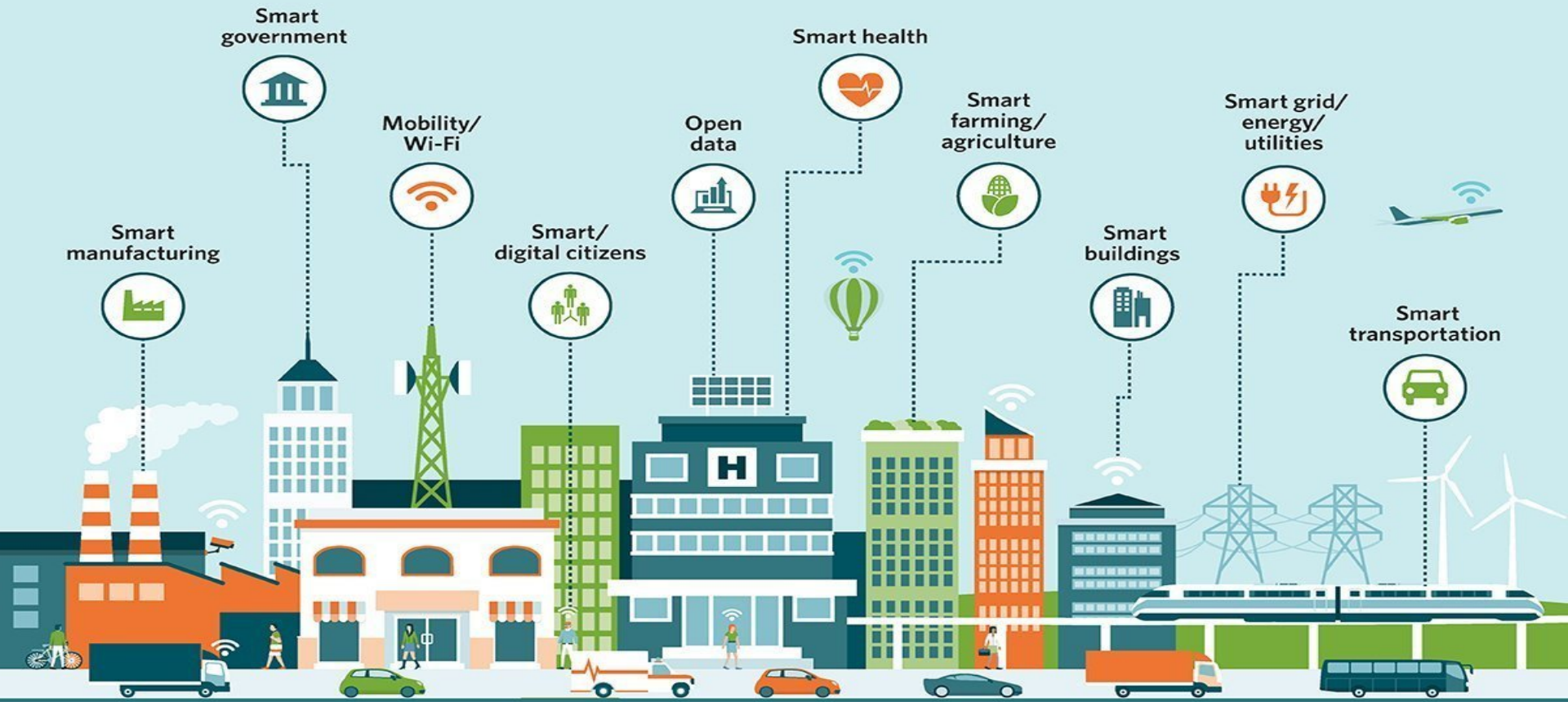


An architectural rendering of a modern smart city. The scene features a dense skyline of skyscrapers and modern buildings. In the foreground, a wide river flows through the city, with a large, landscaped park area on the left bank. The park includes a paved walkway, trees, and a small boat dock. A multi-lane road with a bridge spans the river. The sky is overcast with grey clouds. The text 'the RESILIENT Smart City' is overlaid in red on the upper part of the image.

