

Transforming a City The Singapore Experience

Bringing Innovations to Urban Renewal

**International Conference
Urban Renewal Authority**

Hong Kong Convention
& Exhibition Centre
10 June 2016

RSP Singapore

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Liu Thai Ker Architect-Planner

Senior Director
RSP Architects Planners & Engineers

Chairman
Centre for Liveable Cities

Adjunct Professor
National University of Singapore

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Past

CEO & Chief Architect
Housing & Development Board

CEO & Chief Planner
Urban Redevelopment Authority

Chairman
National Arts Council

Chairman
Singapore Tyler Print Institute

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○ Singapore - Hong Kong
Long Friendship

Singapore

Area : 716 sqkm
POP : 5,400,000 2013
www.singstat.gov.sg



0 10 20km

Hong Kong

Area : 1,104 sqkm
POP : 7,200,000 2013
www.gov.hk



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CONTENTS

- COMPREHENSIVE SYSTEM WIDE ACTIONS
- FAIR & EFFECTIVE IMPLEMENTATION
- INTELLIGENT ADMINISTRATIVE CULTURE
- INTELLIGENT PLANNING
- LESSONS LEARNT
- SHARING EXPERIENCE

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●● COMPREHENSIVE SYSTEM - WIDE ACTIONS

- Major Urgent Investments
- Systematic Planning
- Urban Renewal & Conservation
- Complimentary Measures
- Singapore Transformed

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●● COMPREHENSIVE SYSTEM - WIDE ACTIONS

Identify Needs

Take Actions Required

● Major Urgent Developments

○ Urban Development

- | | |
|----------------------------|-------------------------------------|
| Service Financial District | - Shenton Way |
| Industrial Park | - Jurong |
| Petrochemical Park | - Jurong Islands |
| Air and Sea Ports | - PSA, Changi |
| Education Facilities | - ITE, Polytechnics, Universities |
| Health Facilities | - Hospitals, Clinics, Sports Fields |

○ Major Infrastructure Investment

Water, Electricity, Sewage, Telecommunications

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● Systematic Planning

○ Concept Plans 1971, 1991

DGP → Master Plan → Regulations → Enforcement

○ Public Housing Policy

Push Factor

Slum and Squatter Clearance

Pull Factors

Affordable Housing – Homeownership for All
Highly Self Sufficient New Towns – Liveability
Estates Upgrading – Appreciating Assets

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- Urban Renewal & Conservation

- Slum Clearance to Public Housing

- Lifting Rent Control → Resettlement

- Rehabilitation

- Reconstruction

- Preservation & Conservation

- Monument Preservation

- Historical District Conservation

- Historical Sites

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- Complementary Measures

- Better Environment

- Garden City Committee

- Walkway Unit

- Regular Repainting

- Greener Environment

- Cleaning Singapore River

- Pollution Control

- Green Mark Award

- OTTV Control

- Bus Companies MRT

- Preventive Measures

- Land Speculation

- Deliberate Arson

- Deliberate Building Collapse

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- SINGAPORE TRANSFORMED
in a Nutshell

- Old Singapore

- New Singapore

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- Old Singapore

- Where We began 50 Years Ago

- Dilapidated

- Poor

- Backward

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Central Area With Fullerton Hotel, 1970

Image
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○ New Singapore
Development 1960 – 1985 – Now

◆ Domestic

Modern Business Centres

Industrial Estates

Public Housing

Education & Art Venues

Efficient Transportation Systems

Clean, Green, Healthy

◆ Global

Largest International Seaport

One of the Best Airports

International Cruise Terminal

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Central Area With Fullerton Hotel, 1990

Image
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◆ Protection

As Important as Development

- Heritage

- Nature

- Underwater World

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Secondary Jungle
More Species
in 1 sqkm
than North America

Image
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Chinatown

Image
Removed

RSP Singapore

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Kampong Glam

Image
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19

Little India

Image
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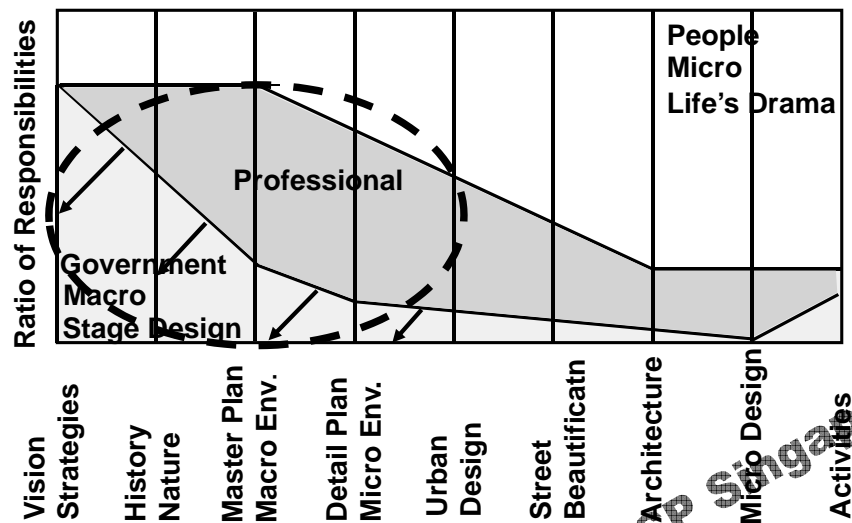
●● FAIR & EFFECTIVE IMPLEMENTATION

- Sound Public-Private Collaboration
- Authority to Deliver
- Intelligent Implementation system

