

Planning for sustainable mobility:

Key issues and future challenges of TOD

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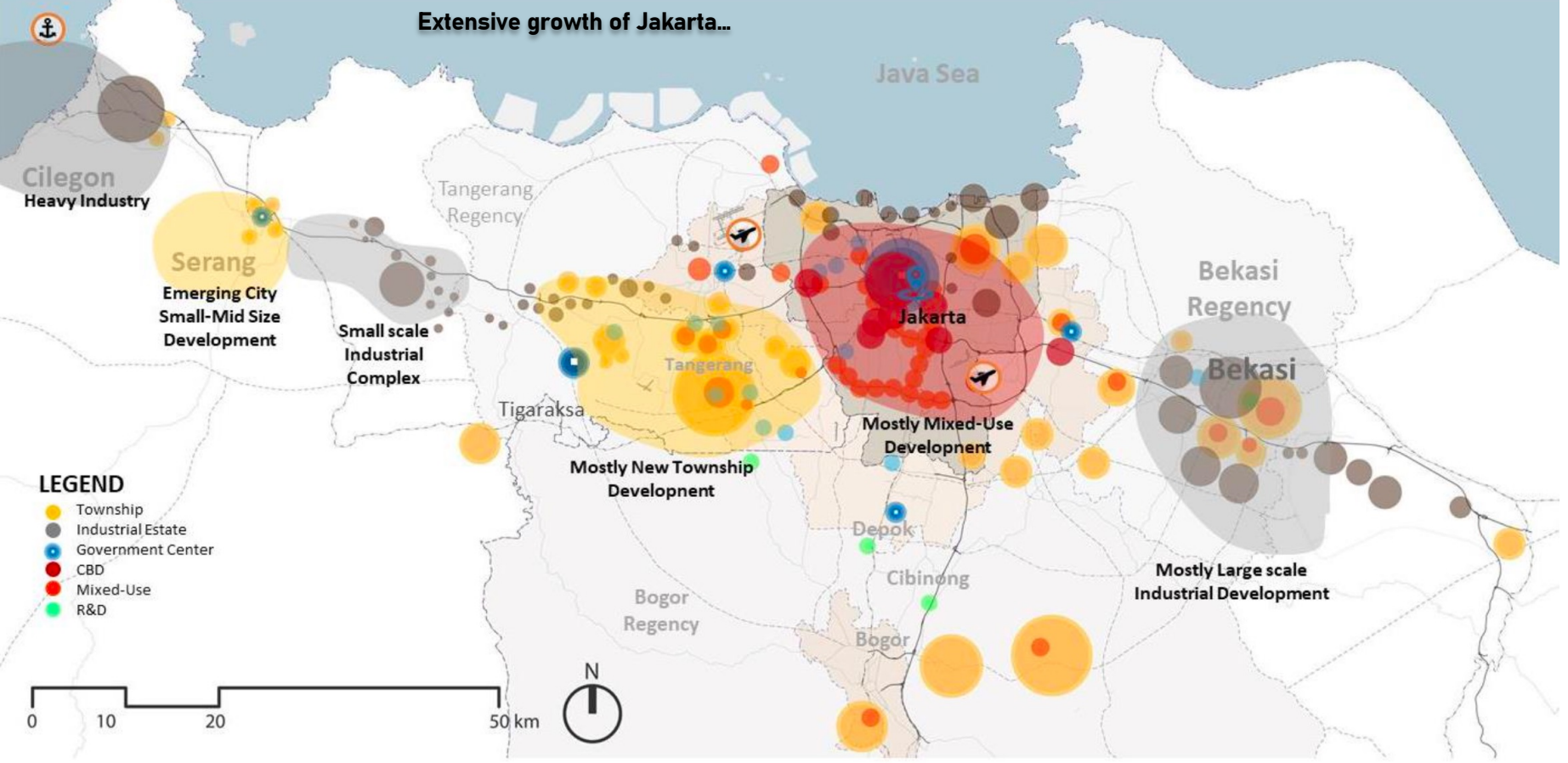
President of Indonesian Association of Planners (IAP)
ISOCARP Scientific Committee

Seminar Nasional Technopex ITI
25.10.2023

Recent issues of urban mobility

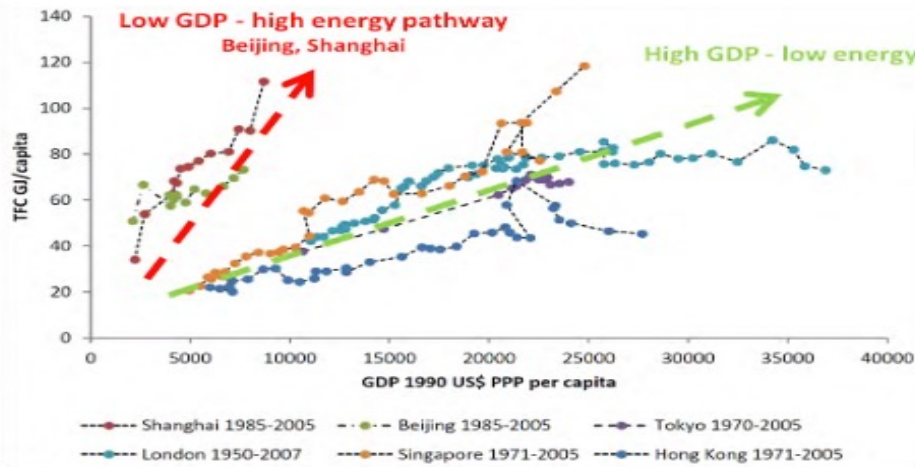
- Serving rapid urbanization
- Fast online transportation growth
- Future digital interaction
- Universal design for specific needs

Extensive growth of Jakarta...

