

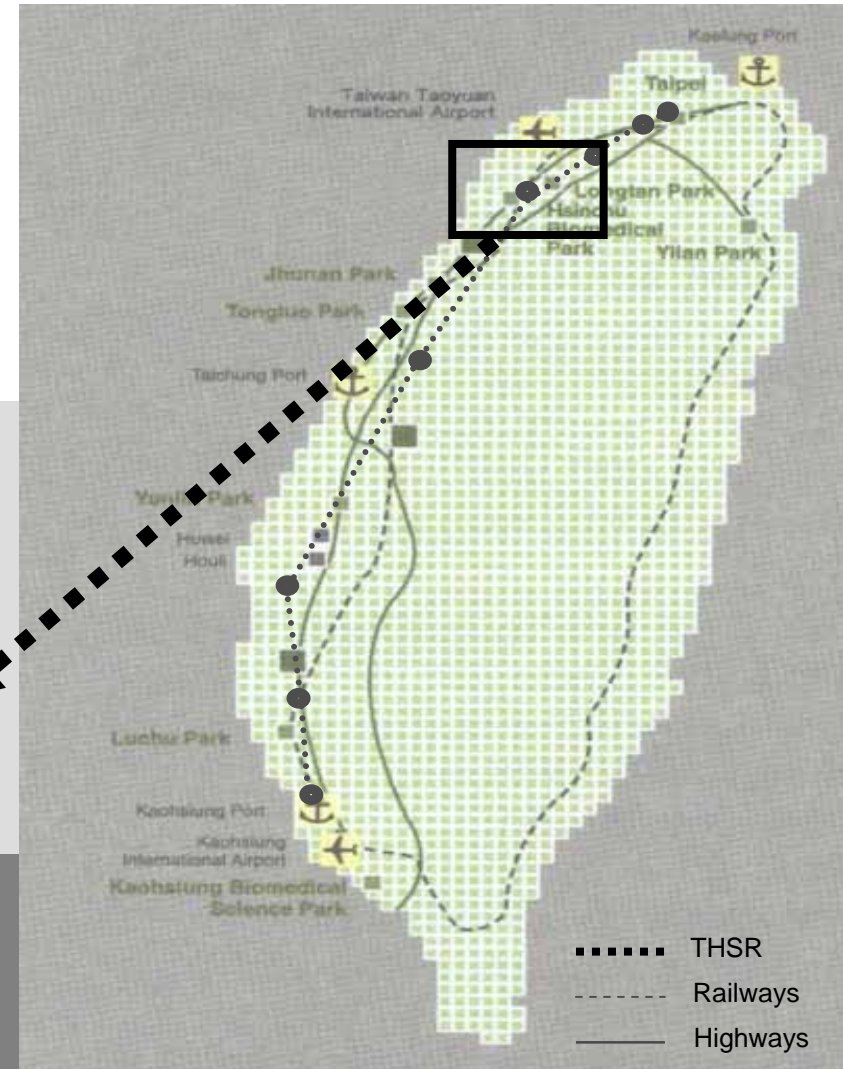
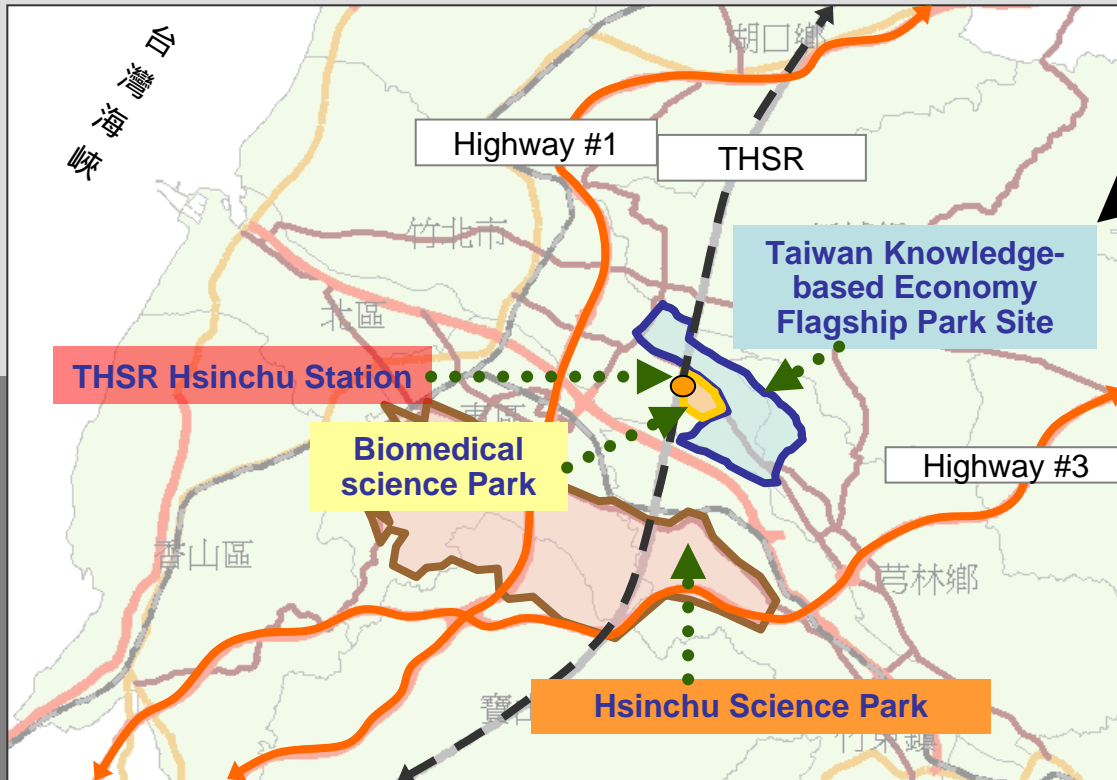
Hsinchu Forum

- Case of new campus of NCTU and new CBD of Chupei -

Taiwan Knowledge-based
Economy Flagship Park Project
- Urban Planning and Urban Design -

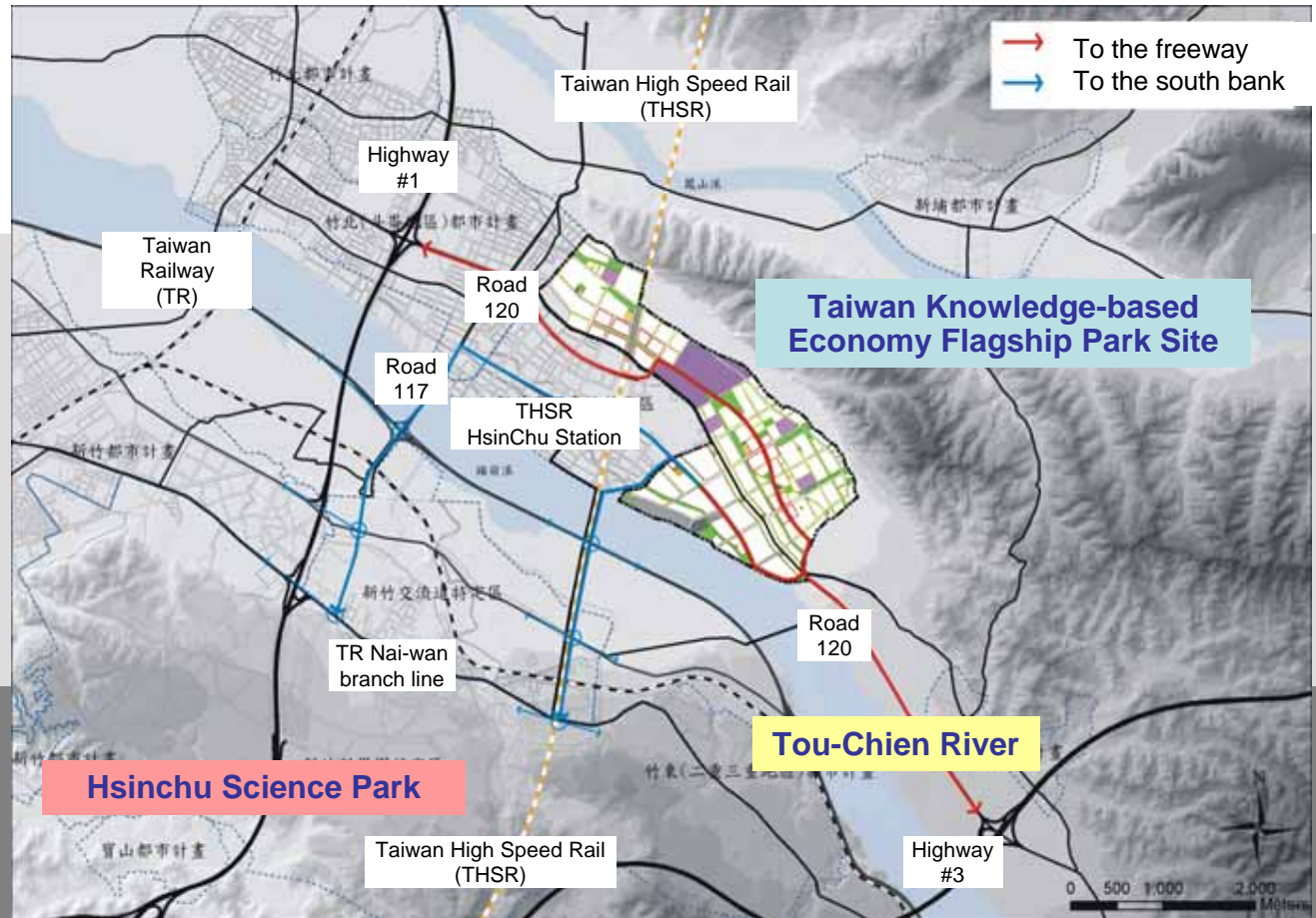
Geographical Advantage of Chupei, Hsinchu

- Chupei is situated in a convenient location with 2 main highway connected to Taipei and Taichung which takes about 1 hr by driving.
- The southwest of the site is the THSR (Taiwan High Speed Rail)-Hsinchu Station, connected to Taipei and Taichung by 30 minutes. This is the fastest developing area in all of the THSR station special district.
- The site is also nearby the Biomedical Science Park, across the Tou-Chien river is the Hsinchu Science Park, which is now one of the world's most significant areas for semiconductor manufacturing.



