



INDONESIA'S NATIONAL PLAN/STRATEGY FOR ROAD CONSTRUCTION, PAVEMENT ALONG WITH THE CAPITAL RELOCATION

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DIREKTORAT JENDERAL BINA MARGA
KEMENTERIAN PEKERJAAN UMUM DAN PERUMAHAN RAKYAT

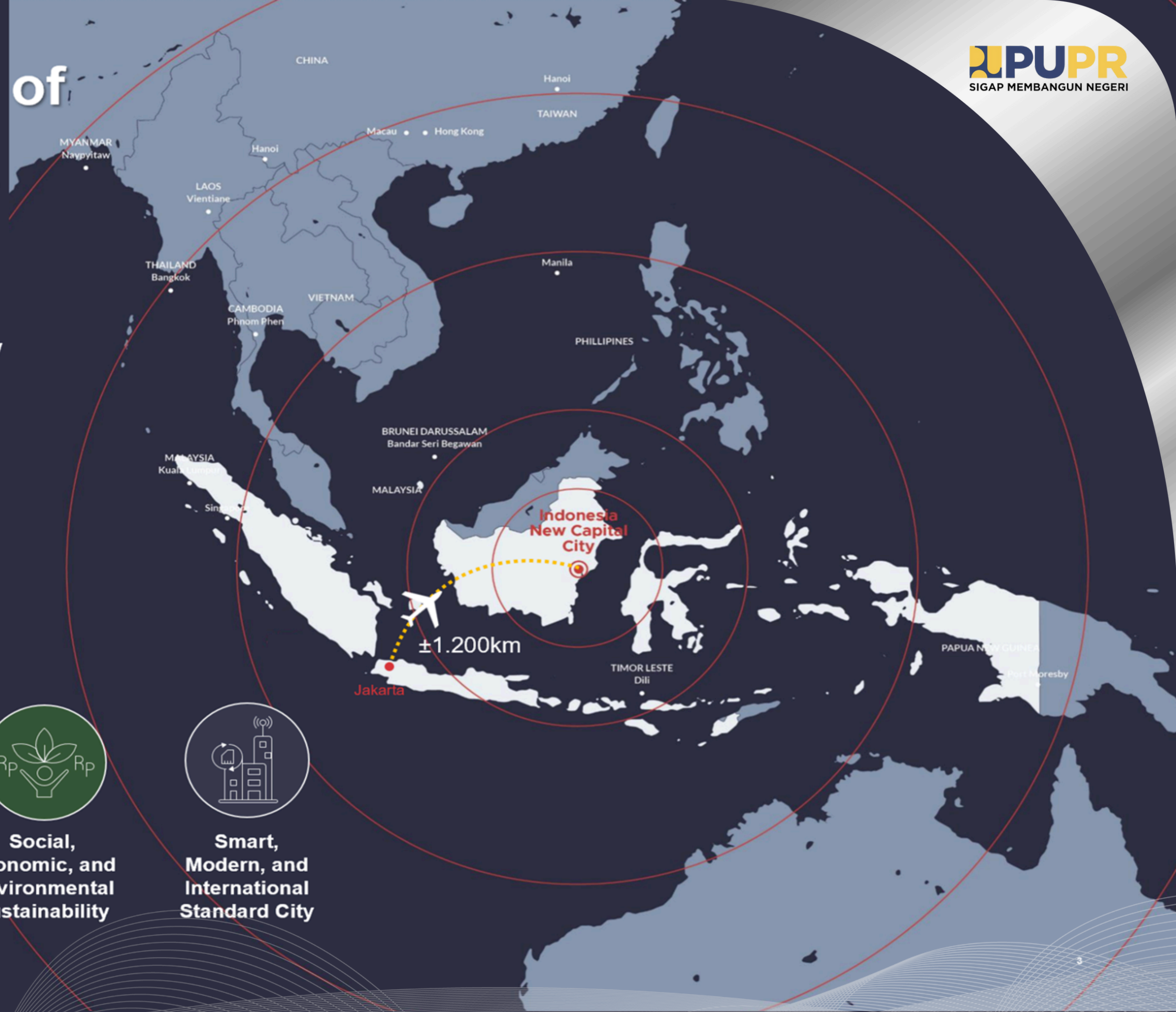
AGUSTUS 2024

OUTLINE

- ROAD NETWORK IN IKN (TOLL, NATIONAL ROAD)
- ROAD NETWORK IN KIPP
- IKN URBAN PLANNING
- ROAD DEVELOPMENT IN IKN BY BINA MARGA
(TOLL, NATIONAL ROAD)

Positioning of IKN in Republic of Indonesia

2045 Economic Center
IKN as Indonesia's New
Economic Driver



Reflecting the
Nation's Identity



Social,
Economic, and
Environmental
Sustainability



Smart,
Modern, and
International
Standard City

PLANNING HIERARCHY OF THE NEW CAPITAL (IKN)

The New Capital (IKN) is located in Sepaku District, Penajam Paser Utara Regency, and Kutai Kartanegara Regency, East Kalimantan Province. IKN is planned with three levels of planning, namely:

KPIKN 199.962 ha

Development Area of IKN

KIKN 56.180 ha

Area of IKN

KIPP 6.671 ha

Core Area of The Government Center

MARINE AREA

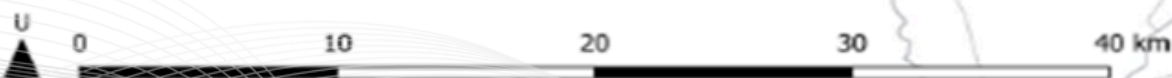
68.188 ha

TOTAL AREA OF IKN
324.332 Ha
Covering land and
marine areas

LAND AREA
256.142 Ha

MARINE AREA
68.188 Ha

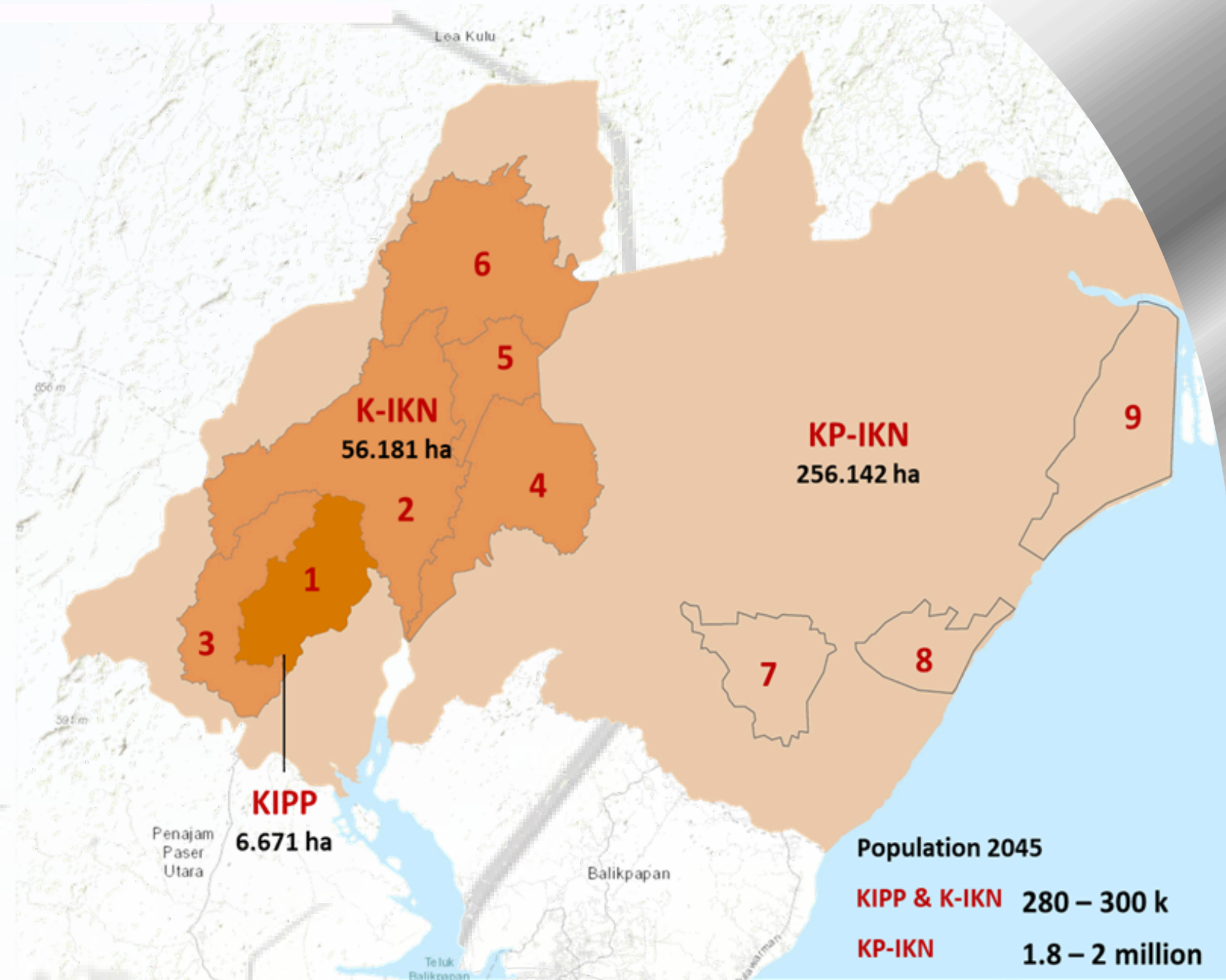
Sumber: OTORITA IKN






IKN ZONES AT 2045

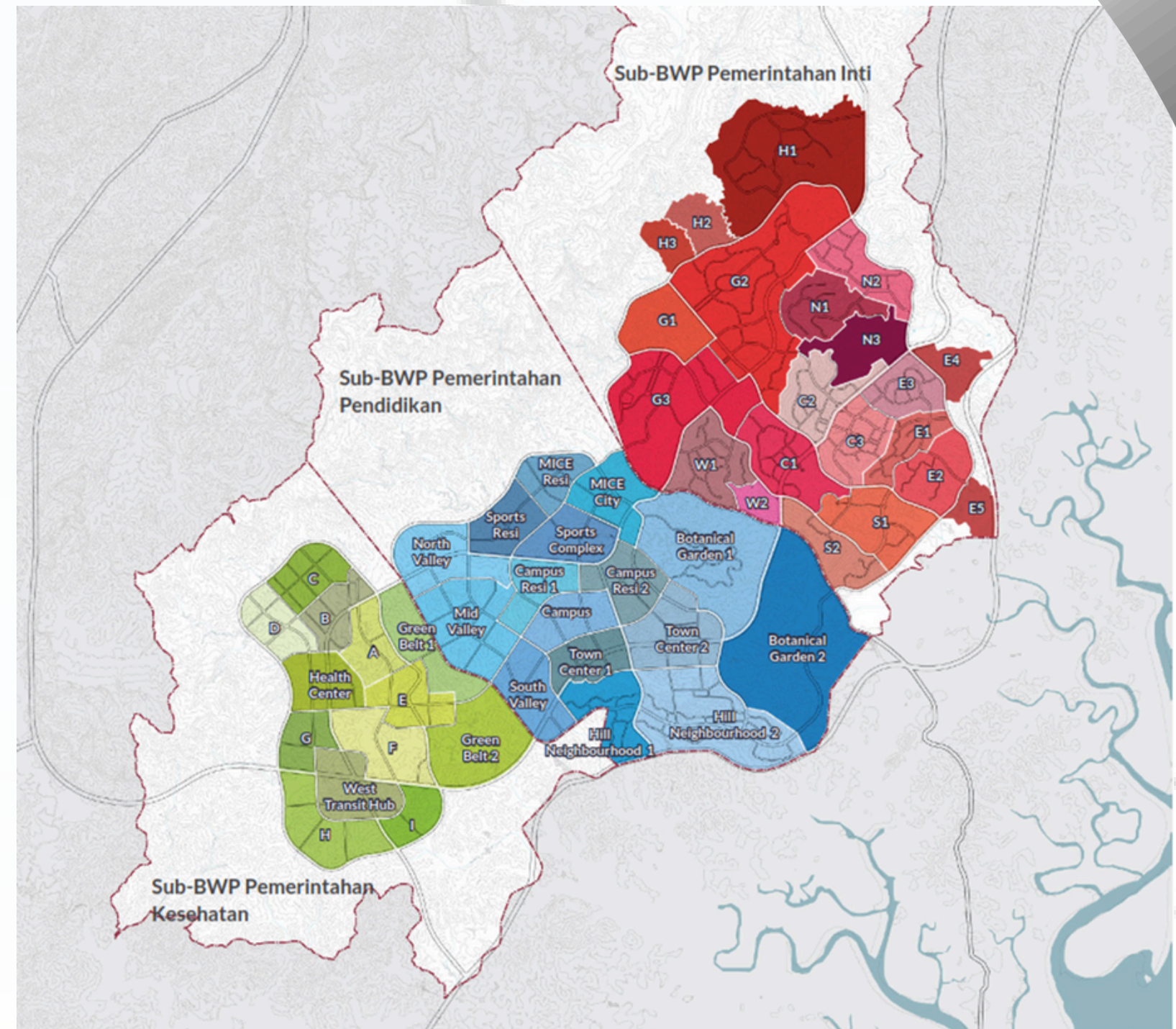
9 Zone Planning Areas of KP-IKN

1. Core Government Area (KIPP)
2. Economic and Financial Center
3. Renewable Energy Area
4. Tourism and Leisure
5. Education Services
6. Innovation and research
7. Agro-commodities, Trade & Logistics
8. Agriculture Industry
9. Fisheries and Agricultural



SUB ZONES 1 DISTRIBUTION PLAN AT CORE GOVERNMENT

-  Sub Zone 1A Core Government (KIPP)
State Palaces, Ministry, ASN/TNI/Polri
Housing
-  Sub BWP 1B Government-Education
International Standard University, Sports
Centers
-  Sub BWP 1C Government-Health
International Hospital, Housing



KEY PERFORMANCE INDICATOR (KPI) IKN



Kesejahteraan Masyarakat (KM)

10 Minutes
Access to Public and Social Facilities and Transit Points

60-70%
Total Residential Units Allocated for ASN and TNI/POLRI

Balanced Housing
in accordance with KPI Safe and Affordable

Public Space
For National scale Programs and Activities



Ekologis dan Preservasi Lingkungan Alami (EKO)

