

Implementation Strategies
For Mobility Based Development
In Bandung City, Indonesia



REVISITED COMPOSITION



urban sprawl
vs
sustainable
development



Bandung,
Indonesia



sustainable urban
development

mobility based
development

urban redevelopment



2040



structure vision
Bandung 2040

development
framework & strategy

conceptual design

1st QUARTER



URBAN SPRAWL
phenomenon



PROBLEM
analysis



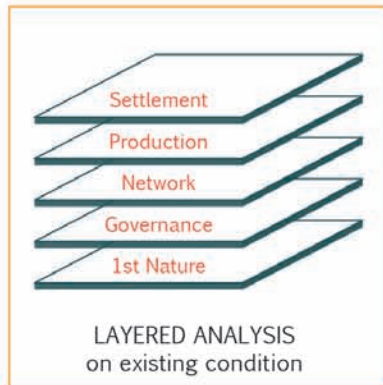
CONTEXT
selection



RESEARCH
questions

2nd QUARTER

WHERE should
the new centralities
be located?



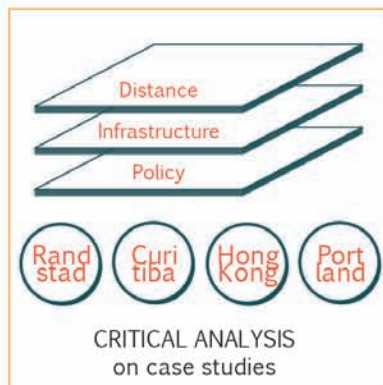
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**STRUCTURE
VISION**



HOW will
the new centralities
be incorporated
to the urban network?

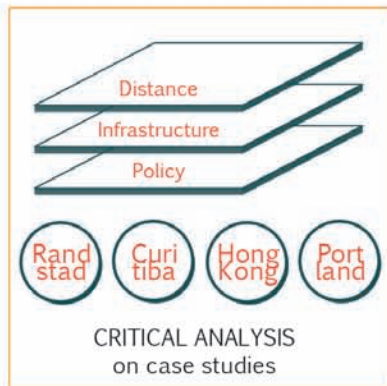


+



STRATEGY

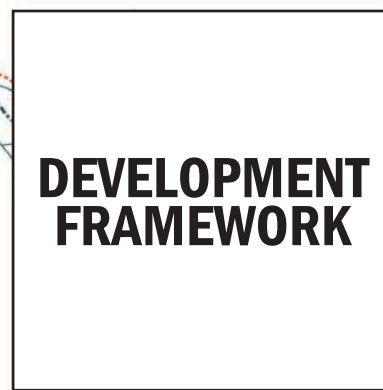
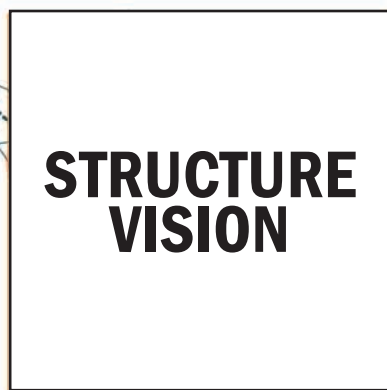
HOW will
the new centralities
be incorporated
to the urban network?



STRATEGY

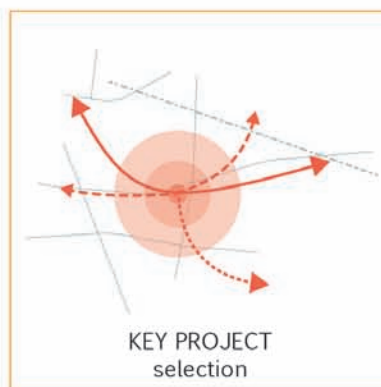
3rd QUARTER

HOW to
implement this plan
in Bandung City?



4th QUARTER

HOW would
the implementation
of this plan be?