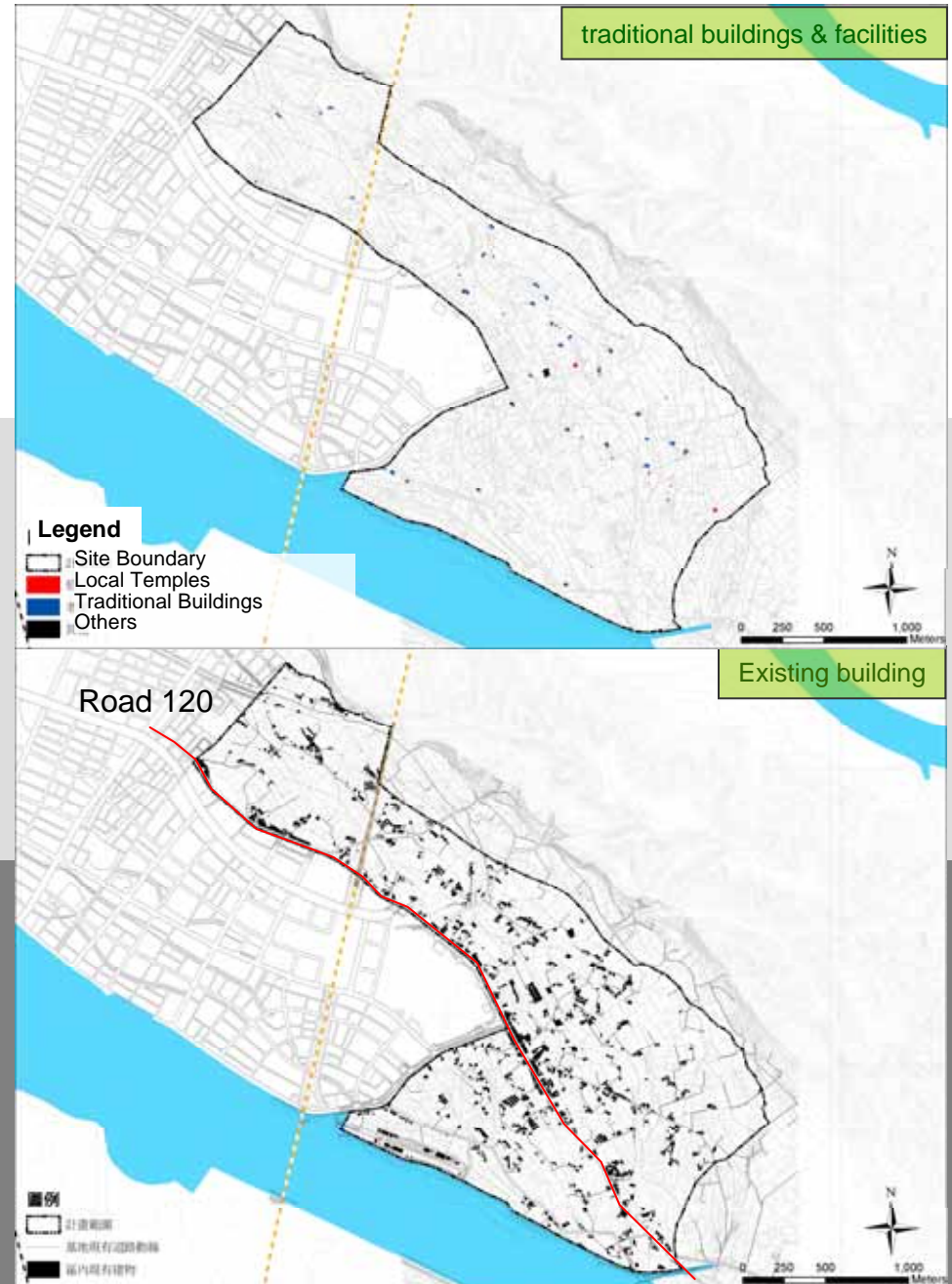
Network of Access System

- Dual 40-meter-width boulevards and multi 30-meter-width roads frame the ecological network for the whole area
- Internally, the north boulevard connects the central business zones, the new campus of National Chiao Tung University, and the residential community centers. The south boulevard connects to the Knowledge-based Economy Flagship Industry Park.
- Externally, both boulevards link the project to THSR Hsin Chu Station Special District closely.
- With both boulevards and those vertical 30-meter-width roads passing through each component of the project, the application of Sea Street—a special eco-street construction technique from Seattle- and the designed green belt will feature the ecological achievement and landscaping for the whole area



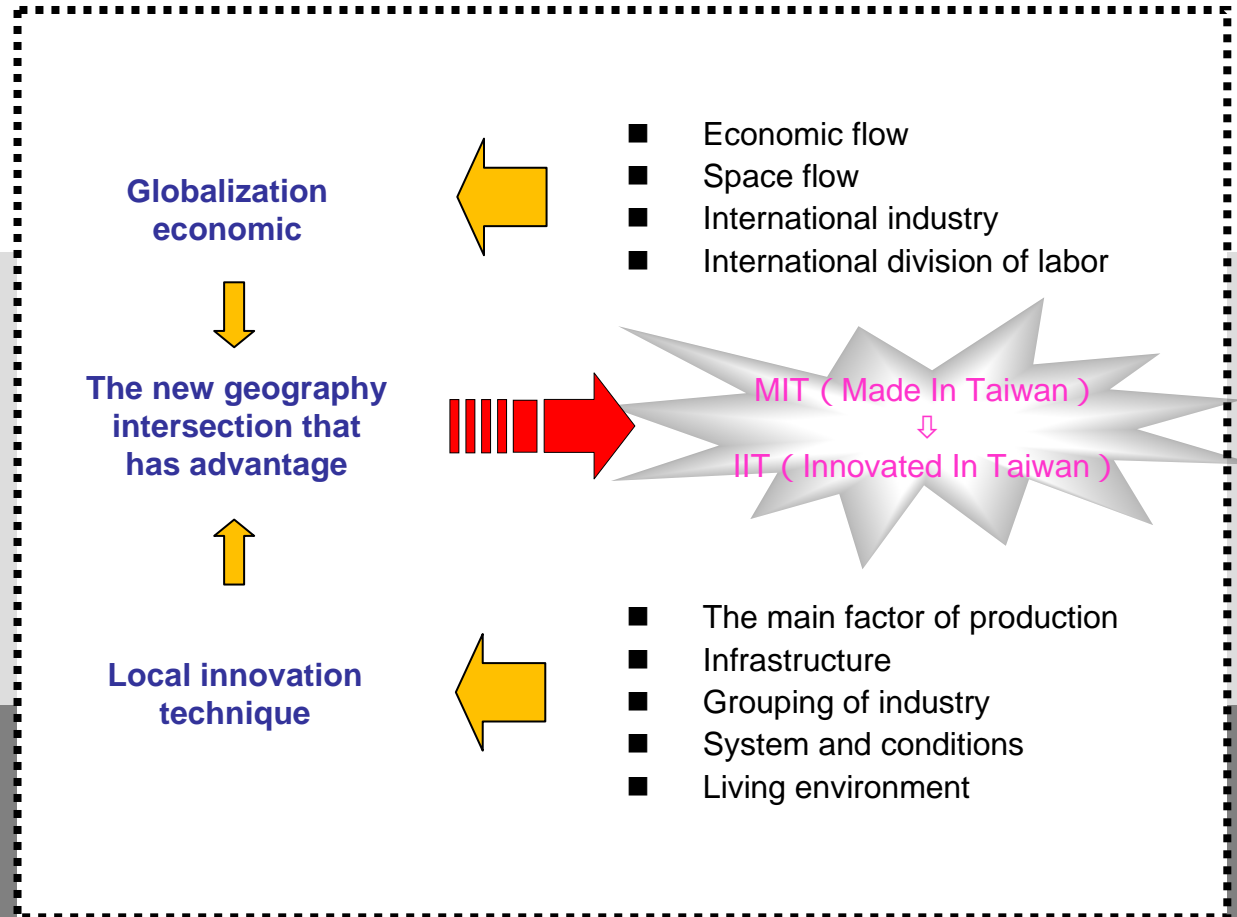
Current Status

- Valued historical and cultural construction and landscape –such as temples for Village God, historical houses or aged trees
- Mainly along Road 120 settled the original inhabitants. Around 1000 families in total live in the site now.



