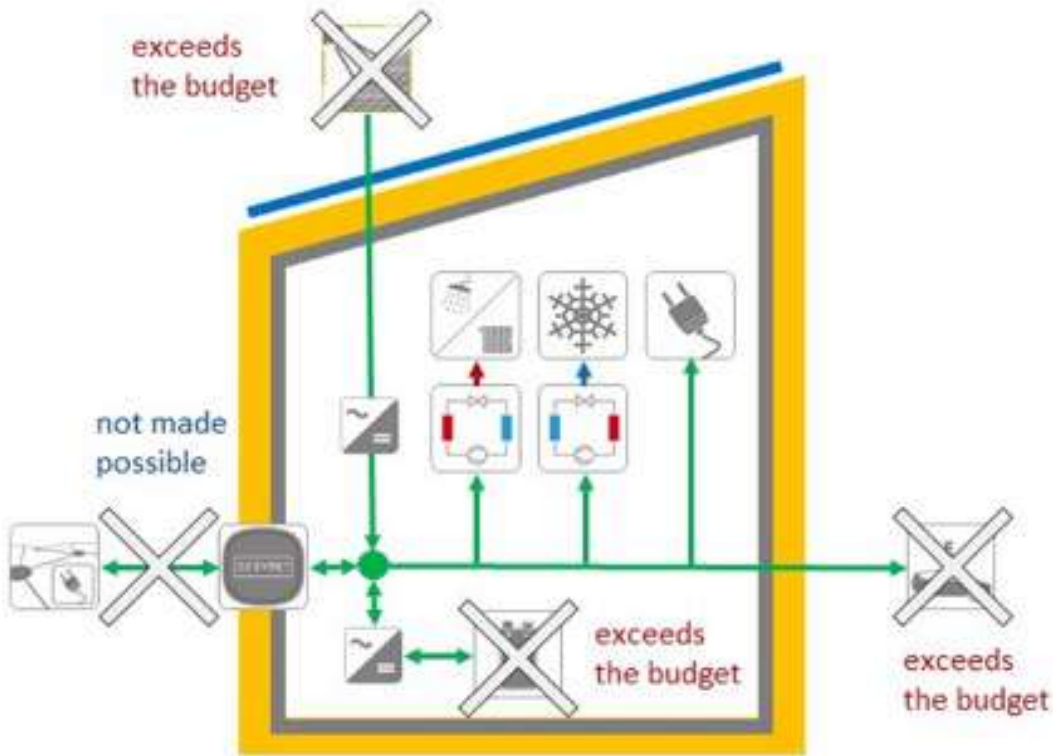
air tightness for times,  
when natural ventilation  
is not possible