50-70%
Green Open Space

40-50%
Kalimantan Local Plant Conservation

20-30%
Indonesia Local Plant Conservation

75-80%
Population Served Acces to CityParks

100%
Green line Conected

100%
Nett Zero Emission

Optimization of microclimate quality 2" temperature reduction



Konektivitas Transportasi (TRA)

70-80%
Development of Public Transportation in City Movement

70-80%
City Development Area Connected to Public Transport and Pedestrian

70-80%
The Urban Area is <500 m Walking Distance to Public Transport Points

<50 menit
Transit Train Connection from KIPP to Strategic Airport

Physical Integration, Schedules, Information, Payments via ITS



Infrastruktur Kawasan (INF)

150 l /People/Day
Domestic Drinking Water Use Needs

60%
Recycling of Waste and Remainder through WTE and/or WTP

100%
Domestic Waste water treated with SPALD-T and Quality Standards Fulfilled in 2035

50%
Alternative Water Source Use Area

100%
Alternative Energy



ICT Infrastructure (ICT)

100%
Internet access

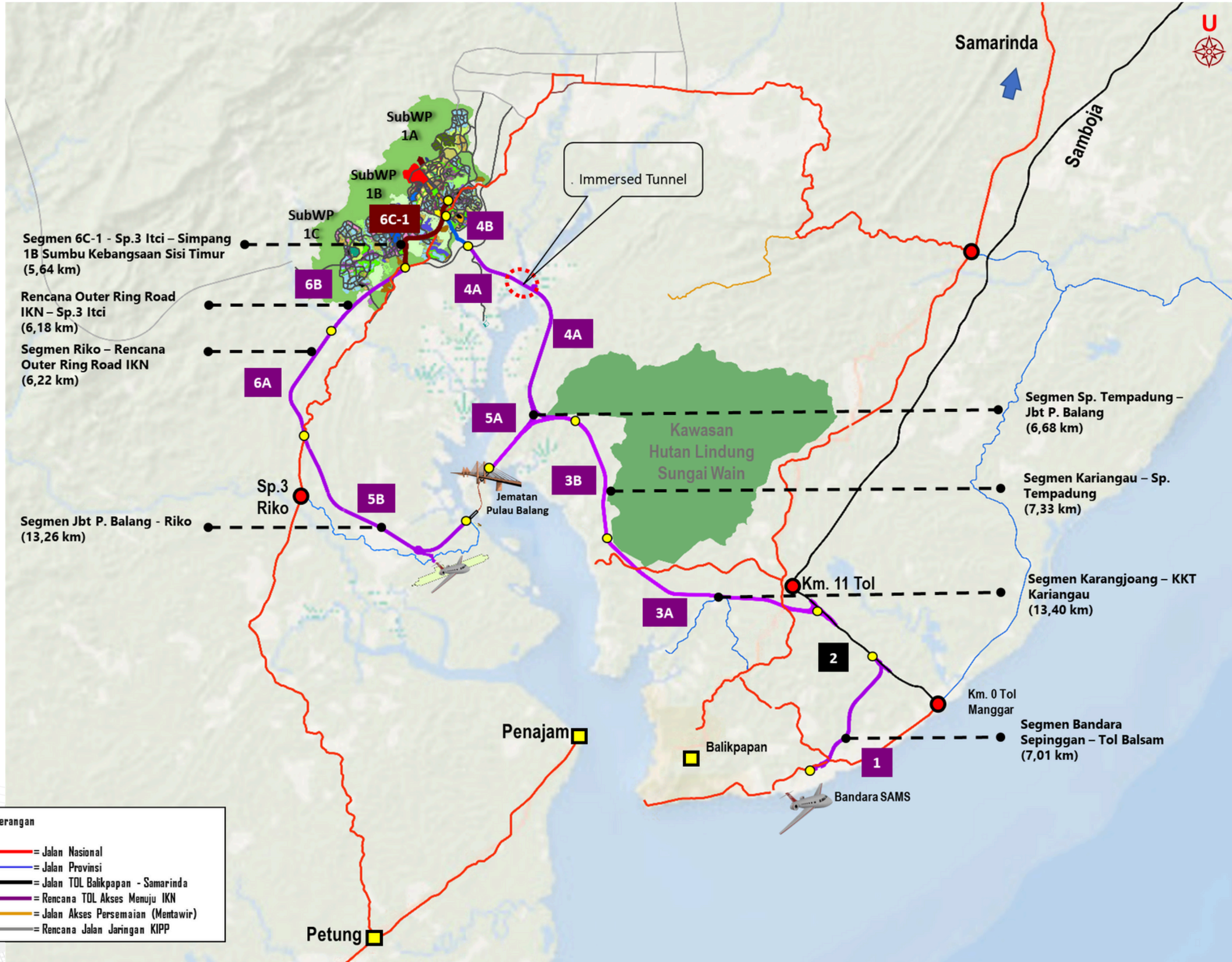
Availability WiFi in Public Area

Integrated Operation Control Center

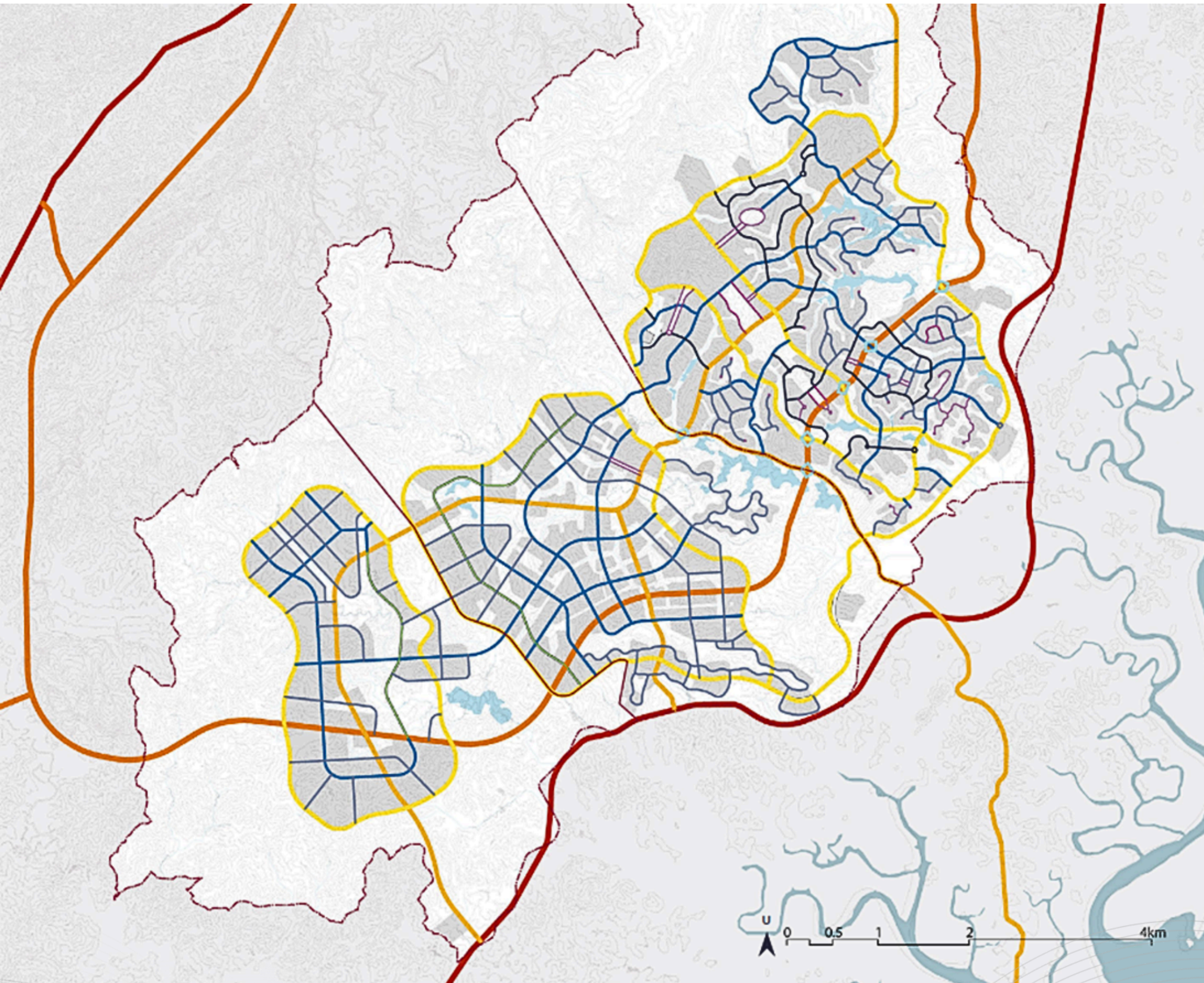
100%
E-Government in Public Service

ROAD NETWORK IN IKN (TOLL, NATIONAL ROAD)

<50 minutes Transit express connection from KIPP to strategic airport in 2030



ROAD NETWORK IN KIPP (1A, 1B, 1C)

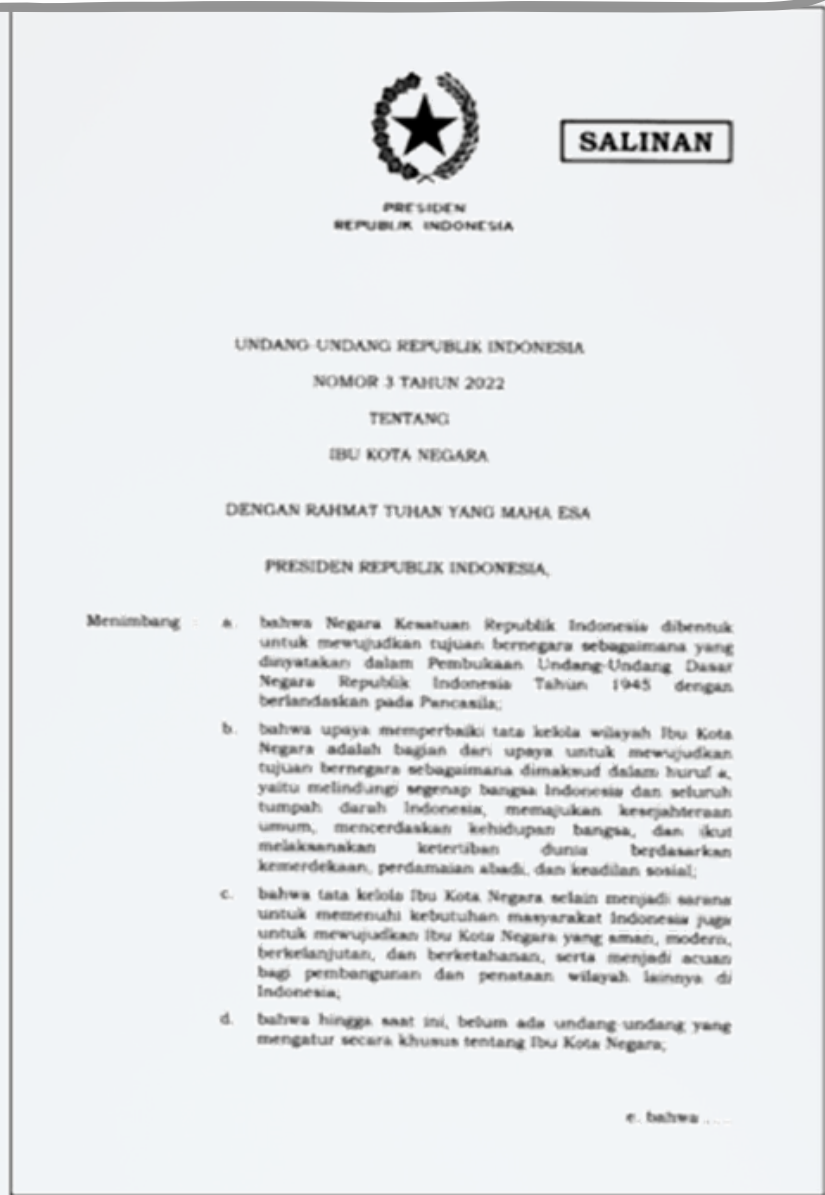


Legenda

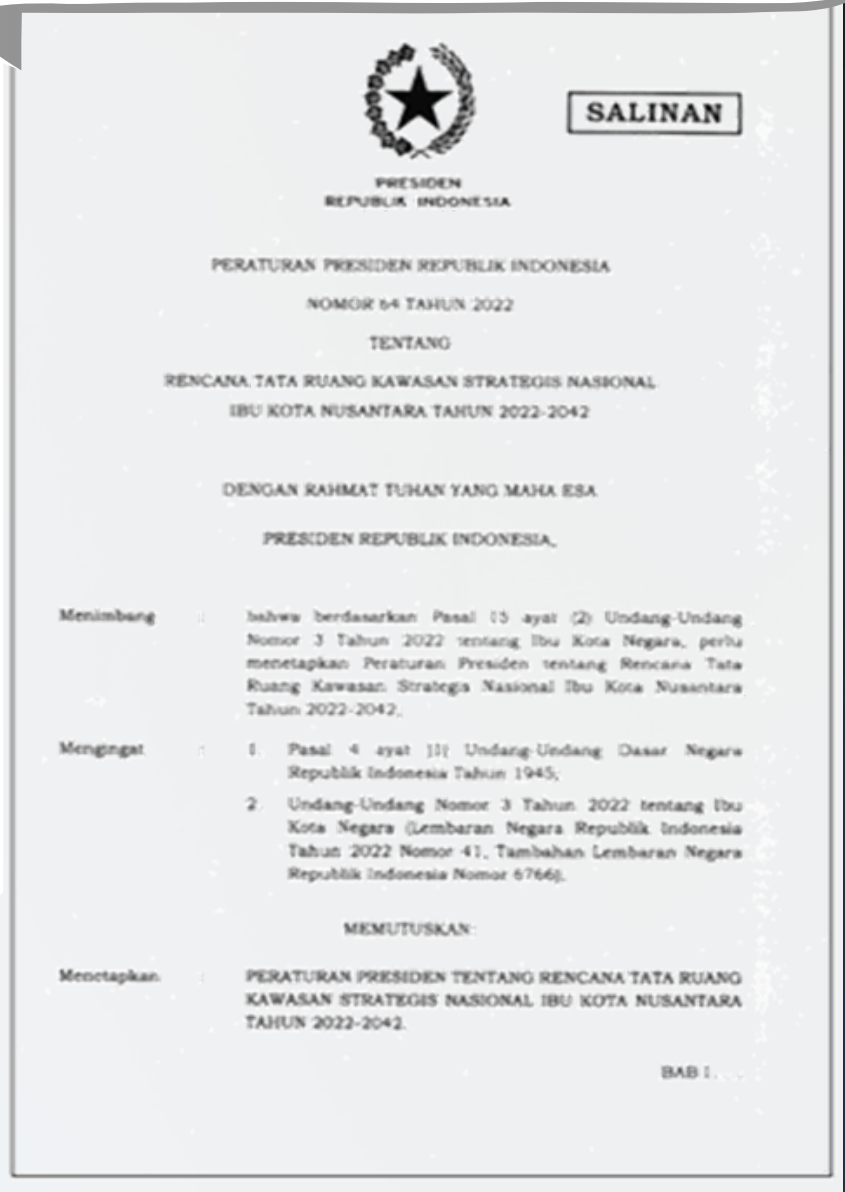
- ROW 54 - Arteri Primer
- ROW 54 - Kolektor Primer
- ROW 44 - Arteri Sekunder
- ROW 36 - Kolektor Sekunder 2 Arah
- ROW 24 - Lokal Sekunder (Green Bikeway)
- ROW 24 - Lokal Sekunder
- ROW 16 - Lokal Sekunder (Hunian)
- ROW 16 - Lokal Sekunder (Non Hunian)
- ROW 16 - Lokal Sekunder (Shared Street)
- ROW 12 - Lokal Sekunder (Shared Street)
- Highway