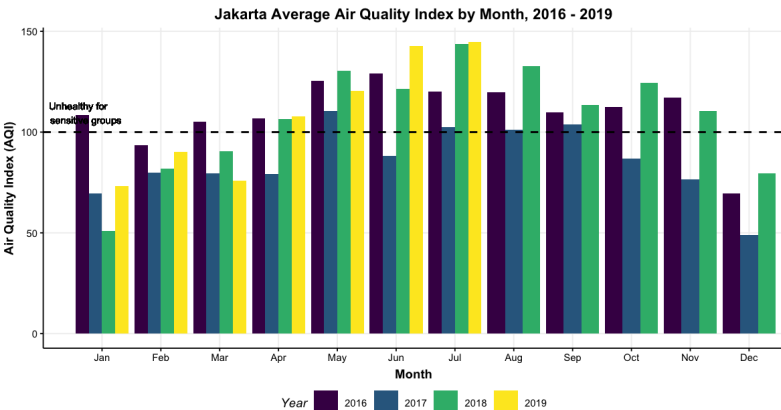


Due to massive expansion, transportation services of greater Jakarta can't be stopped in the administrative boundary, moreover by 2025 the backbone to serve commuters can reach Bandung using Semi-speed train

Image:



Sumber: Urban Morphology Institute, 2014



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Sumber: Numeraloka, 2019

Reduced energy consumption and low air pollution are still the key performance indicators that requires more than technology solution, but a changing urban structure

Energy consumption is continuously increasing, which not followed by added productivity value

Economic losses due to congestion in Jakarta was 65 trillion IDR annually (WorldBank, 2019)

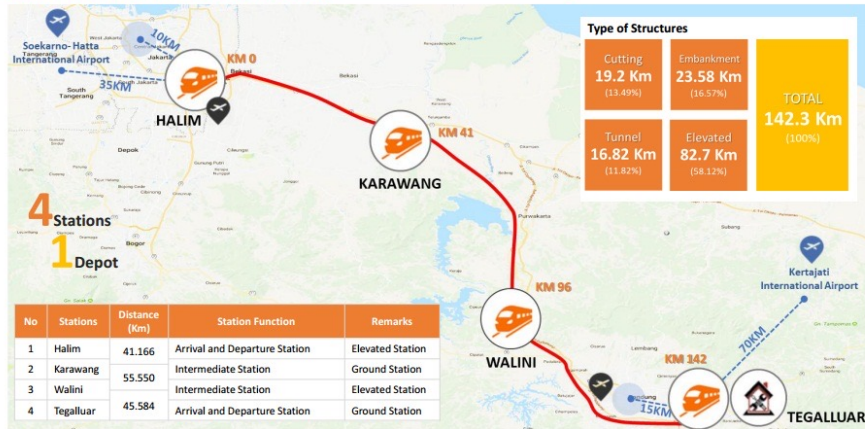
Air pollution has not been controlled yet. In a year, more than 110 days are under standar (AQI) (2019)