Prevailing Challenges Faced by Taiwanese Industries

- Taiwan needs to start the new location of industry that has innovation learning capability as fast as possible
- Key Issue: Human Resource Development
- Strategy: The current Hi-tech Industrial Region will be the base of IC/SOC design
- Fully Utilize the existing Industrial conglomeration effect



National Chiao Tung University

- NCTU is recognized as one of the most prestigious and selective universities in Taiwan and is renowned for its research and teaching excellence in electrical engineering, computer science, management, and social sciences.
 - the first Institute of Electronics in Taiwan(1958)
 - manufacturing the first television broadcasting, transistors and solid-state lasers in Taiwan (1963)
 - the first Semiconductor Research Laboratory in Taiwan (1964)
 - the first PH.D. program in the area of electronics in Taiwan (1965)
 - National Nano Device Laboratories (1988)
 - Bring in the first Super Computer in Taiwan (1990)
- The main campus is located right beside by the Hsinchu Science Park. Including Industrial Technology Research Institute, NCTU, National Tsing Hua University and Hsinchu Science park, the area is commonly referred to around the world as the Silicon Valley of Asia. More than 400 high tech companies have been established in the park, and over 63% Chairmen and General Managers of these companies are alumni.
- Notable Alumni
 - Stan Shih, Founder of Acer Group.
 - Robert Tsao, Chairman Emeritus, United Microelectronics Corporation (UMC).
 - Fan-Cheng Tseng, Deputy CEO, TSMC.



Goal of the Project

- Regroup all high-tech resource around Hsinchu region
- Innovating industry-university research to reinforce the capability of Taiwan
- Create a healthy and sustainable international ECO-city at north Hsinchu

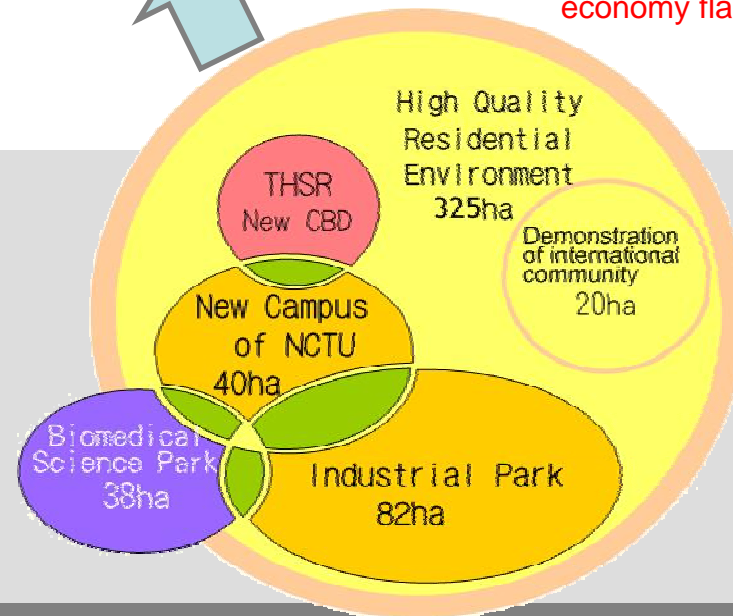


- IC/SOC design bio-medical and cross filed new industry with no pollution's flagship park
- Opening research university (New Campus of NCTU) ;
- Demonstration of international community ;
- great quality of culture-living park
- Total Project Area: approximately 447 hectares

North Taoyuan high-tech hallway

Taoyuan aerotropolis

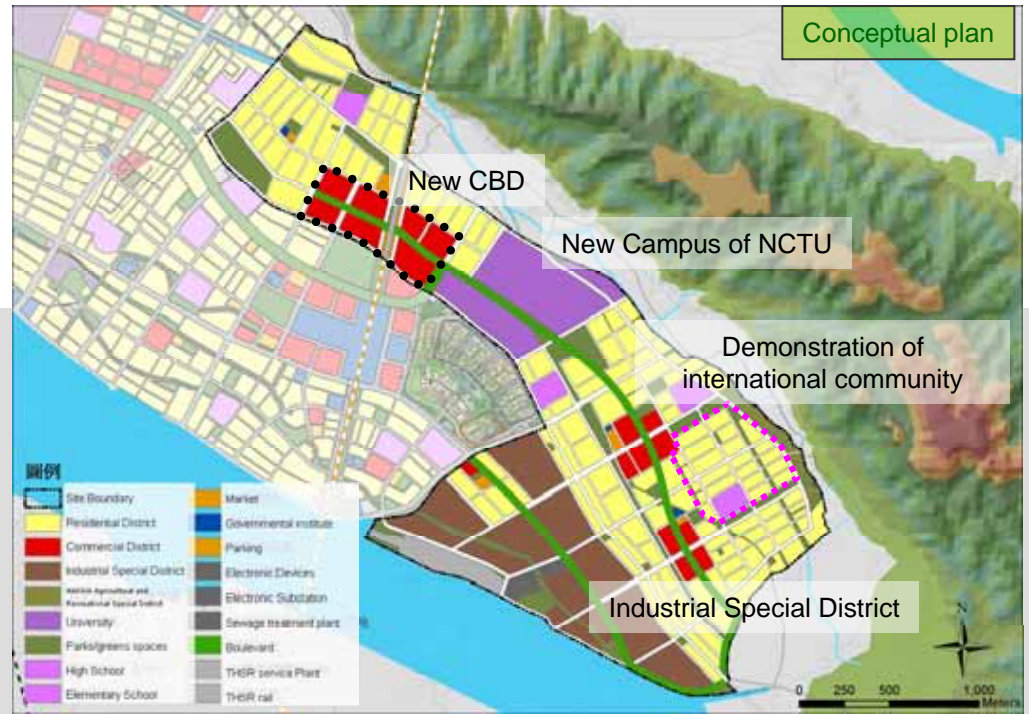
Taiwan knowledge-based economy flagship park