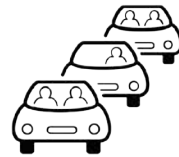




sprawling development



suburban



congestion



time-consuming



air pollution



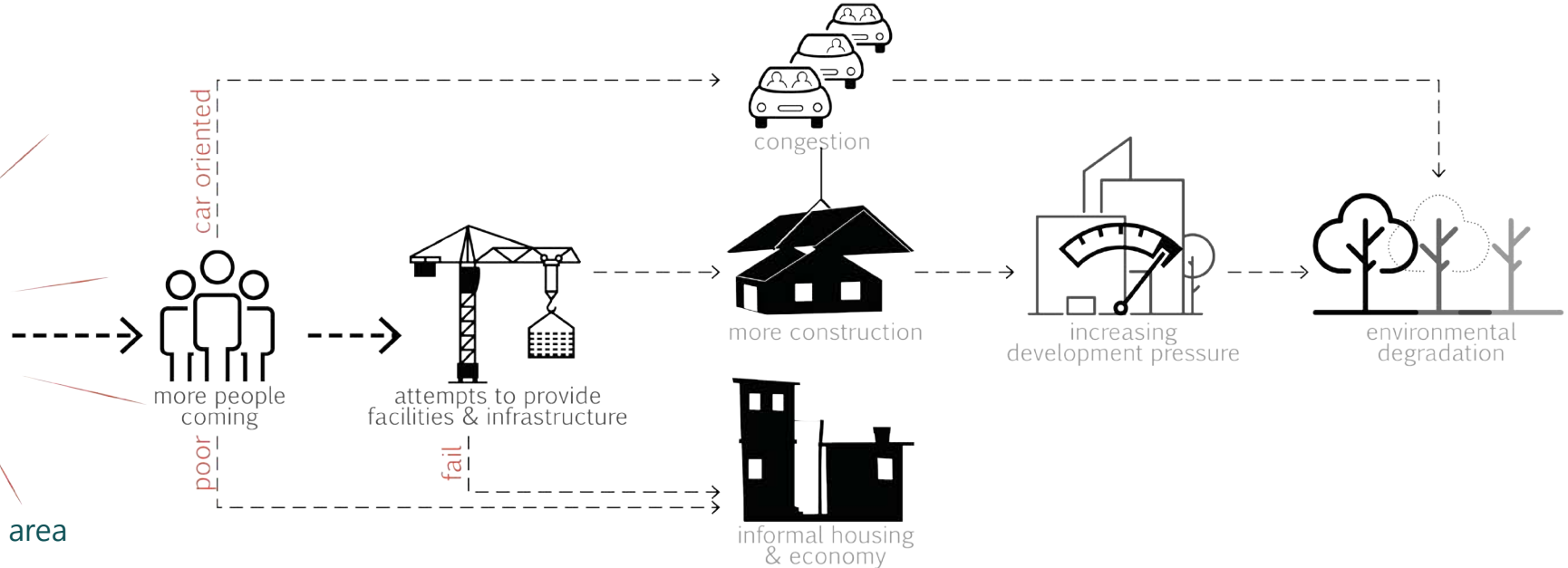
city center

happens between city centre
and sub-urban area



attractive
city center

happens within city centre area



**WHAT DOES URBAN
SPRAWL DO?**





LOCATION



Jakarta



Jakarta-Cikampek Toll Road

155 km

Cipularang Toll Road

Padalarang-Bandung Toll Road

Bandung

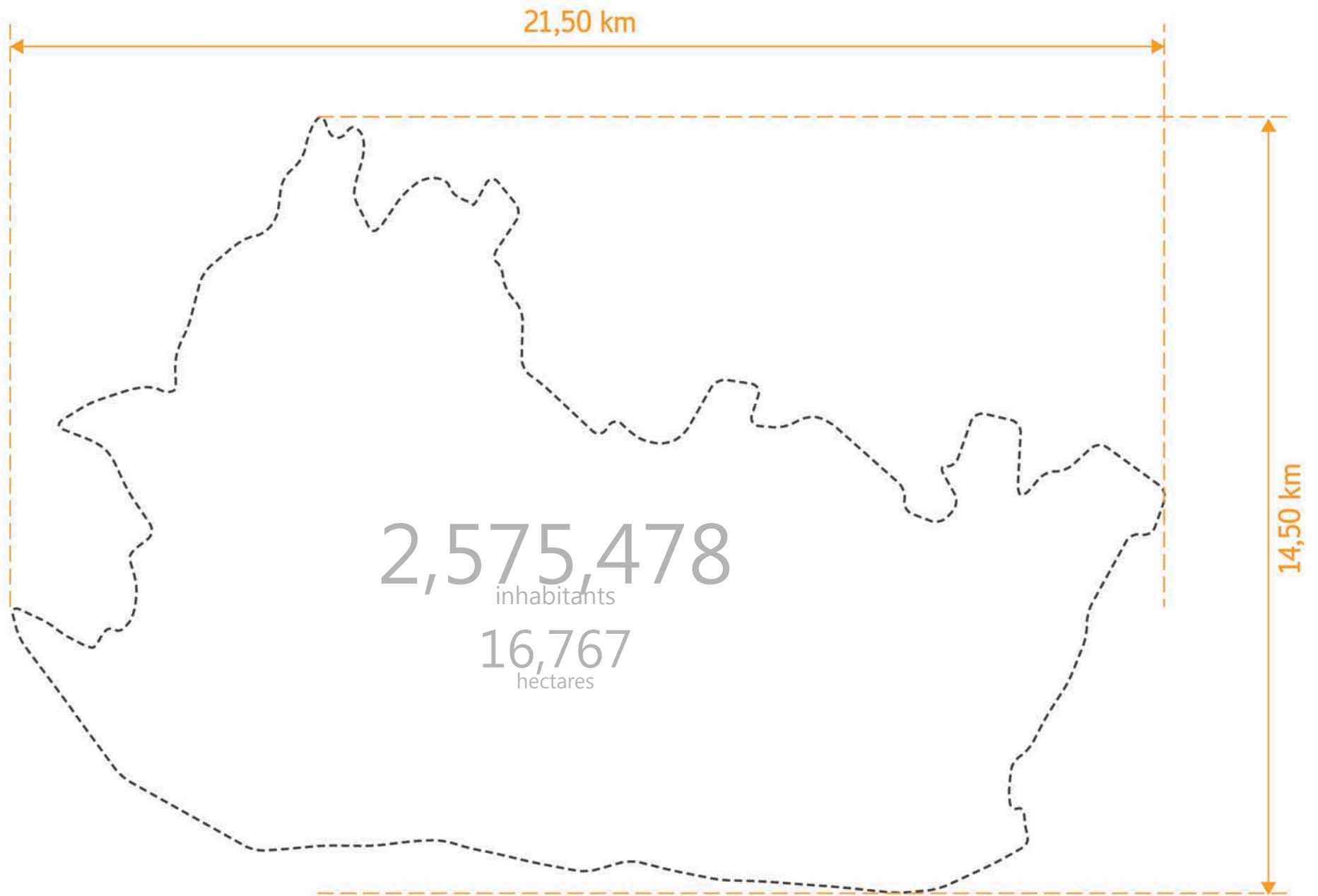


148 km

Cirebon

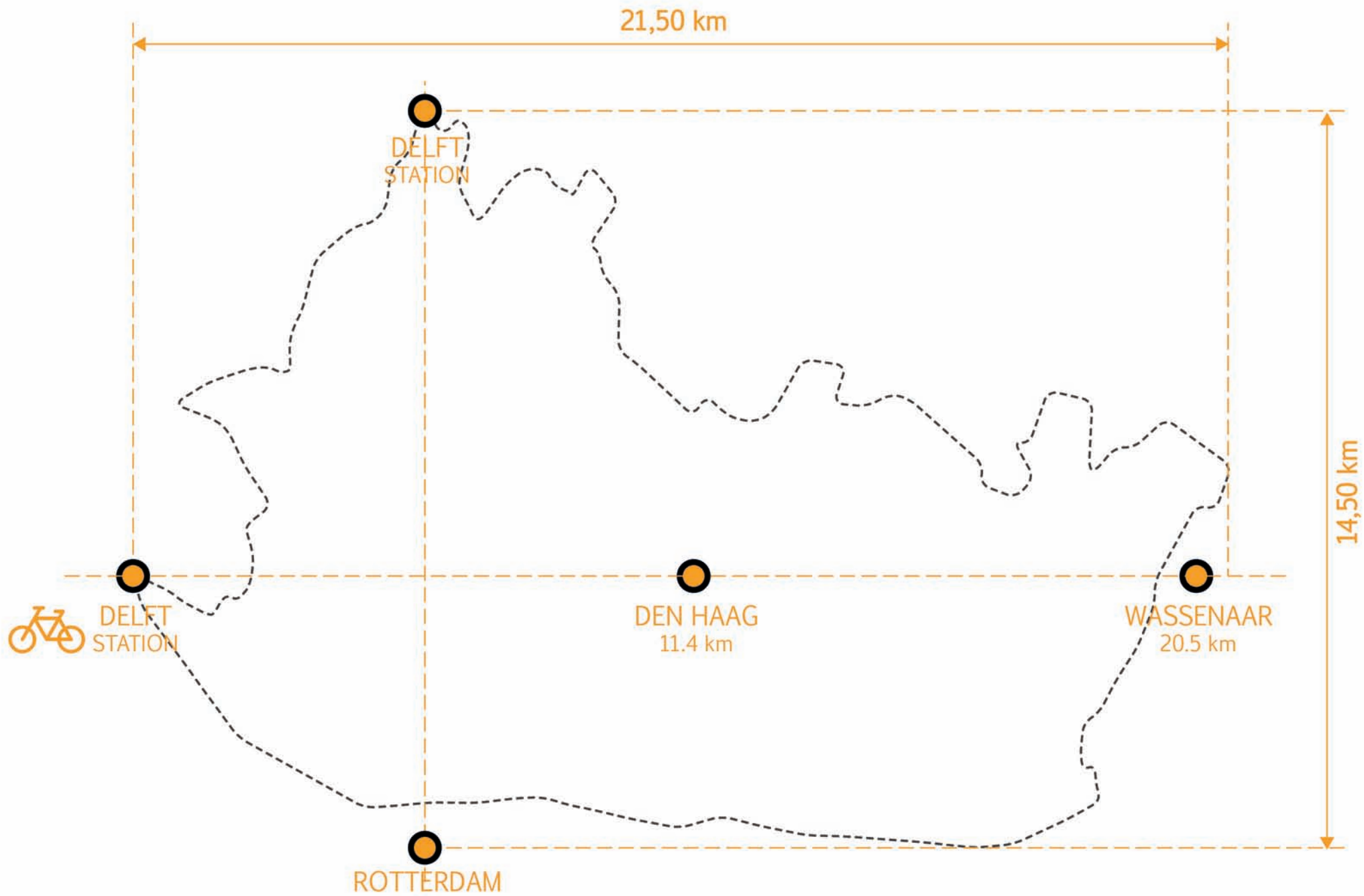


WEST JAVA
PROVINCE



**SIZE OF
THE CITY**





COMPARING THE DISTANCE





Author, 2011



<http://forum.detik.com/picture.php?albumid=1180&pictureid=5908>



<http://www.beritaaktual.com/wp-content/uploads/2014/10/bandung.jpg>



https://aprikuma.files.wordpress.com/2012/03/img_1157.jpg



<http://baju3500.com/wp-content/uploads/2014/03/Grosir-Pasar-Baru-Bandung.jpg>

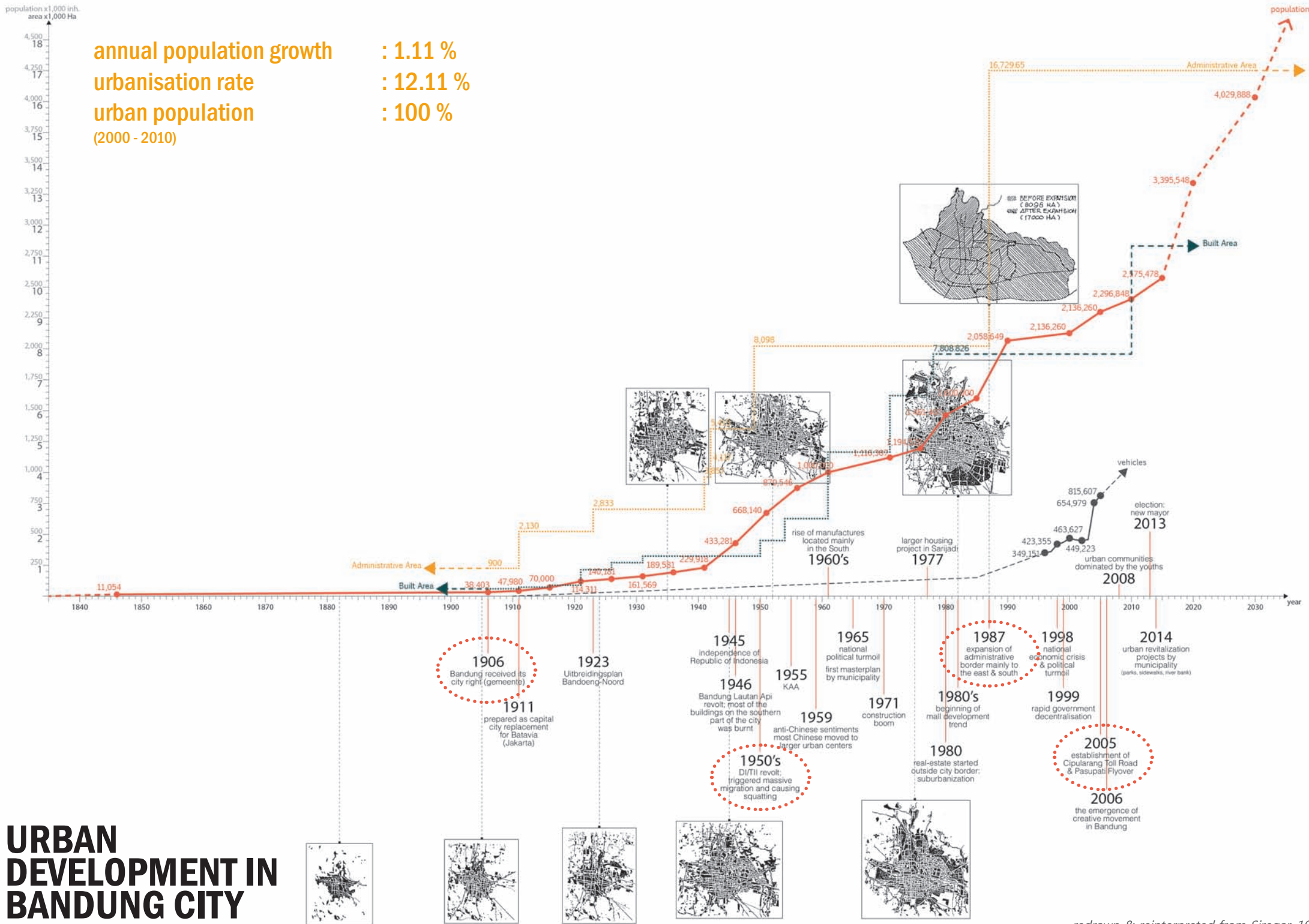
http://cdn-2.tstatic.net/tribunnews/foto/images/preview/20130914_pembangunan-rumah-mewah-di-kawasan-dago_252213

<http://static.panoramio.com/photos/large/29491225.jpg>

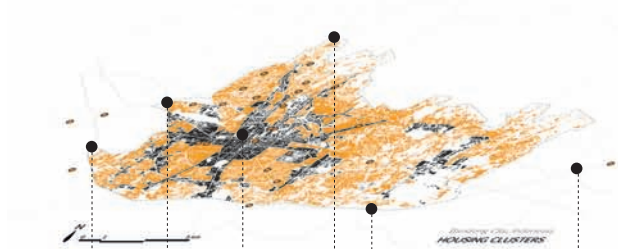
<http://sp.beritasatu.com/media/images/original/20140303100107118.jpg>

population x1,000 inh.
area x1,000 Ha

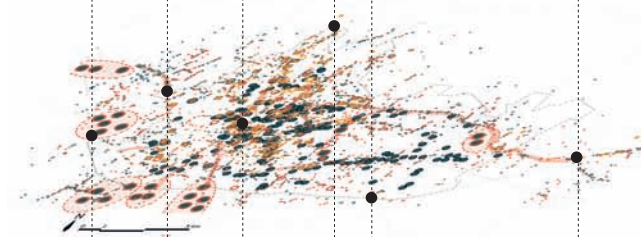
annual population growth : 1.11 %
urbanisation rate : 12.11 %
urban population : 100 %
(2000 - 2010)



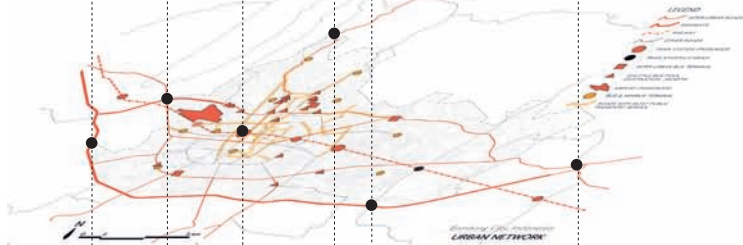
built environment
concentration of
population
housing cluster



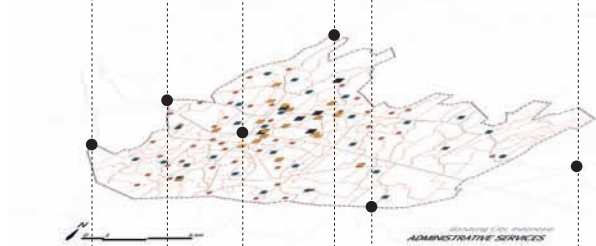
higher education
offices
industries
commercial
'horeca'



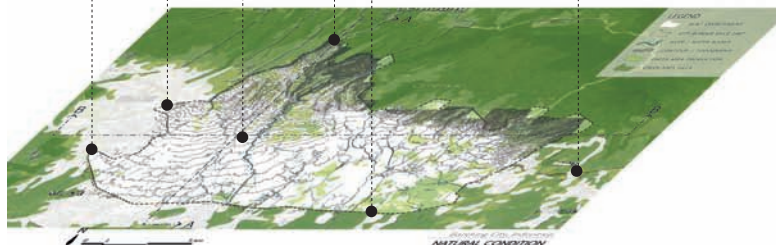
highway
railway
streets
stations
terminals
accessibility



governance units
administrative border
planning units

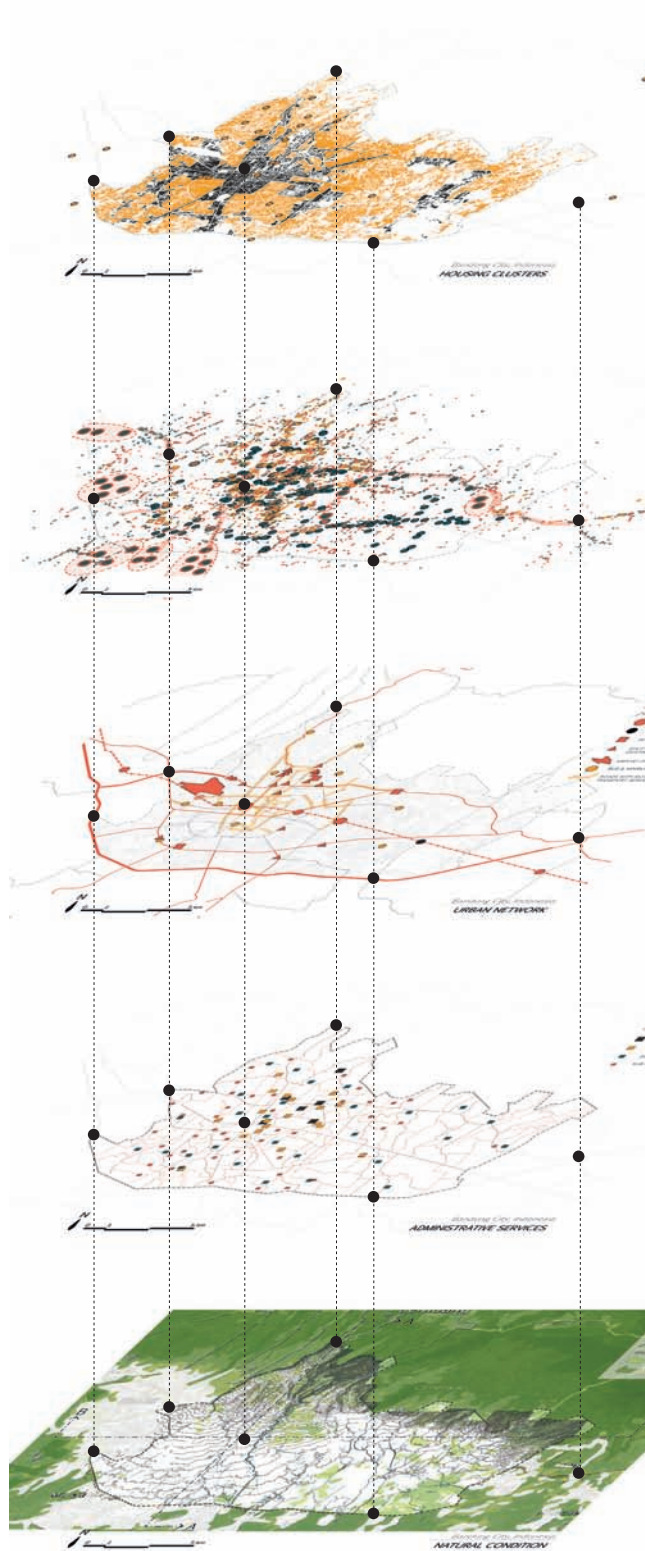


topography
water bodies
green area



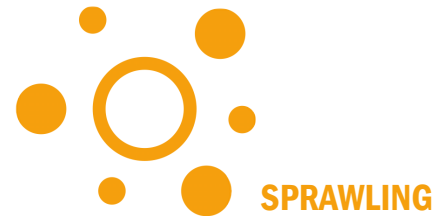
LAYERED ANALYSIS

LAYERED
ANALYSIS



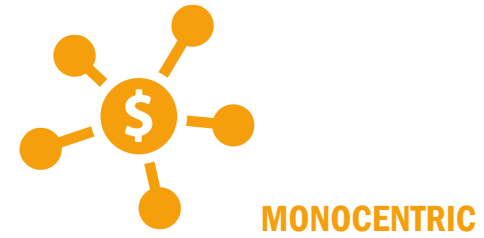
Settlement

*built environment
concentration of
population
housing cluster*



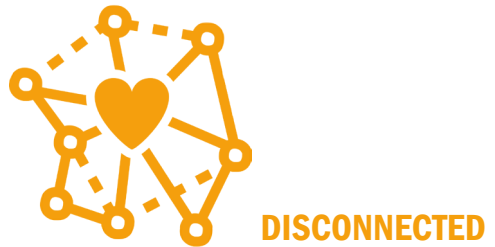
Urban Centre

*higher education
offices
industries
commercial
'horeca'*



Urban Network

*highway
railway
streets
stations
terminals
accessibility*



Governance

*governance units
administrative border
planning units*



First Nature

*topography
water bodies
green area*





RESEARCH QUESTION

**How could comprehensive planning on
mobility based development help to promote
sustainable urban development
in Bandung City, Indonesia?**

What are the drivers of
urban development in
Bandung City?

What is mobility based
development and how
is it implemented?

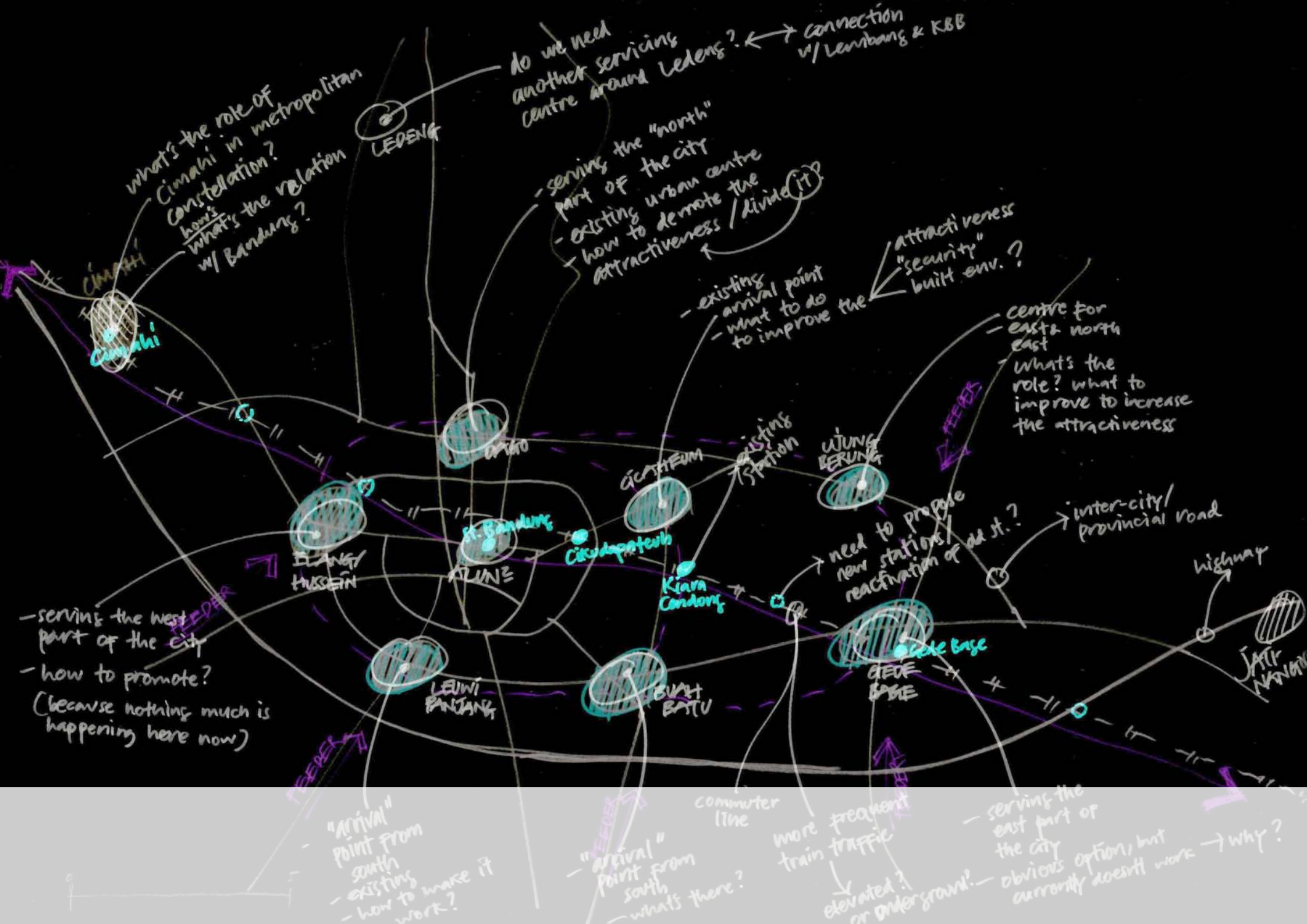
How does the new
physical structures
perform to promote
sustainability?