'shortened' Commuting distance

Assumption: time travel 45-60 minutes

PROJECT PROFILE

ALIGNMENT, STATIONS, AND DEPOT LOCATION

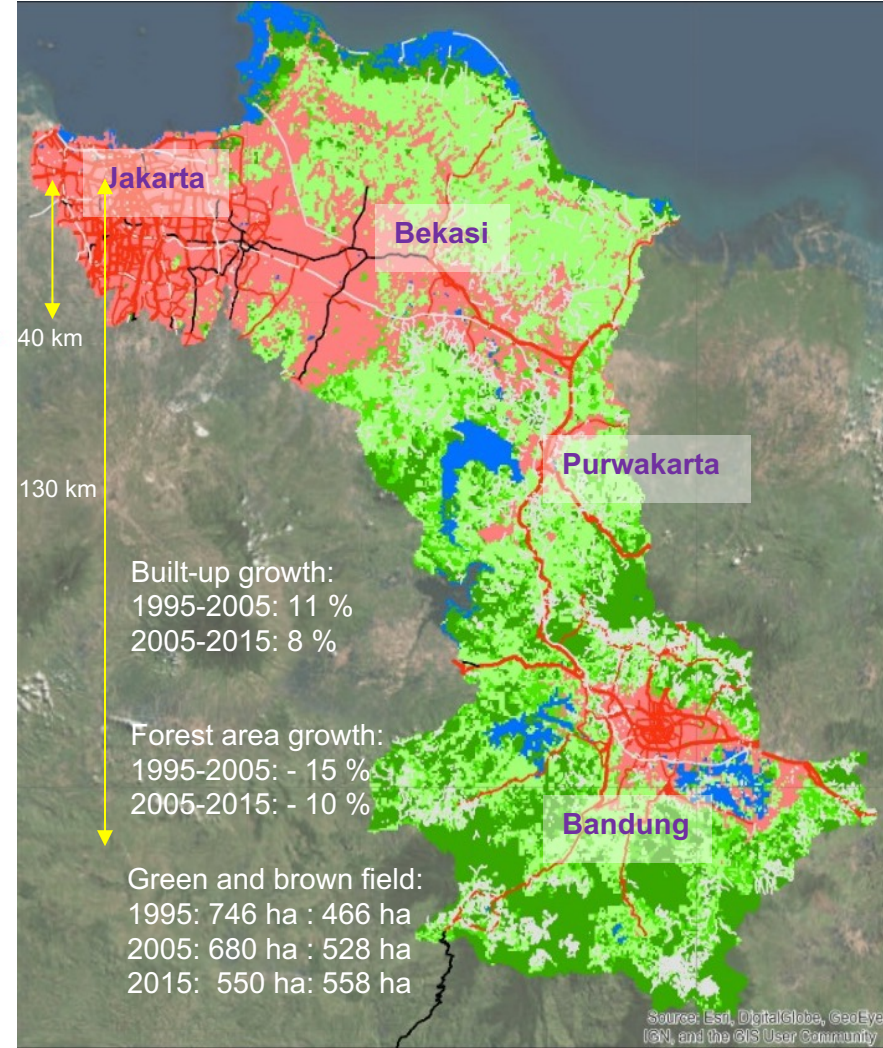


Source: KCIC, 2015

1st Generation: 30-40 km

2nd Generation : 150 km

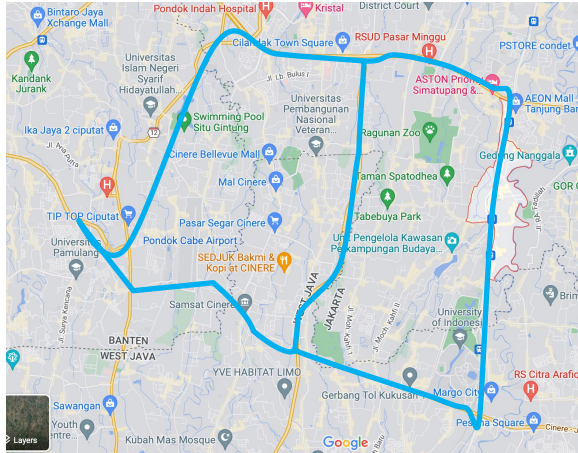
3rd Generation : 300 km



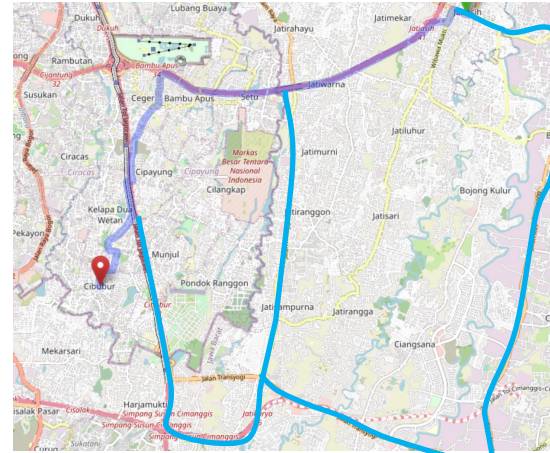
Township development and/or large scale housing development in peri-urban area should be linked into public transportation system



Not only the backbone, pay attention also to administrative boundary area



Cilindak-Depok-Cinere-Bintaro



Jati Asih-Jatiwarna-Cibubur-Cimanggis

The organic urban agglomeration potentially generates an inefficiency and in-effectivity of infrastructure provision - Need inter-city cooperation in managing urban mobility



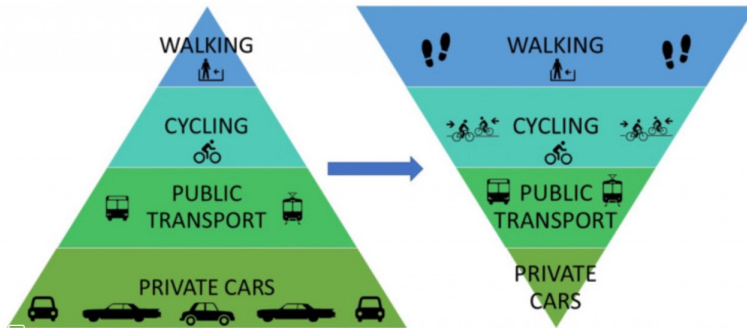
800
metre



Promoting a spatial structure of new urban center and community housing – more compact

Time travel of public transport has not competitive yet and attractive for urban people

Transportation infrastructure has not yet promoted an active transportation, still dominated by car-dependent roads



Sumber: bike-republik.pl

Why TOD becomes trend?