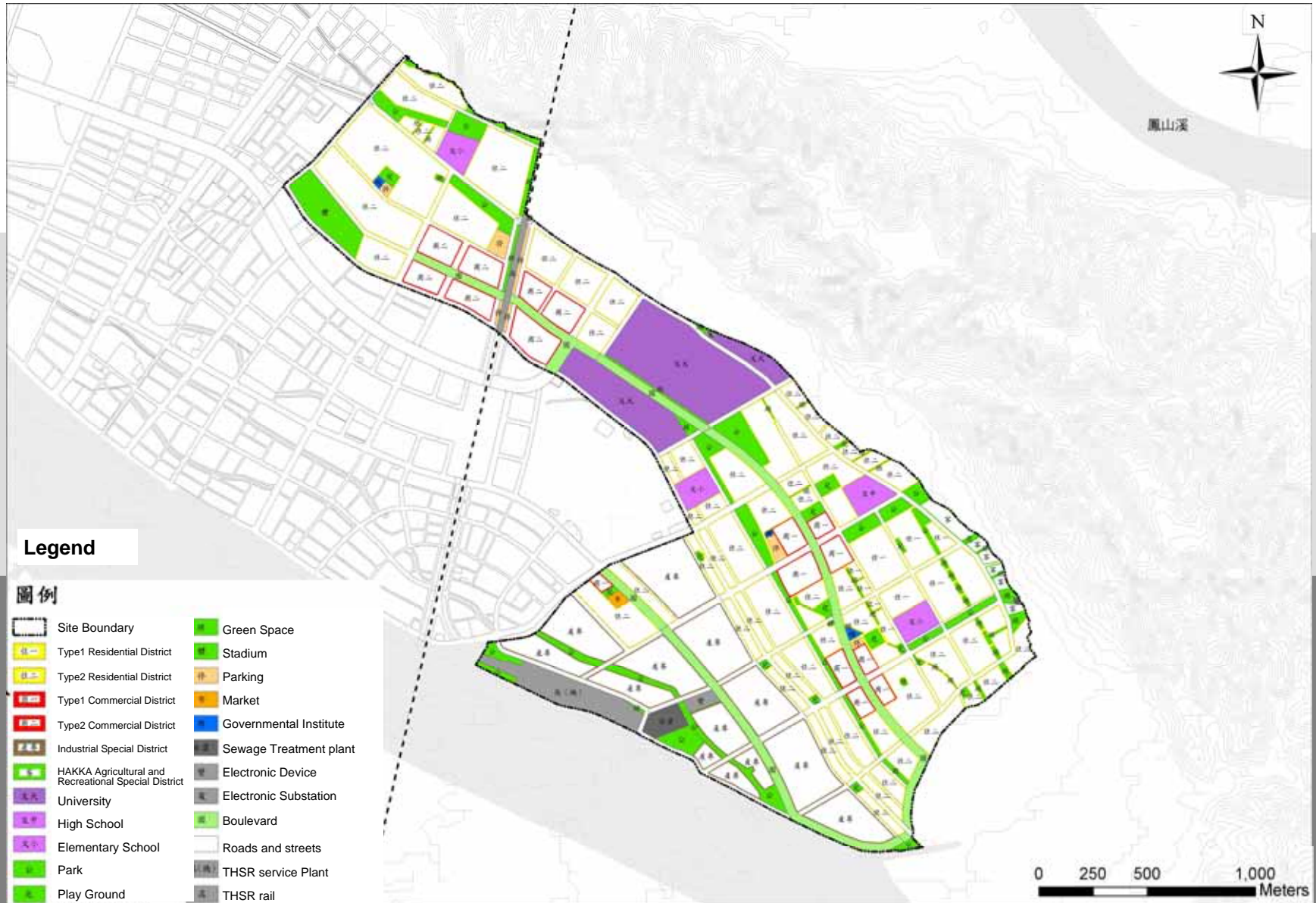
Hsinchu science park

Five core subjects

- **Set up the industry reserved area**
 - Setting the reserved area for the bio-tech and relevant industry and combine with the Hsin-chu science park to make this region become the core of technology and economy of north Taiwan
- **Planning new high-speed roll of urban core**
 - Enhance the transportation system in order to guide for the building type
- **To import the New Campus of NCTU**
 - Building the example of industry-university cooperation research. Enhance the region to become a creative learning area
- **Provide the demonstration of international community**
 - Creating a high quality culture living area to attract the international talents
- **Creating a sustainable BIO-city with low carbon and saving energy**
 - Using the Green-TOD as a model to form a biologic living network with symbiosis of human and nature environment



Master Plan

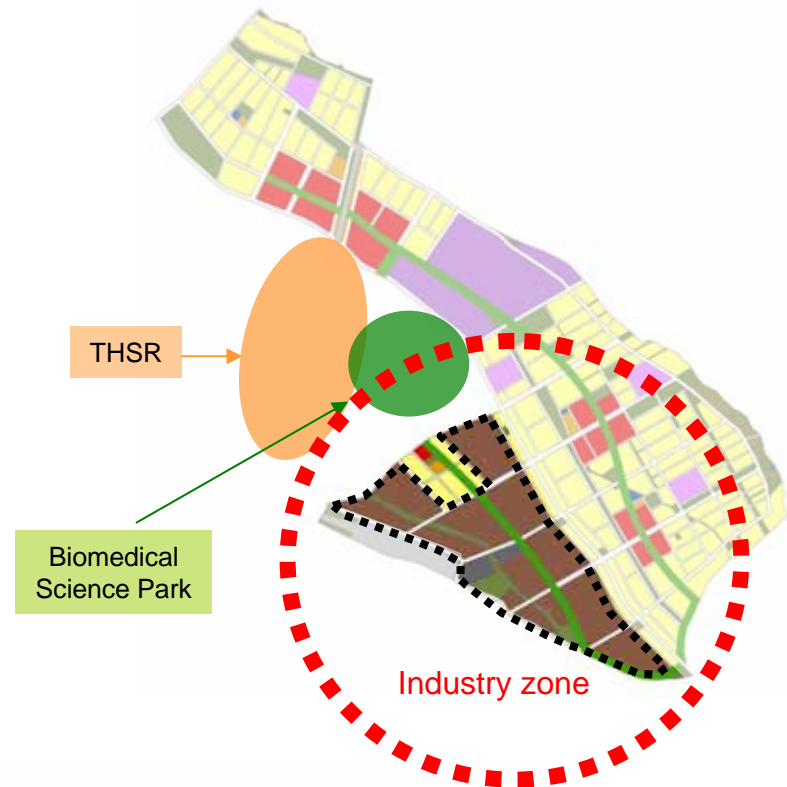


The Zoning Distribution (Based on the Master Plan)

Zoning Type		Area (Ha)	Percentage (%)	
Residential District	Type1 Residential District	19.8115	4.43%	
	Type2 Residential District	147.4432	32.95%	
	Subtotal	167.2547	37.38%	
Commercial District	Type1 Commercial District	11.8656	2.65%	
	Type2 Commercial District	16.4785	3.68%	
	Subtotal	28.3441	6.33%	
HAKKA Agricultural and Recreational Special District		3.8047	0.85%	
Industrial Special District		61.4233	13.73%	
Public Facilities	Public School	University	33.0346	7.38%
		High School	2.5737	0.58%
		Elementary School	7.0252	1.57%
		Subtotal	42.6336	9.53%
	Park	24.6066	5.50%	
	Green Space	7.1779	1.60%	
	Play Ground	5.0369	1.13%	
	Stadium	5.6054	1.25%	
	Parking	2.8701	0.64%	
	Governmental Institute	0.5607	0.13%	
	Market	0.4981	0.11%	
	Electronic Device	0.2576	0.06%	
	Electronic Substation	0.9705	0.22%	
	Sewage treatment plant	2.1439	0.48%	
	Boulevard	24.1682	5.40%	
	Roads and streets	60.2633	13.47%	
	THSR service Plant	8.1172	1.81%	
	THSR rail	1.6941	0.38%	
Public Facilities Subtotal		186.6041	41.71%	
Total		447.4309	100.00%	

Industry Special District

- The hinterland for the rising High-tech and Knowledge-base Economy Industry development
- Open, innovative park-like University is connected with the industry development
- A complete set of infrastructure and services are provided: Hotel, Commercial and related service industries
- Connect High Speed Rail Industrial Park with Industry zone.
- Connect Biomedical Science Park with high quality living environment to make a plan for both needs.

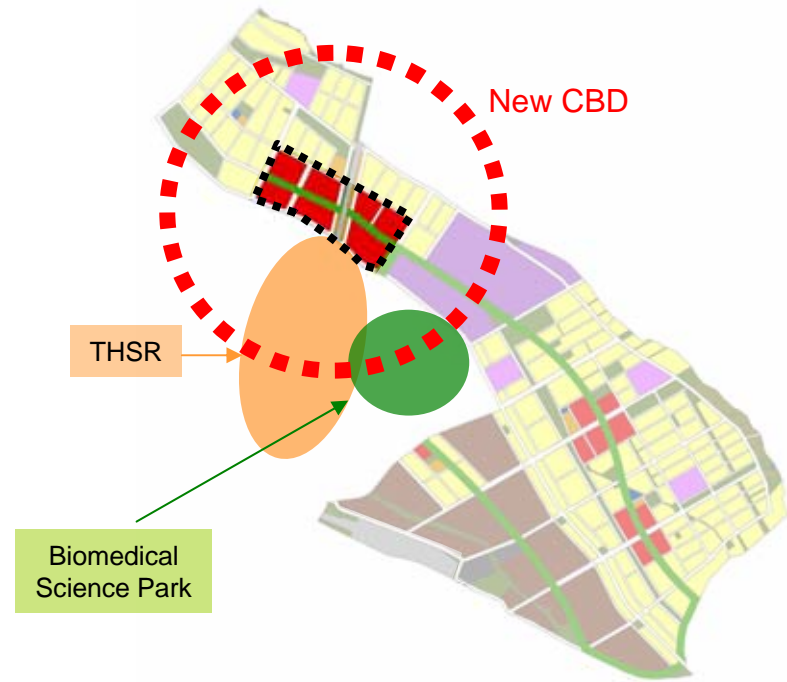


- Features
 - Mainly for IC/SOC design, bio-medical and cross filed new industry with no pollution's flagship park
 - Supporting Biomedical Science park
 - Permitting necessary financial and commercial use



New CBD of Jhubei

- In order to meet the demand of the rapid growths in Hsinchu THSR Station Special District and the Great Chupei Area, as well as to figure a functional commercial core for the THSR station area, the central business districts (the THSR New CBD) was designed to provide various land uses - such as cafes, retails, shops, housing, entertainments, financials, offices and public facilities- under the generally planning for each blocks. In addition, the THSR New CBD should be coded with appropriate development scale to advance the economic efficiency and to strengthen the future vision of Hsin-Chu THSR Station Special District.