IKN PLANNING POLICY

Undang-Undang Republik Indonesia No. 3 Tahun 2022 tentang Ibu Kota Negara
"Government Law about National Capital City"



Peraturan Presiden Republik Indonesia No. 64 Tahun 2022 tentang Rencana Tata Ruang Kawasan Strategis Nasional Ibu Kota Nusantara
"Presidential Regulations IKN Land Use Planning"



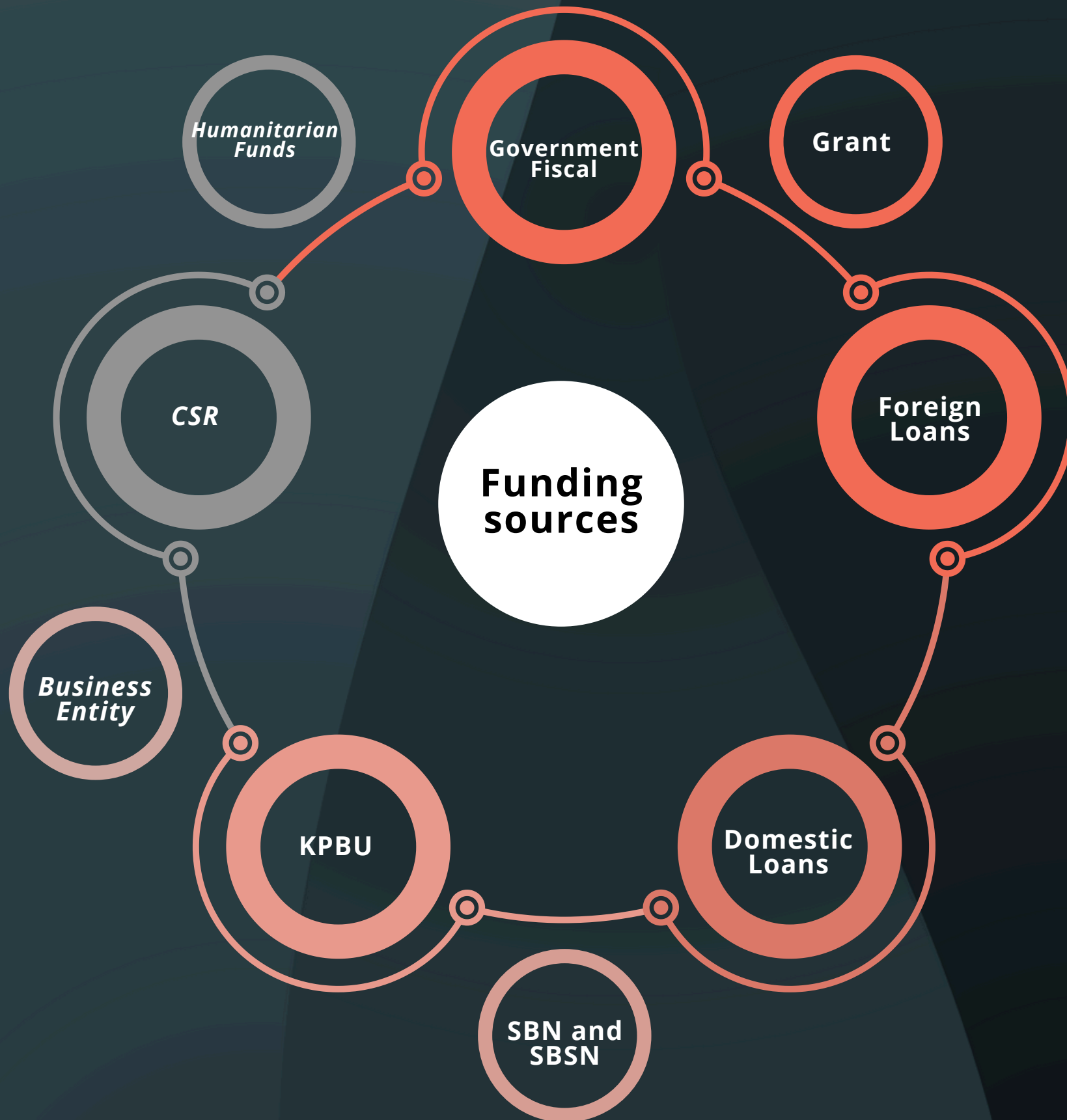
Peraturan Presiden Republik Indonesia No. 63 Tahun 2022 tentang Perincian Rencana Induk Ibu Kota Nusantara
"Presidential Regulations IKN Master Plan"