WORKSHOP: MEMBERS' PROFESSIONAL DEVELOPMENT (COOPERATION WITH NATIONAL AND INTERNATIONAL INSTITUTIONS)





**INTERNATIONAL SOCIETY OF CITY AND REGIONAL PLANNERS
YOUNG PLANNING PROFESSIONALS' PROGRAMME**

JAKARTA + BOGOR | 4-8 SEPTEMBER 2019

BEYOND TOD

Reclaiming the Megacity through Inclusive and Creative Planning

TOD should be sensitive to the local context.



The DubaiRise TOD has a clear strategic focus on the environmental issues. This includes protected water in the reservoir and coast, modernize sanitation infrastructures, and increasing groundwater extraction.

TOD is an opportunity to offer comprehensive solutions to the environmental issues at the local as well as regional scale.

TOD is more than transit infrastructure. It is also about human scale and experience.



TOD requires the consideration of various dimensions. Enhancing commuter experience is as important as planning the transit infrastructure.

Yet the current TOD in DubaiRise focuses primarily on moving commuters from one transport mode to another without much regard for the surroundings. Hence there is a need to provide places for encounters and interactions through the activation of specific areas within the TOD.

TOD should benefit all stakeholders involved.



TOD is a high-value complement to mass transit with compact, mixed-use, high-density development around mass transit stations. Otherwise, the positive land values resulting from these developments do not necessarily benefit all stakeholders, especially when land acquisition and displacement of the existing communities.

For the case of DubaiRise, where Kampungs are present, redevelopment should be inclusive and creative to preserve the essence of the public realm and the placemaking.

Environmental & Public Health



Activity peaks (Red standing / Green: Inward/out)



We're sitting at the flood prone area, ...and we had a big flood on 2013
*Pia Agra 27 years as Head of Neighborhood

Limited Transit Experiences



Activity peaks (Red standing / Green: Inward/out)



I would rather stay here than being relocated to a house far away from the center.
*Pia Agra resident, working on a project

Uninclusive Redevelopment



Activity peaks (Red standing / Green: Inward/out)



We want to experience something new while we are waiting for the next train...
*Gisa Commuter train

JAKARTA  **TEAM 08**

Sumber: IAP Indonesia, ASEAN Placemakers

Walk

Principle 1
15 points

A. The pedestrian realm is safe and complete.

- 1.1 Walkways: Percentage of block frontage with safe, wheelchair-accessible walkways. (3 points)
- 1.2 Crosswalks: Percentage of intersections with safe, wheelchair-accessible crosswalks in all directions. (3 points)

B. The pedestrian realm is active and vibrant.

- 1.3 Visually Active Frontage: Percentage of walkway segments with visual connection to interior building activity. (6 points)
- 1.4 Physically Permeable Frontage: Average number of shops and pedestrian building entrances per 100 meters of block frontage. (2 points)

C. The pedestrian realm is temperate and comfortable.

- 1.5 Shade & Shelter: Percentage of walkway segments that incorporate adequate shade or shelter element. (1 point)

Cycle

Principle 2
5 points

A. The cycling network is safe and complete.

- 2.1 Cycle Network: Percentage of total street segments with safe cycling conditions. (2 points)

B. Cycle parking and storage is ample and secure.

- 2.2 Cycle Parking at Transit Stations: Secure multi-space cycle parking facilities are provided at all high-capacity transit stations. (1 point)
- 2.3 Cycle Parking at Buildings: Percentage of buildings that provide secure cycle parking. (1 point)
- 2.4 Cycle Access in Buildings: Buildings allow interior access for cycles and cycle storage within tenant-controlled spaces. (1 point)

Connect

Principle 3
15 points

A. Walking and cycling routes are short, direct and varied

- 3.1 Small Blocks: Length of the longest block (long side). (10 points)

B. Walking and cycling routes are shorter than motor vehicle routes.

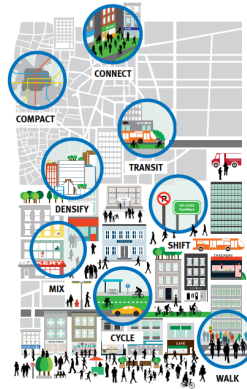
- 3.2 Prioritized Connectivity: Ratio of pedestrian and cycle intersections to motor vehicle intersections. (5 points)

Transit

Principle 4
TOD Requirement

A. High quality transit is accessible by foot.

- Required 4.1 Walk Distance to Transit: Walk distance (meters) to the nearest transit station



MOBILITY



Sumber: ITDP

Mix

Principle 5
15 points

A. Trip lengths are reduced by providing diverse and complementary uses.

- 5.1 Complementary Uses: Residential and non-residential uses combined within same or adjacent blocks. (10 points)
- 5.2 Accessibility to Food: Percentage of buildings that are within 500 meters radius of an existing, or planned, source of fresh food. (1 point)