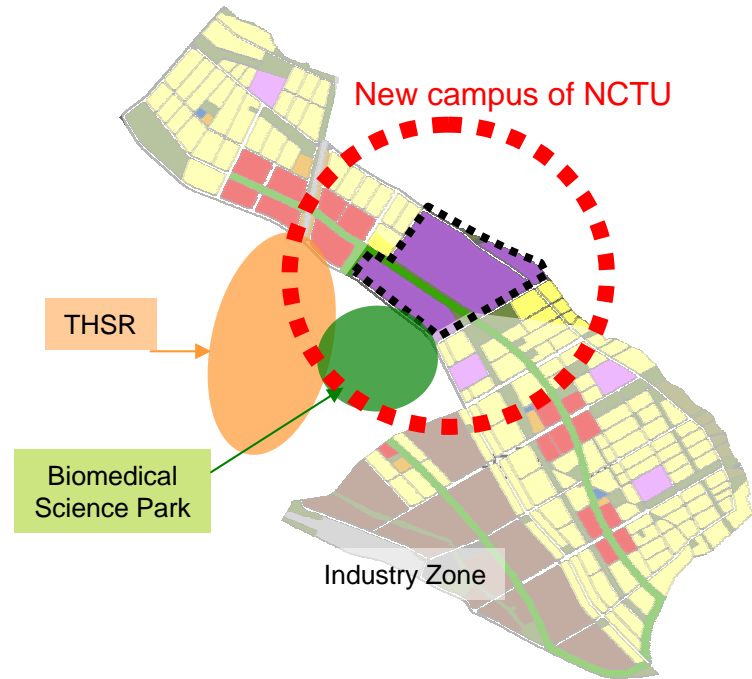


- Features
 - High-density development and construction for financial and commercial use
 - Connect to THSR station district special district or even the Great North Region of Taiwan

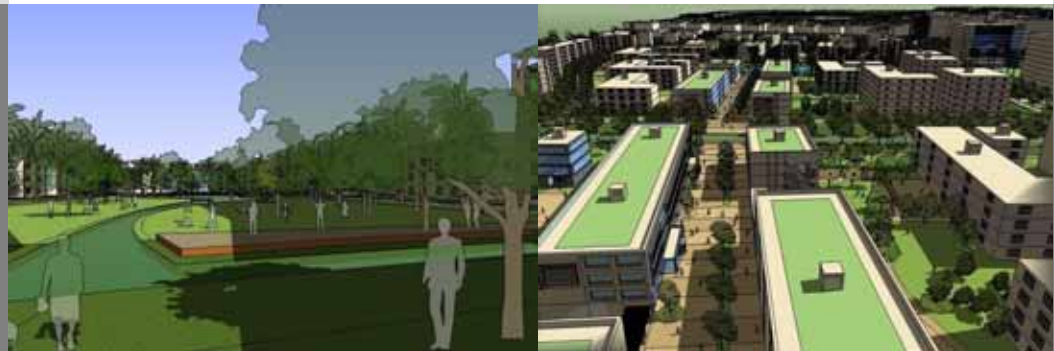


New Campus of NCTU

- With NCTU's base of research and teaching, the new campus is design for stimulating the spin-off effects and innovation milieu of industry.
- New campus is organized as an innovation park, establishing research centers, incubation center, administration center and living service facilities .
- Differ from most traditional university in Taiwan, new campus is opened to the community and companies by sharing resources and facilities.

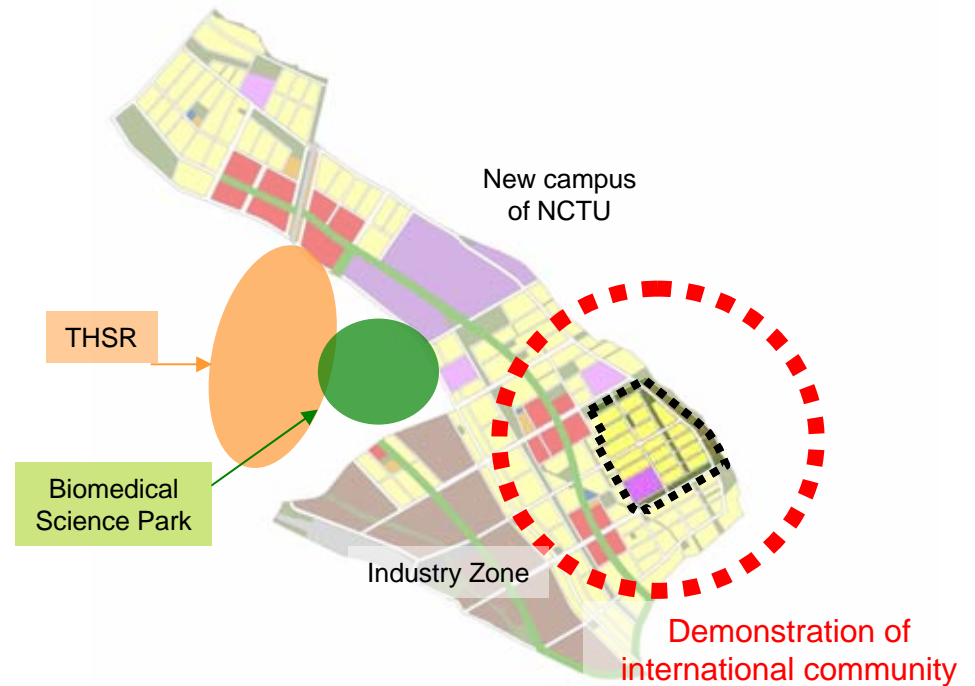


- Features
 - A Special District where the Industry and the University cooperates
 - Park-like university that is borderless, knowledge-gaining and resource-sharing, as the base for sustainable technology upgrade.

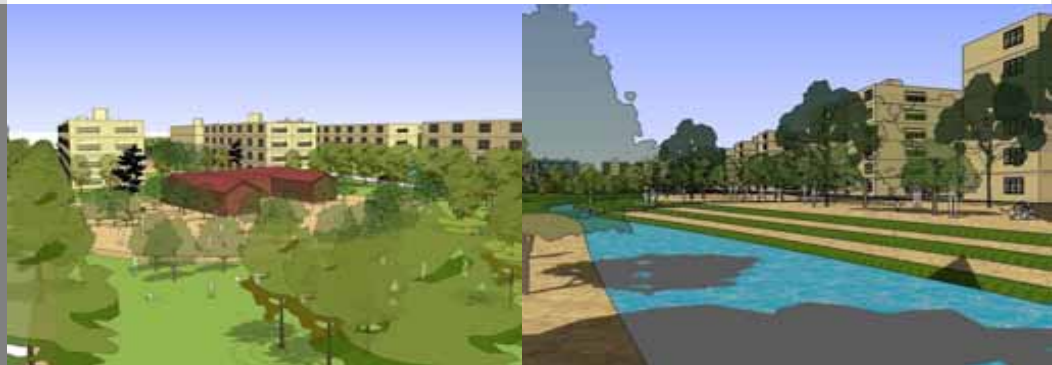


Demonstration of international community

- The Demonstration of International Community is designed to become an international residential environment, with the global standard of building constructions, community surroundings, and local public and commercial services.
- The advantages for Taiwan Knowledge-based Economy Flagship Park Project to bring in the Demonstration of International Community include the alike environmental qualities, the innovated neighborhoods, and the convenient traffic conditions. Therefore, as the project tried to construct high quality HAKA communities, it also extended the plan of residential area by plugging in plentiful and comprehensive services facilities, to supply the housing for international or local top innovation professionals.

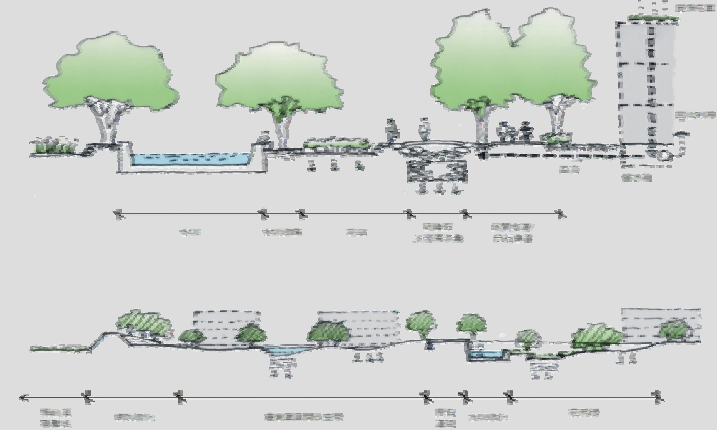


- Features
 - surrounded by green land
 - the paddle parks connect the Biological environment and cultural activities
 - combination of Traditional landscape and modern urban space.