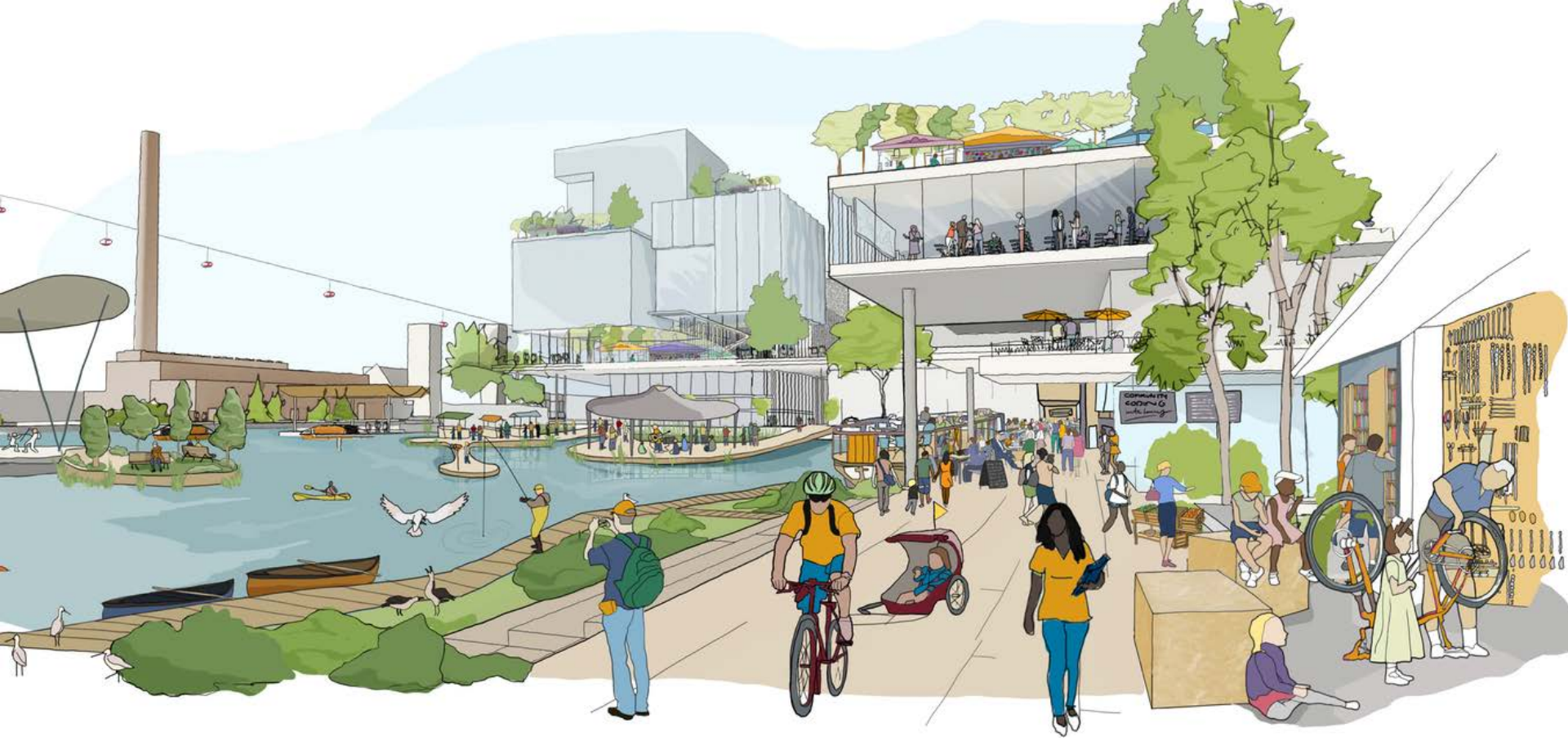
the
RESILIENT
Smart City

David Mizan Hashim

VERITAS
design-group



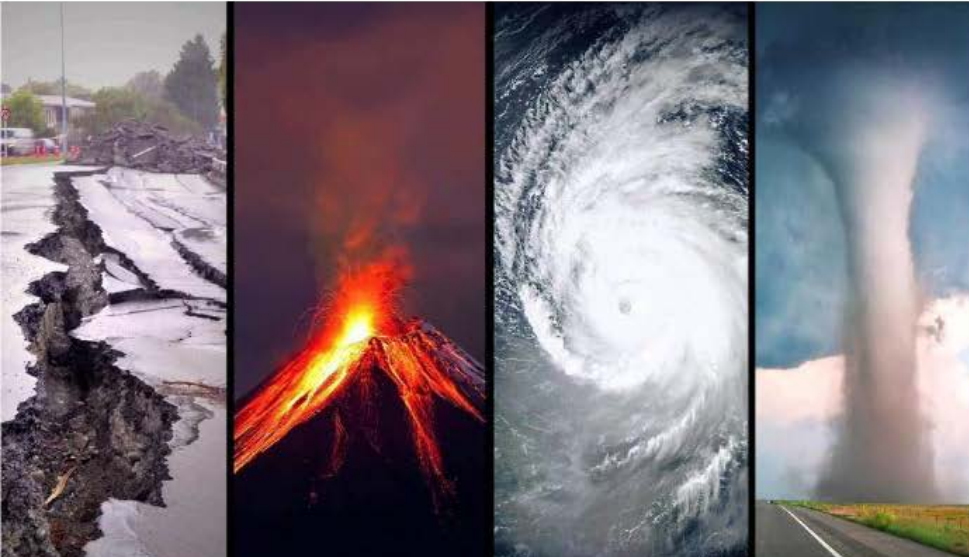
SMART CITY ACCORDING TO TECHNOLOGISTS



SMART CITY ACCORDING TO URBAN PLANNERS/ARCHITECTS

RESILIENCE: TYPES OF DISTURBANCE FACING THE BUILT ENVIRONMENT:

ENVIRONMENTAL/NATURAL



SOCIAL/MAN-MADE



RESILIENCE: TYPES OF DISTURBANCE FACING THE BUILT ENVIRONMENT:

ENVIRONMENTAL/NATURAL

- EARTHQUAKE
- VOLCANIC ERUPTION
- TSUNAMI
- AVALANCHE
- TYPHOON
- TORNADO
- CYCLONE
- HURRICANE
- STORM
- FLOOD
- LANDSLIDE
- FOREST FIRE
- DROUGHT
- PESTILENCE
- TEMPERATURE RISE
- SEA-LEVEL RISE

SOCIAL/MAN-MADE

- HAZE/POLLUTION
- WATER SHORTAGE
- BLACKOUT/POWER SHORTAGE
- SANITATION DISRUPTION
- REFUSE REMOVAL DISRUPTION
- COMMUNICATIONS FAILURE
- CIVIC UNREST/RIOT/WAR
- TERRORIST ATTACK
- CRIME
- FINANCIAL CRISIS
- STRUCTURAL FAILURE
- FIRE
- **EPIDEMIC/PANDEMIC (covid-19)**
- FOOD SHORTAGE
- FUEL SHORTAGE
- NUCLEAR MELTDOWN



Affecting Malaysia

What is a Resilient City?

A resilient city is one that has developed capacities to help absorb future shocks and stresses to its social, economic and technical systems and infrastructures so as to still be able to maintain essentially the same functions, structures, systems and identity within a short time.

- Urban transportation systems need to become more sustainable
- Nature-based solutions must work for the people
- Community networks should support urban disaster resilience
- Smart solutions which can improve urban livelihoods
- Cities, countries and international bodies need to collaborate

What is a Resilient City?

- | | |
|--------------------|--|
| 1. Reflectiveness | ability to learn form the past and act in times of crisis |
| 2. Resourcefulness | ability to recognize alternative ways to use resources in times of crisis to meet needs or achieve goals |
| 3. Robustness | qualities that help to conceive systems and assets that withstand shocks and stresses |
| 4. Redundancy | spare capacity purposely created to accommodate disruption due to extreme pressures |
| 5. Flexibility | willingness and ability to adopt alternative strategies in response to changing circumstances or sudden crisis |
| 6. Inclusiveness | need for broad consultation and many 'seats at the table' to create a sense of shared ownership or joint vision to build city resilience |
| 7. Integration | process of bringing together systems and institutions to catalyze additional benefits and resources |