B. Lower income groups have short commutes.

- 5.3 Affordable Housing: Percentage of residential units provided as affordable housing. (4 points)

SPACE



Densify

Principle 6
15 points

A. Residential and job densities support high quality transit and local services.

- 6.1 Land Use Density: Average density in comparison to local conditions. (15 points)

Compact

Principle 7
15 points

A. The development is in an existing urban area.

- 7.1 Urban Site: Number of sides of the development adjoining existing built-up sites. (10 points)

B. Travelling through the city is convenient

- 7.2 Transit Options: Numbers of stations on different transit lines that are accessible within walking distance. (5 points)

Shift

Principle 8
20 points

A. The land occupied by motor vehicles is minimized.

- 8.1 Off-Street Parking: Total off-street parking area dedicated to parking as a percentage of total land area. (10 points)
- 8.2 Driveway Density: Average number of driveways per 100 meters of block frontage. (2 points)
- 8.3 Roadway Area: Total road area used for motor vehicle travel and on-street parking as percentage of total land area. (8 points)

PRINCIPLES, OBJECTIVES & METRICS



Washington Union Station TOD



Current situation

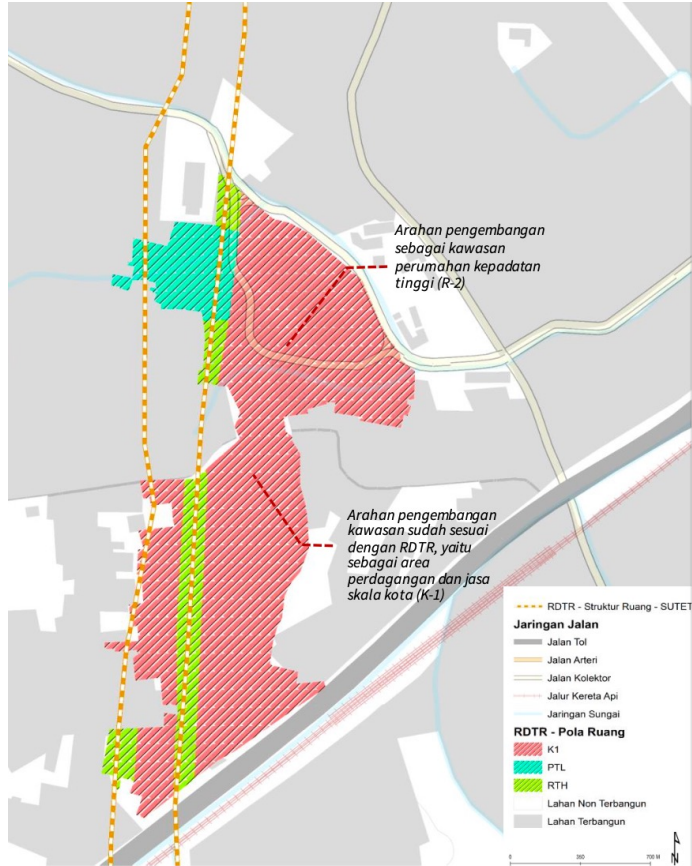


Future plan

Re-structuring space for seamless mobility

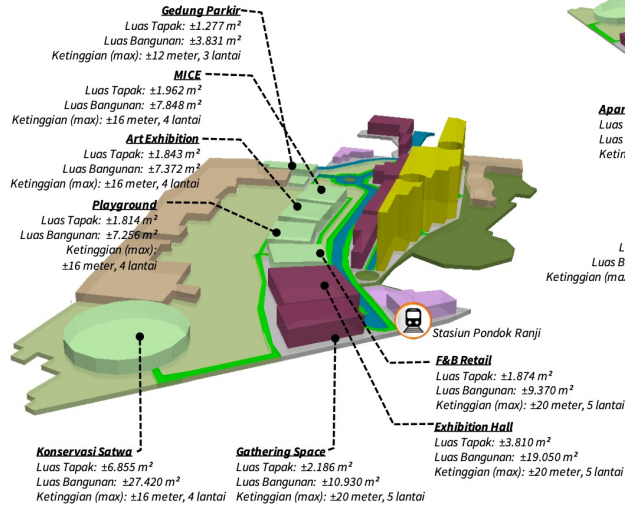


TOD/POD Pondok Ranji



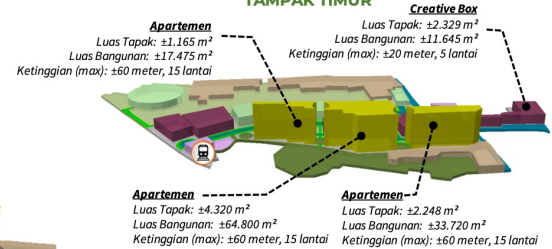
KETENTUAN INTENSITAS BANGUNAN INTERNAL SEPARATED PEDESTRIAN

TAMPAK ATAS



Gambar 7-16 Peta 3D Site Plan Pusat-Pusat Kegiatan Skenario Separated Pedestrian di Area Internal Kawasan Bintaro Creative District
Sumber: Hasil Analisis, 2023