OBJECTIVE

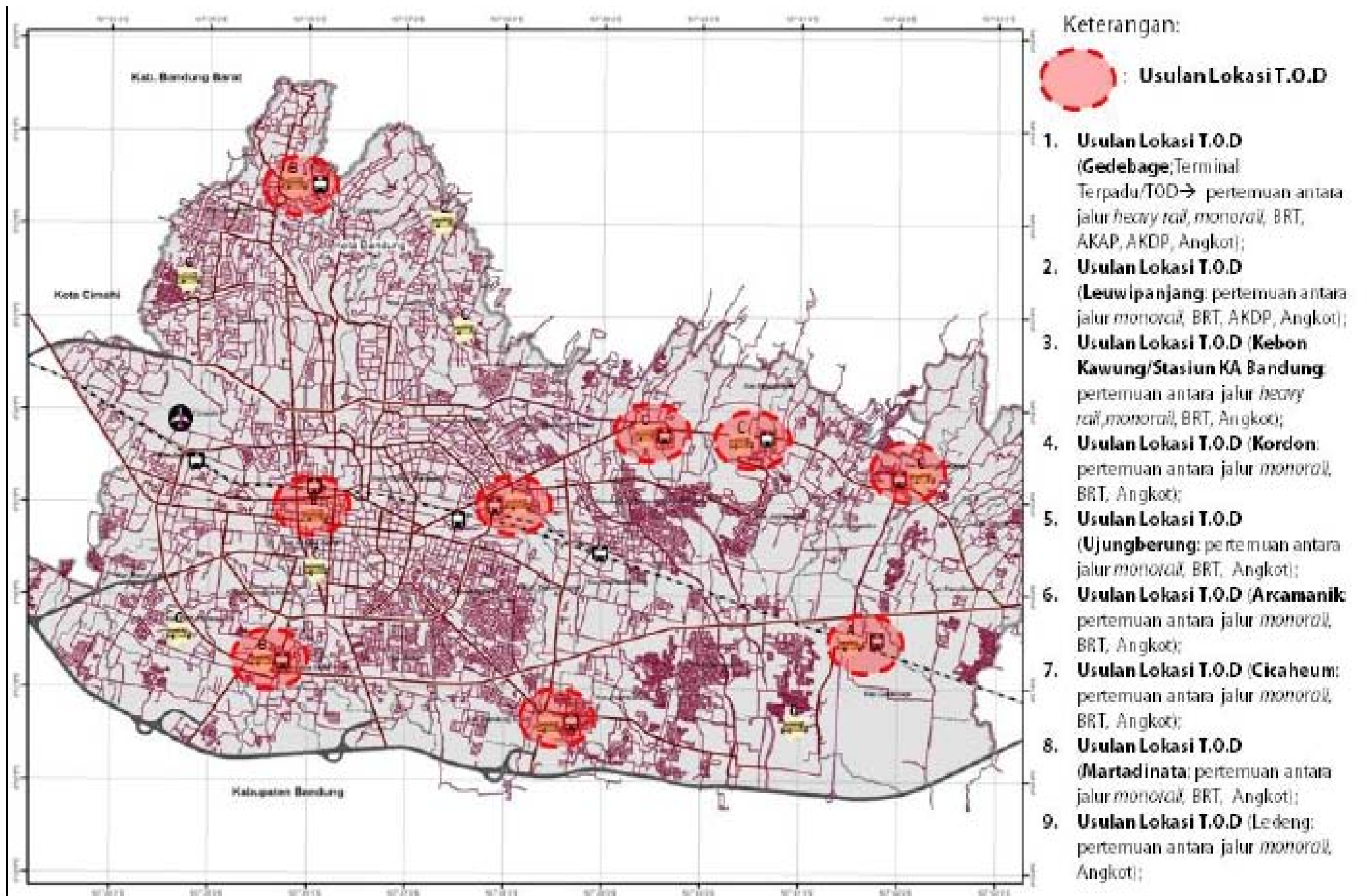
**to encourage sustainable
development in Bandung City by
providing comprehensive mobility
plan and urban redevelopment
strategies**

VISION

in 2040,
Bandung can thrive from
the variety of urban centres,
ease of access,
and better environment quality.





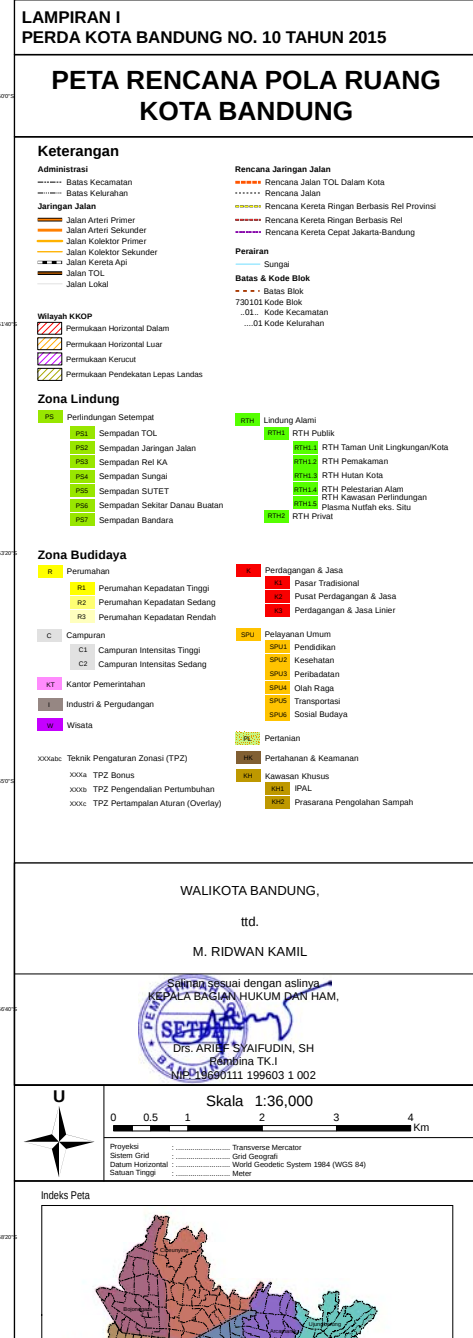


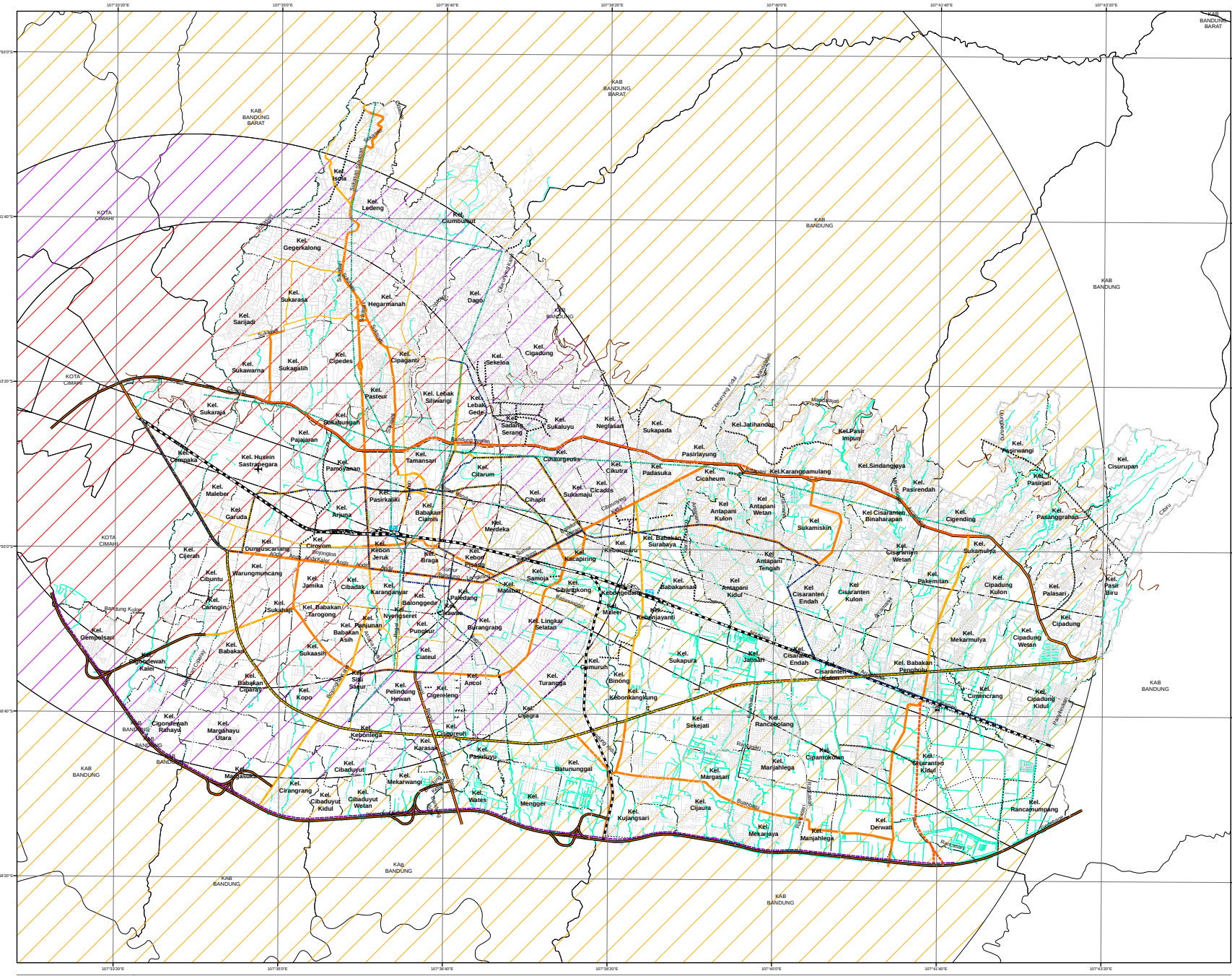
PROPOSED T.O.D. LOCATIONS

Source: Review of 2013's Masterplan and Draft for Mayor's Regulation on Transportation in Bandung City (Bappeda Kota Bandung, 2013)

LAND-USE PLAN

Source: Detailed Spatial Planning for Bandung City (Dinas Tata Ruang dan Cipta Karya Kota Bandung, 2015)





LAMPIRAN II
PERDA KOTA BANDUNG NO. 10 TAHUN 2015

PETA RENCANA JARINGAN PERGERAKAN

Keterangan

Administrasi

- Batas Kecamatan
- Batas Kelurahan

Jaringan Jalan

- Jalan Arteri Primer
- Jalan Arteri Sekunder
- Jalan Kolektor Primer
- Jalan Kolektor Sekunder
- Jalan Kereta Api
- Jalan TOL
- Jalan Lokal

Rencana Jaringan Jalan

- Rencana Jalan TOL Dalam Kota
- Rencana Jalan
- Rencana Kereta Ringan Berbasis Rel Provinsi
- Rencana Kereta Gantung (Cable Car)
- Rencana Kereta Ringan Berbasis Rel
- Rencana Kereta Cepat Jakarta Bandung

Perairan

- Sungai

Wilayah KKOP

- Permukaan Horizontal Dalam
- Permukaan Horizontal Luar
- Permukaan Kemondong
- Permukaan Pendekatan Lepas Landas

Batas & Kode Blok

- Batas Blok
- 730101 Kode Blok
- ...01... Kode Kecamatan
- ...01 Kode Kelurahan

Skala 1:36,000

0 0.5 1 2 3 4 Km

Proyeksi : Transverse Mercator
Sistem Grid : Grid Geografi
Datum Horizontal : World Geodetic System 1984 (WGS 84)
Satuan Tinggi : Meter

Indeks Peta

MOBILITY NETWORK PLAN
Source: Detailed Spatial Planning for Bandung City (Dinas Tata Ruang dan Cipta Karya Kota Bandung, 2015)



SWK Bojonagara	Kecamatan Sukasari, Kecamatan Sukajadi, Kecamatan Cicendo, dan Kecamatan Andir
SWK Cibeunying	Kecamatan Cidagad, Kecamatan Coblong, Kecamatan Bandung Wetan, Kecamatan Sumur Bandung, Kecamatan Cibeunying Kidul, dan Kecamatan Cibeunying Kalér
SWK Tegallega	Kecamatan Bandung Kulon, Kecamatan Babakan Ciparay, Kecamatan Bojonglila Kalér, Kecamatan Bojonglila Kidul, dan Kecamatan Astanajanya
SWK Karees	Kecamatan Regol, Kecamatan Lingseng, Kecamatan Kiarascondong, dan Kecamatan Batununggal
SWK Arcamanik	Kecamatan Arcamanik, Kecamatan Mandalajati, Kecamatan Antapani, Kecamatan Pangalengan, dan Kecamatan Pangreh
SWK Ujungberung	Kecamatan Ujungberung, Kecamatan Cibiru, Kecamatan Cimahi, dan Kecamatan Pangalengan
SWK Kordon	Kecamatan Bandung Kidul dan Kecamatan Buahbatu
SWK Gedebage	Kecamatan Gedebage dan Kecamatan Rancaeuri

TRAVELAPOLIS



Tujuan Penataan Ruang SWK Cibeunying:

Travelopolis yang merupakan Perlindungan Bangunan Heritage dan Pusat Kuliner



AEROBIOPOLIS



Tujuan Penataan Ruang SWK Bojonagara:

mewujudkan perlindungan Kawasan Bandara dan Industri Strategis (Aerobiopolis)



KARYAPOLIS



Tujuan Penataan Ruang SWK Karees:

Pengembangan Kawasan Kreatif Terpadu (Karyapolis).



MEDIAPOLIS



Tujuan Penataan Ruang SWK Tegallega:

Pengembangan Industri Kreatif (Mediapolis)



EKSIBISIOPOLIS



Tujuan Penataan Ruang SWK Kordon:

Pengembangan fasilitas dan penyelenggaraan event-event sebagai etalase produk karya dan jasa (Eksibisiopolis).



TEKIOPOLIS



Tujuan Penataan Ruang SWK Gedebage:

Pengembangan Kawasan yang bersinergikan antara pendidikan tinggi, ekonomi kreatif, komersial dan pusat pemerintahan



SUNDAPOLIS



Tujuan Penataan Ruang SWK Ujungberung:

Pengembangan Seni Budaya Berbasis Masyarakat (Sundapolis)



SPORTIPOLIS



Tujuan Penataan Ruang SWK Arcamanik:

Pengembangan pusat pembinaan potensi Olahraga (Sportipolis).