RESILIENCE: The RELi Resilience Action list

STRUCTURES COMMUNITY	NUMBER	POINTS	TANGIBLE VALUE	REFERENCE
PANORAMIC APPROACH				
PA PANORAMIC APPROACH TO PLANNING, DESIGN, MAINTENANCE, & OPERATIONS				
S C	Req 1	Study: Project Short-Term Hazard Mitigation and Adaptation Needs Including Climate	Required	Y RELI
S C	Req 2	Integrative Process, Development & Community Stakeholder Involvement	Required	Y IP LEED Envision
S C	Poly-Req 3	Commissioning & Long-Term Monitoring / Maintenance	Required	Y LEED Envision
S C	Poly-Credit 1	Business & Community Case Analysis, Post-Development Evaluation and Reporting	TBD	Varies
S C	Credit 2	Establish a Sustainability & Resiliency Management System	TBD	Envision
S C	Credit 3	Address Conflicting Regulations & Policies	TBD	Envision
S C	Credit 4	Third Party Leadership & Next Generation Certifications and Programs	TBD	RELI
Credits 5-8 Below Expand the Integrative Process Required by Requisite 2 Above				
S C	Poly-Credit 5	Study & Design for By-Product & Underutilization Synergies	TBD	Adapted - Envision
S C	Poly-Credit 6	Study & Design for Improved Project Element & Infrastructure Integration	TBD	Adapted - Envision
S C	Poly-Credit 7	Study & Design for Long-Term Adaptability, Diversity & Redundancy	TBD	RELI
S C	Poly-Credit 8	Study & Living Design for Advanced Resiliency Using a Diversity of Ecology-Based Perspectives	TBD	RELI
RISK ADAPTATION & MITIGATION FOR ACUTE EVENTS				
HP HAZARD PREPAREDNESS				
S C	Req 1	Fundamental Emergency Planning & Preparedness for Common Hazardous Events	Required	Y RELI
S C	Req 2	Fundamental Access To: First Aid, Emergency Supplies, Water, Food, Communications	Required	Y RELI
S C	Poly-Credit 1	Enhanced Emergency Planning for Common Hazards & Extreme Events	TBD	Y RELI
S C	Credit 2	Enhanced Access: Emergency Care & Supplies, Water, Food, Communications	TBD	Y RELI
S C	Poly-Credit 3	Additional Emergency Provisions For the Community & for Longer Timeframes	TBD	Y RELI
S C	Credit 4	Community Education: Authentic Dialogues on Ever-Increasing Weather, Safety & Resiliency Risks	TBD	RELI
HA HAZARD ADAPTATION & MITIGATION				
S C	Req 1	Sites of Avoidance & Repair: 500-Year Flood Plain, Storm Surge & Sea Rise	Required	Y RELI
S C	Req 2	Fundamental Emergency Operations: Back-Up Power & Operations	Required	Y RELI
S C	Req 3	Fundamental Emergency Operations: Thermal Safety During Emergencies	Required	Y RELI
S C	Req 4	Safer Design for Extreme Weather, Wildfire & Seismic Events	Required	Y Fortified
S C	Poly-Credit 2	Adaptive Design for Extreme Rain, Sea Rise, Storm Surge & Extreme Weather, Events & Hazards	TBD	Y RELI
S C	Poly-Credit 3	Advanced Emergency Operations: Back-Up Power, Operations, Thermal Safety & Operating Water	TBD	Y RELI
S C	Poly-Credit 4	Passive Thermal Safety, Thermal Comfort & Lighting Design Strategies	TBD	Y 2030 Palette
S C	Poly-Credit 5	Transit & Transportation System Protection & Continuous Operations	TBD	Y RELI
S C	Poly-Credit 6	Provide Environmental Protection & Remediation for Parks & Preserves	TBD	RELI