TAMPAK TIMUR



TAMPAK BARAT



Managing spatial changes controllably

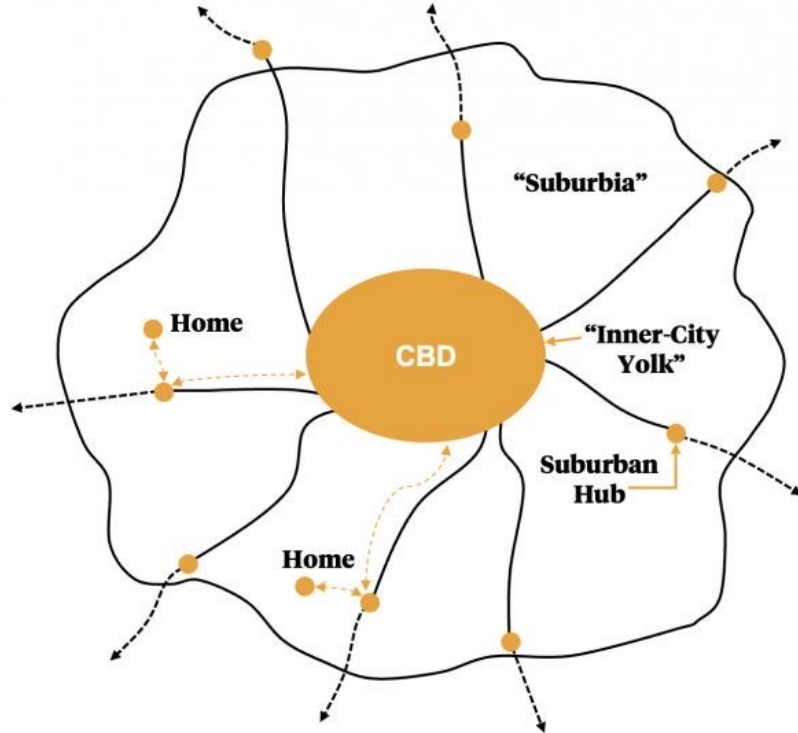


Future Drivers

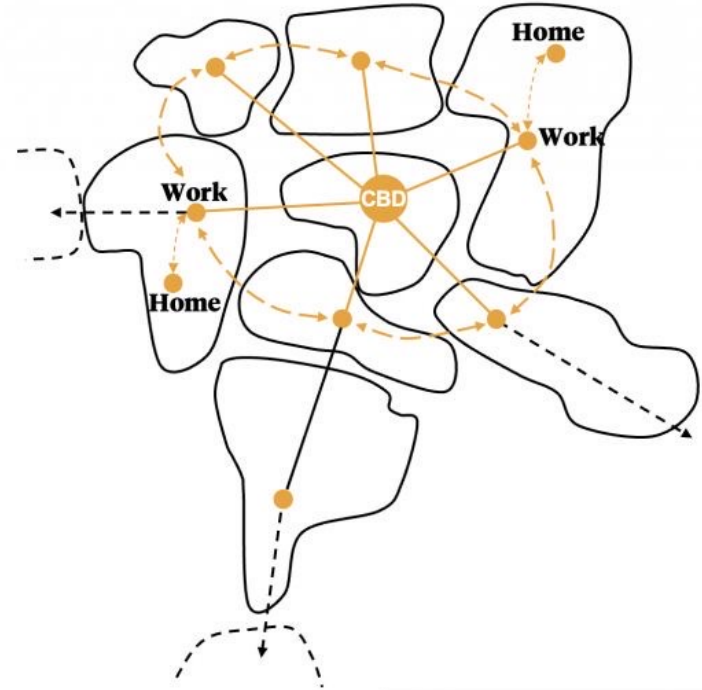
Challenges for TOD

Working from home and/or
anywhere trend changed our cities

Pre-Corona: Fried Egg City



Post-Corona: Scrambled Egg City



Urban economy tends to more faceless economy?

Indonesia Merajai Sektor E-Commerce di ASEAN

Untuk pertama kalinya, Indonesia melampaui Thailand dan Singapura, menjadi pasar e-commerce terbesar di ASEAN dengan nilai transaksi US\$ 1,1 miliar pada 2014. Kendati menghadapi sejumlah tantangan, potensi e-commerce Indonesia semakin besar seiring peningkatan jumlah penduduk dan pertumbuhan ekonomi.

Terpusat di Jawa dan Bali

Penetrasi internet belum merata membuat pasar e-commerce hanya berkembang di Jawa-Bali.

