Proceedings of
International Symposium
on City Planning 2003

«Main theme »
Planning, Regionalism, Coexistence

<table>
<thead>
<tr>
<th>Date &amp; Venue</th>
<th>Conference Hall in Hokkaido University, Japan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized by</td>
<td>Organizing Committee of International Symposium, The City Planning Institute of Japan (CPIJ)</td>
</tr>
</tbody>
</table>
| Supported by          | Hokkaido Government  
                         | Sapporo City Government  
                         | Japan Society of Urban and Regional Planners |
CONTENTS

Regionalism & Land use, Urban models

1. A Study on New Urbanism: Learning from Japanese Urban Conditions and Its Issues
   Muhammad Sani Roychansyah, Takashi Omi and Koichi Ishizaka (1)

2. A Study on Efficiencies for Reducing Snow Damages on Infill Developments in Downtown Area - Urban Design for Winter Cities #1-
   SETOGUCHI Tsuyoshi (12)

3. Regionalism in Service to Assimilation of New Ideas. Imitations of Distant Patterns and Regionalism in Urban and Landscape Design
   Jan Michal Pstragowski, Hidetsugu Kobayashi (22)

4. A STUDY ON THE CONSERVATION OF THE MEDIUM AND SMALLER HISTORICAL CULTURAL WALLED CITIES OF CHINA
   Jie YIN, Kunihiro NARUMI and Msanori SAWAKI (32)

5. A Study on the Regional Industrial Employment Structure and Its Transformation by Prefecture in Japan
   Zhuankun RAO, Yoji KAWAKAMI (42)

6. A Study on the Transition of National Development Strategies in Korea, Taiwan and Japan, Characterized by Developmentalism
   SETA Fumihiro, KIM Chang-Gi, LAI Shen-Chiang and ONISHI Takashi (52)

7. A Study on the Policy and the development of Urban Tourism in Seoul
   - A Comparison with Tokyo -
   JOOYOUNG KAWAK, TAKASHI TSUTSUMI and AKIRA SOSHIRODA (62)

Traffic, Transportation and Urban Infrastructure & Environment, Ecology

8. AN APPLICATION OF ECO-PHYSICAL PLANNING METHOD TO DETERMINE LAND USE SUITABILITY ON HILL SLOPE ENVIRONMENT FOR DEVELOPMENT OF HIGHLAND CITIES IN MALAYSIA. Case Study:Ringlet/Lembah Bertam Town, Cameron Highlands.
   Dzul Khaimi bin Khailani, Kenjiro OMURA (72)

9. THE ROLE OF URBAN SELF-BUILD HOUSING IN DEVELOPING COUNTRIES: A STUDY OF NAIROBI, KENYA
   Peter K. Kamau, Kenjiro Omura (82)
10. Evaluation of Rural Spatial Management System at the Green Tourism Settlement in Intermediate and Mountainous Areas - A Case Study of Okumeiji Settlement in the Yabu Town, Hyogo Prefecture -
Yukihiko SAITO (92)

11. Strategic Planning System Based on Regional Material Flow Analysis for Environmentally Sustainable River Basin Regional Management
Tsuyoshi FUJITA, Tohru MORIKA (103)

12. Changes in Residents’ Attitudes toward a Japanese River Environment
Sampei Yamashita (113)

13. GIS-based Regional Environmental Impact Assessment Caused by Suburbanization Activities Case Study on Muko River Basin Region
El-Lithy KHALED, Tsuyoshi FUJITA and Tohru MORIOKA (121)

Yungmin KIM, Masanori SAWAKI and Kunihiro NARUMI (131)

15. Research on the Formation and Design of Soundscape of Urban Park - Case Study of Saga Prefecture Forest Park, Japan
Jian GE, Kazunori HOKAO (139)

◊ Coexistence & Lax, System and Social method ◊

16. Symbiotic Culture and Settlements with Water on Lowland - Case of Saga Region, Japan
Shigemori Kanazawa (149)

17. The Attitude and Activities of Artists towards Community Vitalization
Tetsunobu YOSHITAKE, Chikashi DEGUCHI (157)

18. Obtaining Knowledge on Different Age Groups from Urban Public Places: Measuring the Reliability of Information Sources
Takaaki Kato (167)

19. Is it possible to create co-production (collaboration) society?
Nobuhisa Taira (175)

20. Implication of Clustered Gated Communities on Urban Space: A Preliminary Investigation in Quezon City, Metro Manila
Kenneth V. TANATE, Kenjiro OMURA (185)

21. Study on Activities of the Community Network in Ayutthaya
Yasuhiko Sasaki, Toshinobu Fujii (195)
22. How can we ensure fairness in public participation for NIMBY facility siting process? 
- Implications from the experiences in western countries and the present situation in Japan 
   - Kenshi Baba (205)

◊ **Green, Landscape & Traffic, Transportation and Urban Infrastructure** ◊

23. Re-Evaluation on Planning of Local High-Grade Highway for Reducing Costs 
   - Ryousuke ANDO (215)

   - A Case Study of Sapporo City 
   - Mitsuhiro SHITAMURA, Yuzo MASUYA, Tohru TAMURA and Kazuo SAITO (224)

   - Ryusuke Takeuchi, Izumi Okura and Fumihiko Nakamura (234)

26. Transport Survey and Marketing Methods in Urban Public Transport by Using Boarding Records Collected by Integrated Stored Fare Card System 
   - Toshiyuki OKAMURA, Akimasa FUJIWARA and Junyi ZHANG (243)

27. Process of Suburban Development based on the Railway Systems under the Modernization in Kyoto 
   - Naoto TANAKA, Yoshifumi DEMURA (251)