Source: Eble Messerschmidt Partner,  
Energy Design Shanghai



Future-proof Design

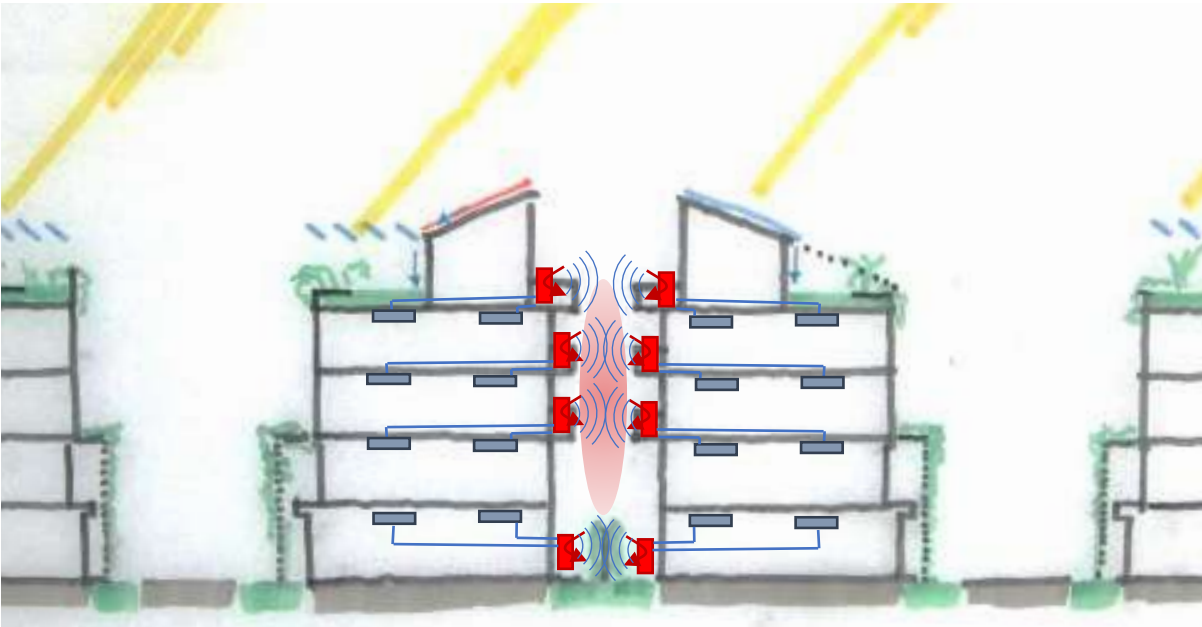


Source: Dirk Schwede



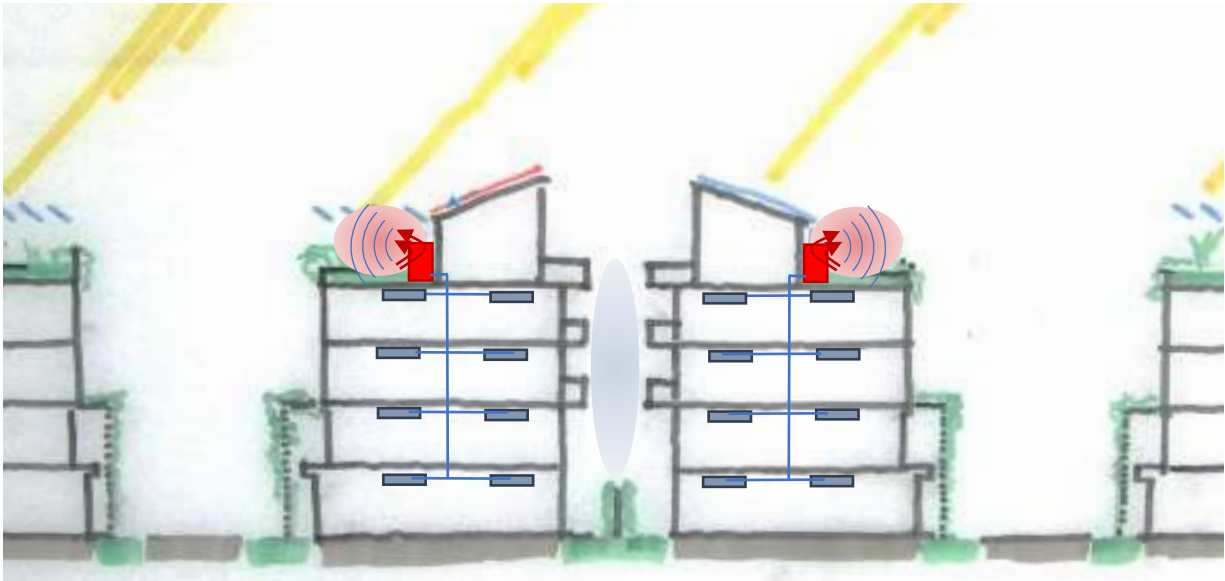


Energy Concepts: Basic Energy Concept



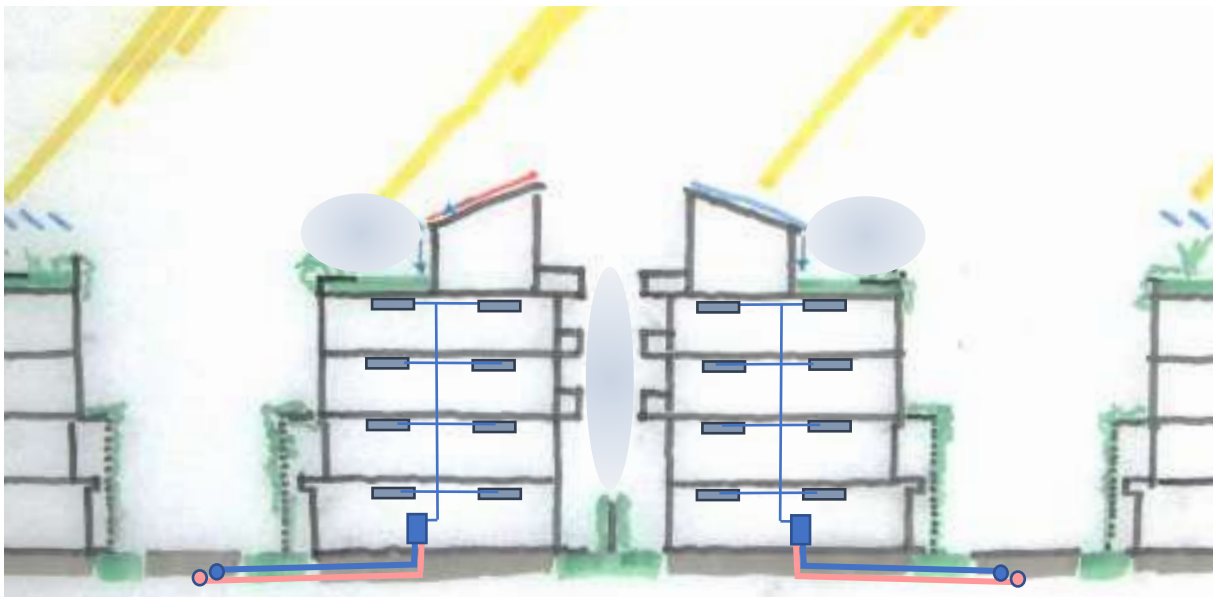


Energy Concepts: Advanced Energy Standard





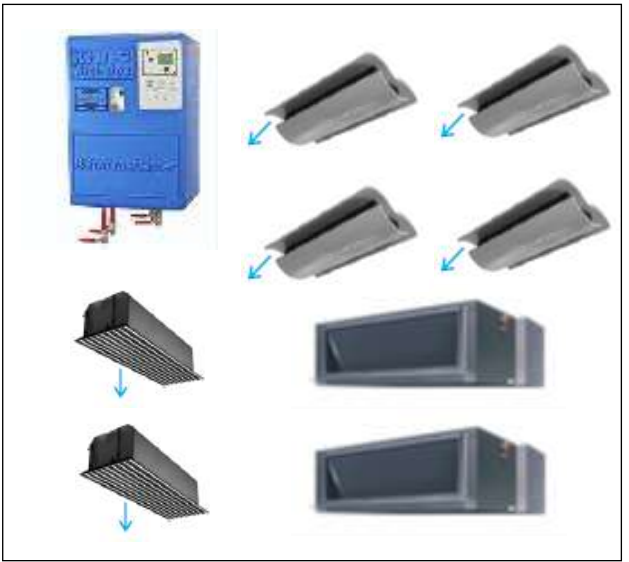
Energy Concepts: High-end Energy Solutions



central cooling generation



distribution