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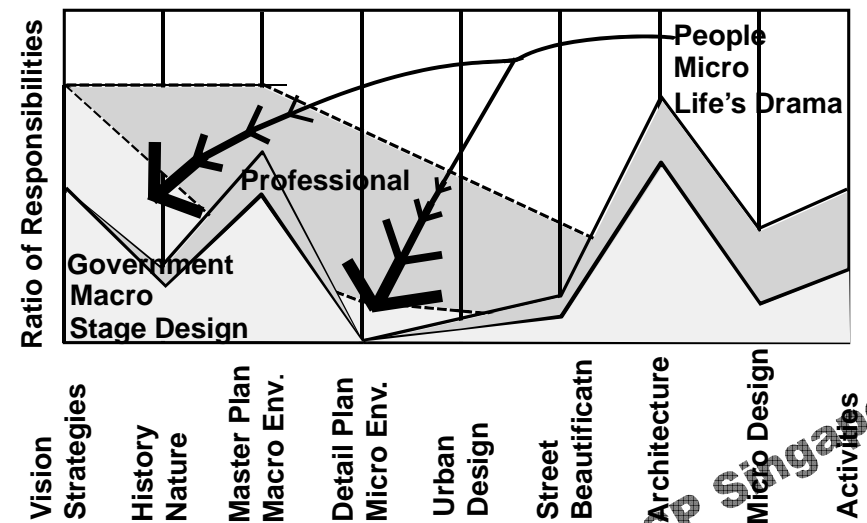
- Sound Public-Private Collaboration
Sensible Allocation of Responsibilities



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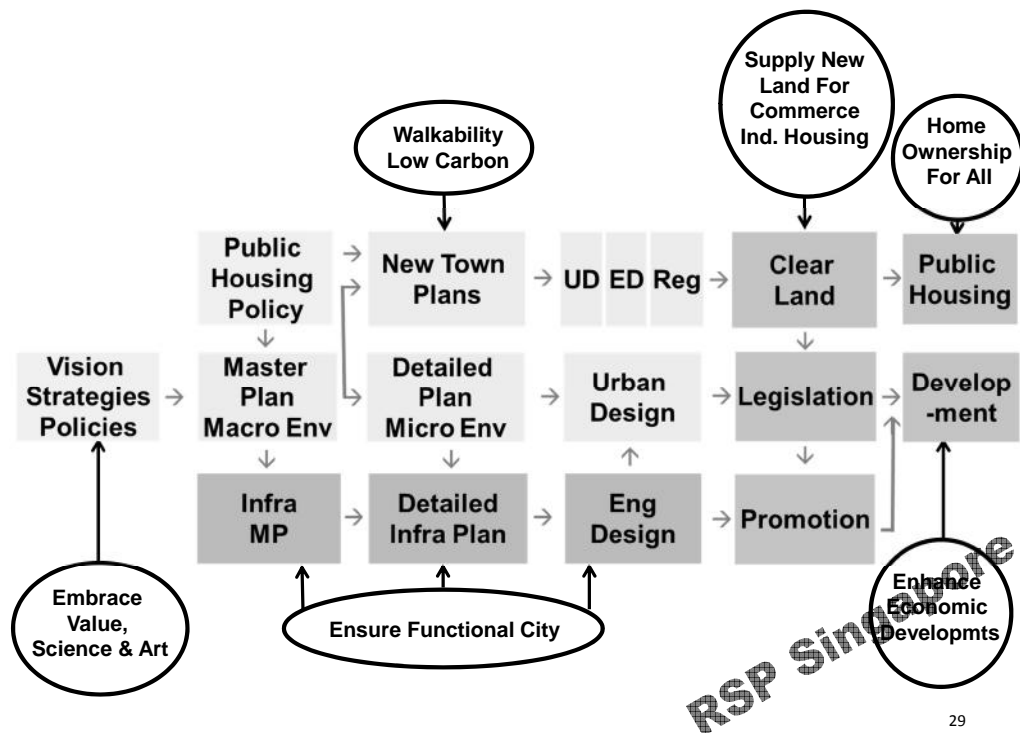
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- Public-Private Collaboration
Reality Check



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Always Fair and Rational

Highest Authority of Land

Not PM, nor President, But Rationality

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●● INTELLIGENT ADMINISTRATIVE CULTURE

- Power of Anticipation
- Intelligent Agency Structure
- City Wide Track Record

● Power of Anticipation

Spot Problems Before Citizens are Aware of

○ Process

- Public Discussion
- Draft Legislation or Plans
- Feedback & Persuasion
- Amendments
- Implementation

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○ Tackle Fundamental Issues

More Root Causes than Symptoms
More Real Works with Some Theatre

○ Acquire Effective Measures

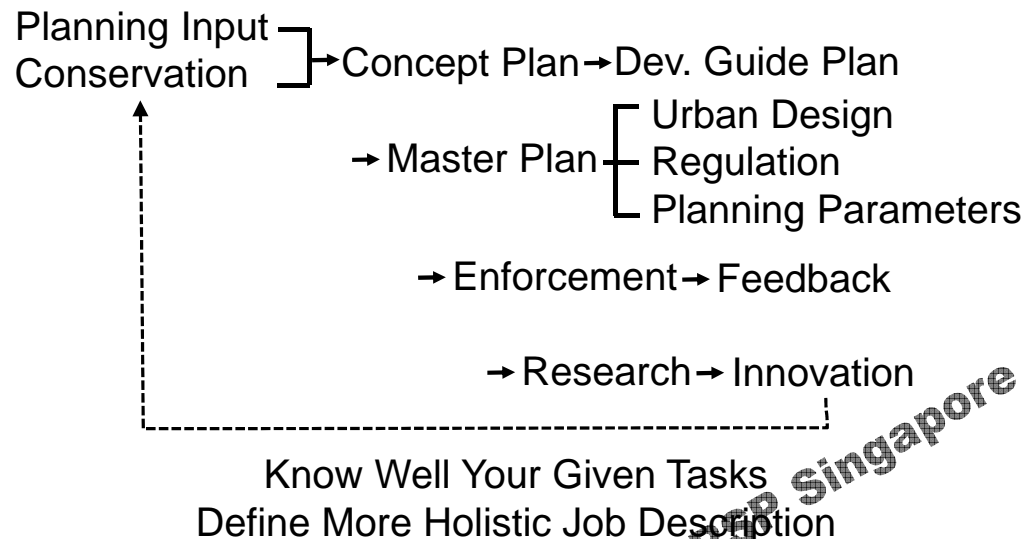
Consult Experts & Require Skills, Set Strategies
Rarely Interfere with Professional Works

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● Intelligent Agency Structure

