Innovation in Urban Development: A Taiwan Asset

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There are four significant cities which are deserved to be entitled to high praise for their innovation in urban development. These four cities elaborate on excellent examples of how urban development of various scales and typologies could adopt innovative urban governance strategies. Thus, each city could bring its regional potential into full play, and further adjust its policies regarding development in order to accommodate itself to the changed situation.
Four self-claimed capital cities of Taiwan that all have respectively implemented their own innovative strategies in urban governance. In sequence from north to south are:

(1) Taipei, the capital of politics and commerce;
(2) Hsinchu, the capital of science and technology;
(3) Yunlin, the capital of agriculture;
(4) Kaohsiung, the capital of maritime.
Metropolitan Creativity of Taipei

The Zoning Map of Taipei

Taipei 101 and Taipei new Xin District, 2006.
The aerial view of Taipei new Xinyi District, 2006.

(Credit: Department of Urban Development, Taipei City Government)
The skyways and Metro system in Taipei New Xinyi District
“...Taipei has done by building Taipei 101, the financial center in the new Xinyi District. At the time of writing, this 508m skyscraper is the world’s tallest building. Around it now cluster department stores and Eslite, one of the world’s largest bookstores, selling 3000 different magazines and newspaper. Promoted as a cultural arena for the people of Taiwan, Eslite’s eight stories include a children’s discovery museum, seminar rooms, and a design and living floor. Managing urban change might involve investing in new education, shifting the industrial base to services, getting into a new economic sector, re-cabling a city or opening out new housing zones. (Landry, 2006, The Art of City Making)”
The regeneration process of West End downtown, Taipei. 1985~1999

A rich and pedestrians-friendly district in old downtown of Taipei.
Taipei old city center after renewal and development becomes a downtown commercial and consumption center again.
The four city cores of Taipei lump together all the beneficial links, to keep abreast of developments in the Asian New Downtown area. Each one of the districts plays a role in urban development, reuniting the core and the fringe, both necessary to reactivate Taipei’s creative central area.

Developing the “Taipei Creative Corridor”: Redelineating urban roles

**Neihu Technology Park**  
(Light industrial area in 1995, the region to engage in building development. In 2002 changed from light industrial area Science and Technology Park)
- Area: 149.72 hectares
- 2007 output: 8.1.6 billion US $
- Practitioner staff: 90,473 people (2006/6 statistics)
- Major Industry: R & D, marketing, and service knowledge-based industries

**Nangang Software Industrial Park**  
(1999 opening of intelligent industrial park)
- Area: 8.2 hectares
- 2007 output: 5.5 billion US $
- Practitioner staff: 14,020 people (2007 statistics)
- Major Industry: Software industry and biotechnology industry and other strategic core industries.

**Xinyi District**
- Area: 163 hectares
- 2006 output: 3.4 billion US $
- Practitioner staff: 37,419 people (2006 statistics)
- Major Industry: Professional Scientific and Technical services, Art, Entertainment and Recreational services

**West-end Downtown**
- Area: 340 hectares
- 2006 output: 3.2 billion US $
- Practitioner staff: 73,079 people (2006 statistics)
- Major Industry: Entertainment and Recreational services
Innovation in Metropolitan City—Centrality and Diversity

Mechanisms responsible for developing the Creative-Downtown corridor in Taipei
The Strategy for Pursuing Knowledge-Based Economy in Hsinchu Regional Development
The development status of Science Parks in Taiwan

**Hsinchu Science Park, Since 1980**
- Area: 1,373ha in total
- Revenue: US$ 30,455 Million
- Employee: 130,577
- Main Industry: IC (70.03%)
- Hsinchu: 653ha
- Chunan: 123ha
- Tongluo: 350ha
- Chubei: 38ha
- Lungtan: 107ha
- Ilan: 102ha

**Central Science Park, since 2002**
- Area: 1,400ha in total
- Revenue: US$ 8,061 Million
- Employee: 20,736
- Main Industry: Photonics (79.3%)
- Taichung: 413ha
- Huwei: 97ha
- Houli: 255ha
- Erlin: 635ha