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1. ការចាប់ផ្តើមសន្និសីទ

OPENING CONFERENCE

2. ដំណើរនៃការសហការ

COLLABORATION PROCESS

3. ការចុះវិភាគទីស្នូល

SITE ANALYSIS

4. ផែនការចក្ខុវិស័យ

STRATEGIC VISION

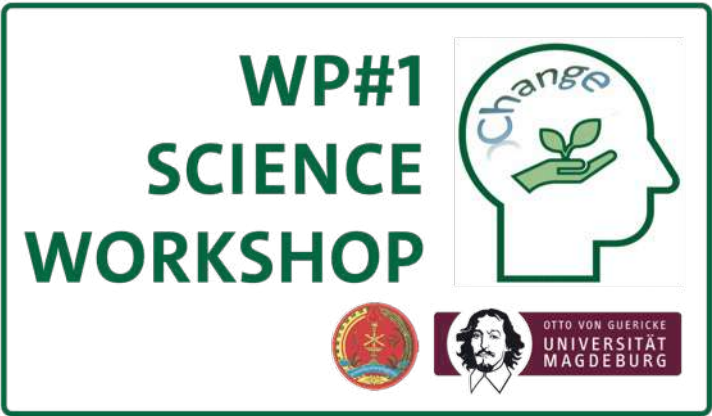
5. ដំណើរឆ្ពោះទៅមុខរបស់ផែនការធំ

WAY FORWARD



# Make People Part of the Process:

- Participation and Empowerment
- Perceived individual and collective efficacy
- Creating spaces and opportunities of community engagement