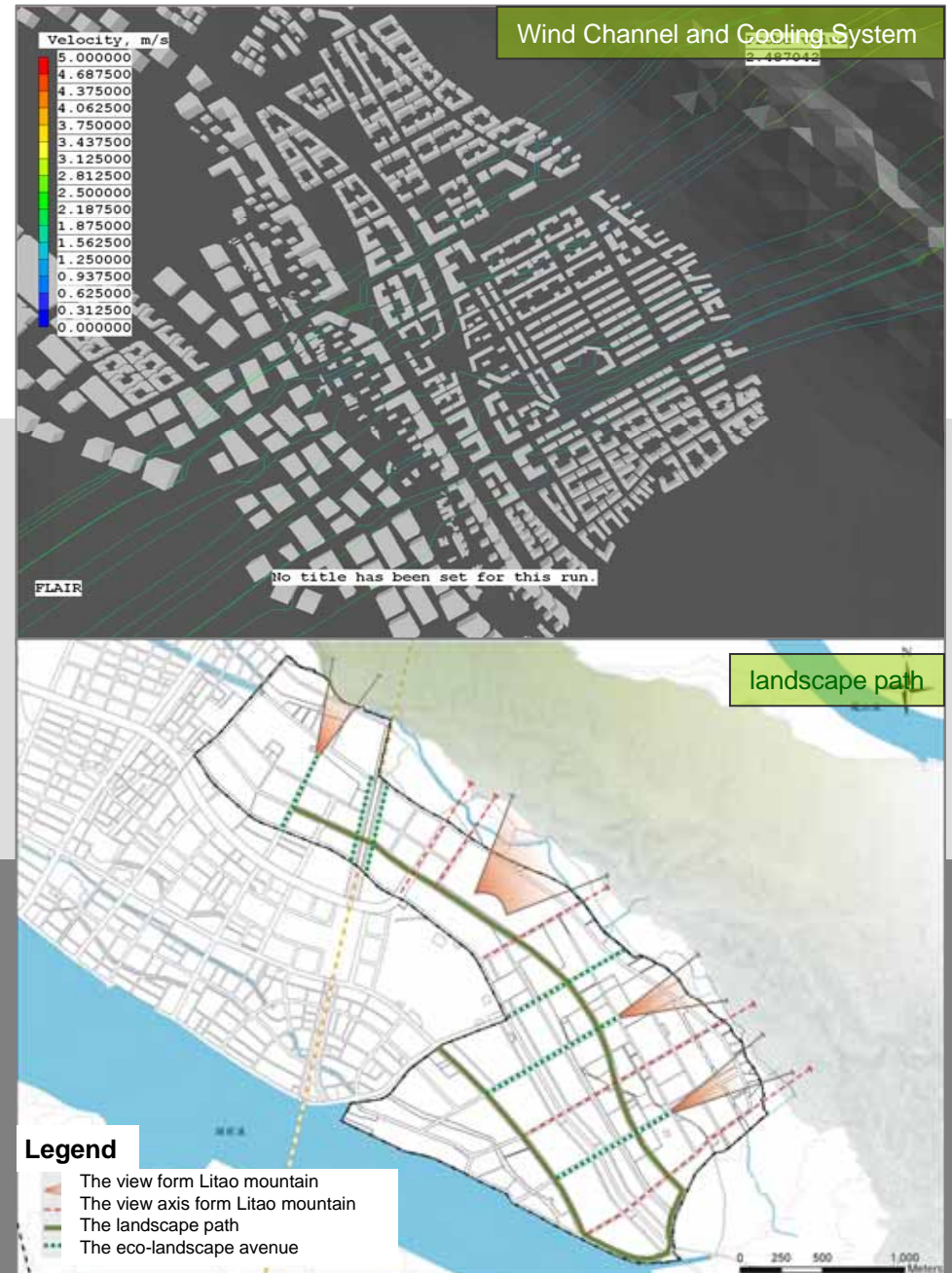
Design with ECO-City Concepts

- **Principle1:** Building the low carbon and saving ECO-city to fit the environment
- **Principle2:** Keeping the diversity of urban creatures based on the natural symbiosis
- **Principle3:** Creating the maximum self-sufficiency building type
- **Principle4:** Connecting the new high-tech knowledge economy path and enhance the efficiency
- **Principle5:** Creating the green transit based on the traffic transportation
- **Principle 6:** Respecting the local history and keeping the cultural landscape
- **Principle 7:** Pre-coordinated urban planning and land administration



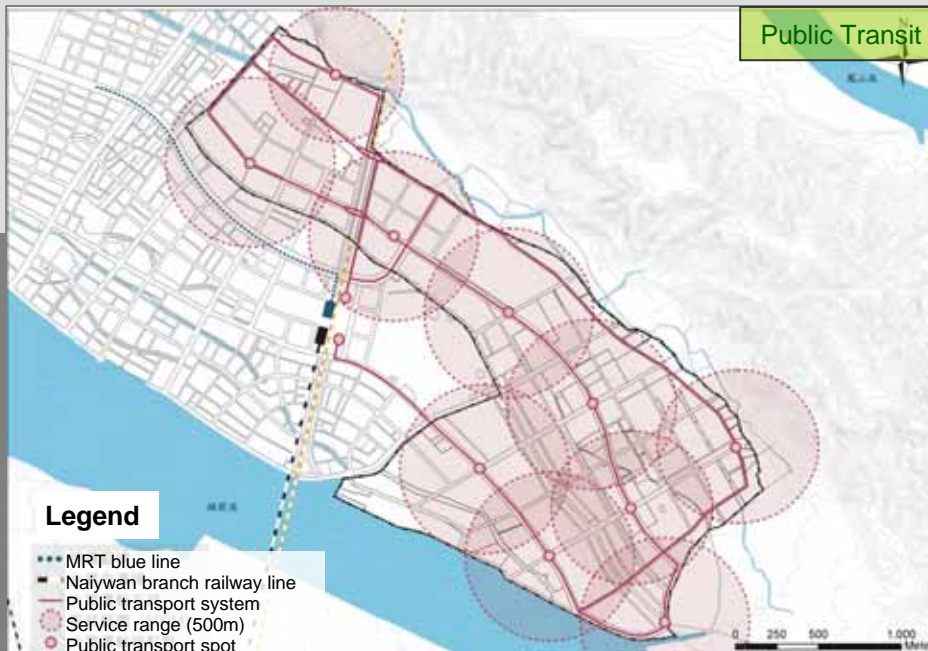
Design with ECO-City Concepts

- Design the whole environment by coordinating the terrain, landscape and the Bio-Climatic condition
 - Summer
 - Making a good included angle with southwest wind by setting up the road block
 - Leading the southwest wind in to the north community by setting the building type
 - Applying both low and high rise building types to the industry area
 - Winter
 - Making a good excluded angle with northeast wind by setting up the road
 - Using the axis of the open space to lead the northeast wind, in order to minimize the compact of the residence
 - The northeast of the residence should reinforce the plant to prevent the wind
- The arrangement of Open Space shall follow Bio-climate condition and preserve visual landscape axis



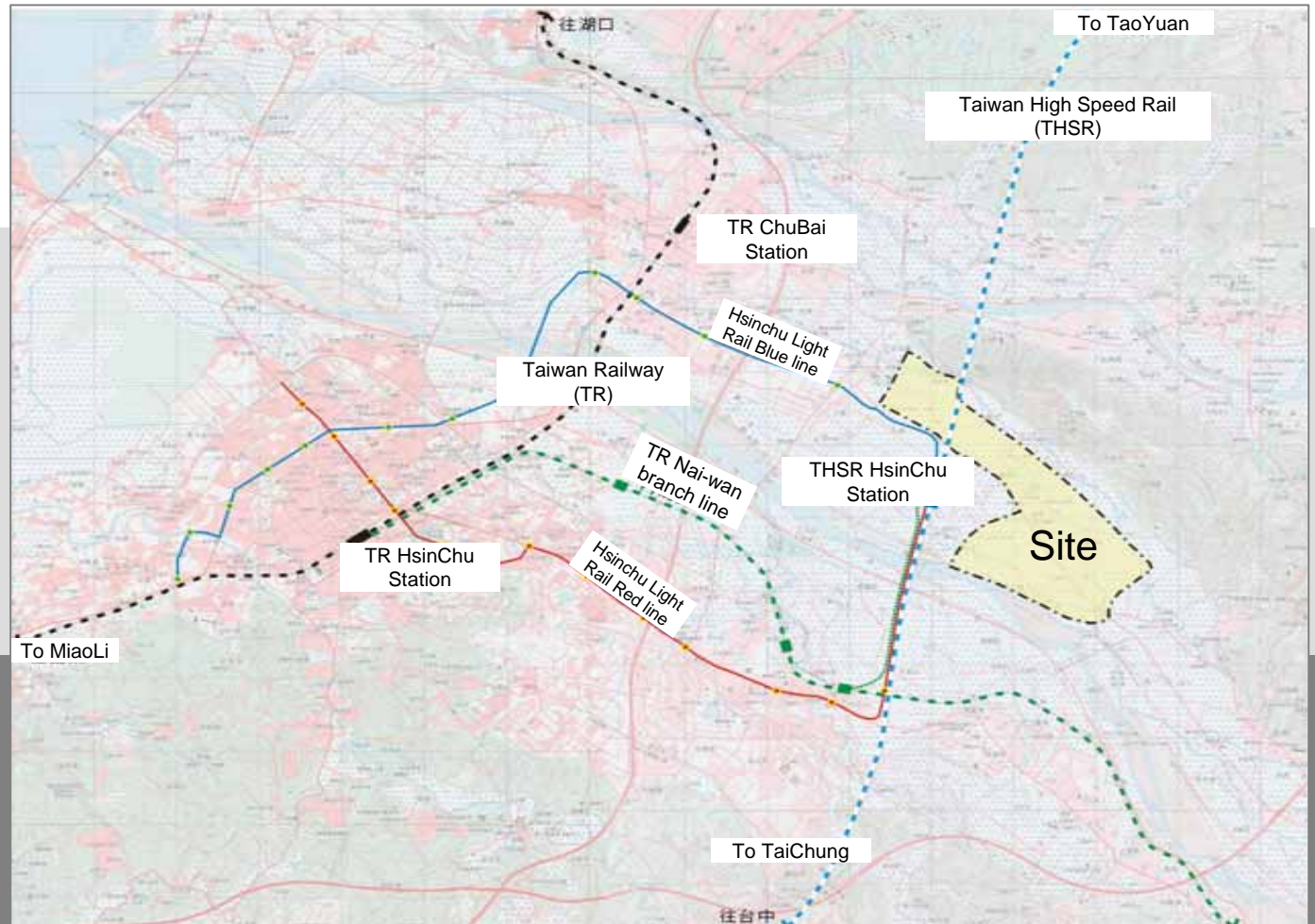
Road System

- Define The road level system to frame the living communities and minimize the traffic disturbance
- Encourage the Use of Green Transportation by Constructing the Human Path and Bicycle Loop Systems Surrounding the Entire Site
- Encourage the Transit Life Style by Establishing the Community Bus System