**Southern Science Park, since 1997**
- Area: 1,608ha in total
- Revenue: US$ 16,591 Million
- Employee: 48,136
- Main Industry: Photonics (64.5%)
- Tainan: 1,038ha
- Kaohsiung: 570ha
Clusters of High-Tech Industry Park and Research Institute in Hsinchu Area

- Hsinchu Industry Park
- Xiangshan Industry Park
- Tai Yuen Hi-Tech Industrial Park
- National Taiwan University
- National Taiwan University of Science and Technology
- National Chiao Tung University
- Biomedical Science Park
- Taiwan Knowledge-based Economy Flagship Park
- National Ching Hua University
- Industrial Technology Research Institute
- Hsinchu Science Park
- National Chiao Tung University
The Transition and Upgrading of the Hi-Tech Industry in Taiwan

Product Innovation Enterprise Creativity
2nd Industry Promotion
2001-2020

IC/SOC Design
Semiconductor

LCD Driver
Display Technology

Bio-medical
Solar Energy

Digital Content
Industries

Upgrade

Transition

Semiconductor Manufacturing
1st Industry Promotion
1980-2000
The need to pursue “From MIT to IIT” that is crucial to the future development of Taiwan industry

- Economic flow
- Space flow
- International industry
- International division of labor

Globalization economic

The new geography intersection that has advantage

MIT (Made In Taiwan) ↓

IIT (Innovated In Taiwan)

Local innovation technique

- The main factor of production
- Infrastructure
- Grouping of industry
- System and conditions
- Living environment
Hsinchu region is a spatiotemporal proximity for the generation of knowledge and innovation. It also enjoys high mobility due to the accomplishment of the Taiwan high speed rail since 2006. A development project of “Taiwan Knowledge-based Economy Flagship Park” has been prepared for ten years and will be finally put into practice.
The Evolution of Area Development
The Evolution of Area Development
The development status of local downtown
The influential advantages of this new development project has been regarded as the catalyst for new knowledge-based industries for the future regional development that is resulted from the advanced planning intention to integrate the existing Hsinchu science park and newly built Hsinchu biomedical science park with R&D institutions of local universities in high speed rail station proximity.
Eco-City Regional Research Center in National Chiao Tung University, Hsinchu, Taiwan
Integrated program of anchor development site
Knowledge-based Economy Industry Zone ↔ Biomedical Science Park ↔ NCTU Branch Campus
**Strategies of the Development Project**

**Setting up the Knowledge-based Economy Industry Zone**
Setting the reserved area for the bio-tech and relevant industry and combine with the Hsinchu science park to make this region become the core of technology and economy of north Taiwan.

**Situating a branch campus of NCTU as the catalyst for knowledge-based economy development**
Building the role model of industrial-cooperative university and Enhancing the region to become a creative learning area.

**Planning a new regional CBD**
Propose a central business zone in order to enhance the THSR Special District.

**Providing good living qualities for international residential village**
Creating a high quality culture living area to attract the international talents.

**Creating a sustainable ECO-city with low carbon and saving energy**
Using the Green-TOD as model to form a biological living network with symbiosis of human and nature environment.
ECO-city design guidelines

— Building the low carbon and saving ECO-city to fit the environment
— Enhancing the biodiversity of the existing environmental symbiosis
— Creating the maximum self-sufficiency building type
— Connecting the new high-tech knowledge economy path
— Creating the green transit based on the traffic transportation
— Preserving the local built heritage and the cultural landscape
— Pre-coordinated urban planning and development control
Yunlin has always been the border area of urban development; however, it is the main territory of agricultural products and food provision in Taiwan. Moreover, after the accomplishment of the high speed rail, Yunlin has become the farthest place to reach from other parts of Taiwan in terms of distance and time. However, recently the local predominant governance strategy has changed in an attempt to transform Yunlin from a border town into a self-sufficient eco-town.
疏菜產量占全國1/3產量