*Behaviour Change & Sustainability*





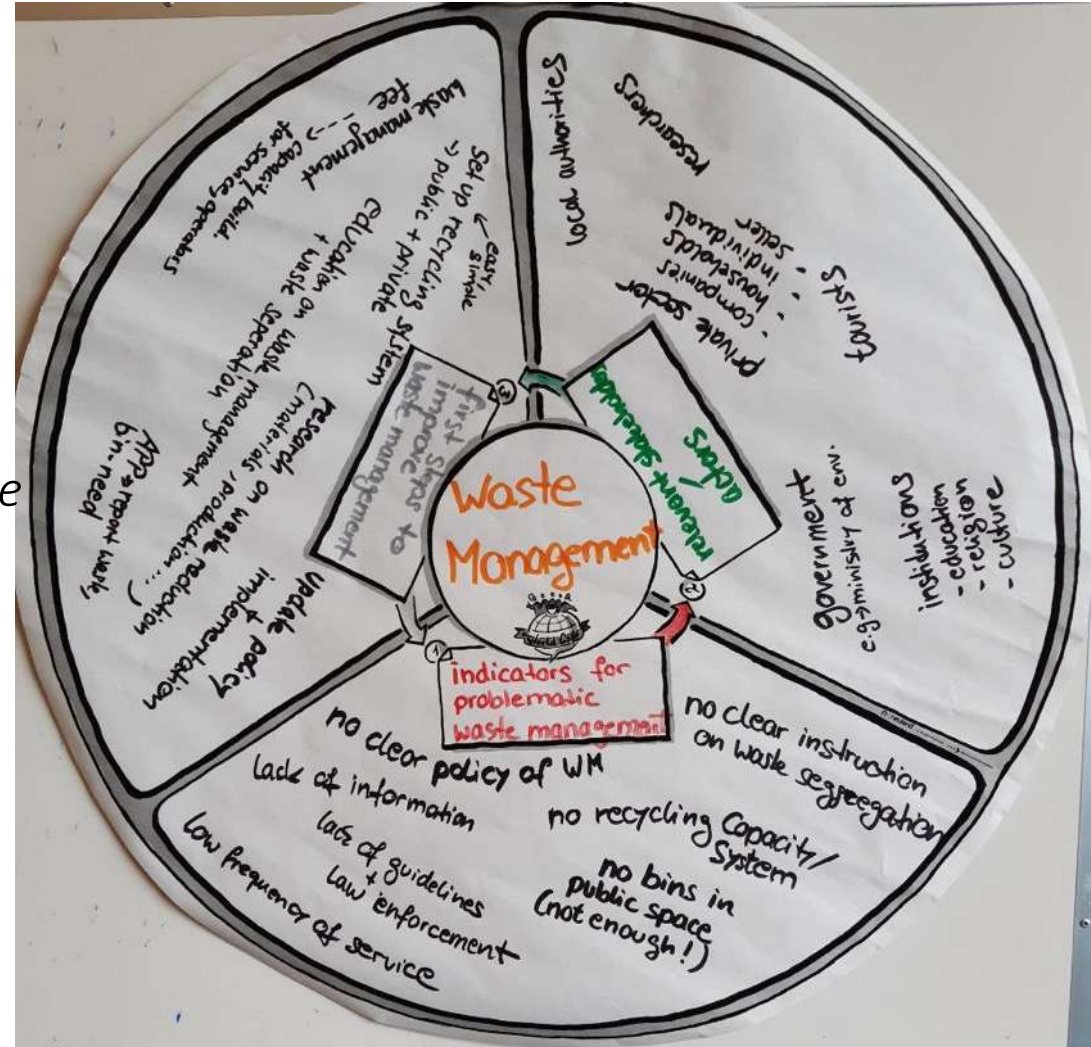


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## Waste Management

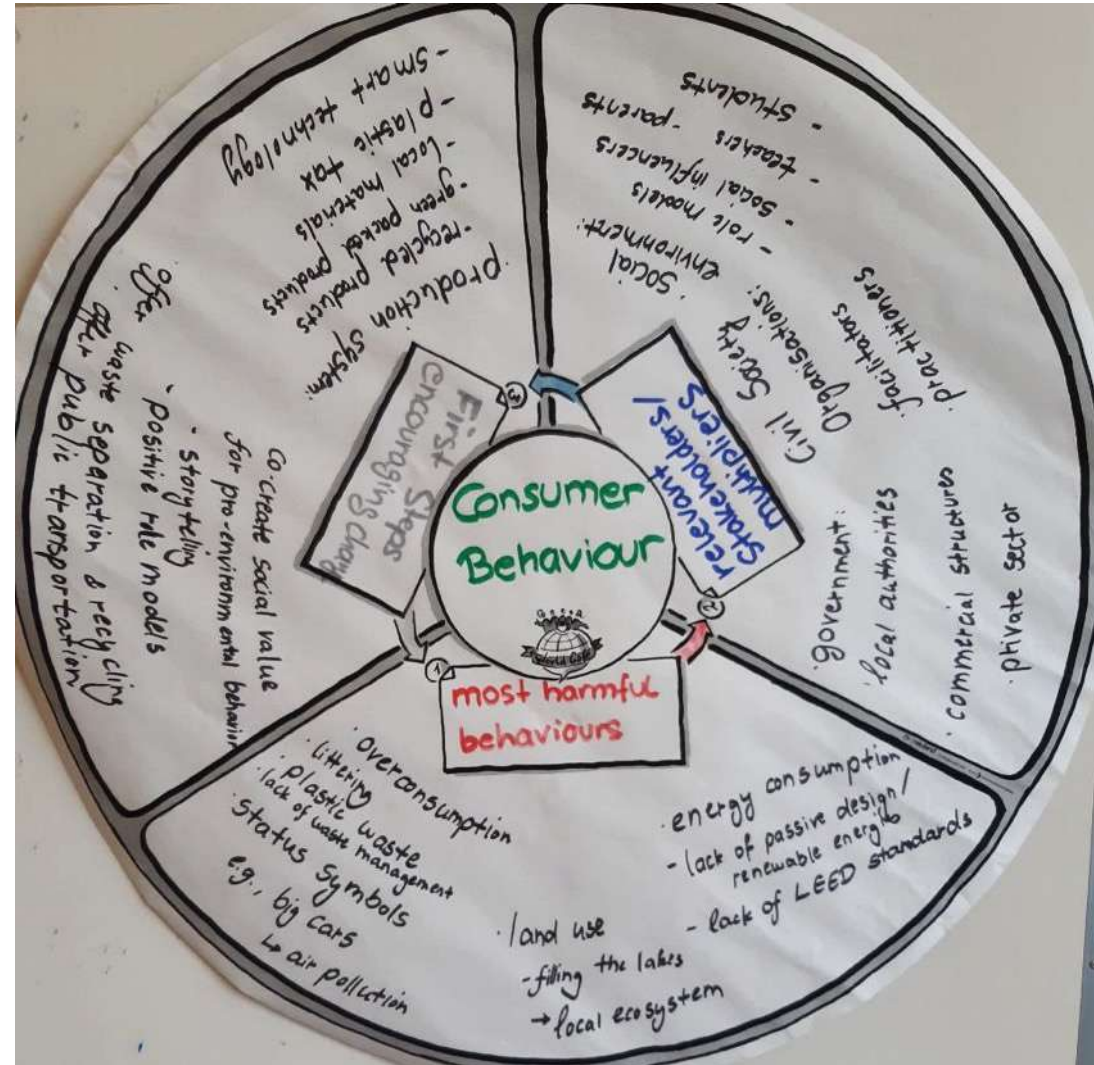
- Guidelines and law enforcement on waste management
- Clear instructions on waste management and recycling
- Provision of more bins in public spaces
- Implementation of an APP:
  - *report spaces where waste collection and bins are needed*
- Implementation of a waste management fee:
  - *the more waste you produce, the more you pay*
  - *revenues can be used to strengthen capacity of operating actors*