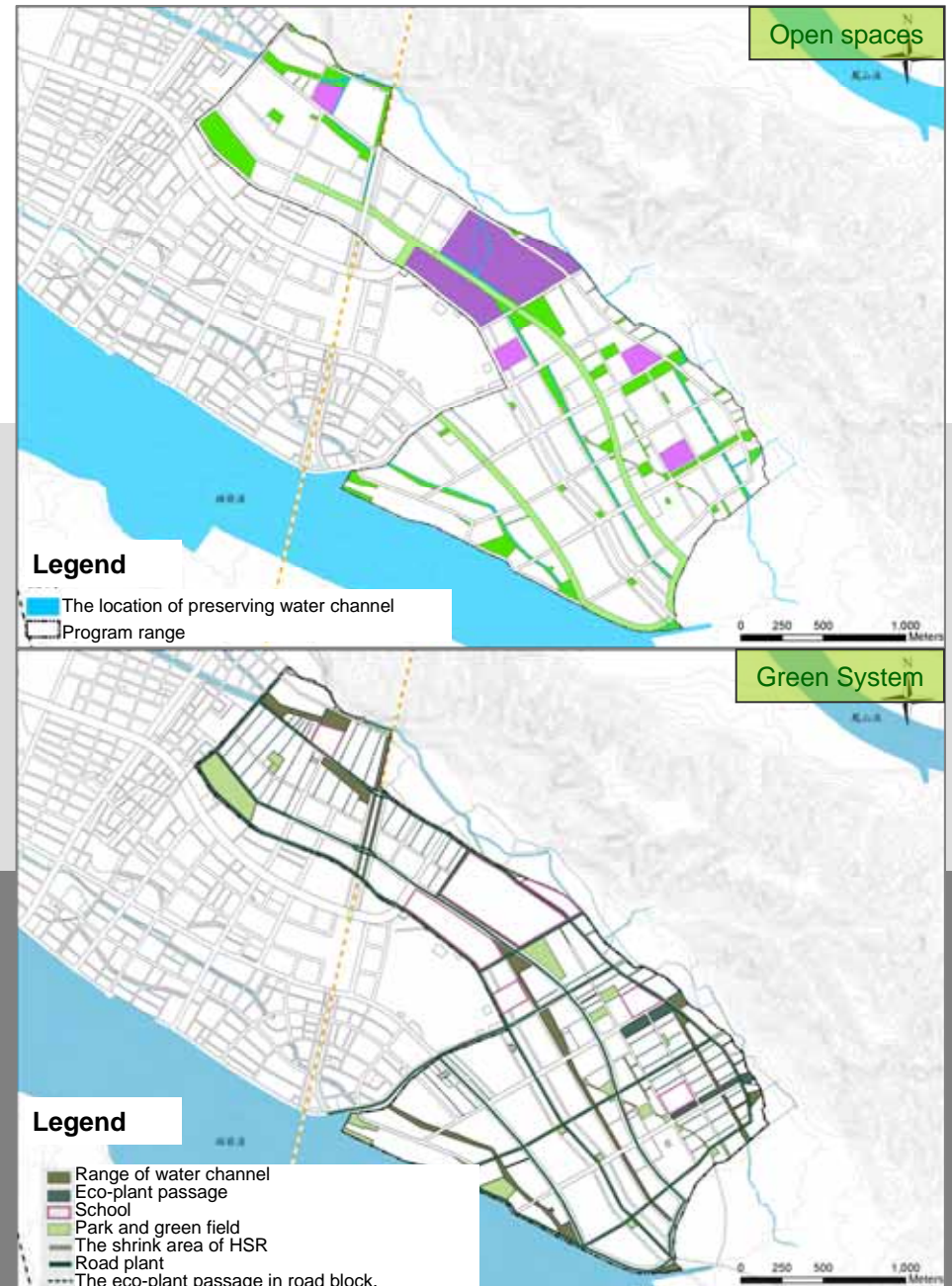
Regional Transit System

- Link to the Regional Transit System to Build A Green-TOD land Use Model

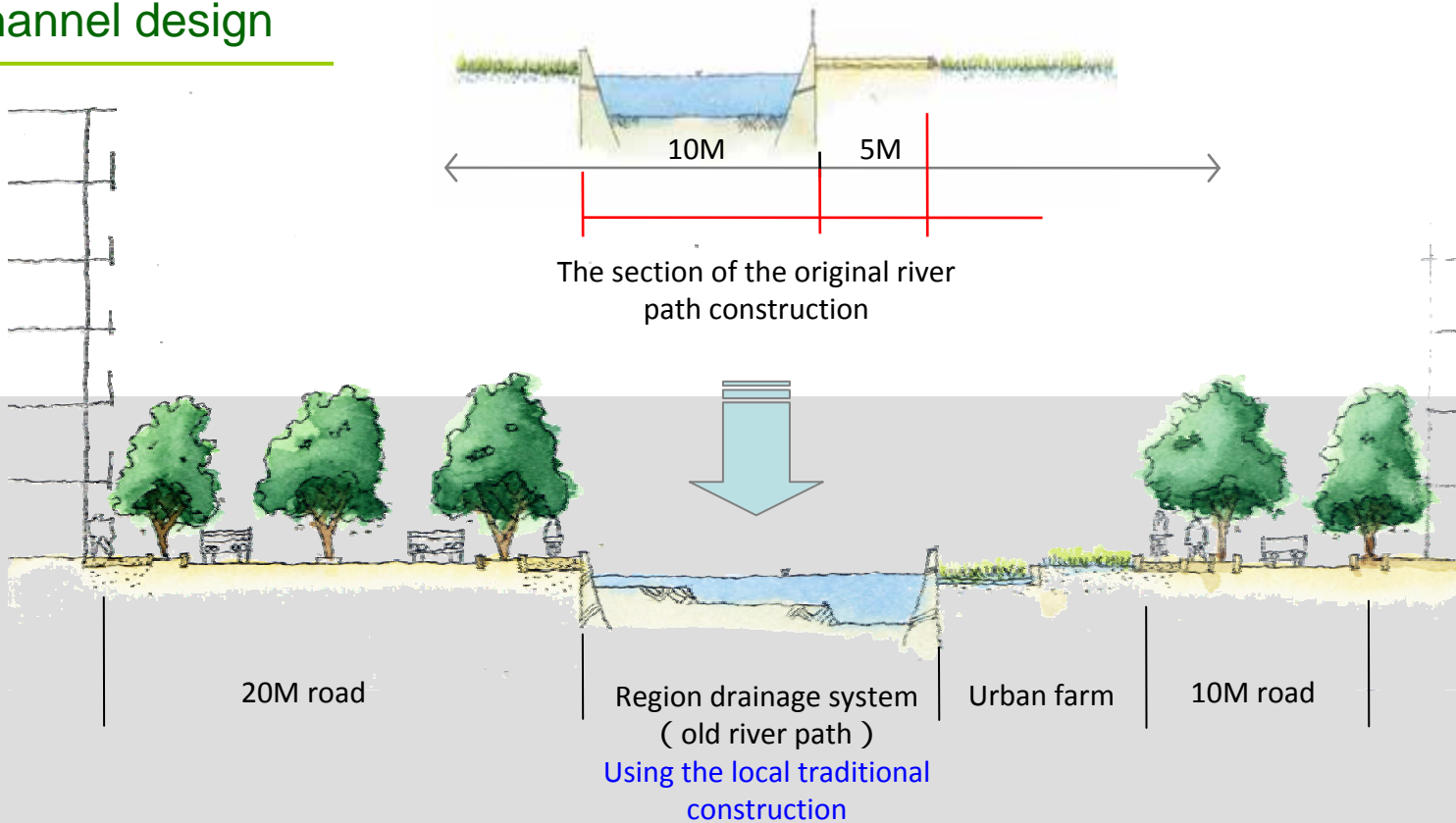


Open Spaces

- Define service area of the open space system Connect to the Existing Water Channel around the Site by Open Spaces
- Protect and restore diverse native habitats.
- Organize the Green System According to the Main Axis of the Water Channel and the Biological Accesses between the River and Mountain
- Emphasize the design of the natural ecology riverside by adjusting the traditional construction