STRUCTURES COMMUNITY	NUMBER	POINTS	TANGIBLE VALUE	REFERENCE
COMPREHENSIVE ADAPTATION + MITIGATION FOR A RESILIENT PRESENT + FUTURE				
CV COMMUNITY COHESION, SOCIAL & ECONOMIC VITALITY				
S C	Poly-Req 1	Improve Community Quality of Life	Required	Envision
S C	Poly-Credit 1	Incorporate Important Community Views and Aspects of Local Landscape	TBD	Envision
S C	Poly-Credit 2	Community Connectivity: Walkability, Public Transit, Non-Motorized Transit	TBD	Y LEED V4
S C	Poly-Credit 3	Community Connectivity: Mixed-Use Commercial, Housing & Public / Community Space	TBD	Y LEED RELI
S C	Poly-Credit 4	Expand Citizen Participation: Public Amenities, Councils, Organizations, Communication	TBD	RELI
S C	Poly-Credit 5	Resilient Organizations: Cooperative & B-Corporations), Non-Profits & Social Equity Measures	TBD	RELI
S C	Poly-Credit 6	Develop or Expand Local Skills, Capabilities & Long-Term Employment & Mix	TBD	Envision
S C	Poly-Credit 7	Use Regionally Sourced & Manufactured Materials and Products	TBD	LEED Envision
S C	Poly-Credit 8	Stimulate Sustainable Growth and Development	TBD	Envision
PH PRODUCTIVITY, HEALTH & DIVERSITY				
S C	Poly-Req 1	Minimum IAQ & Views to the Exterior	Required	Y LEED RELI
S C	Poly-Req 2	Minimum Protection for Prime Habitat & Floodplain Functions	Required	Y LEED Envision
S C	Poly-Credit 1	Human PHD: Expanded IAQ, Daylight & Views, Fresh Air	TBD	Y LEED NC V4
S C	Poly-Credit 2	Human PHD: Active Design for Buildings, Communities and Urban Environments	TBD	Active Design
S C	Credit 3	Human PHD: Provide for Social Equity: Interdisciplinary / Intercultural Opportunities	TBD	RELI Stars
S C	Poly-Credit 4	Human & Eco PHD: Reduce Pesticides, Prevent Surface & Groundwater Contamination	TBD	Y Envision
S C	Poly-Credit 5	Ecological PHD: Protect Wetlands & Avoid Slopes and Adverse Geology	TBD	Y Envision
S C	Poly-Credit 6	Ecological PHD: Biodiversity, Habitat & Soil	TBD	LEED Envision
EW ENERGY, WATER & FOOD				
S C	Poly-Req 1	Minimum Water Efficiency & Resilient Water and Landscapes	Required	Y LEED
S C	Poly-Req 2	Minimum Energy Efficiency & Atmospheric Impacts	Required	Y LEED
S C	Poly-Credit 1	Plan For Rainwater Harvesting , Resilient Landscapes & Food Production	TBD	Y RELI
S C	Poly-Credit 2	Plan the Site and Orientation For Sun & Wind Harvesting, Natural Cooling	TBD	Y Multiple
S C	Poly-Credit 3	Water-Use Reduction, Near Zero / High-Efficiency Water Flows and Resilient Landscapes	TBD	Y LEED RELI
S C	Poly-Credit 4	Energy Optimization, Near Zero / Carbon Neutral, Net Zero, Net Positive Energy Flows	TBD	Y Multiple
S C	Poly-Credit 5	Edible Landscaping, Urban Agriculture & Resilient Food Production	TBD	Y RELI
S C	Poly-Credit 6	Reduced Site Environmental Impacts: Lighting, Heat-Island, Airborne Toxins	TBD	Y LEED Envision
MA MATERIALS & ARTIFACTS				
S C	Poly-Req 1	Minimum Material Effectiveness & Life Cycle Planning	Required	Multiple
S C	Credit 1	Safer, Non-Toxic Materials (SMaRT or Equivalent Certified)	TBD	Y RELI
S C	Credit 2	Material & Artifact Effectiveness: Full Life Cycle Design for Durability, Adaptability, Flexibility	TBD	Y Adapted - Autodesk
S C	Credit 3	Material & Artifact Effectiveness: Design for Disassembly, Reuse, Recycling & Composting	TBD	Y Adapted - AutoDesk
S C	Poly-Credit 4	Material Effectiveness: Use Recycled Content Materials, Salvaged Materials & Local Materials	TBD	LEED
S C	Credit 5	Use Legally Logged Wood from Ecologically Managed Forests (FSC Certified)	TBD	Y RELI LEED
S C	Credit 6	Reduce Net Embodied Energy & Carbon, Water and Toxins	TBD	Y Adapted LEED SMART
S C	Poly-Credit 7	Divert Waste from Landfills, Reduce Excavated Soils Taken from Site	TBD	LEED Envision
APPLIED CREATIVITY AND CONTEXTURAL FACTORS FOR RESILIENCY				
AC APPLIED CREATIVITY, INNOVATION & EXPLORATION				
S C	Poly-Credit 1	Applied Creativity in Resiliency & Integrative Design		
S C	Poly-Credit 2	Contextual Factors & Project Responsive Topics		
S C	Poly-Credit 3	Exemplary Performance		