## Consumption Behaviour

- Create social values for pro-environmental consumption patterns
- Empower eco-friendly groups and role-models:  
→ *Social marketing / media campaigns*
- Offer waste separation and recycling options
- Offer public transportation options
- Local authorities:  
→ *Implement regulative guidelines that strengthen production systems with recycling, less package, local materials*





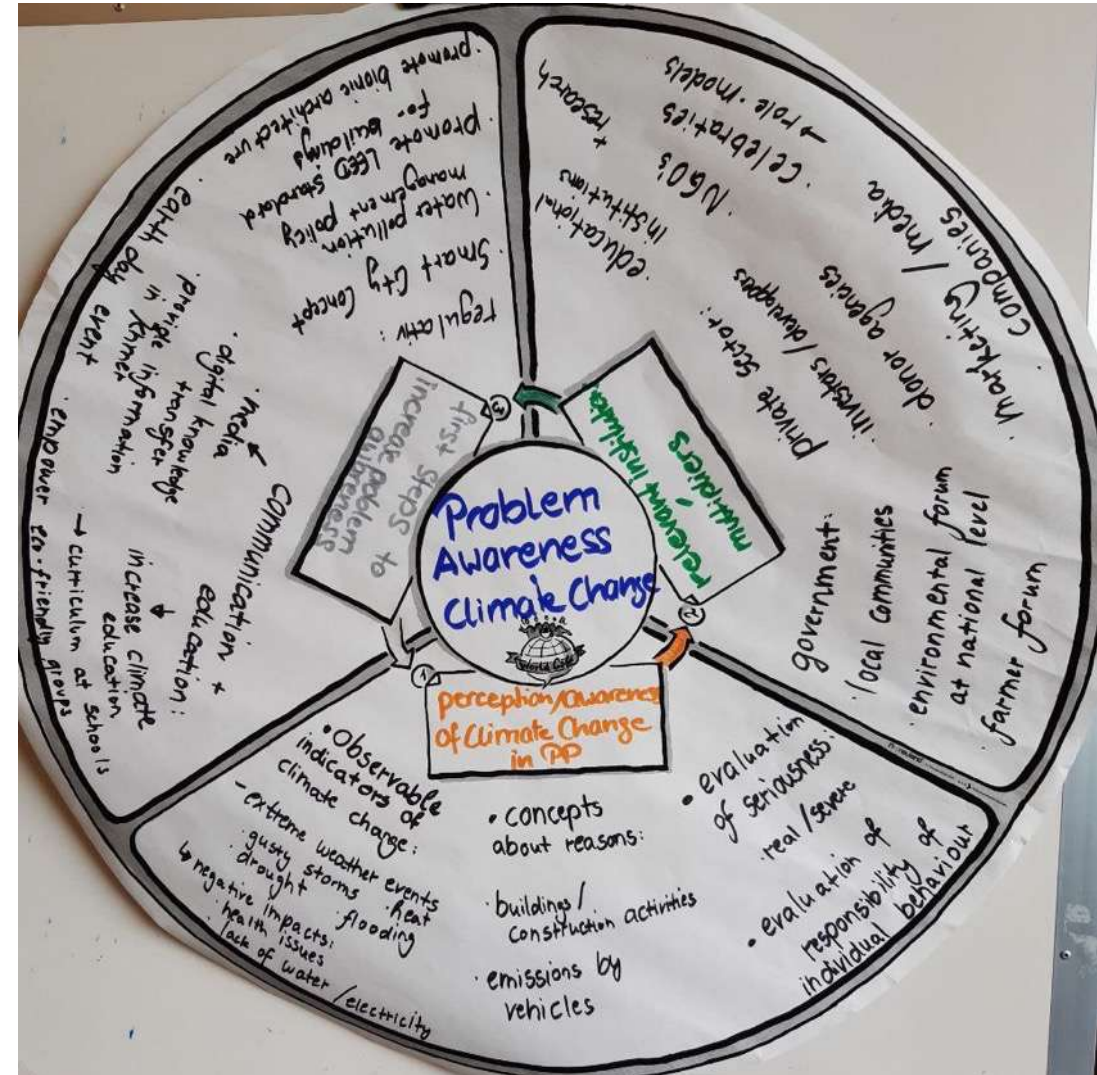


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## Problem Awareness of Climate Change