○ URA - Strong Feedback Loop

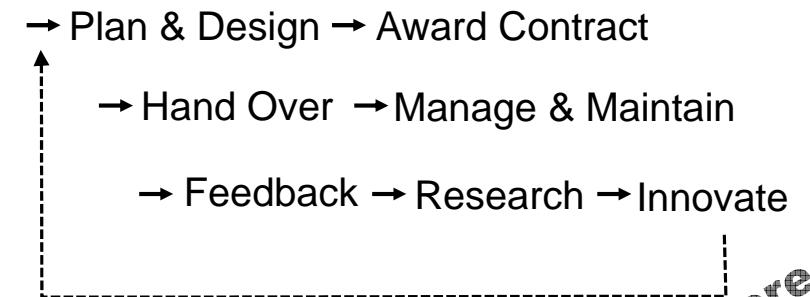


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○ OLD HDB – One Stop Service

Acquire Land → Resettle



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● City Wide Track Record Physical Profile

ITEMS	Unit	1960	1985	2015
Population	persons	1.64mil	2.74 mil	5.54mil
Overall Land	sq.km.	581.5	620.5	719.1
Density	Persons /sq.km	3245	4409	7697
Urbanized Land	sq.km.	177.4	298.8	518
Density	Persons /sq.km	1059	9170	10,694
Squatters	Million Cases*	1.15	0	0
Public Housing	% of population	23	81	83
House Ownership	% of Citizens & PRs**	29.4 1970	58.8 1980	99.3 2015

* Information supplied by LTK

** Total, including HDB, private apartments, landed properties

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○ Infrastructure Profile

ITEMS	Unit	1960	1985	2015
Water	% of household supply	-	100 1990	100
Electricity	% of household supply	-	-	100
Sewage	% of household supply	-	90	100
Air Quality (PSI scale <50 range)	% (of the year)	-	68 1993	97 2014
Water Supply	% of Treated Water	-	-	55 2015
Garden City (Green coverage)	%	-	35.7 2012	42.2 2012

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Big Idea

is

Clarity + Competency = Confidence + Courage

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●● INTELLIGENT PLANNING

- Planning is still in its formative stage
- Concept Plan 1991
- HDB New Town Plans
- Rewards and Recognition
- Comments

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- Planning is still in its formative stage

No Clear Understanding
What needs to do, What need not do

Yet to Verify
Many Concepts, Principles, Components

Yet to Come to Grip with
Urban Planning Techniques and Methods

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- Concept Plan 1991

○ Key Considerations

Know the Needs, Find Solutions = Innovation

Quantity	: Population, Density, Land Size
Structure	: Centres, Transit Lines
Conservation	: Nature, History
Cells + Centres	: Urban Cells, Cell Centres
Organs	: Big Essential Projects
Hierarchy	: Cells, Centres, Roads, Parks, Amenities
Beauty	: Plan, Life, Engineering, Architecture
	Legible, Simple, Liveable, Beautiful

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○ Urban Systems

◆ Key Components

Basic Urban Structure

Key Components of Urban System

Nature

Heritage

Urban Cells

Region, Towns, N'Hood, etc

Urban Organs

Municipal and Transport Facilities, Heavy Industries

Urban Grids

Green & Blue Grids, Major Roads and Metro Lines

Infrastructure

(Drawing Not Included)

Urban Amenities

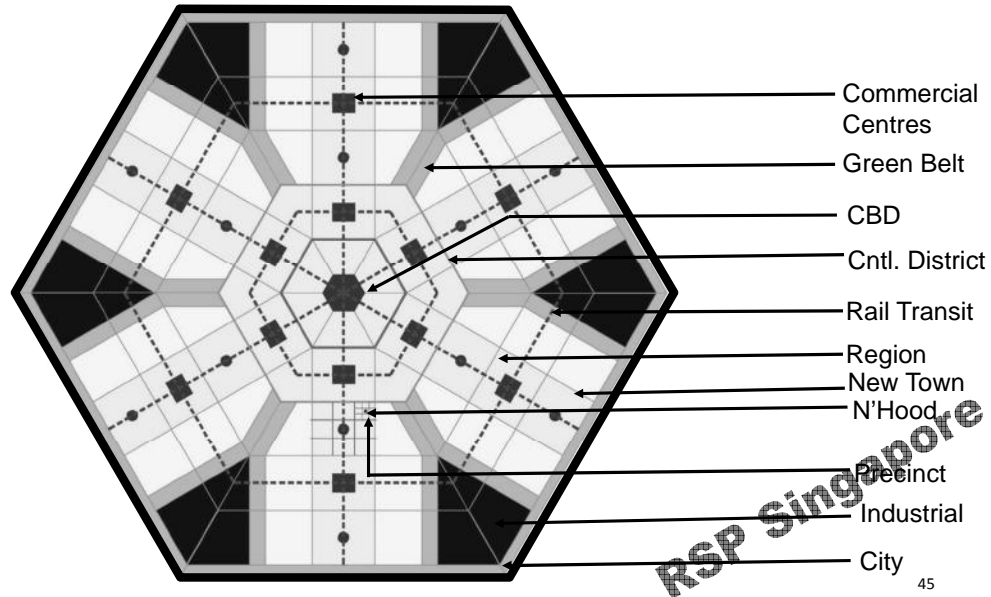
(Drawing Not Included)

Master Plan

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◆ City Prototype



◆ 5 Urban Corridors, Transit-Oriented

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◆ Integrated System - Systems Within System

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◆ Master Plan – 1991

3.2 - 5.5 Million, by 2091 Annually 25,000 Planned, 104,000 Actual

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○ Key Planning SKills

Protect Heritage, Nature, then Develop

Quantitative Approach

Space for Everyone for Every Activity on Future Standards

Urban Cells

Decentralized Facilities & Amenities

Hierarchical Concept

Roads, Cells, Centres, Facilities, Amenities, Urban Organs

Land Use Integrated with Transportation

System Within Each System and Among All Systems

Identify Needs, Integrated Approach Towards

Workable, Liveable, Prosperous, Beautiful City

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● HDB New Towns Plan

○ Driving Forces for Public Housing

Large Population, Small Island

Forced to High Density, High-rise Housing

Lead to High Land Price, Low Affordability

Determined to Succeed

Ambitious but Realistic

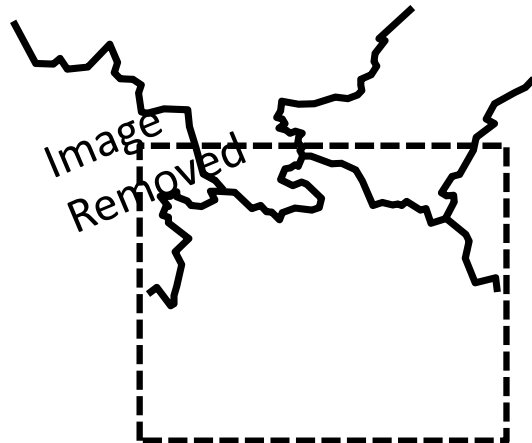
Home Ownership for All

Highly Self-sufficient New Towns

Strong Government Support

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○ New Town – Basic Urban Building Block