IBU KOTA NEGARA

INDONESIA'S NEW CAPITAL CITY





1. Kota Inti Administratif

6. Pusat Olahrag

3. Distrik Perumahan

3. Distrik Perumahan

3. Distrik Perumahan

5. Distrik Kantonmen Militer

9. Taman Linear Utara

10. Taman Linear Tengah

11. Taman Linear Selatan

2. Distrik Bisnes Pusat (CBD)

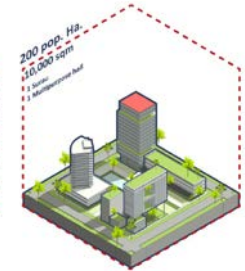
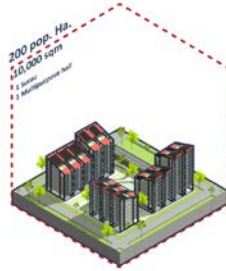
4. Pusat Riset Teknologi/Universitas

12. Zon Reforestasi Hutan Bakau

12. Zon Reforestasi

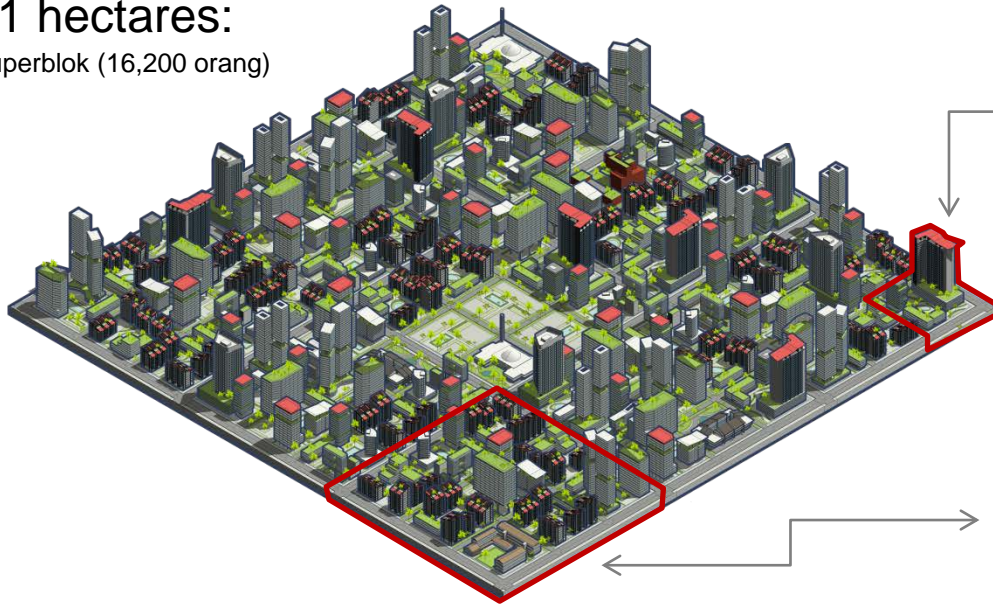
Resilient Urban Strategy

1 hectare:

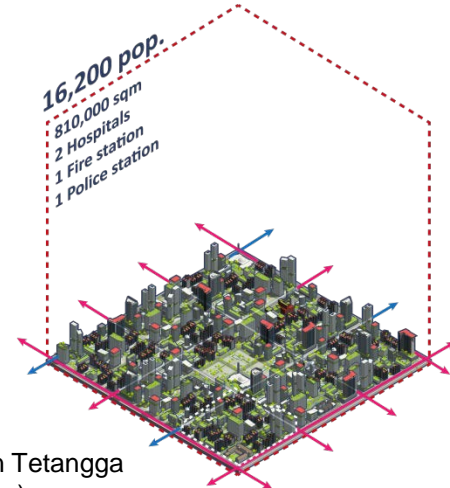


81 hectares:

Superblok (16,200 orang)



Blok Dasar (200 orang)



Lingkungan Tetangga
(1,800 orang)

Smart City Disaster Resilience



An aerial architectural rendering of a city at sunset. The city is built on a lush green landscape with a river and bridges. The sun is low on the horizon, creating a warm, golden glow. The text "THANK YOU" is centered in the middle of the image.

THANK YOU