- Increase formal and informal climate change education
- Digital knowledge transfer
- Provide information in Khmer
- Empower eco-friendly groups and role-models:  
→ *Social marketing / media campaigns*
- Empower local communities and environmental forums:  
→ *Implement regulative guidelines that highlight the seriousness of global climate change and mitigate impacts*

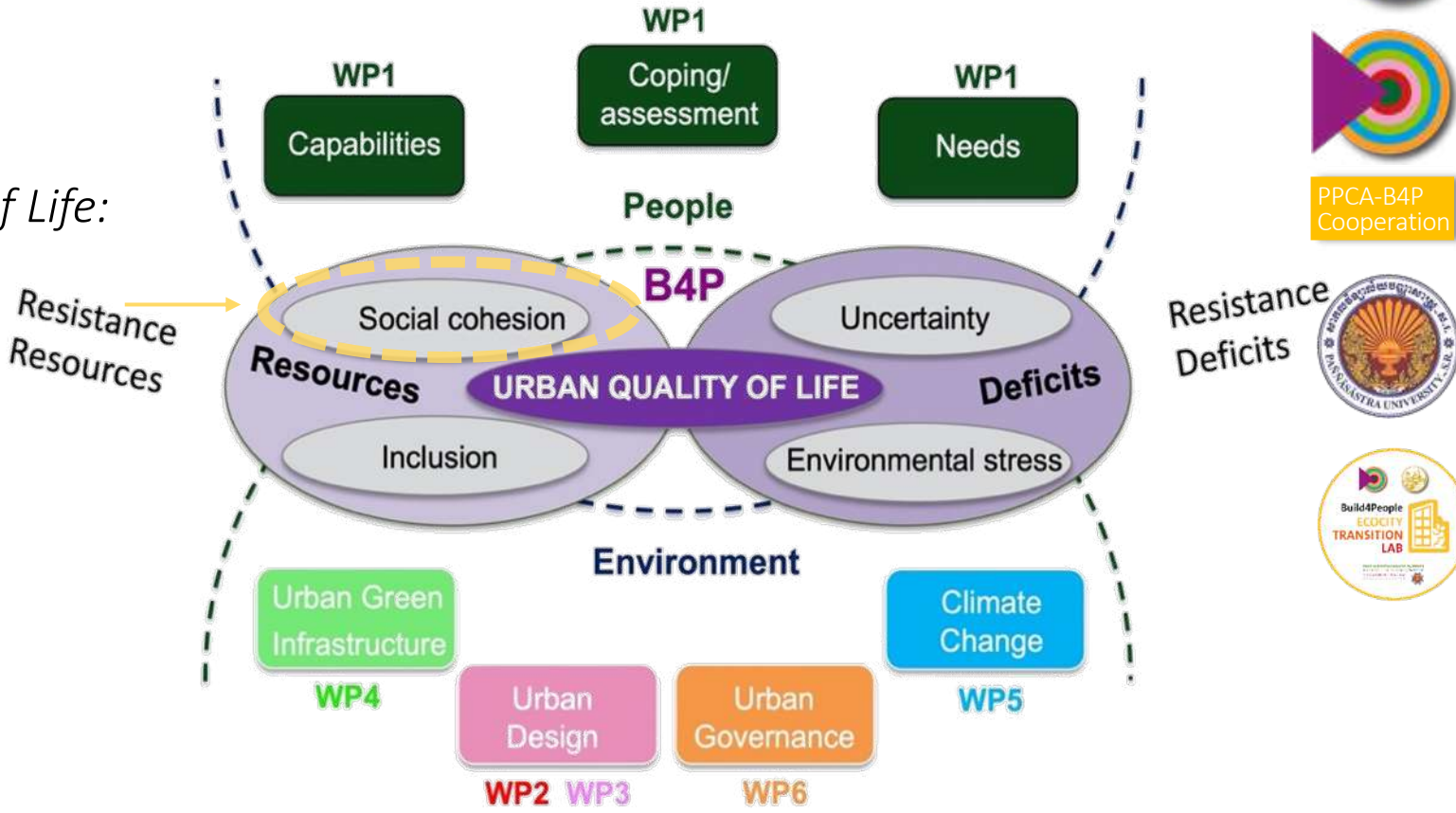




# Make People Part of the Process – Collective Resources

- Social cohesion in neighbourhoods
- Social capital
- Mutual help and joint power
- Collective capabilities

→ Empirical survey on Urban Quality of Life:  
- Data collection with a sub-sample  
in Chbar Ambov District





## Make People Part of the Process – Relational Resources

- Sharing customs and experiences
- Spaces for encounters – public and semi-private spaces for communication
- Sharing spaces at connective sections of Chbar Ambov:
  - *designing for social cohesion and connectivity*
  - *e.g., community centres, joint playgrounds, cultural and social activities*