Source: Adapted from HDB

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◆ Region - Central

Image
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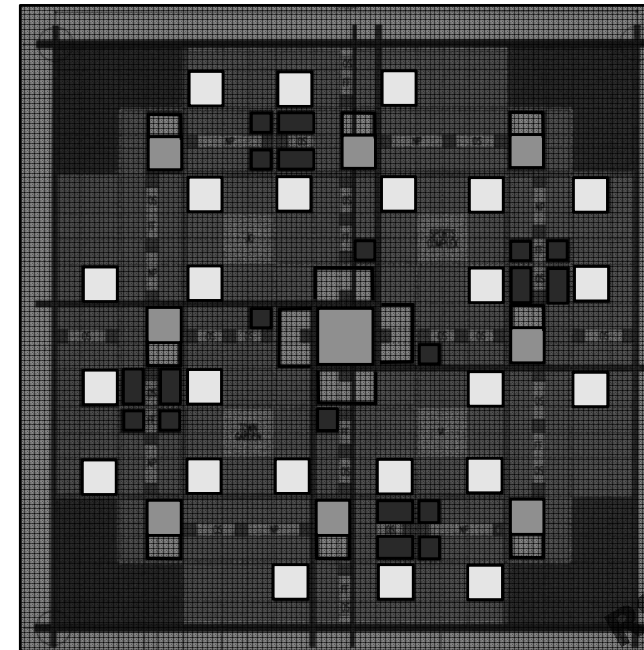
♦ New Town - Bishan

Image
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Source: Adapted from HDB

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♦ New Town Prototype
Decentralize and Bring Amenities Near Homes



■ Institutions
■ Schools
■ Commercial

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♦ Landuse Table – Towards High Self-Sufficiency

Landuse	Area (Ha)	Percentage (%)
Residential	473.5	45
Commercial	83.5	7.9
Educational	72.1	6.9
Institution	21.6	2.1
Parks & Gardens	74.1	7.0
Sports & Recreation	15.8	1.5
Reserve Sites	3.0	0.3
Transportation	140.1	13.3
Industry	84.2	8.0
Utilities & Others	84.2	8.0
Total	1,052.0	100

Source: RSP

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♦ Street Architecture - Bishan



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Multi Roles of New Town

Basic Urban Building Block

Beyond Roof Over Every Head

But Also

Communities

Amenities

Environment

Ecology

Accessibility

Liveability

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Key Planning Skills

Address Causes, Not Symptoms

For Sustainable Benefits, Not Instant Gratification

Translate Theories into Spatial Plans

Hierarchy, System

Cells, Organs, Grids

Design Self-Sufficient New Towns

Decentralize Amenities, Traffic

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● Rewards and Recognition

Not Perfect, Highly Credible

○ Ecology

No Scars - Hills, Fields, Rivers

No Pollution, Low Noise Level

No Flooding

○ Environment

Space For All People, All Activities

Heritage, Nature Sea

High Density, Not Oppressive

Garden City, Neat Urbanscape

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○ Infrastructure

Works Well

Public Transportation Oriented

Flowing Traffic

Ample Amenities

○ Social By 1985

No Squatters

No Homeless

No Poverty Ghettos

No Ethnic Enclaves

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○ Economy

Prosperous Commercial, Industrial Centres
Tourist Destinations
93% Homeownership
Big Middle-Class

○ Intelligence

Safe
Simple
Comfortable
Convenience
Choices

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○ To Have the Cake and Eat It

2nd Largest Oil Refining City

30 golf courses

9 + 1 Airstrips

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○ Satisfaction Level
Happiest Place in Asia

Image
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○ Top 10 Best Night Life

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Source: The Straits Times,
2006

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●● LESSONS LEARNT IN PLANNING

- Importance of Intelligent Approach
- Intelligent Plan Creation
- Intelligent Planning Process
- Beauty of a City
- Design vs Technology

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● Importance of Intelligent Approach

Planning involves
Value Science Art

Each Requires Careful Thinking
and Skills development

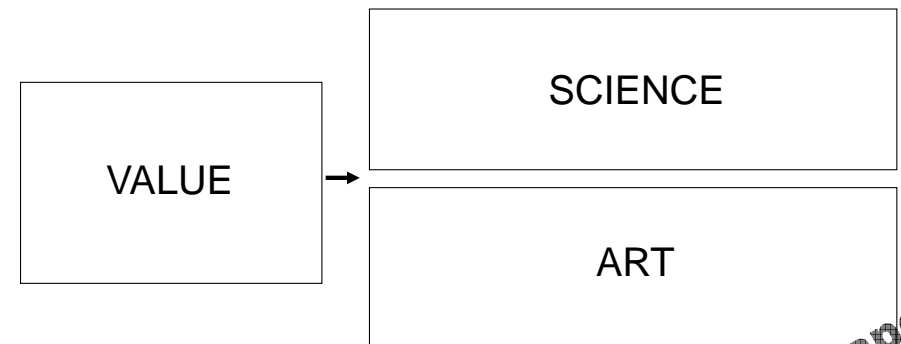
To put ideas on Paper
it Demands Intelligent Approach