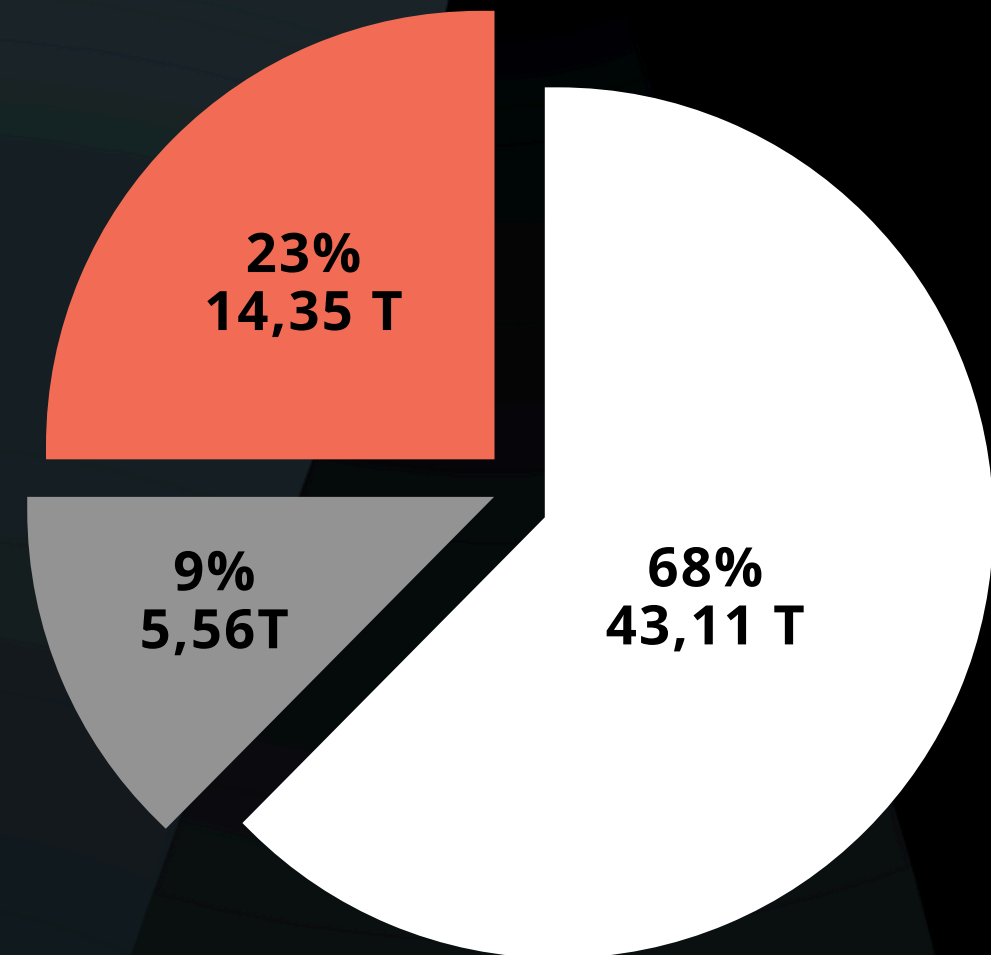
IKN'S DEVELOPMENT TIMELINE



ROAD DEVELOPMENT IN IKN BY BINA MARGA



BINAMARGA BUDGET 2024

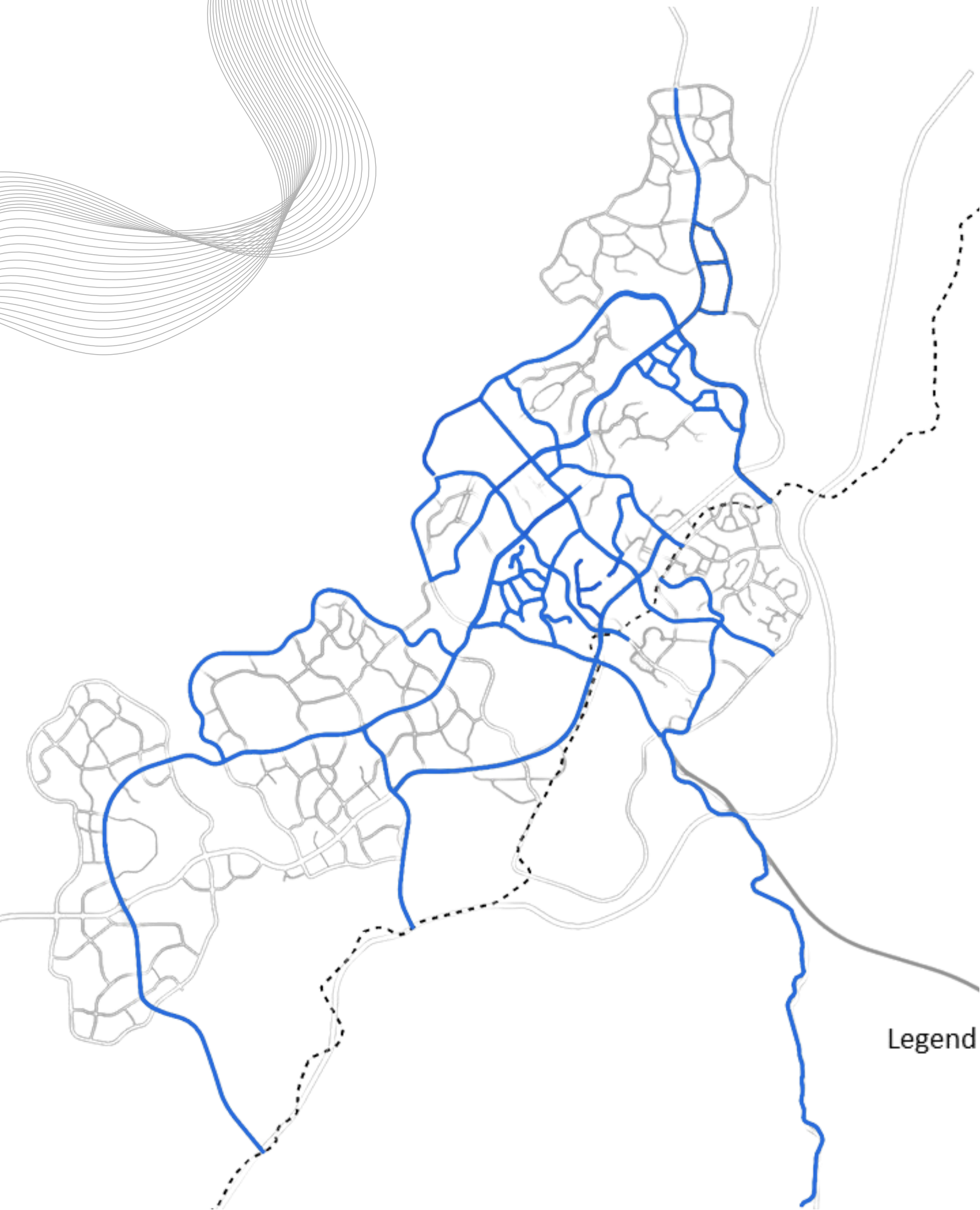


 RPM

 SBSN

 PHLN

ROAD DEVELOPMENT IN SUB WP ZONE 1A,1B,1C BY BINA MARGA



SUB WP ZONE 1A,1B,1C		
Target Zone 1 KIPP	Constructed Road	Unbuilt Road
226,87 Km	83,09 Km	143,78 Km