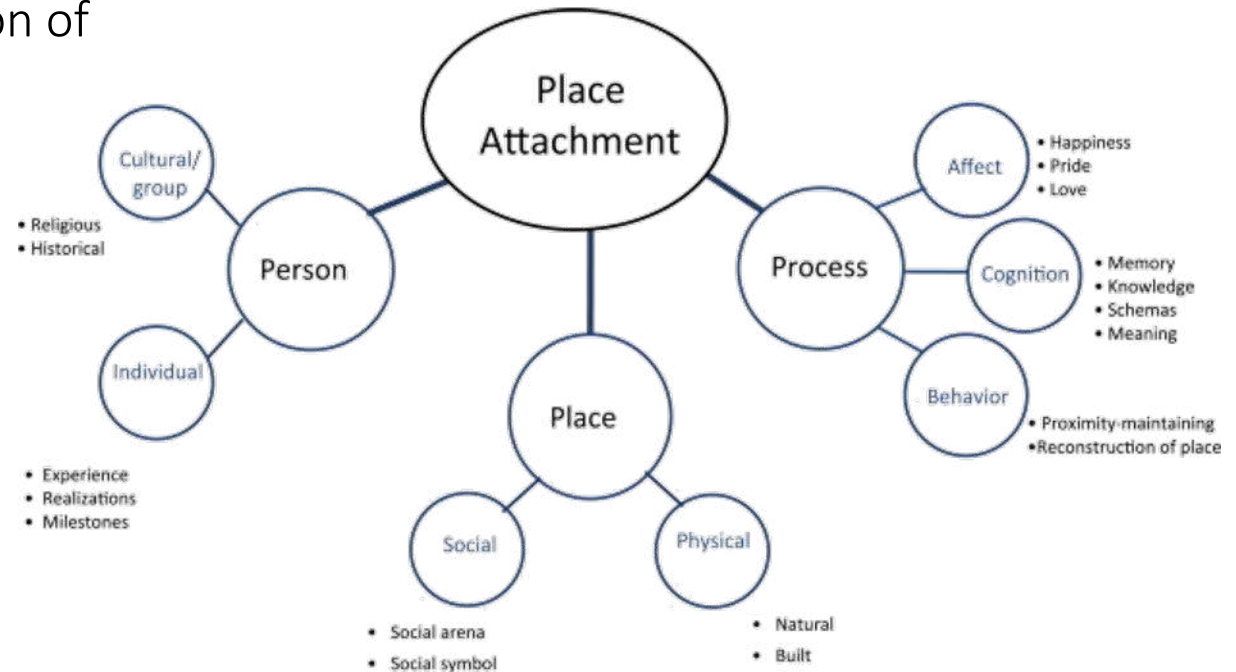






## Make People Part of the Process – Place Identity

- Support affective relationship between people and places  
→ *meaningful social places that relate to peoples identity*
- connecting people based on shared place identities
- local cultural flavour by people-led co-creation of symbols and meanings





## 1) Connecting Planning Criteria for Construction Permits from a Governance Perspective

Necessary interconnectivity planning criteria could include:

- **Mobility criteria:** Integration of borey into surrounding through mobility, creation of communities and places of exchange
- **Affordability criteria:** Different market segments increase social diversity
- **Two-way integration criteria:** Upgrade of existing areas adjacent to new developments







## 2) Connecting through mobility: Allow small-scale gated roads, connect main borey roads

### *Benefits for the developers*

- Current system of singular exits increases traffic hotspots at the exit/entrance
- Multiple access options increase residents' individual mobility choices
- More connectivity means more (buying) public; more vitalized streets and thus
  - Higher residential attractiveness and
  - Rising income generation possibilities for the borey developer through more commercial units
- Creation of safety through less rigid infrastructures
- Connecting through mobility: large-scale connections, small scale enclosures