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● Intelligent Plan Creation

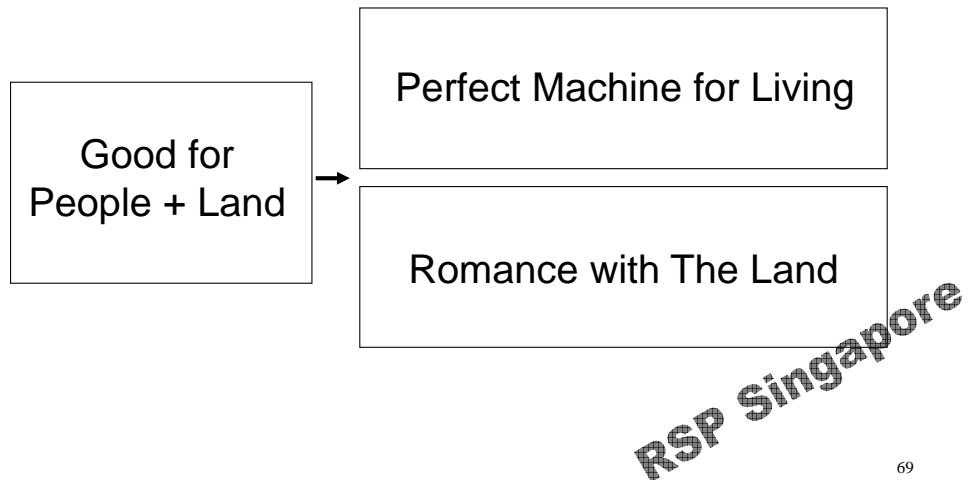
○ Mindset Expected



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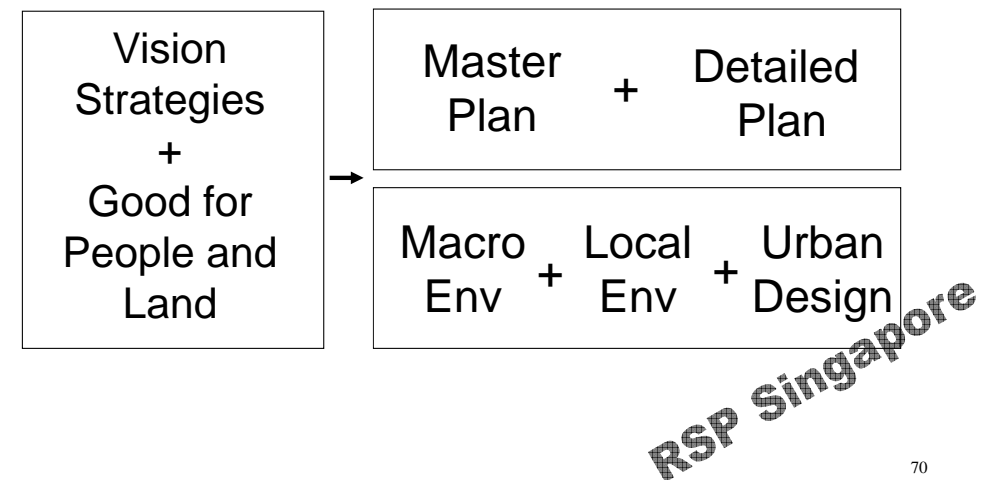
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○ Skills Required



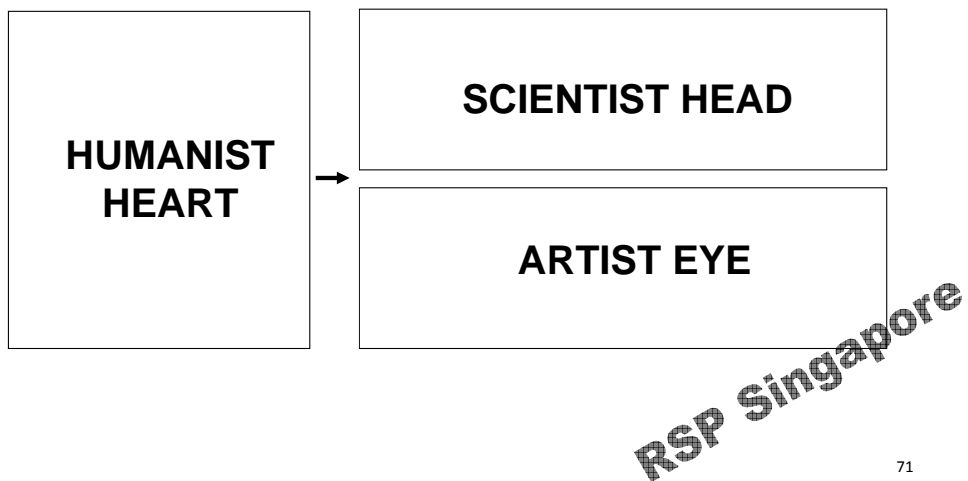
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○ Task to Perform



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○ Attributes to Possess



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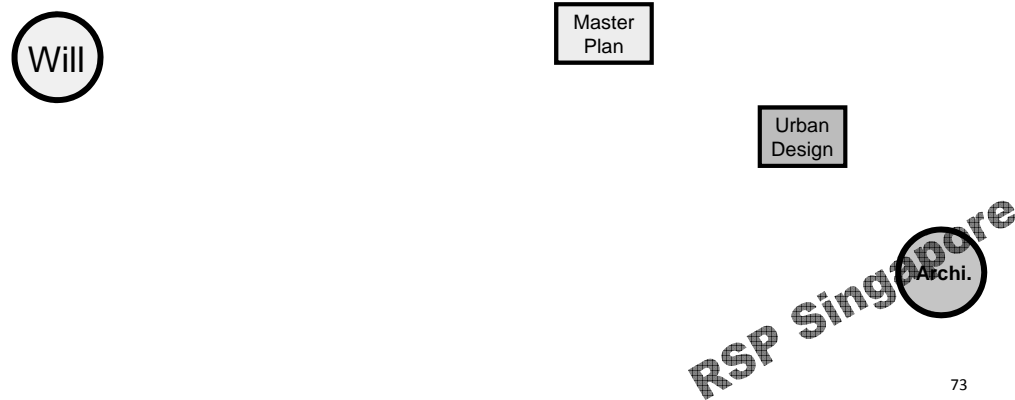
Value → Humanist Heart → For People & Land
Spiritual Beauty
Nostalgia