JAKARTA

43% Penetrasi Internet
4,6 juta Pengguna Internet



Pemain Utama Ritel Online di Indonesia



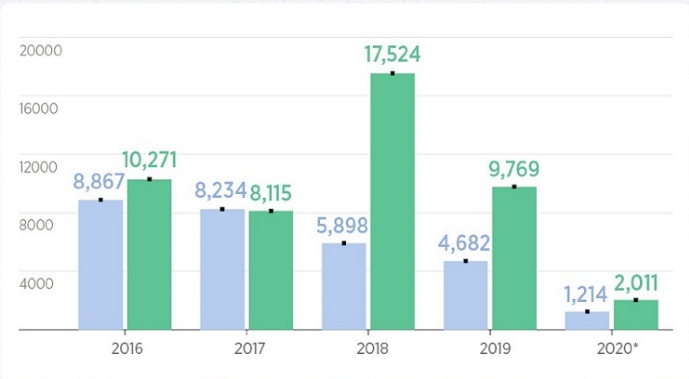
Persepsi Konsumen terhadap E-Commerce

- Citra negatif toko online
- Pembayaran tak aman
- Tidak dapat mencoba produk
- Produk tidak sesuai gambaran
- Harga lebih mahal dari toko retail
- Tidak mengerti cara berbelanja online

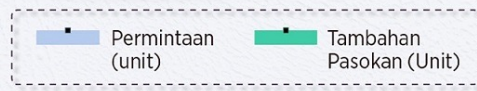
PERMINTAAN & PASOKAN APARTEMEN DI JAKARTA TERUS TURUN



SUMBER: COLLIER NASKAH: FEBRINA RATNA ISKANA DESAIN: PRETTY



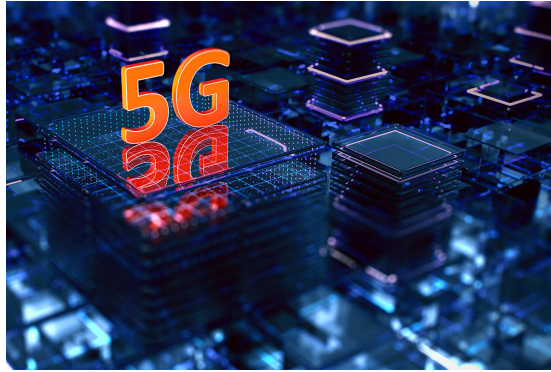
*) Permintaan hingga Juli 2020 & tambahan pasokan unit merupakan proyeksi



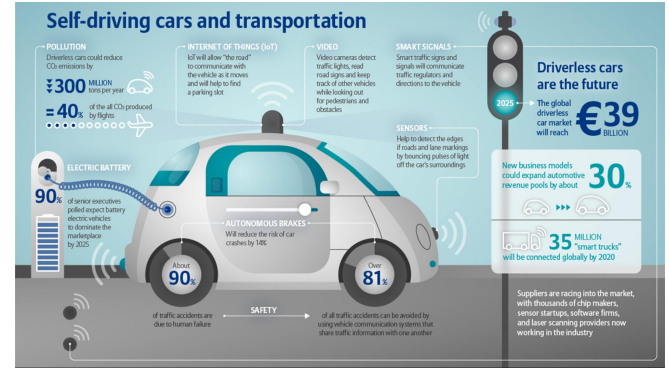
Anticipating new technology transportation



Semi-speed train



5G Connectivity



Self-Driving Cars



TOD: walking and vertical mobility



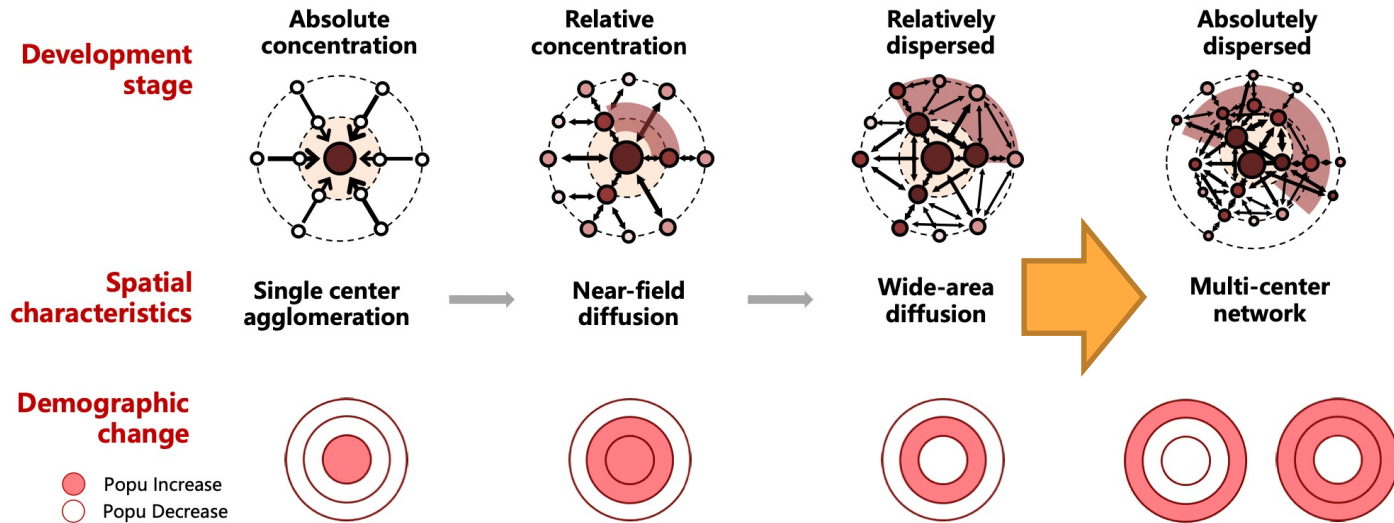
Volvo's autonomous trucks
Source: Davis, C., Slashgears, 2019