DINAS TATA RUANG
DAN CIPTA KARYA
PEMERINTAH KOTA BANDUNG

RENCANA DETAIL TATA RUANG KOTA BANDUNG 2015-2035

TUJUAN PENATAAN RUANG
SUB WILAYAH KOTA

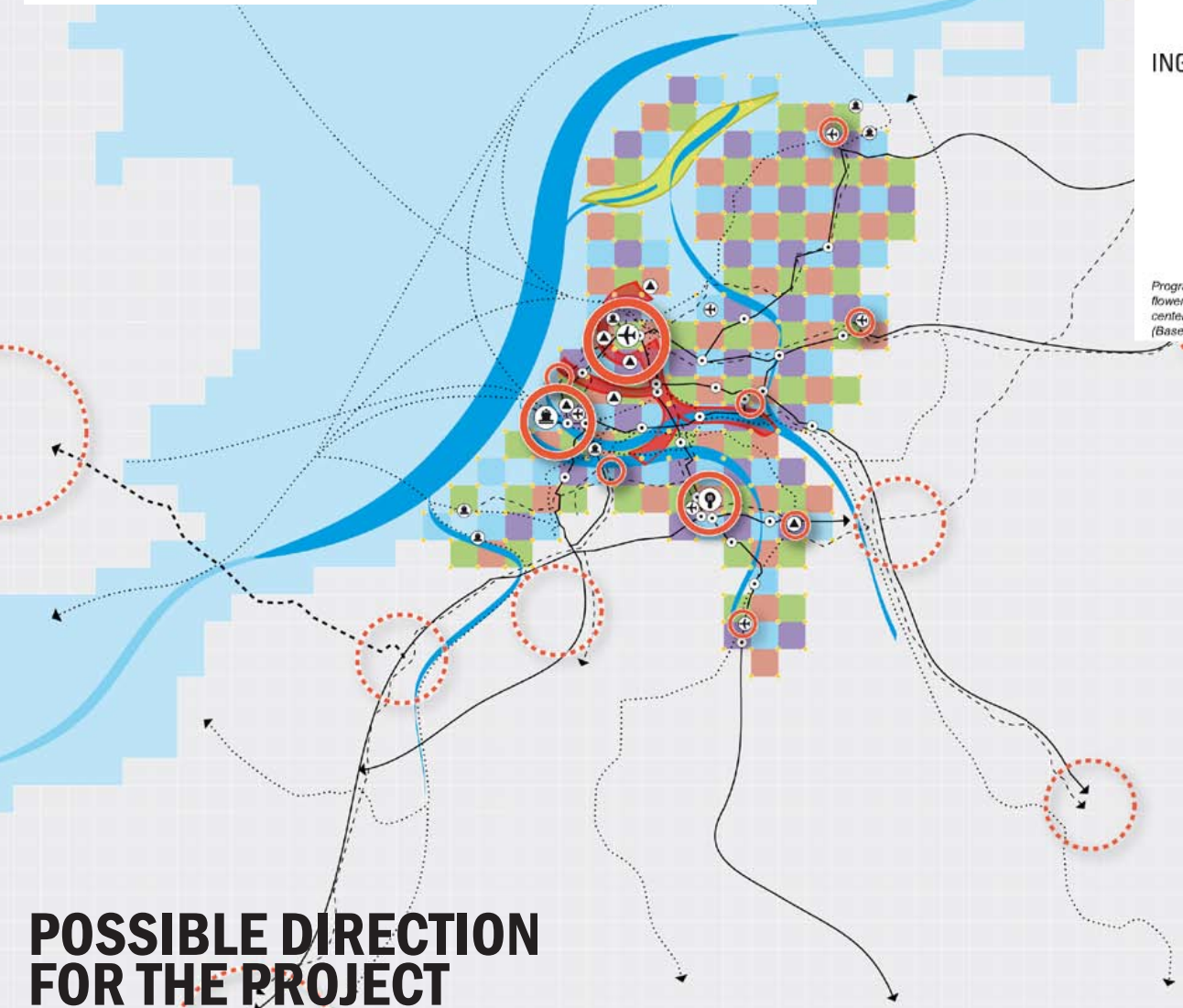


SUB-REGIONS' DEVELOPMENT DIRECTION

Source: Brochure of Detailed Spatial Planning for Bandung City
(Dinas Tata Ruang dan Cipta Karya Kota Bandung, 2015)

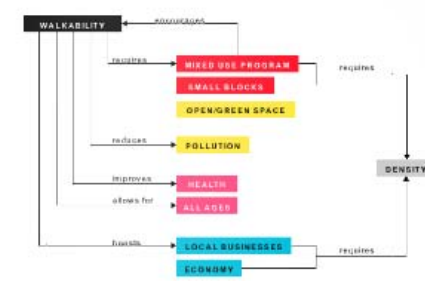
Structuurvisie Infrastructuur en Ruimte

Nederland concurrerend, bereikbaar,
leefbaar en veilig

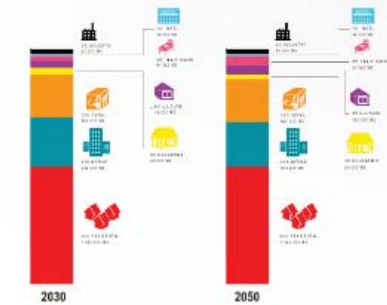


**POSSIBLE DIRECTION
FOR THE PROJECT**

Source: <https://www.rijksoverheid.nl/documenten/rapporten/2012/03/13/structuurvisie-infrastructuur-en-ruimte>



Benefits of walkability.

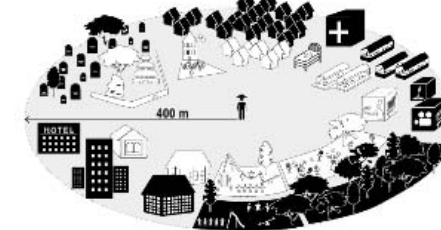


AREA: 500,000 m² / GFA: 2,500,000 m² / FAR:5
The Ideal Cluster program mix accommodating 50,000 people living and working within 400-meter radius.

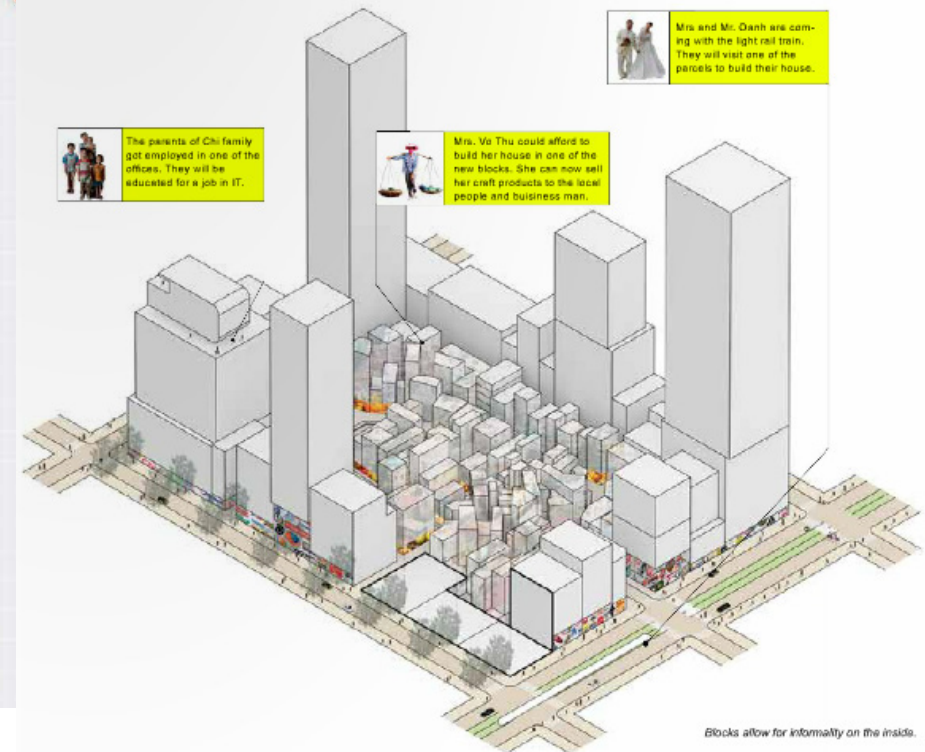
INGREDIENTS IDEAL LIVING CLUSTER



Program within 300 m radius: health clinic, market, retail, playground, flower garden, daycare, primary school, playground, pagoda, community center, library.
(Based on the standards of the Ministry of Construction of Vietnam.)



Additional program within 400 m radius: hospital, park, secondary school, office, cemetery, hotel



Blocks allow for informality on the inside.

Principles for Transport in Urban Life: Better Together

Successful sustainable cities in the twenty-first century will prioritise people by integrating transport and urban development. Making this happen means putting the Our Cities Ourselves principles into practice to create vibrant, low-carbon cities where people want to live and work.

The Our Cities Ourselves principles show how the future of transport in urban life lies in reinforcing the complementary nature of sustainable urban transport and urban development. In the face of rapid urbanization and climate change, the future of transport in urban life will depend not only on these principles, but how they work together.



Compact

In a compact city activities are located closer to one another, requiring less time and energy to

travel. It applied compact city

Density

By building up instead of out, cities absorb urban growth in a more compact way. Density

Transit

Public transit connects and integrates more distant parts of the city. Transit corridors

Connect

A city needs a tight network of streets and paths for pedestrians and cyclists as well as public

Mix

A connected city becomes more animated when there is a mix of activities along the streets and

Cycle

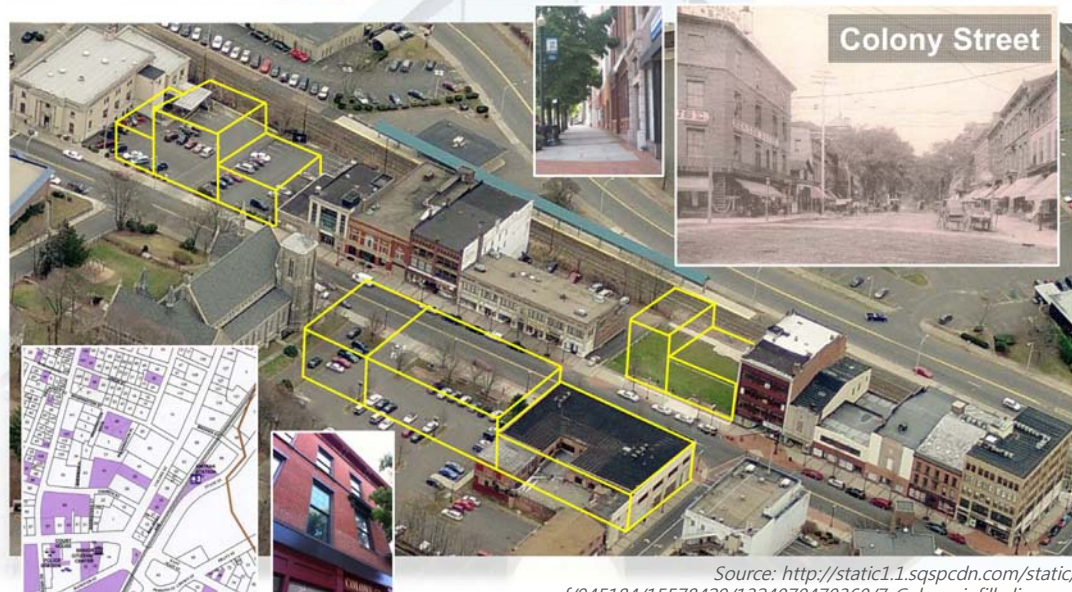
Like mixed uses, cycling activates streets and provides people with an efficient and convenient way

Shift

With the above principles in place, getting people out of their cars becomes easier but is not enough. Pricing and traffic reduction tools encourage people to shift away from cars.

Walk

When all the principles come together, the results are most keenly felt by the pedestrian. Vibrant, active streets where people feel safe are fundamental to the successful twenty-first century city.



Colony Street

Source: http://static1.1.sqspcdn.com/static/f/945184/15578429/1324070470360/7-Colony_infill_diagram.jpg?token=49GsQ64UIAmVdspT9TdBHCc9JOI%3D



Source: KFA Indonesia, 2013

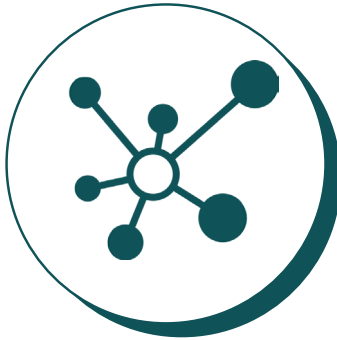


Source: <http://deltametropool.nl/content/image/492.jpg>

Source: <https://s-media-cache-ak0.pinimg.com/564x/4c/44/04/4c4404efdda0537d52a585739b171d2e.jpg>

POSSIBLE DIRECTION FOR THE PROJECT

OUTCOME



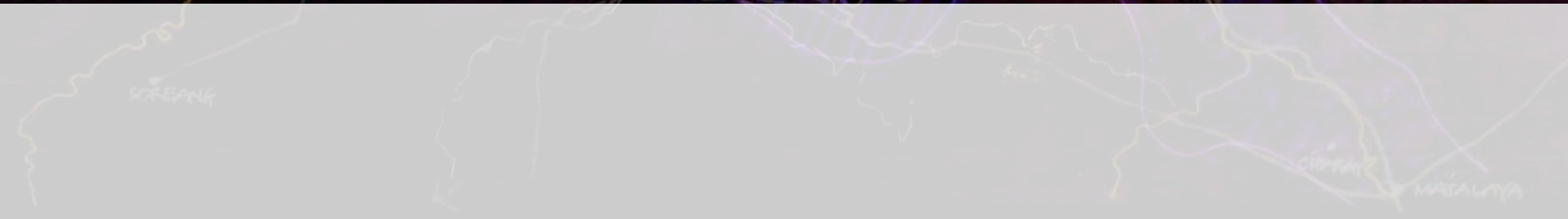
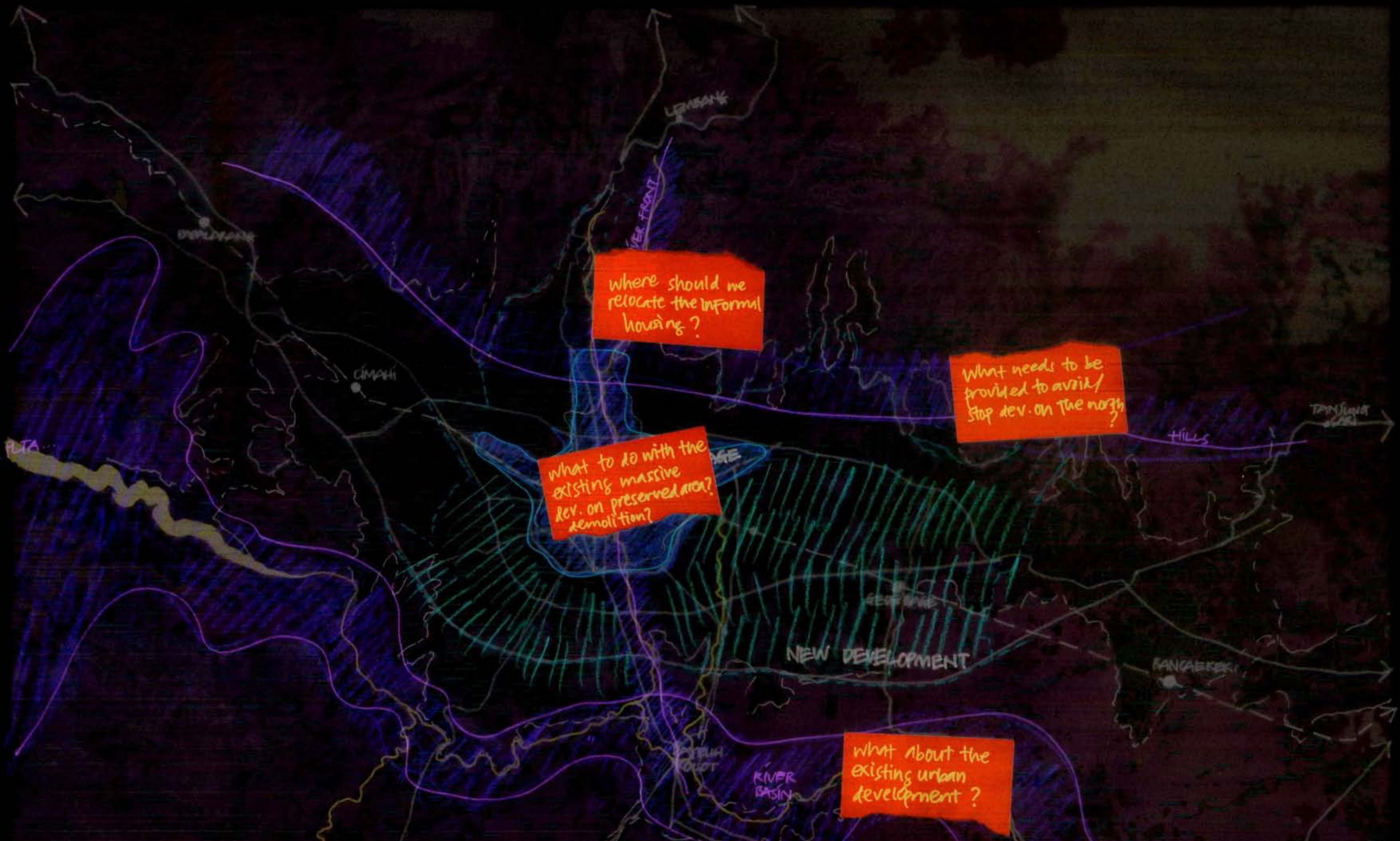
Structure Vision of
Bandung 2040