醬油百年產業遠近馳名

西螺米品質保證

西螺豆皮占全台半數產量

西螺西瓜
文化地景造鎮
--糖廠偶藝文化小鎮
新興的PIZZA車
行動咖啡車的鼻祖
電子花車的故鄉

MOBILE CITY
行動城市
大樹下的農業市集行動車

量販店停車場前展演宣傳車

廟埕廣場前行動咖啡車

校門口前圖書行動車
Converting the abandoned railways and assets of the deteriorated sugar industry into a green transportation network and new settings for local cultural industries.
概念來自於北港的第一印象——
賣香火的阿公阿婆
一袋袋的香火, 均是用塑膠袋裝著販賣, 建議可以結合傳統技藝藤編的提籃, 或是提倡
北港環保袋子的創意設計競圖,
結合香火一同販賣, 讓北港可以與現代的環保概念接軌,
更可展現北港的藝文氣息,
及改善環境面貌,
亦可成為香客與觀光人潮的紀念品

文創活動計畫-文創加值產業行銷

由媽祖的義子的習俗做為發想,
將北港婆婆的香火袋
做為北港精神的代表之一,
並加入新的祈福路徑,
新的故事
與傳統的習俗結合,
帶動北港鎮內的活化
祈福路徑的發想:
平安御守: 牛墟→第一口井取水源→媽祖加持
求子安產御守: 牛墟→第一口井取水源→媽祖加持→註生娘娘加持
長壽/健康御守: 牛墟→中山路→長生果→媽祖加持
合格御守+合格筆: 牛墟→媽祖加持→文昌帝君加持
交通安全御守: 牛墟→第一口井取水源→媽祖加持

四天三夜食農與古蹟學校課程表

第一天: 報到→福安第一眼花生
→專家來演講→農村第一夜

第二天: 農村初體驗→
農車與耕作機競賽→大吃麻油→農村音樂會
→農村第二夜

第三天: 餐前做糕餅
→鬥陣來吃飯
→古蹟參訪→社區交流
→豐收慶功宴→農村第三夜

第四天: 教授開場
→頒發證書→結業式

四天三夜食農&古蹟學校 課程表

結合農村文史社區

3天2夜文史社區

4天3夜結合食農與古蹟

以媽祖文化做為藝文基礎的北港,
鎮上擁有上百個以媽祖為名的社團,
透過此計畫讓學子可以一次性的體驗各種媽祖文化,
留下強烈印象, 如布袋戲體驗, 北港特有藝閣體驗,
電音三太子, 南北管, 讓北港多面貌的一次展現,
更重要的是讓北港媽祖文化可以透過此活動傳承, 發揚

北港婆婆的香火袋

北港阿伯的提籃

創意設計競圖

北港落花生計畫

食農與古蹟的體驗

北港蒲公英計畫

媽祖文化與藝術的體驗

北港婆婆的香火袋

北港阿伯的提籃

創意設計競圖

北港落花生計畫

食農與古蹟的體驗

北港蒲公英計畫

媽祖文化與藝術的體驗
Recycling Green Waste Programs

To build up a selling network for agricultural products, and help the farmers reduce agricultural wastes and make them into organic fertilizer.
With the local government leading the regeneration process, the essence of rural areas is transformed by the improvement of rural environment and the employment activation of agricultural industry. Yunlin’s success in transforming into an eco-town will be a new Taiwan and Asian model.
The Green Shift of **Kaohsiung** Innovation

Kaohsiung in terms of city-making elaborates the fact that the city is changing into an “Eco-City”, which will respond to environmental, economic, cultural, and social dimensions.

A city blessed with mountains, rivers, harbor and sea
The impression of Kaohsiung before 1990’s
Love River was totally dead in the 1980’s
The aerial view of Love River, 2002

The Rebirth of the Love River, Kaohsiung
Ecological • Touristic • Sustainable
City of Kaohsiung
Invented Tradition- Lantern Festival on the water and in the Love River
City Wetlands
Creating Urban Wetlands Corridor

- Wetland corridors are the buffer zones for connection between the biological gene pool and Love River.
In the national main stadium for 2009 world games in Kaohsiung, its marvelous design of solar panel roof (1Mkw) can cover 80% of electricity usage of the whole building during the daytime.
The Grand Opening of 2009 World Games, Kaohsiung on 16th July 2009

"2009 World Games Kaohsiung has been the best of the ever."