Science → Scientist Head → Machine for Living
Inner Beauty
Healthy

Art → Artist Eyes → Romance with Land
Outer Beauty
Beautiful

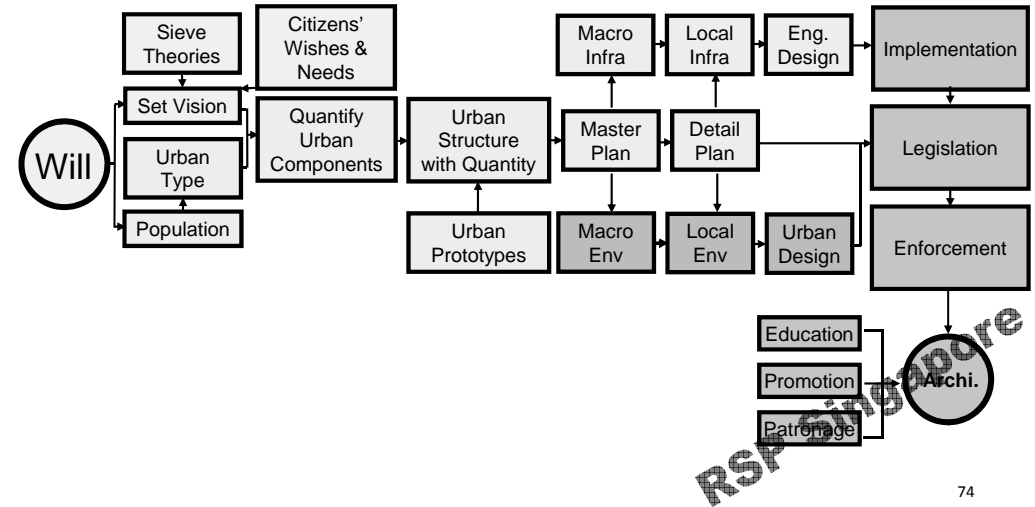
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- Intelligent Planning Process
Usual Approach



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- Intelligent Planning Process
Responsible Approach



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- Beauty of a City

- Status of Urban Centre
- Nature & Heritage
- Urban Plans
- Urban Design
- Engineering
- Architecture
- Non-Physical Beauty

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●● SHARING EXPERIENCE

- Urban Planning
- Architecture

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● Planning

- Constellation City
- Greater Xi'an, Shannxi

Salient Data

POP: 11.5 M
Land: 1,800 km²

2 Cities & 2 Regions

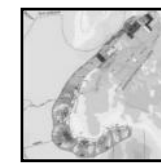
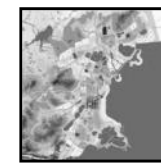
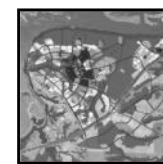
Strategic Holistic Plan
Enhancing the Natural & Historical Environment

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Urban Planning



N'hood		New Town		Region		City		Constellation City	
		150 – 200k		0.6 – 1 mil		2 – 5 mil		5 – 20 mil	
China	19	China	11	China	2	China	13	China	5
Malaysia	5	Malaysia	2			Taiwan	5		
India	1	Vietnam	2			Saudi	4		
		Philippines	2			Libya	1		
		UAE	1						
		Russia	1						

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Greater Xi'an

c h i n a

Existing Master Plan



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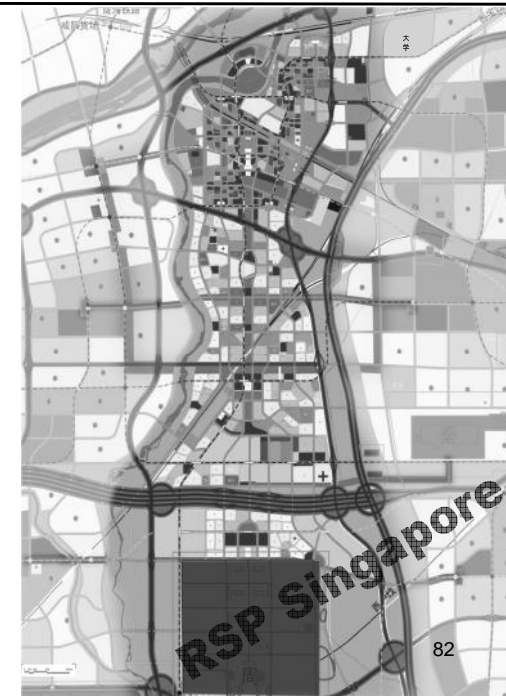
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Proposed Master Plan 2015



Proposed Master Plan New Central Axis

Planned Area: 40 sq km



● Planning

○ City

Zhuhai City, Guangdong

Salient Data

POP: 6.42 M

Land: 1,711 km²

Urbanised: 699km²

Regions: 5

New towns: 28

Comprehensive Plan
Enhancing the Good Environment

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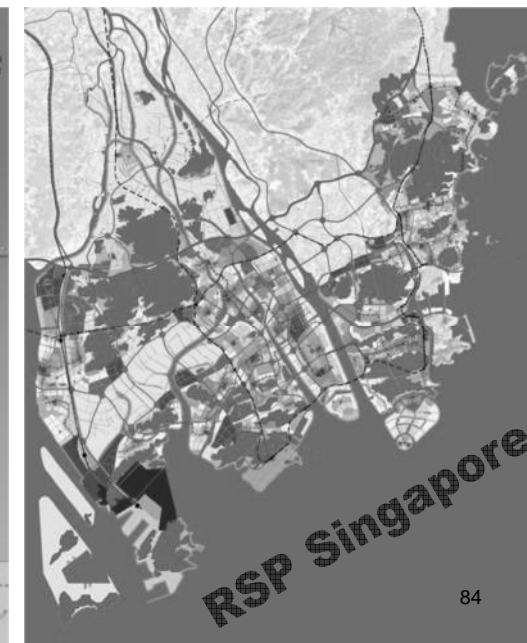
Zhuhai