Development
Framework & Strategy



Conceptual Design

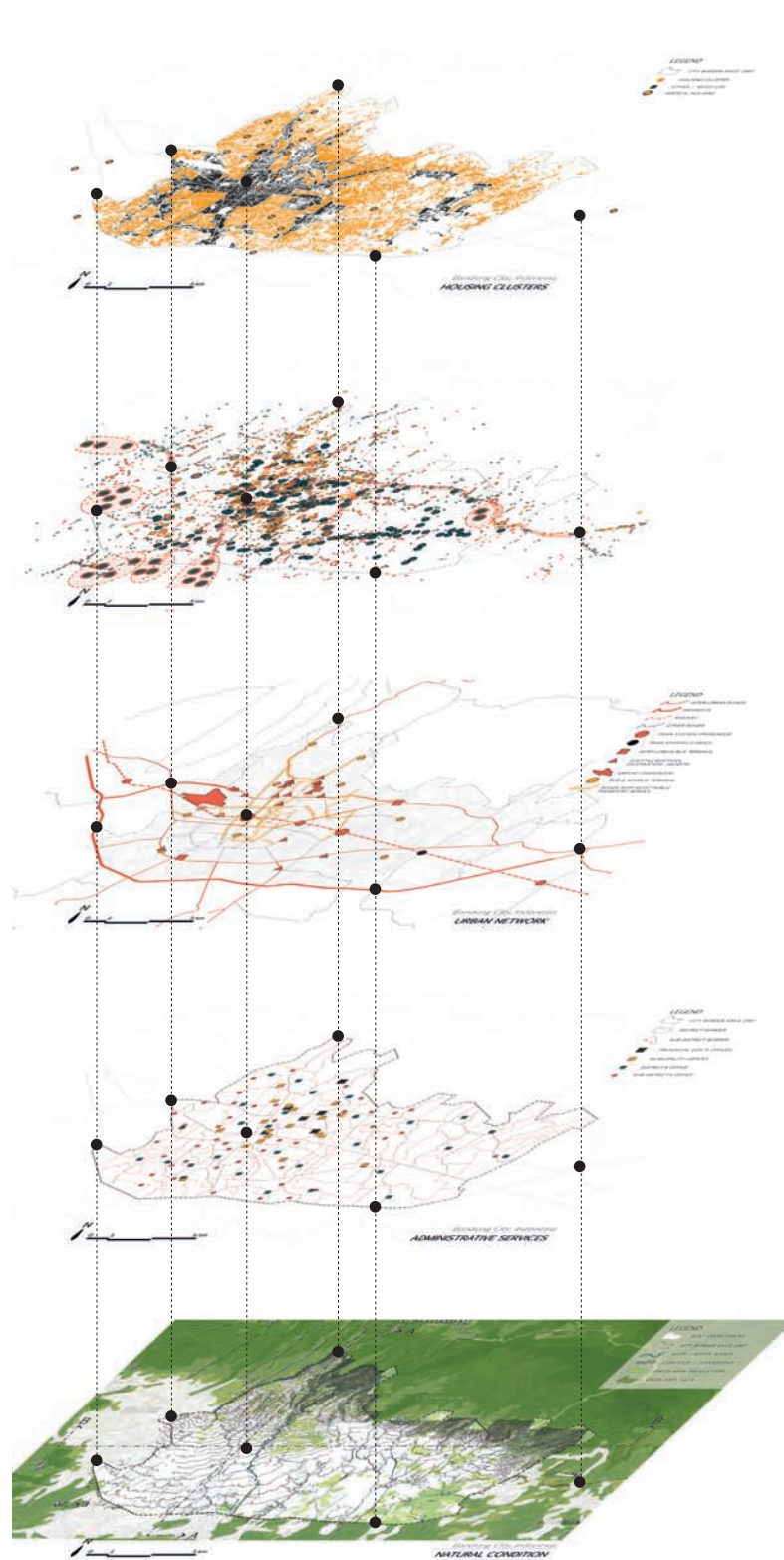


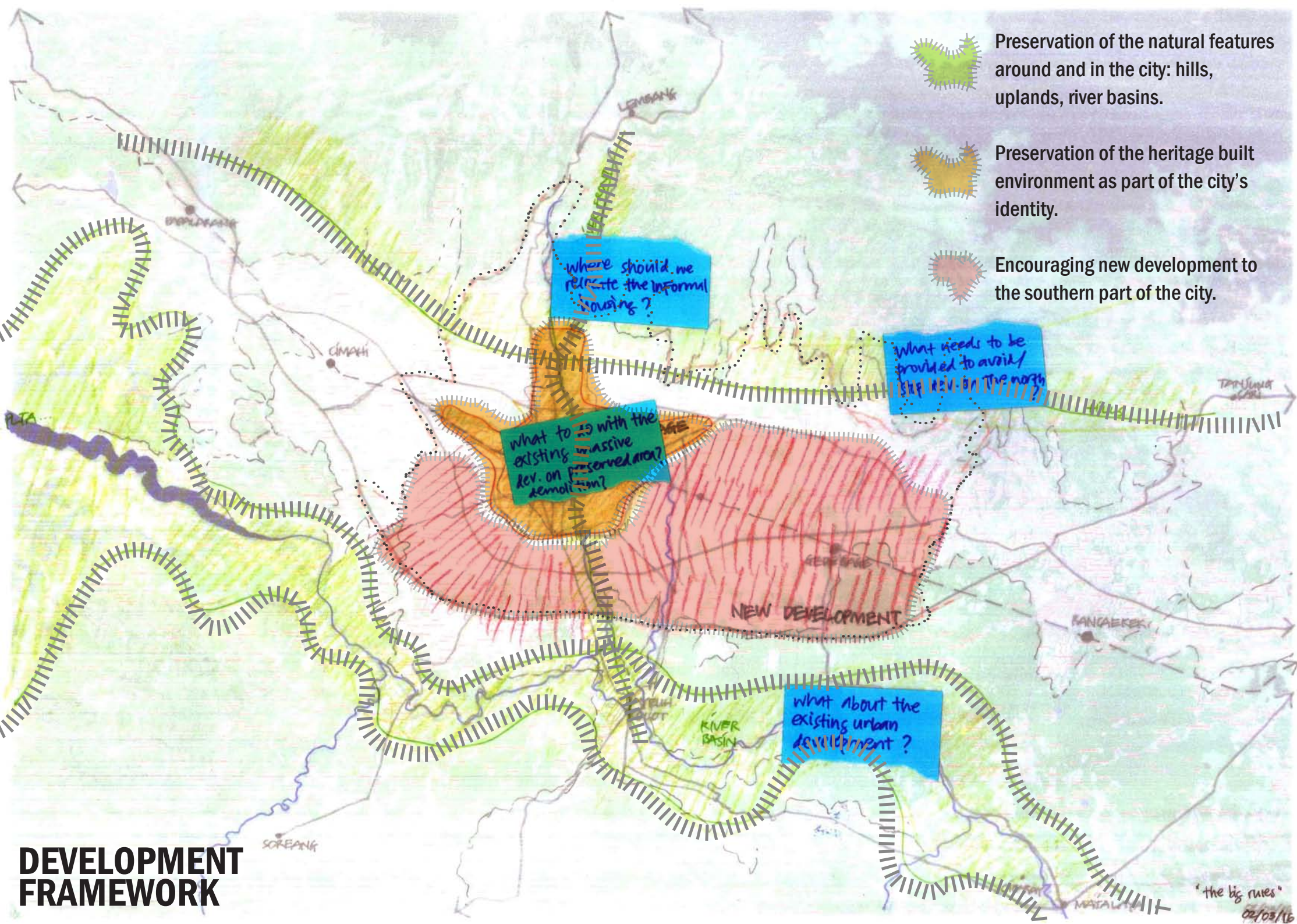


<http://baju3500.com/wp-content/uploads/2014/03/Grosir-Pasar-Baru-Bandung.jpg>



<http://www.twitter.com/infobdg/>





Preservation of the natural features around and in the city: hills, uplands, river basins.

Preservation of the heritage built environment as part of the city's identity.

Encouraging new development to the southern part of the city.

Where should we relocate the informal housing?

What needs to be provided to avoid the north?

What to do with the existing massive reserved area?

What about the existing urban development?

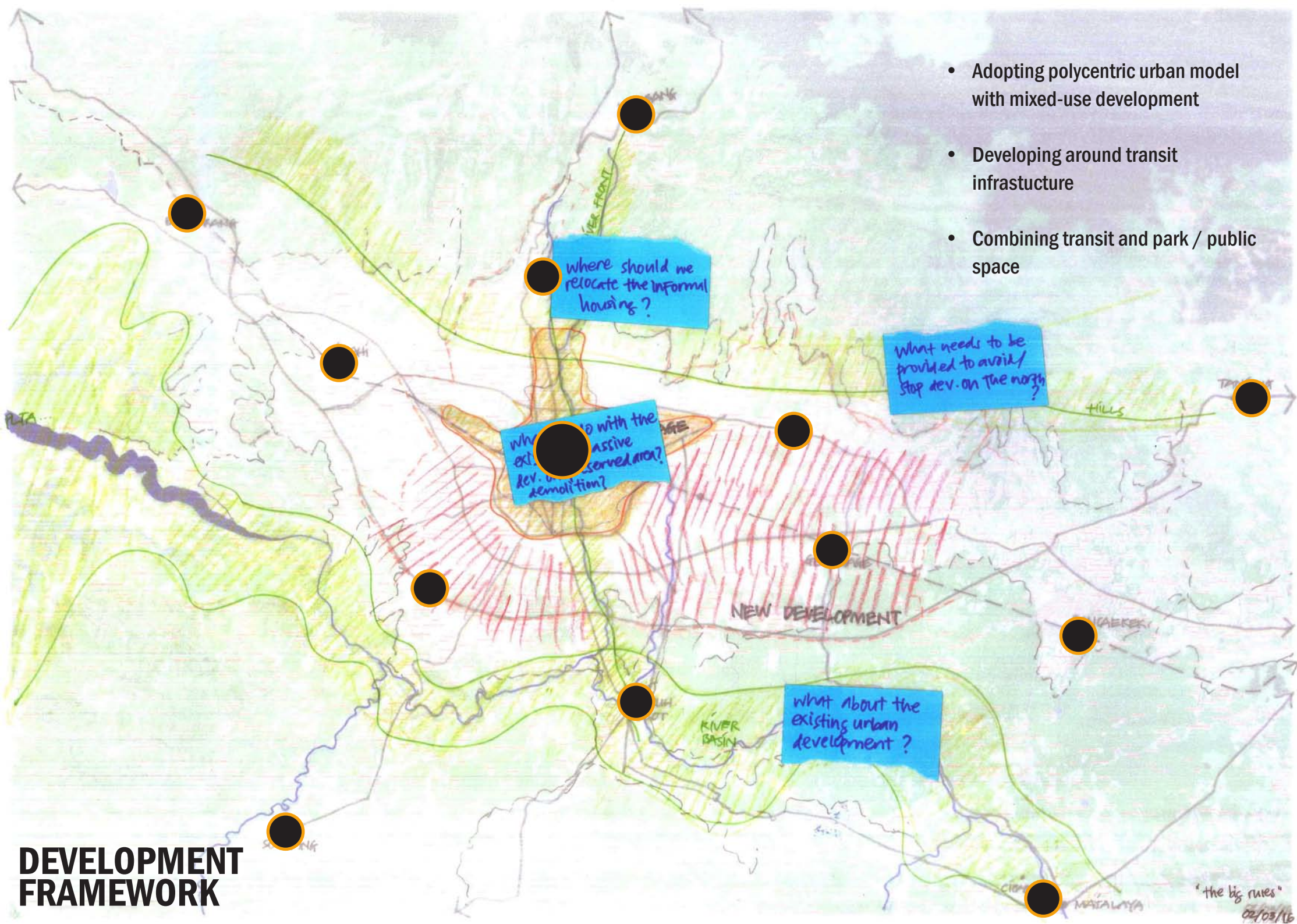
NEW DEVELOPMENT

RIVER BASIN

DEVELOPMENT FRAMEWORK

'the big rules'
02/03/16

- Adopting polycentric urban model with mixed-use development
- Developing around transit infrastructure
- Combining transit and park / public space