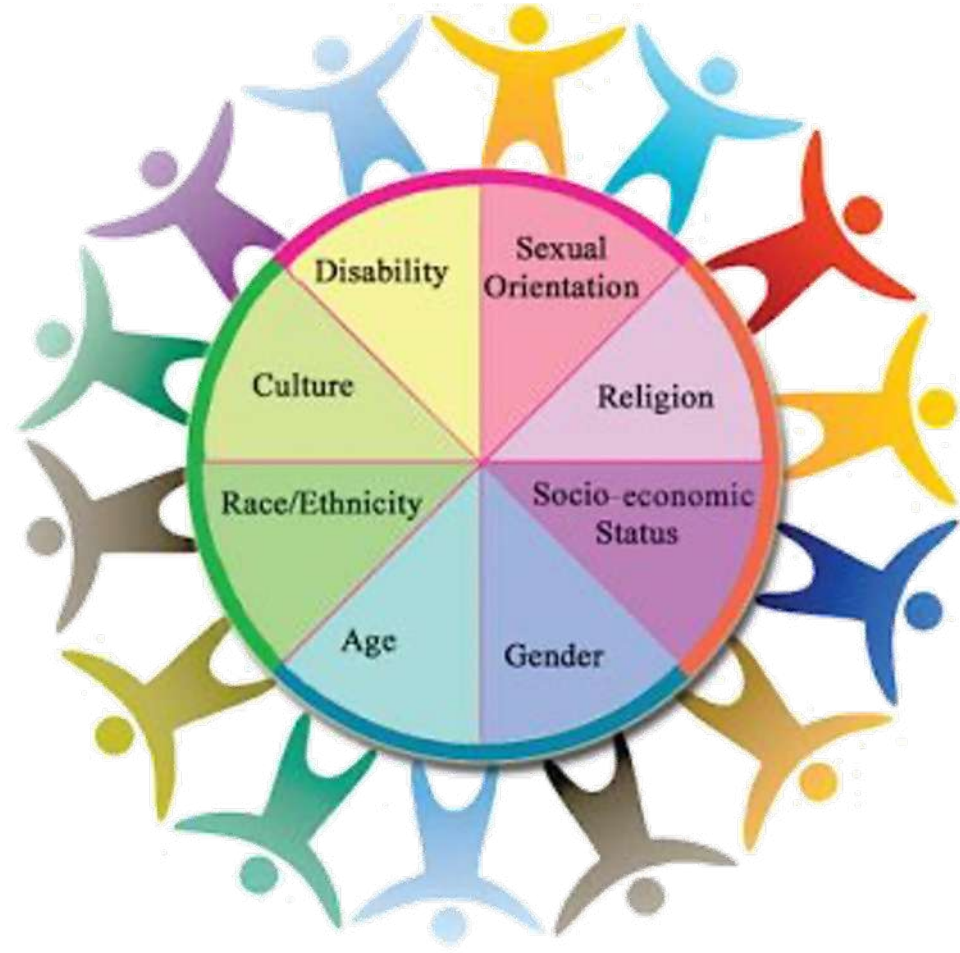


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### 3) Connecting through social diversity

- A specific share of 20-30 % of units of each borey development has to meet affordable housing criteria, otherwise no construction permission
- Lower-middle- and low-income units could be located at connection points and borey borders to allow for a smooth social transition across the neighbourhood
- Creation of places of exchange: Reducing physical and social barriers
- Exclusivity of select spatial high-income units could be maintained through enclosed cul-de-sacs







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Cooperation



## 4) Promoting connectivity from all sides: Physical upgrading of existing areas adjacent to new developments

- Facilitating community-based upgrading measures
- Increase feeling of inclusiveness, e.g. by facilitation of joint meetings of both groups (street festivals and other events)
- Developers could pay for an upgrade of the surroundings as they have an interest in livable surroundings of their borey
- Integration of projects into surroundings: From disconnected islands of wealth towards continental diversity
- Measures to increase self-identification of inhabitants (many with migration background) within Chbar Ambov district area





## 5) Conclusion from perspective of sustainable urban transformation

- ✓ Massive empowerment of local government needed (finance & human capacity, administrative powers, etc.)
- ✓ Support multi-dimensional interconnectivity through mobility and social diversity on both sides of the new and existing settlements
- ✓ Mix of regulative and market approaches to decrease spatial fragmentation
- ✓ Implementing Sustainable Urban Transformation approaches such as the co-development of envisioning and back-casting with communities on both sides of the wall





## Lessons Learnt from the Build4People ECTL 2022

- Municipality and Khan representatives, ministries, citizens and private developers agree that flooding, traffic and social integration are among the most pressing issues the city of Phnom Penh faces.
- Climate protection and climate adaptation are considered as important high level and overall goals for urban development, meaning e.g. climate responsive urban design, sustainable building and energy concepts, as well as waste management.
- The case study area Chbar Ampov is a burning glass: It includes a variety and diversity of locally and nationally very relevant urban development topics, such as large scale waterfront development, new gated communities and small scale infill development into already existing neighbourhoods.
- The focus on the sustainable neighbourhood design strategies should not just be on new developments, but should also consider „inclusion and integration strategies“ to improve the urban quality of life of the existing urban structures.
- Beneficial for a joint understanding of issues and for the future collaboration was to initiate the communication with the stakeholders in meetings and workshops in their offices.
- Implementing a collaborative ECTL process requires mutual recognition, intensive communication, strong personal dedication and patience.





### Lessons Learnt from the Build4People ECTL 2022

Follow-up activities shall include, among others:

- ✓ To deepen the transdisciplinary analysis in order to conclude a Chbar Ampov master plan with an outstanding sustainability profile.
- ✓ To elaborate on the sustainable neighbourhood development strategies based on the outcomes of the ECTL and B4P research results of all work packages.
- ✓ To develop early stages criteria for project developments in collaboration with the German Sustainable Building Council (DGNB).
- ✓ To organise additional workshops in order to strengthen the collaboration with city administration, ministries and private developers.
- ✓ To continue the cooperation with Cambodian Universities and particularly with students in order to increase the local knowledge on sustainable neighbourhood development.
- ✓ To compile best practice examples from Southeast Asia for an another adapted Build4People Poster Exhibition “Green Buildings and Sustainable Neighbourhoods”.





# ច្បារអំពៅ សម្រាប់អ្នកគ្រប់គ្នា

CHBAR AMPOV FOR ALL!



## ភ្នំពេញ ច្បារអំពៅ ការសិក្សាការផ្លាស់ប្តូរឆ្ពោះទៅទីក្រុងអេកូឡូស៊ី

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Page 199



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Enhancing Quality of Life through Sustainable Urban Transformation in Cambodia

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Thanks so much  
for your attention!  
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