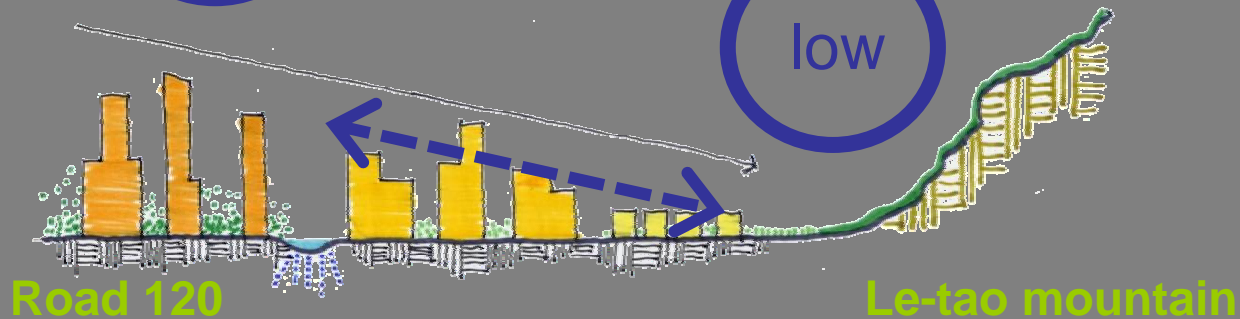
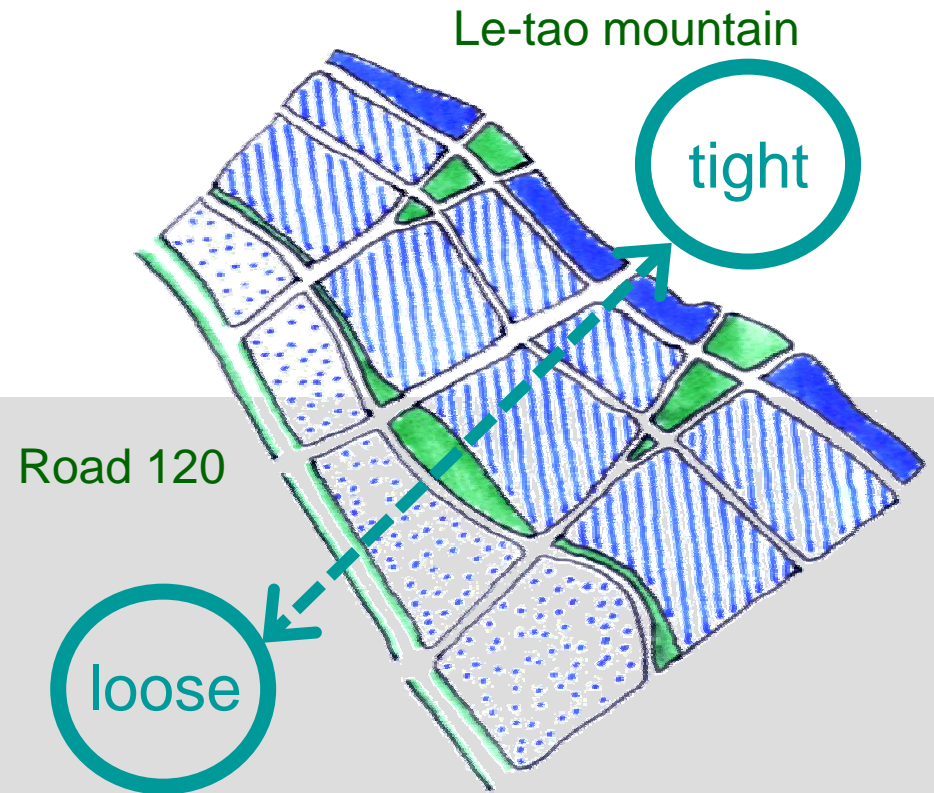


Water channel design



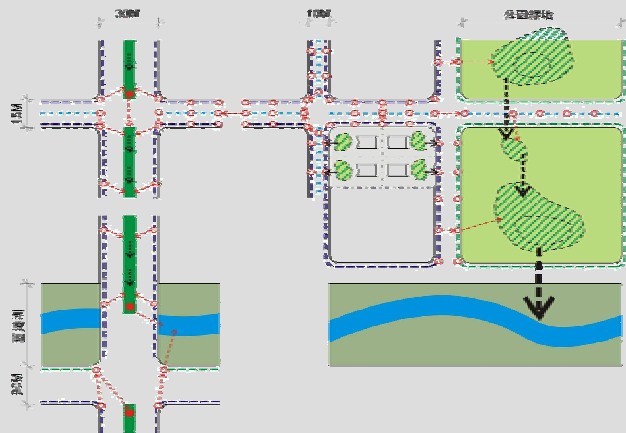
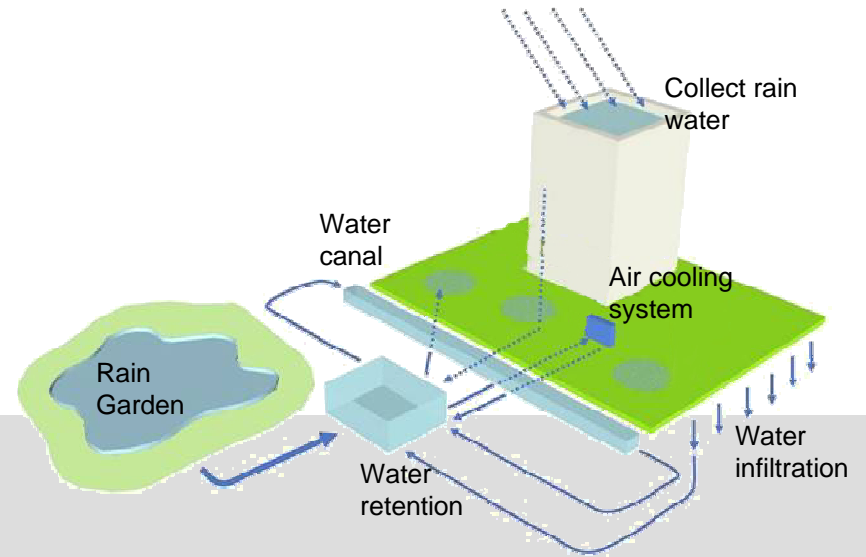
Design with ECO-City Concepts

- Making the whole environment design by coordinate the terrain, landscape and the BIO-weather condition
- Form Le-tao mountain to Road 120
 - building density variate : tight loose
 - building height variate : low high
 - maintain the vision to the Le-tao mountain.
 - Fitting the guidance of summer and winter wind.

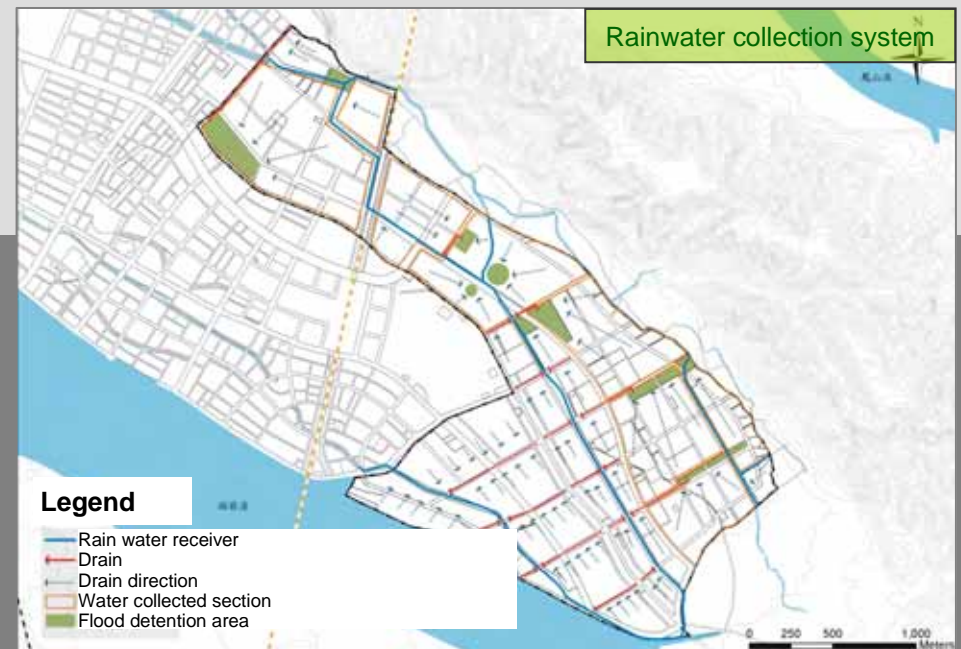


Rainwater Collection System

- Install the rainwater collected system by combine the living units in order to fit the terrain
- Building the management system of rainwater balance : retain water、flood detention、infiltrate、naturally purify、 reused



- The water permeate grass gape in ladder style
- The water permeate gape in open style
- ⊙→ Storm drain system and tube
- Permeate gape
- ⊙ Storm drain or rain garden
- ⊙ Underground permeate



Preservation Planning

- Register the Local Temples and Traditional Buildings in the Site
- Classify and Evaluate the Values of these Cultural and Landscape Resources
- The Evaluation Indicators of these Resources :
 - Building types the completion of san-ho-yuan ;
 - Roof the level of modernize ;
 - Building materials mud-build or bricks or RC ;
 - The main concerns of preserving the temple :
 - Stone of symbolic、 trees、 scale、 building types ;
- Preserved designated local cultural and landscape resources by fitting open spaces and schools
- Any other resources that does not designate to preserved still can keep in the surrounding open spaces according to the opinion of the resident