DEVELOPMENT FRAMEWORK



PADALARANG

LEMBANG

CIMAHI

BANDUNG

TANJUNG SARI

CILEUNYI

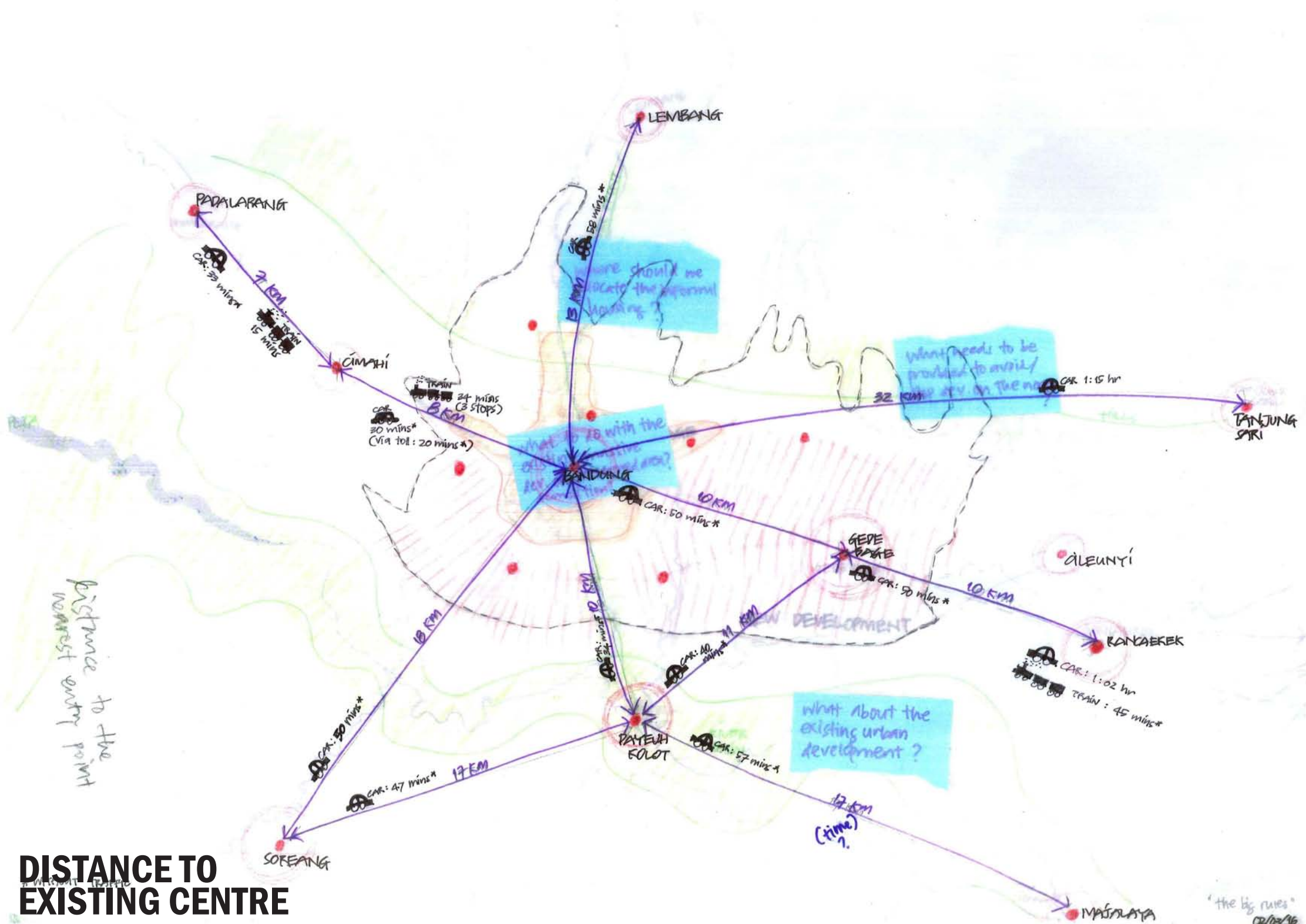
RANCAEKEK

DAYEUH KOLOT

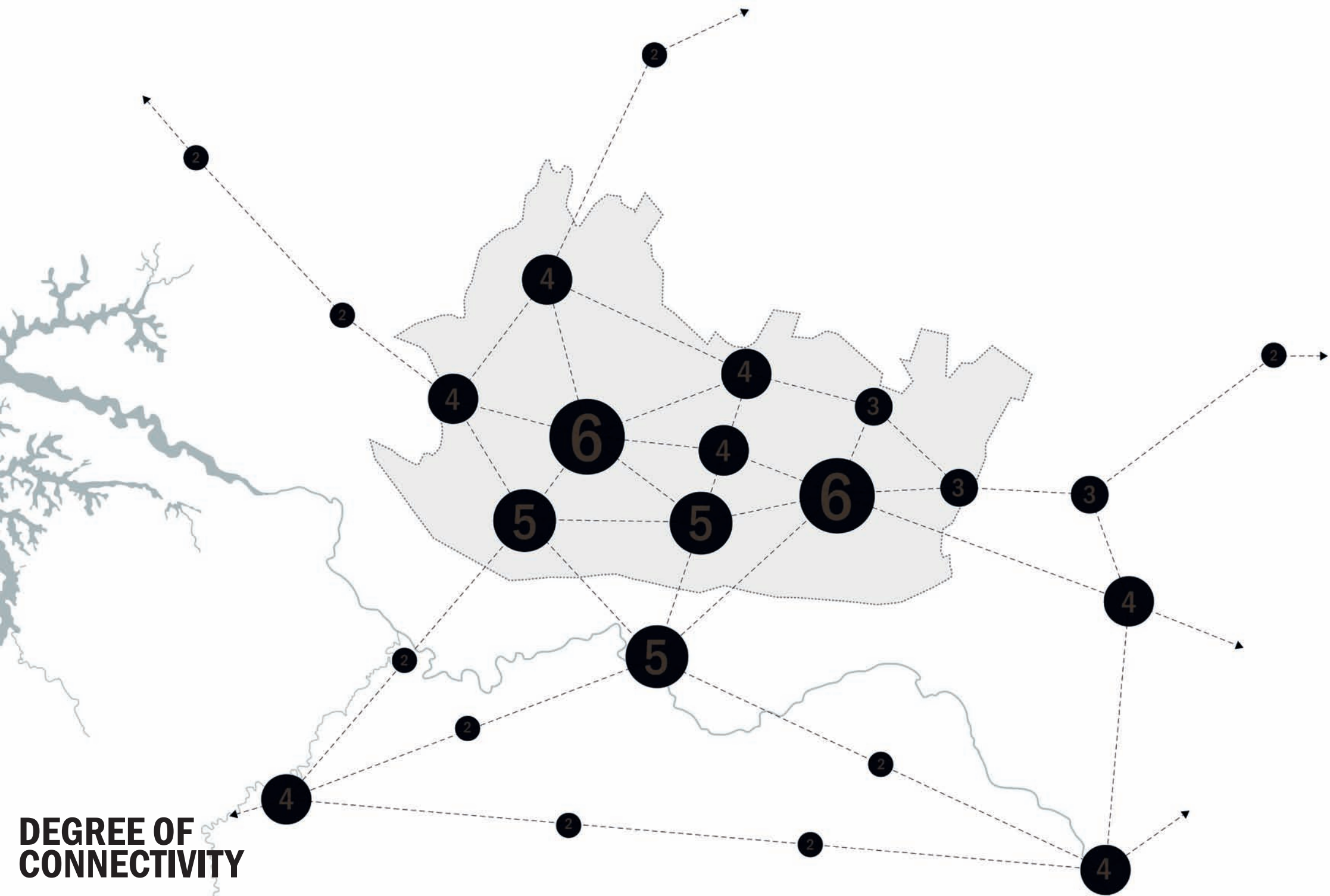
SOREANG

MAJALAYA

**ADJACENT
CENTRALITIES**

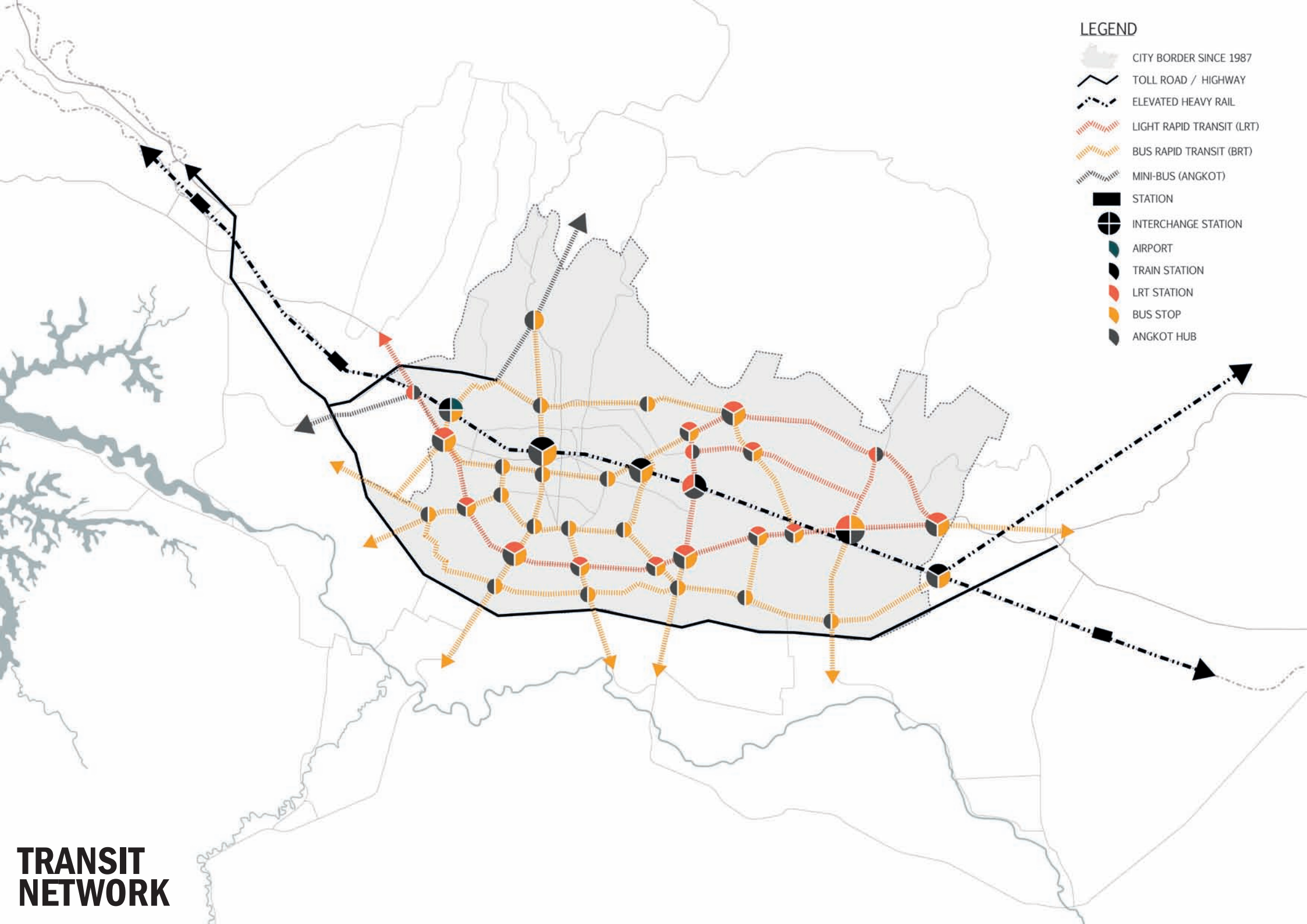


DISTANCE TO EXISTING CENTRE



LEGEND

- CITY BORDER SINCE 1987
- TOLL ROAD / HIGHWAY
- ELEVATED HEAVY RAIL
- LIGHT RAPID TRANSIT (LRT)
- BUS RAPID TRANSIT (BRT)
- MINI-BUS (ANGKOT)
- STATION
- INTERCHANGE STATION
- AIRPORT
- TRAIN STATION
- LRT STATION
- BUS STOP
- ANGKOT HUB

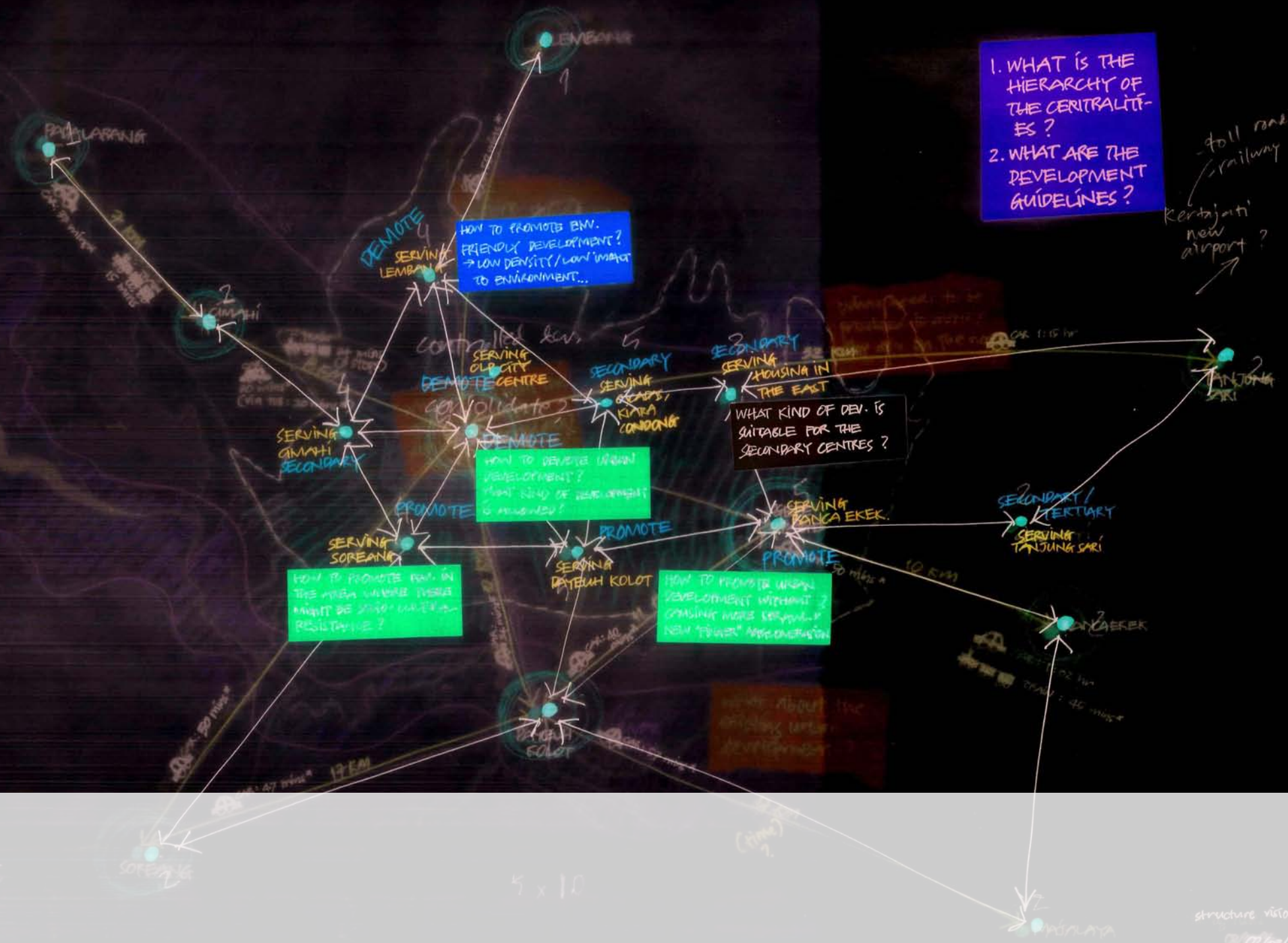


**TRANSIT
NETWORK**

→ number of jobs?
 how big is the node? distance to the nearest entry point
 → modal value

1. WHAT IS THE HIERARCHY OF THE CENTRALITIES?
2. WHAT ARE THE DEVELOPMENT GUIDELINES?

toll road?
 railway
 Kertajati new airport?



NODAL VALVE
 A DIFFERENT TRAFFIC

5 x 10

structure vision

STRATEGIES



GOVERNANCE SHIFT



SOCIALIZATION



DIALOG



IMPLEMENTATION



CROWD PLEASER

STRATEGIES



GOVERNANCE SHIFT

Adjustment of spatial
planning regulation &
policies

Rethinking the planning
& development control
instruments

Encouraging
collaborative planning &
development control



SOCIALIZATION



DIALOG



IMPLEMENTATION



CROWD PLEASER

STRATEGIES



GOVERNANCE SHIFT

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development control



SOCIALIZATION

Public education on
urban planning

Public education on
sustainability

Introduce new
governance model
& new development
direction

Introduce new mobility
infrastructure



DIALOG



IMPLEMENTATION



CROWD PLEASER

STRATEGIES



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infrastructure



DIALOG

Establish a platform
to empower **dialogue**
among the stakeholders
(public sector, private
sector, and civic society)

Establish a dialogue
with the **stakeholders of**
transportation business
in Bandung

Establish a dialogue
with **inhabitants of the**
river banks



IMPLEMENTATION



CROWD PLEASER

STRATEGIES



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IMPLEMENTATION

Establishment of BRT
system in city scale

Empower integration of
transportation network
and system

Redevelopment of river
bank areas

Redevelopment in new
urban centres



CROWD PLEASER

STRATEGIES



GOVERNANCE SHIFT

Adjustment of spatial planning regulation & policies

Rethinking the planning & development control instruments

Encouraging collaborative planning & development control



SOCIALIZATION

Public education on urban planning

Public education on sustainability

Introduce new governance model & new development direction

Introduce new mobility infrastructure



DIALOG

Establish a platform to empower dialogue among the stakeholders (public sector, private sector, and civic society)