National University Singapore

Existing Master Plan



Proposed Master Plan 2013



Existing Master Plan 2009



Proposed Master Plan 2013



Artist Impression



● Planning

○ Port City

Qingdao Dongjiakou, Shandong

Salient Data

POP: 2.9 M

Land: 343 km²

Regions: 3



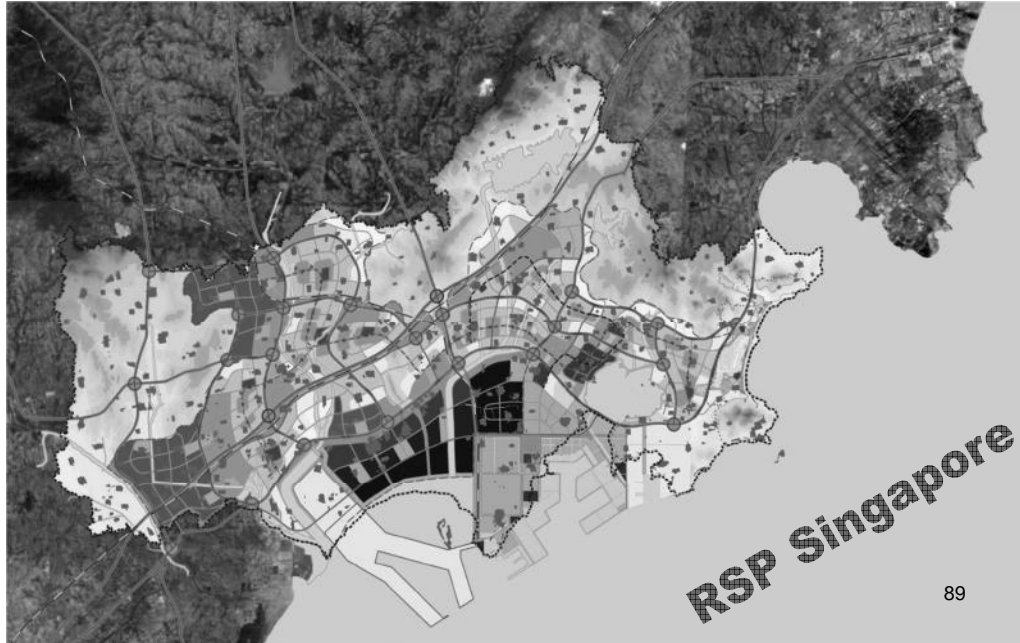
Self Sustainable Port City
Enhancing the Natural Environment

Dongjiakou

Existing Master Plan



Proposed Master Plan



89

● Planning

○ City

King Abdullah Economic City, Saudi Arabia

Salient Data

POP : Planned 1.5M

Land : 272 Km²

Regions : 2

New Towns : 12

Brand New City

A City Rising Above Desert

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KAEC

Existing Master Plan 2006

Proposed Master Plan 2007

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● Planning

○ New Town – Tourism

Changdao County, Shandong

Salient Data

POP: 85,000

Land: 32.17 km²

Retaining the Natural Environment

Creating Chinese Vernacular Urban Environment

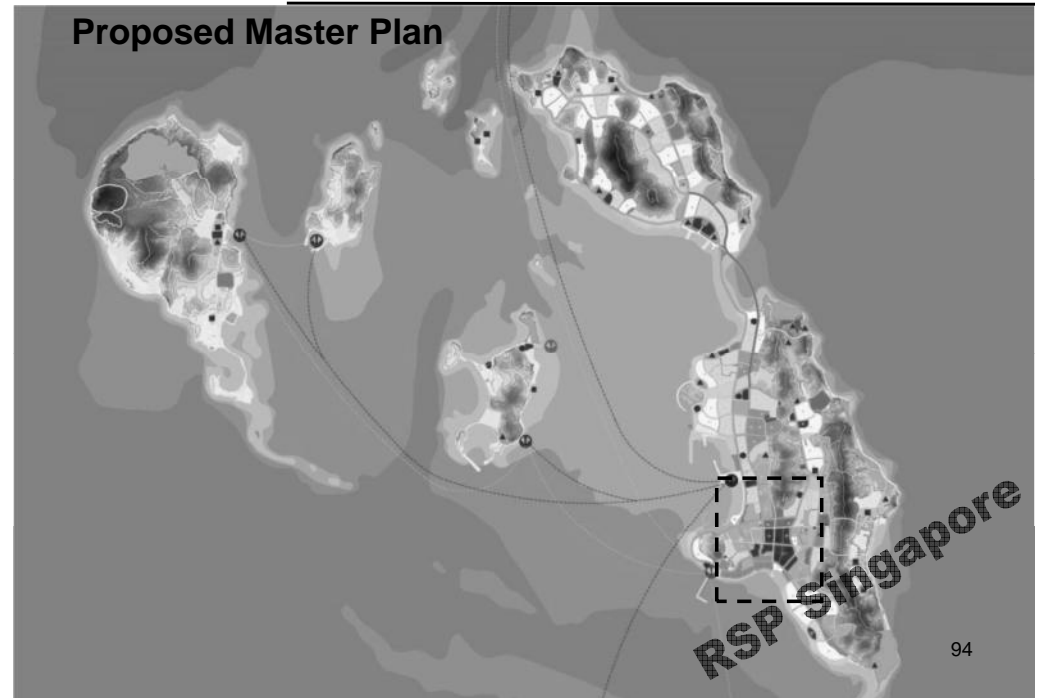
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Existing Master Plan