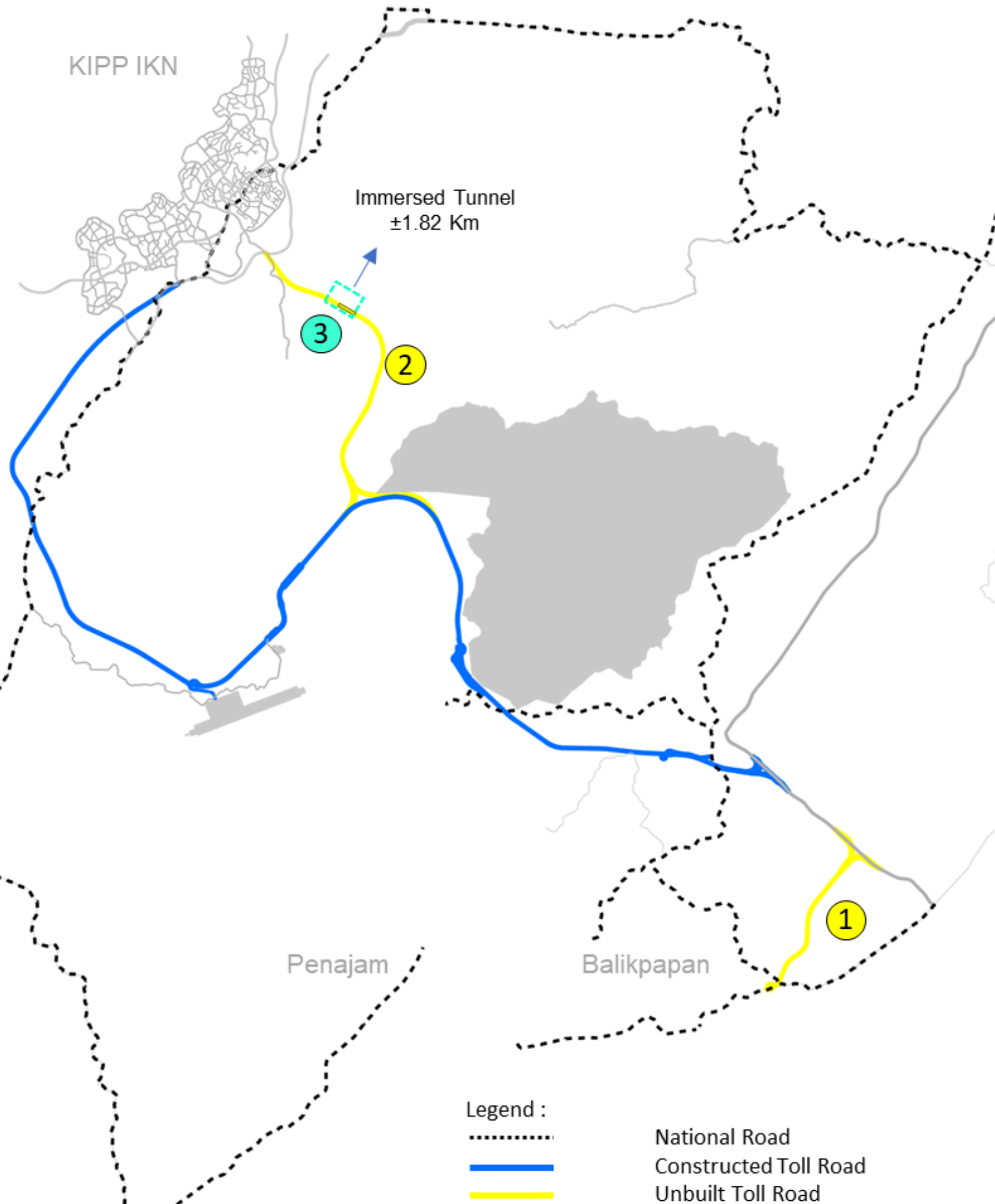
Average cost of road construction per km in KIPP **Rp. 158.250.000.000**

- Required costs for completion of roads that have not been built in Sub WP Zones 1A, 1B, 1C **Rp. 39.681.778.638.000 (US\$ 26 Billion)**
- Average government spending only for KIPP in 2024 (Rp. 5.23 Trillion) means that the completion for Zone 1 assumed to be completed **7.5 years** or will be completed 2032
- Therefore, there should be a systematic strategy to be taken in regards fulfilling the budget requirement for completing only Zone
- The government should invite **different schemes** to be applied in IKN

Legend :

- National Road
- Constructed Road
- Unbuilt Road

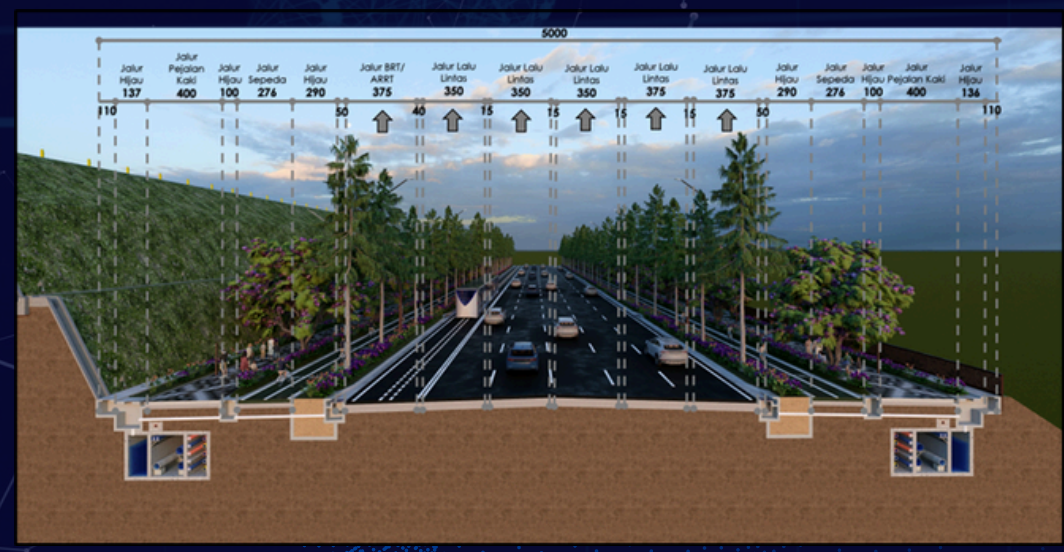
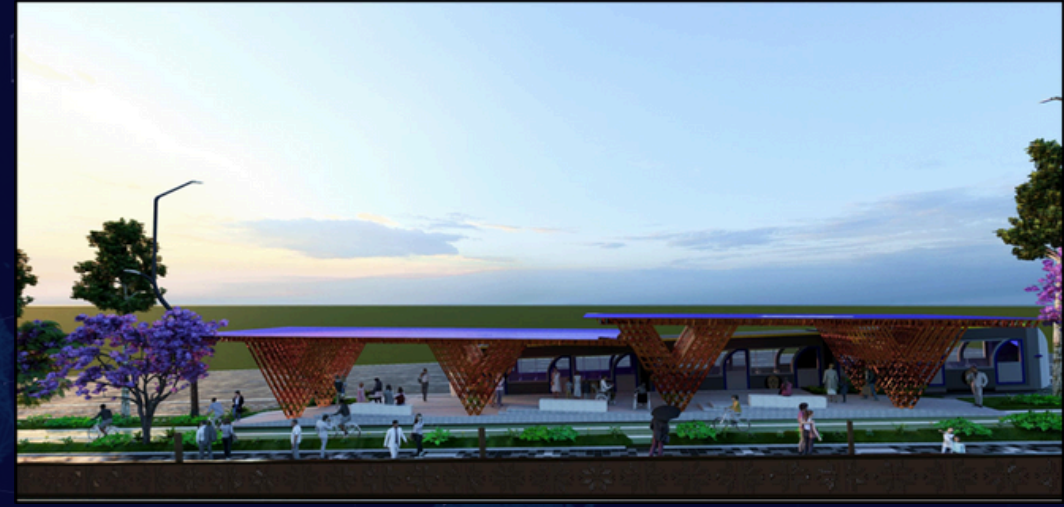
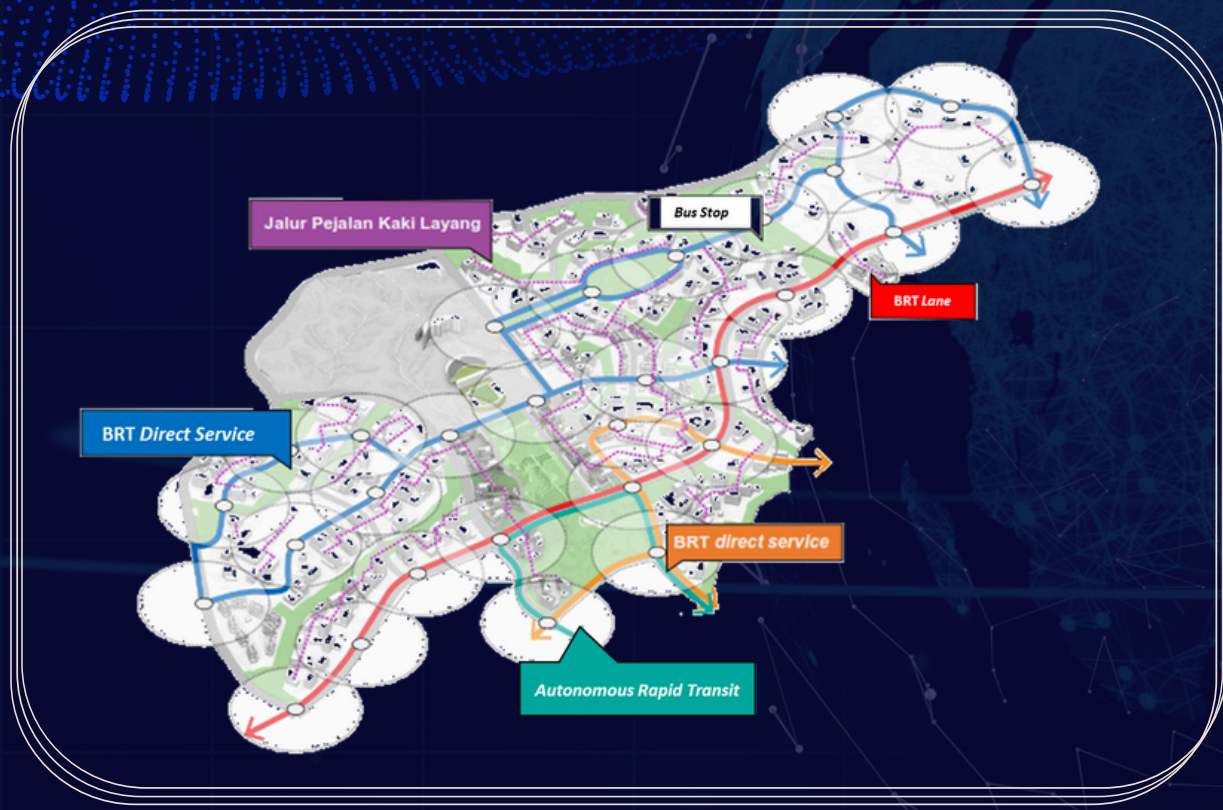
ACCESS TOLL ROAD DEVELOPMENT IN IKN BY BINA MARGA