Establish a dialogue with the stakeholders of transportation business in Bandung

Establish a dialogue with inhabitants of the river banks



IMPLEMENTATION

Establishment of BRT system in city scale

Empower integration of transportation network and system

Redevelopment of river bank areas

Redevelopment in new urban centres

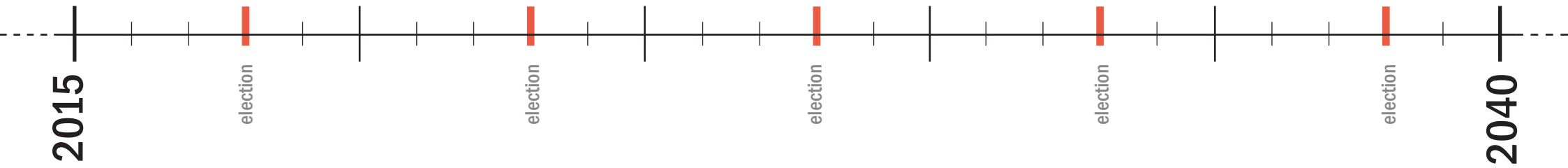


CROWD PLEASER

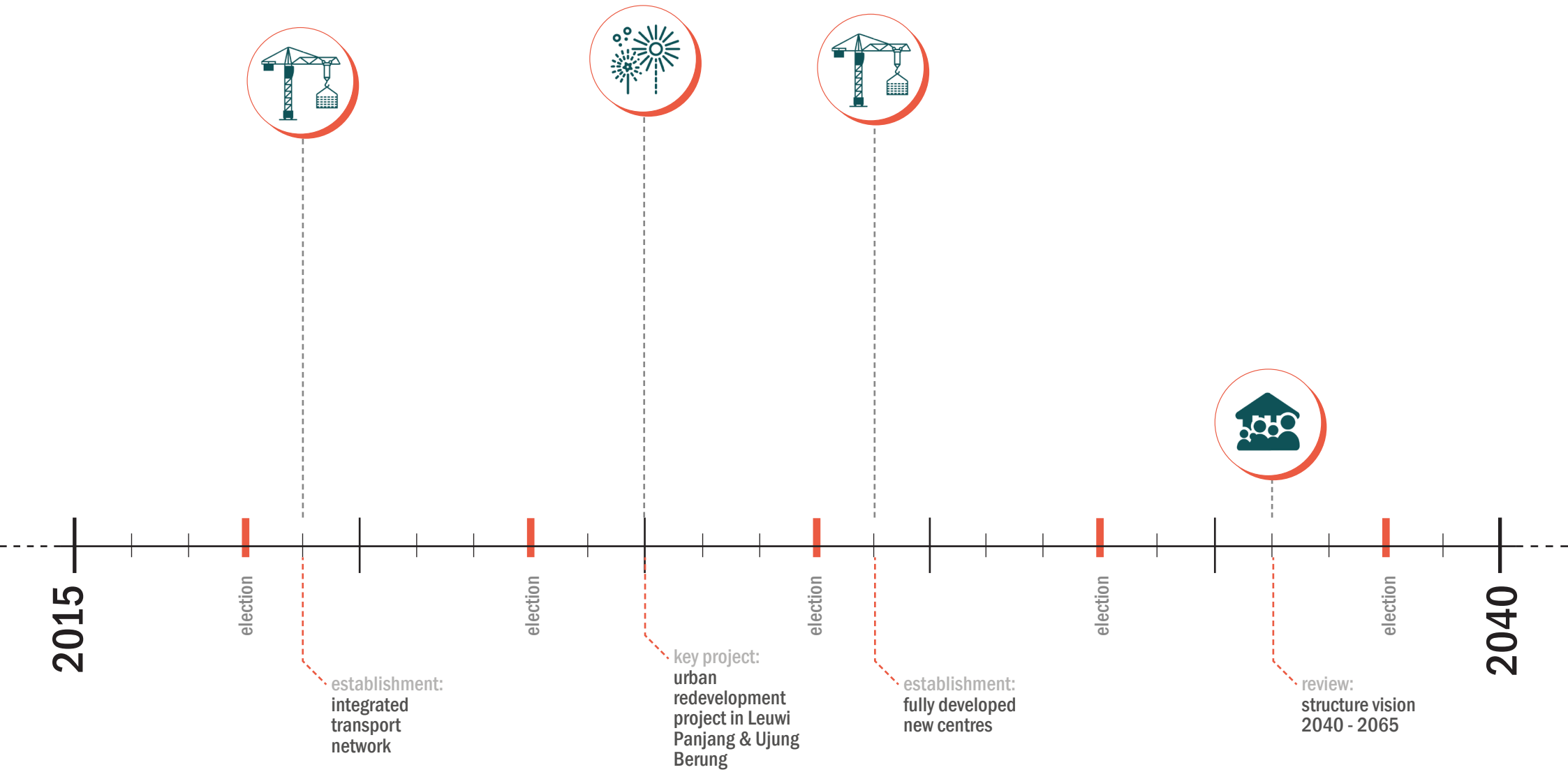
Kick-off Project to attract people's interest and encouraging public awareness

(e.g. thematic parks adjacent to new TOD locations, anchor offices at the key TOD location, etc.)