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Proposed Master Plan



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Artist Impression



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● Planning

- New Town – High Tech
Kazan Innopolis, Republic of Tatarstan,
Russia

Salient Data

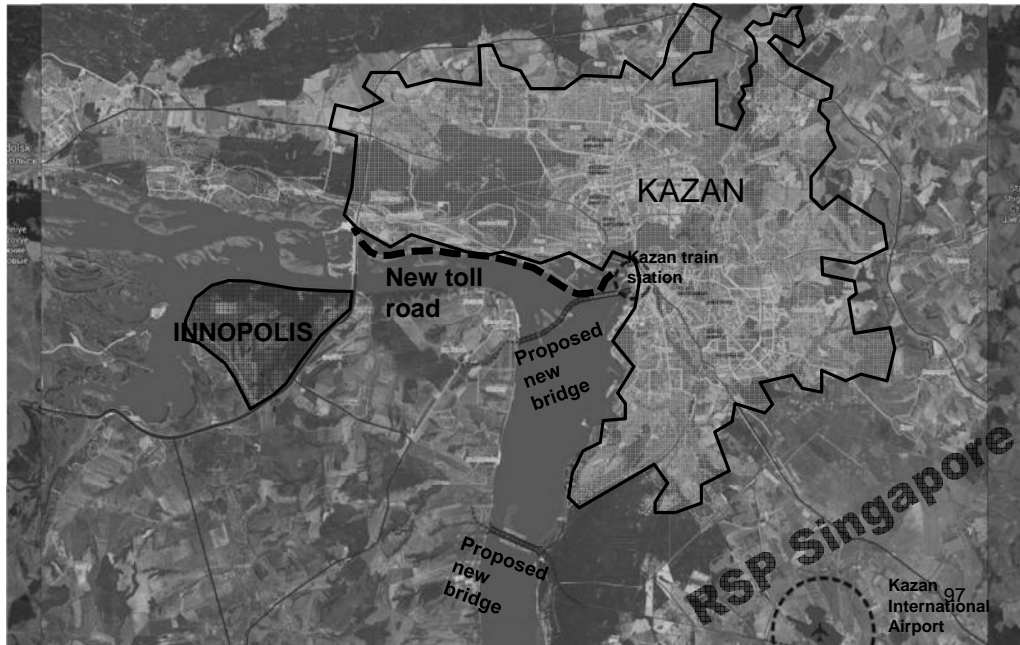
POP : Planned 150K
Land : 20Km2

Neighbourhoods : 7

*A Comprehensive IT Park
Relate to Kazan City*

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Existing Context



Detail Master Plan



Artist Impression



● District Development

○ Cultural

Cultural Center, Weifang, Shandong

Salient Data

Land : 26.7 ha
GFA: 294,000 sqm (9 buildings)

International Kite Capital
One of the Best Concert Hall in China

Site Plan

Before



After



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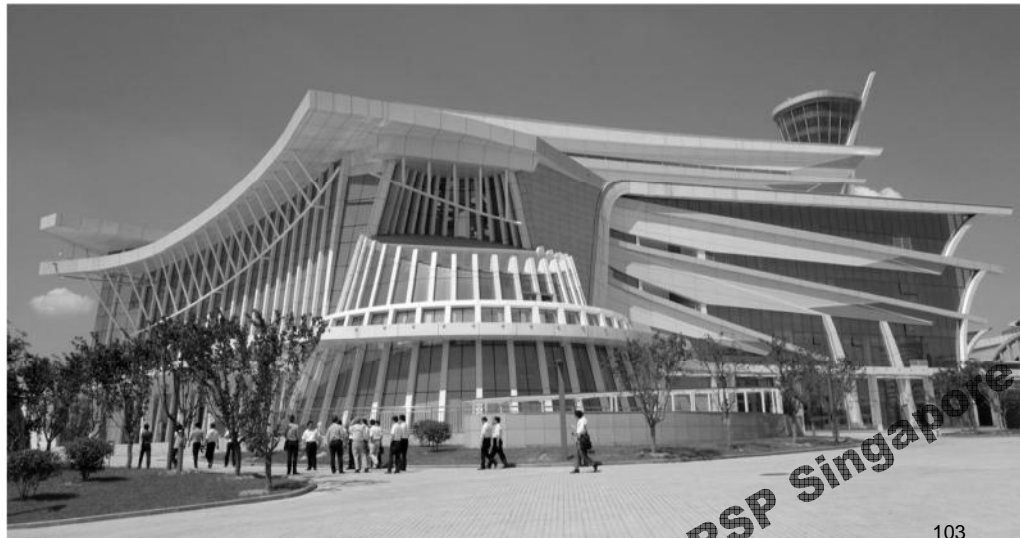
Artist Impression



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Photo of Concert Hall



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● Architecture

○ Residential

Watermark Villas, Guilin, Guangxi

Salient Data

Land : 63,000 sqm

GFA: 27,860 sqm (50 villas)

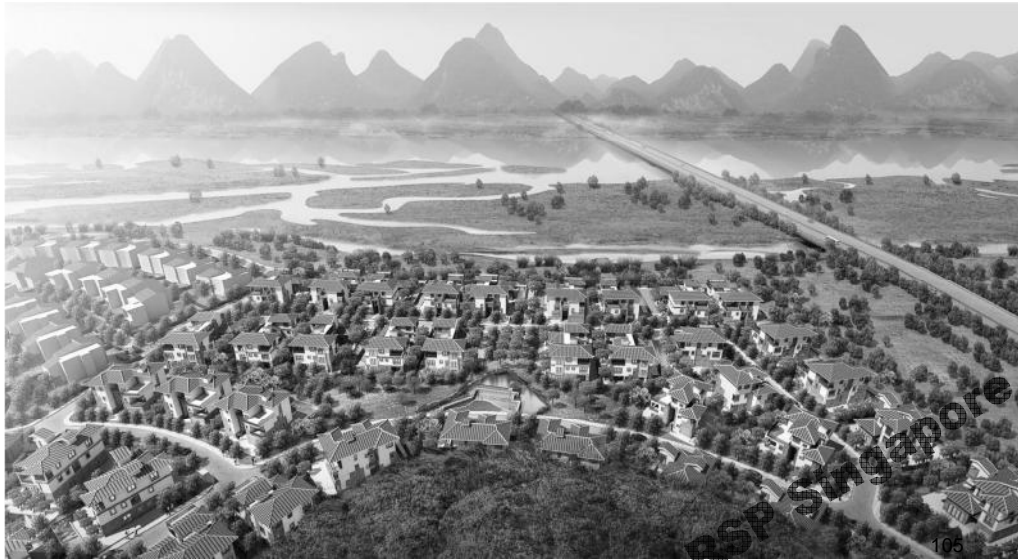
High Real Estate Value

Relate to Surroundings

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Artist Impression



Photo



Photo



● Individual Building

○ Transport

Marina Bay Cruise Center, Singapore

Salient Data

Site Area: 4.02 Hectares

GFA : 29,874 sqm

Gateway to Singapore
Best Cruise Center In Asia



Thank You

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