Acces Toll Road		
Target Toll Road	Constructed Toll Road	Unbuilt Toll Road
88,54 Km	67,65 Km	20,89 Km

- Average cost of road construction per km in KIPP **Rp. 305.815.000.000**
- Required costs for completion of toll roads that have not been built **Rp. 6.388.475.350.000 (US\$ 394 million)**
- Required costs for completion of Immersed Tunnel Rp. **11.041.382.625.000 (US\$ 682 million)**

ROAD NETWORK AND PAVEMENT CONCEPT



10 MINUTES CITY DEVELOPMENT
TRANSIT-ORIENTED AREA WHERE PUBLIC TRANSPORTATION IS THE MAIN MODE OF MOBILIZATION, PEDESTRIAN-FRIENDLY AND INTEGRATED

POLICY IMPLEMENTATION CHALLENGES AND SOLUTIONS



The soil conditions are mostly clay shale which is sensitive to water



Adjust work methods so that the clay shale soil layer is not exposed for too long



Construction of various infrastructures carried out simultaneously, causing the potential for clashes between works (for example: overlap between building site and Road Embankment)



Implementation of BIM on all construction work at IKN and use of the clash detection feature to identify potential clashes between construction work so that they can be anticipated early



Guarantees of sustainable material availability are needed for the continuity of construction at IKN (*supply chain management*)



Collaborate with construction material suppliers in various places and build a special dock for shipping IKN construction materials

TECHNOLOGICAL BREAKTHROUGH FOR ROAD NETWORK DEVELOPMENT IN IKN

Autonomous Rapid Transit (ART)

Autonomous trams that operate on roads using tires are guided by virtual tracks using markings



Smart Pole

Various features such as monitoring via AI cameras, IoT sensors, adaptive lighting, audio system, which can be controlled in real-time or through arrangements by officers.



Nusantara Smart Road System

- BIM Integration for Road Design,
- Pavement Infrastructure Monitoring System Using AI,
- Energy Harvesting System, Wireless Charging and Charging Station,
- MUT Monitoring System using LiDAR, Wireless Sensors, and Dorne/Robot
- Road Safety Monitoring System using Visual Recognition to Detect Traffic Distraction



Lesson learn from China in boosting their Economy

key aspects of China's infrastructure efforts:

- **Massive Investments:** China has invested over \$1 trillion in BRI projects, which include constructing and upgrading roads, railways, ports, and pipelines².
- **Global Reach:** The BRI spans multiple continents, with over 200 cooperation agreements signed with more than 150 countries and 30 international organizations².
- **Digital Infrastructure:** Besides physical infrastructure, China is also focusing on digital connectivity, including internet infrastructure and satellite networks².
- **Policy Coordination:** The initiative emphasizes policy coordination, unimpeded trade, financial integration, and people-to-people bonds to ensure smooth implementation and cooperation.

These efforts are designed to not only boost China's own economic growth but also to enhance connectivity and economic development in participating countries.

More Detail what China Does

Specific projects and initiatives China has undertaken to boost its infrastructure:

1. High-Speed Rail Network: Spanning over 40,000 kilometers, this network connects major cities, reducing travel time and boosting economic integration.
2. Three Gorges Dam: This is the world's largest hydroelectric power station, located on the Yangtze River. It plays a crucial role in flood control and power generation.
3. Beijing Daxing International Airport: this airport is one of the largest and most technologically advanced in the world. It serves as a major hub for international travel and trade.
4. Urban Infrastructure: Cities like Shenzhen and Shanghai have seen massive investments in urban infrastructure, including smart city technologies, extensive metro systems, and green spaces.
5. Digital Silk Road: Part of the BRI, this initiative focuses on enhancing digital infrastructure, including fiber optic networks, data centers, and satellite systems to improve global digital connectivity.

These projects highlight China's commitment to building a robust and modern infrastructure network that supports its economic growth and global trade ambitions.

Conclusion

To overcome the financial and time issues required for IKN, therefore:

- Government need to reform their policy and regulation in regards to ease investor in infrastructure
- The advance technology required to boost the speed of constructions time and to improve the quality the infrastructure.
- There should establish the cooperation with countries that successful in developing their road construction.

THANK YOU

 **PUPR**
SIGAP MEMBANGUN NEGERI