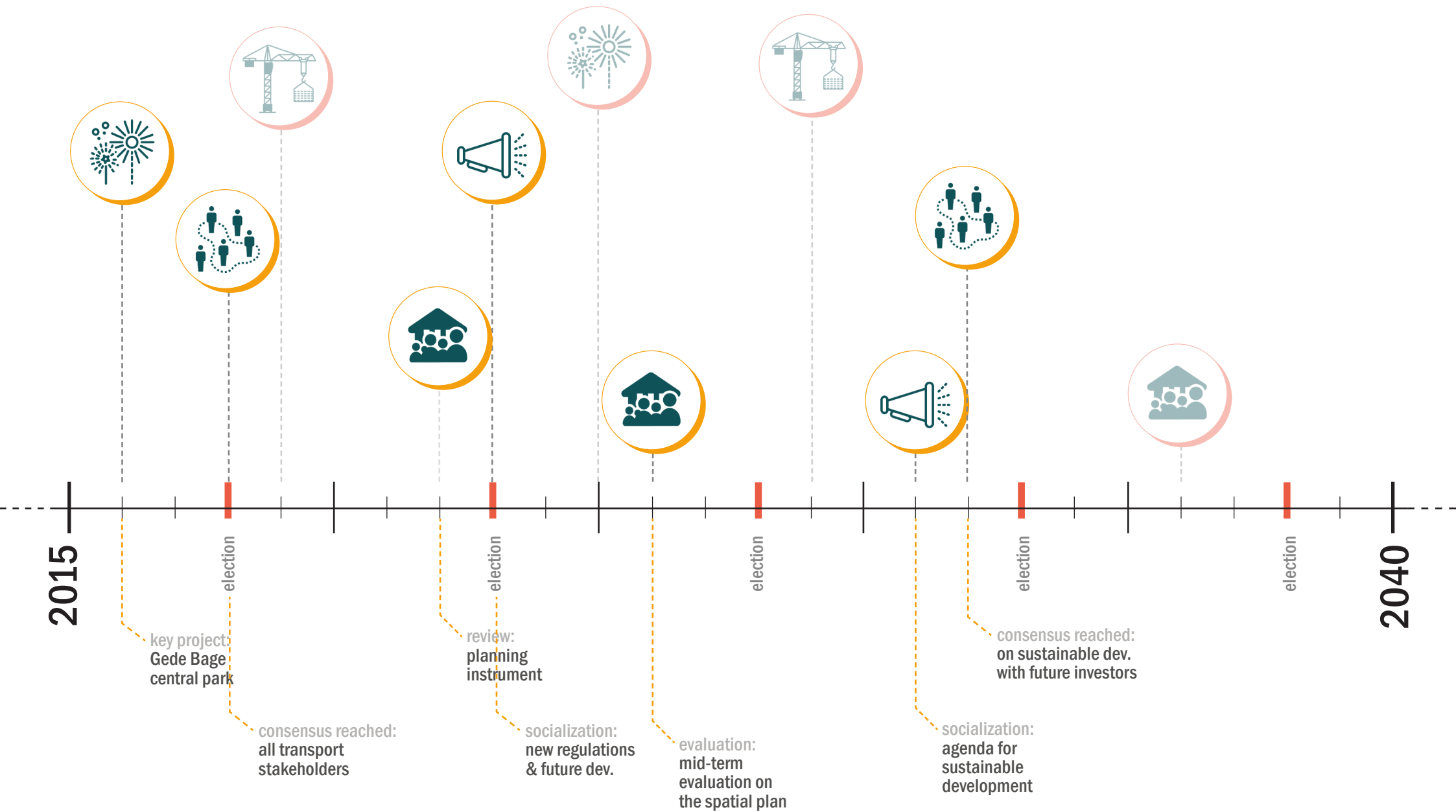
STRATEGIES



STRATEGIES



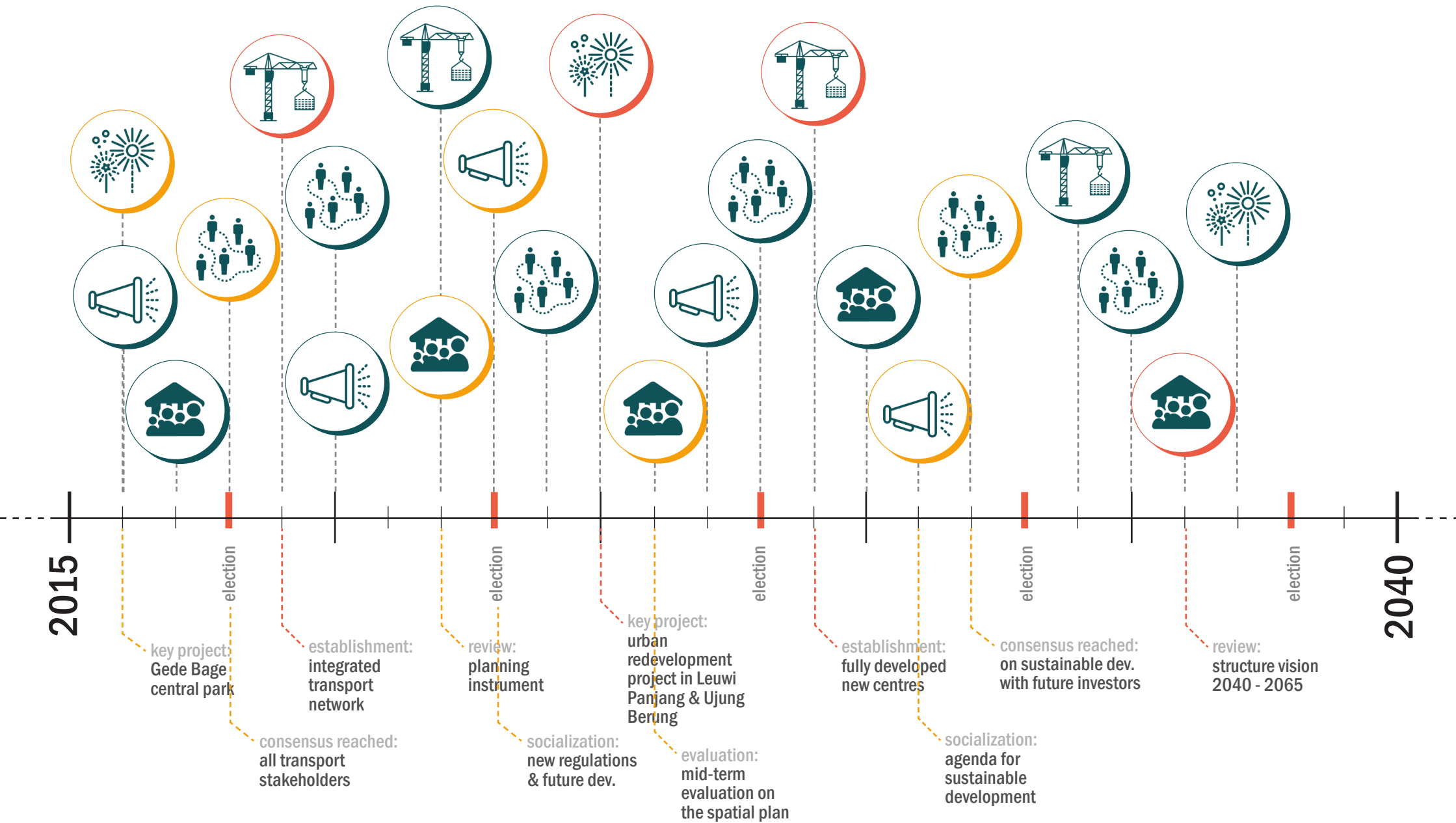
STRATEGIES

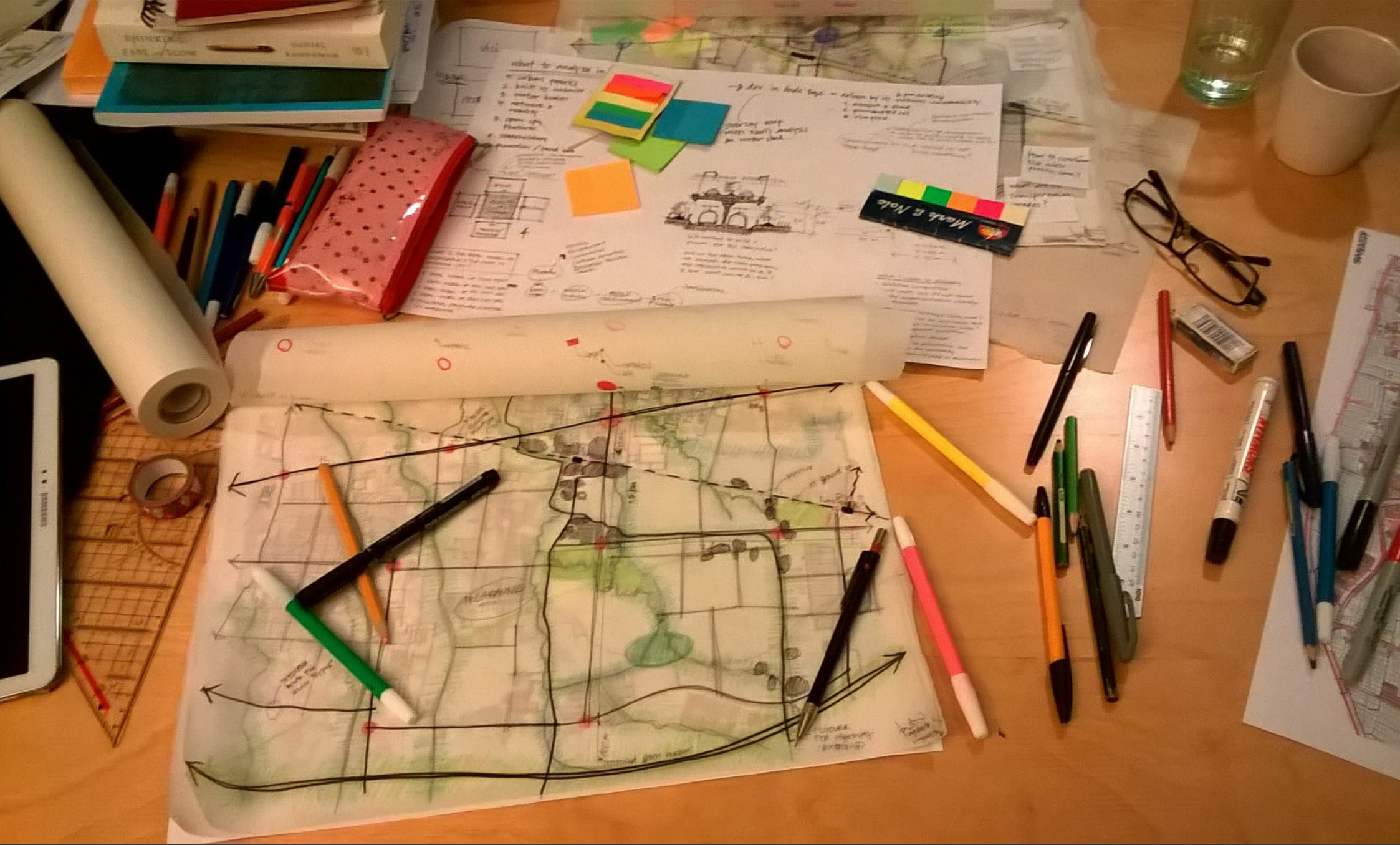


STRATEGIES



STRATEGIES



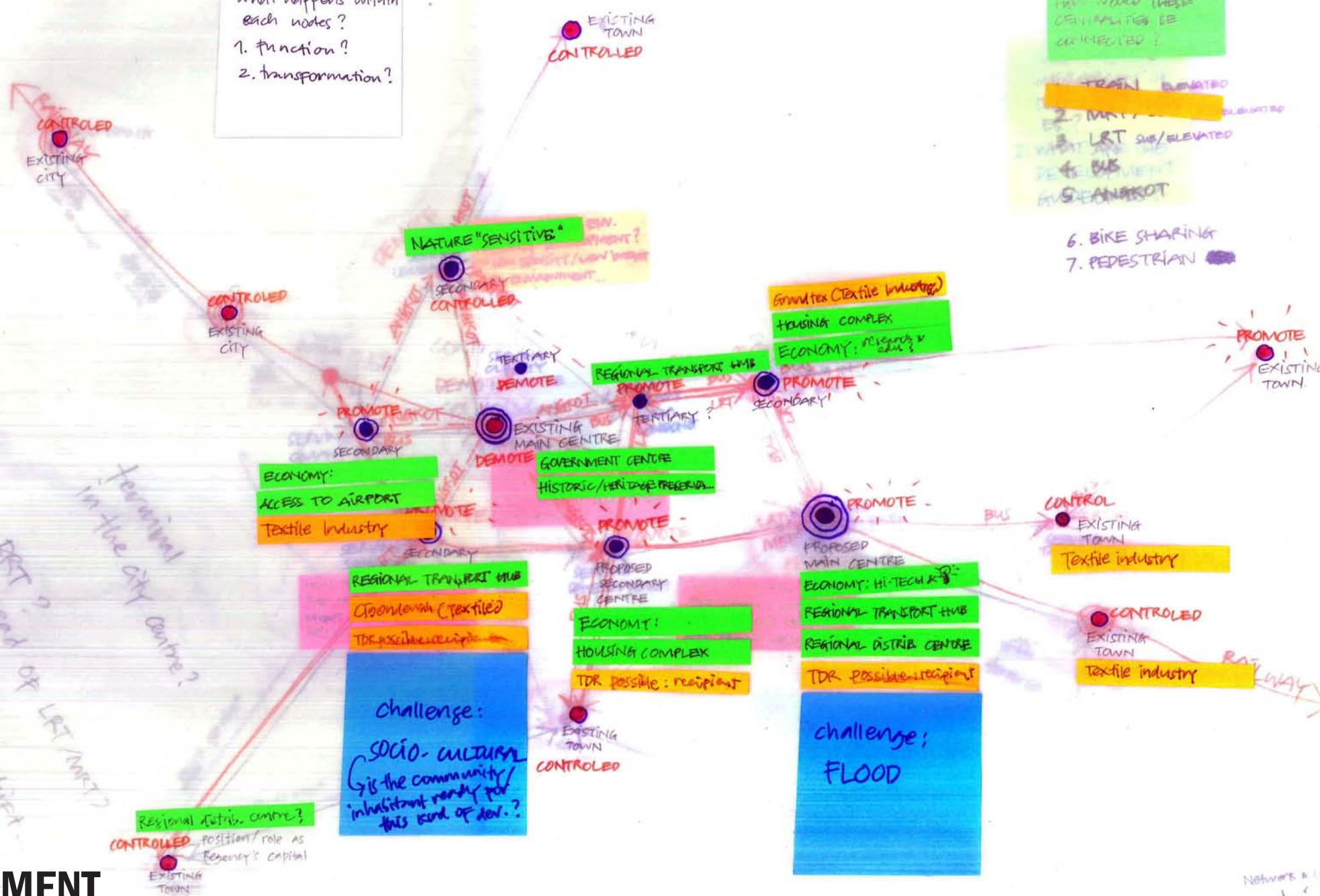


What happens within each nodes?
 1. function?
 2. transformation?

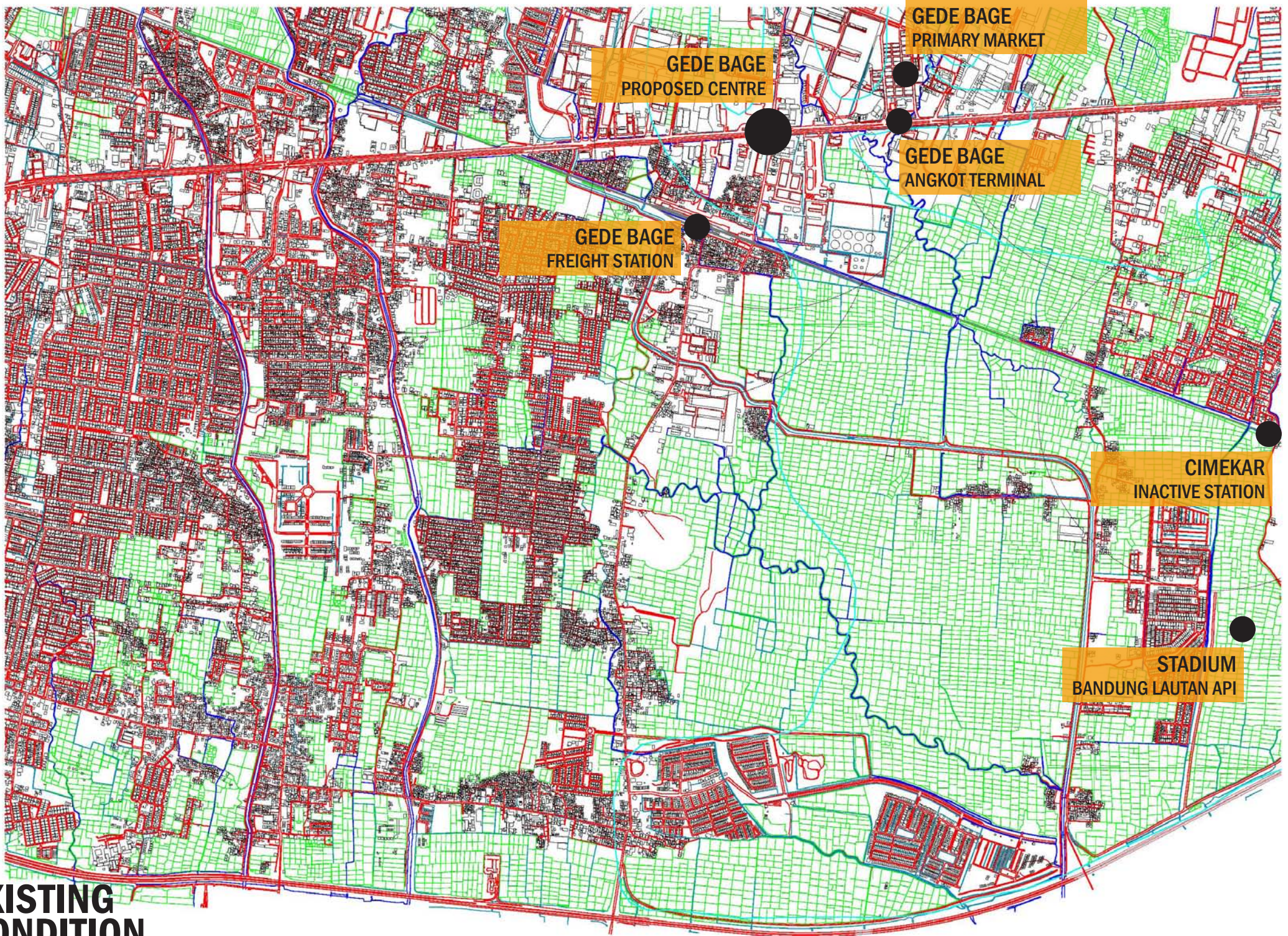
HOW WOULD THESE CENTRALITIES BE CONNECTED?

1. TRAIN ELEVATED
2. MTR
3. LRT SUB/ELEVATED
4. BUS
5. AIRPORT

6. BIKE SHARING
7. PEDESTRIAN



DEVELOPMENT GUIDELINES



GEDE BAGE
PRIMARY MARKET

GEDE BAGE
PROPOSED CENTRE

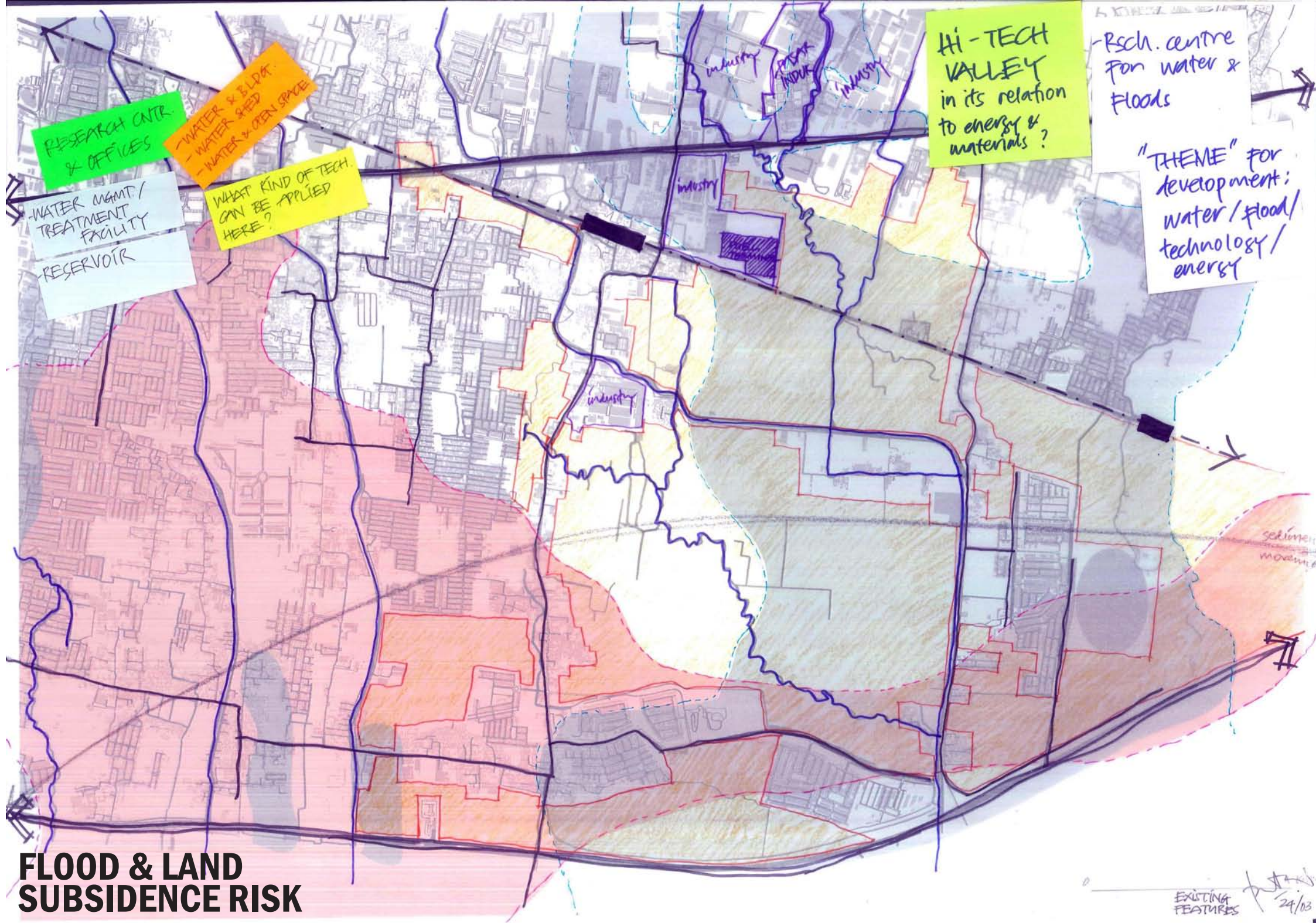
GEDE BAGE
ANGKOT TERMINAL

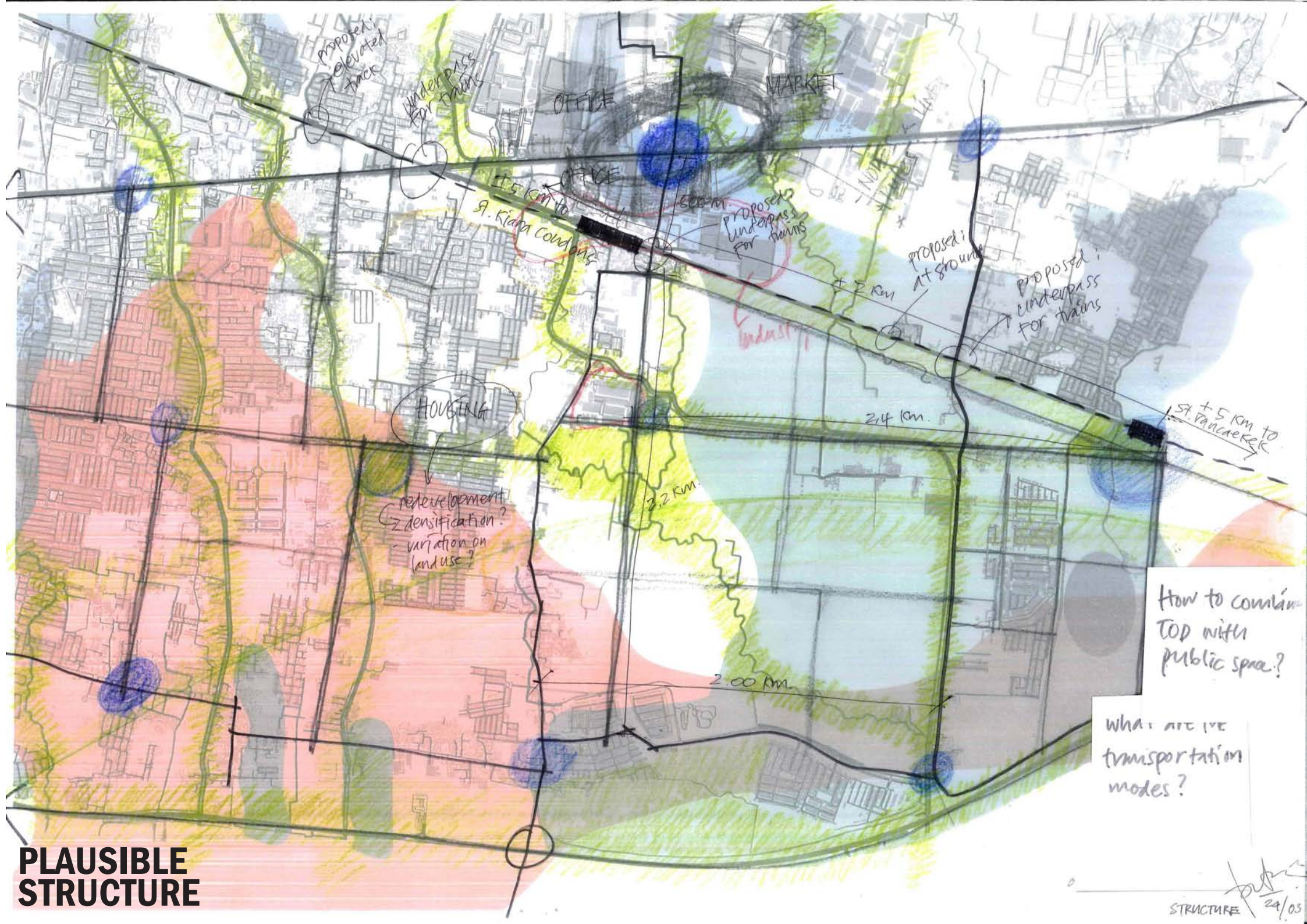
GEDE BAGE
FREIGHT STATION

CIMEKAR
INACTIVE STATION

STADIUM
BANDUNG LAUTAN API

**EXISTING
CONDITION**





**PLAUSIBLE
STRUCTURE**

How to combine
TOD with
public space?

What are the
transportation
modes?

J. K. 24/03
STRUCTURE

10010
Direktion
Frau Emminger

Wietzorek

ZUKUNFT

PROGRAMMING
within the TOD

**CONCEPTUAL
DESIGN**
& visualization

STAKEHOLDER
analysis

CASE STUDY
success story

SIZE
of the centrality?

CRITERIA
of sustainable
development

PROJECT'S TITLE
is it still suitable?

VISUALIZATION
of the structure vision

PROGRAMMING
on city scale

DESIGN
criteria

NARRATIVE:
reformulate

STRATEGY
on the smaller
scale?

STRATEGY
needs to be refined