Ron Frenich (The President of WGA)
43.2 kilometers in 2 lines: KMRT rapid transit, operating since 2008
19.6 kilometers: Light rail transit, expected in 2017
4.3% up to 11%: commuters via public transportation everyday (comparing to 41.6% in Taipei City)
1500 E-Bikes in 50 locations: public city bikes in operation since 2009

Kaohsiung as a transit-oriented city  Credit: Charles Lin
Friendly facilities in Kaohsiung Metro station

Public City Bicycle system in Kaohsiung
“Thanks to its stable climate and river and harbor scenery, Kaohsiung is ideally positioned to develop a motion picture industry. The city plus movies can reinforce Kaohsiung's image as an international metropolis, and can encourage Kaohsiung residents to watch movies and get involved in movie production.” – FilmKaohsiung
3 flagship development projects in sea-harbor front, Kaohsiung

- Pop Music Center
- International Ferry Terminal
- World Trade Center
Development of Wharfs 1-22 Brings New Opportunities for Waterfront City
Enhancing KMRT Ridership

Migrant workers' breathing edge

The Love Bay - a Core Showing Place for the 2013 Exhibition
A show-window of the future Kaohsiung lifestyle

Creative Resource
Complex Development
(public investment)

New Cross-Bay Bridge

2013 Green Metropolis
Exhibition in Kaohsiung

FUNCTIONS
"Breathing Edge" for Migrant Workers

Counseling
Vocational Training
Religious
Temporary living
Financial Services

Block Plan

Loop City

Anchor Plus

Anchor

Green power

Experimental
Building Construction

The Love Bay Area and the Dock Area are the core showing places for the 2013 Exhibition, in which the future Kaohsiung lifestyle is being shown.
The policy revolving around the strategic transition of “Green Shift” in Kaohsiung is a paradigm shift of urban governance. It proves that localism can revive cities as a renewed sense of place and spawns local creativity. The successful results could attribute to citizen participation and cooperation with the Central Government policy. The strategies have brought the structural transformation to the reinvestment of the city.
The implication of the notions of “innovative urban environments” and “urban governance”

1. It links the search for the new policy, new people of talent, new practices, new networks of organizations and new attitudes towards problems of urban development that aroused from varied perspectives, and make up to the city’s new mission.

2. The meaning of innovative governance is not merely the economic and material achievement, but a new value and mindset. Traditionally, we used to value the success or even the creativity of a policy by its economic effects or market share. However, the identification with a city and the sense of belonging make the future innovative governance mechanism possible.

3. An innovative policy requires an overall integration of perspectives and strategies. As a result, the goal of innovative urban governance spans through cultural, environmental, and social aspects. It is a model of “integration and doing more with less” that the contemporary situation requires.
4. The modes of governance underpinned by fostering public involvements and free markets in the governmental process of Taiwan’s case studies suggested that the successful precondition of urban governance were based on an open and transparent platform for beneficial parties, a society with imagination and vision, responsive to creative thinking of the locals, and bureaucratic officials with capacity embedded in institution.

Lastly, three imperatives of innovation and creativity in urban governance should be addressed:

the re-position of the national public policy network and urban governance network formed by the partnership between the national and local political power;

the restructuring of social and economic relationship among the government, market mechanism and civil society;

the re-construction of the capacity of public governance and civil right.

These threes must rely on one another to achieve the set up and execution of the innovative policy, to encourage the experiment of creative thinking and to nurture a cordial atmosphere for urban innovations.
The exploring inventory in creative examples of Taiwan cities may lead to my **conclusion** that the innovation of Taiwan’s urban development is an asset of Taiwan, and it is suitable to be an intellectual asset of Asia and even of the world.

Taiwan is surely a part of this world. By learning from other models around the world, Taiwan absorbs the experiences and takes them in as the genes for its own urban development trajectory. Even though global crises and catastrophes come forth one after another, Taiwan cities transform and adapt to changes with innovation and creativity. By this, Taiwan cities face their future development.

The value of innovation in urban development proclaims that cities commit themselves to practical actions as the real responses and experiments of global issues while they are representing their own country and the international community.