New air taxi

Restructuring urban space, if necessary with foresight scenario

Based on the development cases of large cities and their surrounding areas, it can be found that the spatial development of metropolitan area will focus on the core part of metropolitan area, the node cities near the core part, and the important node cities in the wide area.



Metropolitan space development stage model

Key planning take aways

- **Avoid uniformizing policy**, focus on integrating multi-moda transportation, inter-region, and among operators
- **Anticipate disruptive innovation** through a *plausible* scenario building of futuristic mobility
- **Identify** an interacting area of land-use and transportation on cross-border area
- **Contribute** mobility plan into climate change agenda to get external supports
- **Orient** to *outcome-based* as monitoring dan evaluation basis of urban mobility
- **Prioritize** active transportation and universal design for all

Thank you

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Hendricus Andy Simarmata

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A certified urban planner who has 20 years of experience in research, consultancy, and advocacy in the field of sustainable urban development. In the last ten years, he has focused his works to develop an intertwining concept of social and economic resilience and environmental sustainability for various development projects in Southeast Asian region, mostly in Indonesia. Mr. Simarmata earned his Dr.Phil (Ph.D.) in Development Studies from one of the leading research universities in Germany, The University of Bonn in August 2016. Following completion of his doctoral studies, Mr. Simarmata has directed the Research Center of Urban and Regional Studies, Universitas Indonesia (PRPW-UI) and has been working for numerous development projects from both international organizations and Indonesian government offices. Since November 2019, he has been elected as the President of the Indonesian Association of Urban and Regional Planners (IAP) and since May 2020, he is also elected as the International Society of City and Regional Planners (ISOCARP)'s scientific committee.

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Latest publication: <http://dx.doi.org/10.1007/978-981-10-5496-9>

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Sekilas IAP

IAP adalah satu-satunya organisasi praktisi perencanaan kota dan daerah di Indonesia dan lembaga perencanaan profesional terbesar di kawasan ASEAN, institusional member ISOCARP

Memiliki 31 kepengurusan provinsi + 2 Komisariat Provinsi dan beranggotakan lebih dari 2,800 anggota dan 1,800 Perencana bersertifikat

Terakreditasi oleh Kementerian PUPR sebagai asosiasi profesi di bawah layanan Jasa Konstruksi Nasional (LPJKN)

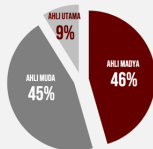
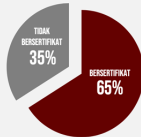
Membidani LSP Perencana Wilayah dan Kota yang sedang dalam proses akreditasi penuh (tahap uji coba) dari Badan Nasional Sertifikasi Provinsi (Oktober, 2020)

Urban (and regional) Planning Services covering development services programmes regarding **land use, site selection, control and utilisation, road systems and servicing of land with a view to creating and maintaining systematic, coordinated urban (and regional) development.**

UN CPC 86741

STATISTIK KEANGGOTAAN

TERDAFTAR 2.825 ORANG
BERSERTIFIKAT 1.831 ORANG
TIDAK BERSERTIFIKAT 994 ORANG



IAP ADALAH PENYELENGGARA (CO-HOST) KONGRES PLANNERS SEDUNIA (500 peserta dari 44 neg (ISOCARP 55TH WORLD CONGRESS))



55TH ISOCARP
WORLD PLANNING CONGRESS 2019
BEYOND THE METROPOLIS

SUMMARY
The 55th World Planning Congress achieved a record number of 500 international and local professionals and 44 countries, between 5-11 September.

CONGRESS HIGHLIGHTS
55TH ISOCARP WORLD PLANNING CONGRESS
Beyond the Metropolis

RELOCATING THE CAPITAL
The National Development Planning Agency discussed the economic impact of relocating the capital at a special session on Thursday (5/9).

CONGRESS 2020
The Queen Ragnhild led a Field of Qatars. Aspects of urban planning in other planning offices of the Queen Ragnhild Field from the Indonesian field.

INDONESIA'S URBAN STRATEGY

THE YOUNG PLANNING PROFESSIONALS PROGRAMME

TAKEAWAYS: WHERE TO BEGIN?
Several Ragnhilds, Meritla Jansen, took the stage at the closing plenary on Thursday, 5/9, and shared some of the most important lessons they emerged across the seven Congress tracks.