28. Research on the Amendments of Taipei City Zoning Regulation 
   - Ping-li CHEN, Kenjiro OMURA (260)

29. Urban Land-Use Model to Assess the Effects of Building Cost Support Policy 
   - Shamim Mahabubul HAQUE, Makoto OKUMURA (270)

30. The Extent of Satisfactions of Floor Area Ratio in New and Old City Center and its Determinant Factors in Busan, Korea 
   - Sungju CHAI, Yoji KAWAKAMI, Yunpyo OH and Yoshiaki HONDA (280)

31. A Research on the Postwar Transition Urban Structure for Kanazawa Metropolitan Region 
   -- A GIS Analysis of Population Density and Land Use -- 
   - Akihiko Tani, Tatsuo Masuta and Masahiro Rachi (290)
A Study on the New Urbanism:
Learning from Japanese Urban Conditions and Its Issues

Muhammad Sani Roychansyah, Takashi Omi, Koichi Ishizaka
Department of Architecture, Building Science, and Urban Planning, Tohoku University

Abstract
Needs of sustainable development concept in urban areas brings greater effects of finding direction either new approached or new philosophy to reach the objective of sustainability. The action to find an appropriate sustainable urban form has pioneered a new wave in urban planning as well as in architecture. Nowadays, the new urbanism has become a new discussion topic in the world-wide urban planning, design, and its development. Basically, this concept appears likely as a reaction to sprawl and based on the belief that a return to traditional neighborhood patterns is essential to restoring functional, sustainable communities. In the development or implementation level, it is also already transformed into many variants and scales of implementation. However, the heart of the new urbanism is in the design of neighborhood which should fulfill some principles of the new urbanism. The main principles can be categorized into four principles: diversity and mixed use activity, accessibility and connectivity, smart transport and walkability, as well as density, unity, and regionality. On the other hand, there has been growing spirit and support in recent years in Japan to adopt some global phenomena in urban planning such as the new urbanism. This study aims to examine and analyze existing Japanese urban condition based on principal theory of the new urbanism, whether both Japanese urban conditions and its neighborhoods have actually been adopted some principles of the new urbanism already. While this study will be useful to evaluate level of readiness of Japanese cities conditions to adjust new conditions related to global phenomena in urban planning, conversely this study can also represent some Japanese advantages to give new ideas related to the new urbanism strategies. It is likely a vice versa between Japanese urban and recent new urbanism conditions. Finally, results of the analysis may also be used to evaluate and to make improvements of actual conditions.

Key words:
Sustainable communities, principles of the new urbanism, Japanese urban conditions, urban neighborhood, neighborhood based planning

1. Introduction
1.1. Background
Nowadays, “sustainability” appears to be emerging as one of the competing rationales for planning in almost entire worlds. Inevitably, the concept of sustainable development has popularly become an important part of the urban development vocabulary. Urban developments have faced both new challenges and references, how precisely to implement this concept into its urban characters, as Peter Katz (1994) emphasized the importance of local place in the new globalization. Despite we can still image of a suburbanization development such as new houses sitting isolated on lonely cul-de-sacs faraway from any job or anyplace. As juxtaposition, there is development of endless highways and strip malls, outsized garages, acres of parking, and roads which dauntingly annexes pedestrians and urban landscape. To realize such development now, it might be thought repeatedly. In the same time, indeed we take more information from both analysis and critics that address the ugliness, congestion, and isolation spawned by sprawl as unsustainability conditions have been destructed sprawl euphoria. However, sprawl development which has persisted for many decades is now on a subordinate point. One of efforts has been done to bring back the city from sprawl disease with a traditional planning approach, frequently labeled traditional neighborhood development or neo traditionalism (Fig.-1) that paints a physical picture of a desirable city to be obtained through (physical) planning. In this development, its movement is popularly called the new urbanism (see Furuseth, O.J., 1997; Robbins, E., 1997).

Discussion of the new urbanism and its effects now enliven almost all media in planning theory and practice. There are number of criteria to be used to realize a new urbanism action, but commonly all follower of new urbanists usually may refer Charter of the New Urbanism (see www.cnu.org) that has aim to reform all aspects of real estate development both in suburban (as urban infill) and inner-city (as urban revitalization, urban regeneration). They argue that belief of these strategies is the best way to reduce how long people spend in traffic, to increase the supply of affordable housing, and to rein in urban sprawl. However, this movement is not desolate from critiques such as in places that are predominantly low-income, any improvement in the quality of life in a place will attract more wealthy people, causing
some gentrification as well as degradation of existing communities (see for example Smith, 1996, 2002, Smith and Williams, 1986). Therefore, the new urbanists also argue that the new urbanism promotes a range of strategies to ensure that neighborhoods maintain a mix of incomes to avoid gentrification or displacement with creating a range of housing types, from small apartments to single-family homes or create a “inclusionary housing” ordinances, which require permanently affordable units be built as a part of any development.

Furthermore, Fainstein (2000) illustrated that the new urbanism stresses the substance of plans rather than the method of achieving them. In practice, it has stimulated the creation of a number of new towns and neighborhoods, of which Seaside, in Florida, is the best known. Fundamental to its development has been a critique of American suburbia. In its easy elision of physical form with social conditions, the new urbanism displays little theoretical rigor. Unlike other trends in planning, however, it is noteworthy for the popular response it has achieved. Although its appeal results partly from widespread dissatisfaction with suburban development and nostalgia for traditional forms, it also stems from the strong advocacy of its supporters, who have joined together in the Congress for the New Urbanism (CNU, see completely at www.cnu.org). However, the world level impact from this movement can also be experienced in almost over the world, in particular for the developed countries such as Europe, Australia, and Japan. The influences are easily found from the theoretical reviews for educational matters to real practical planning processes, although they are sometimes not transparent to be admitted as direct effect of the new urbanism. Understandingly, it is caused implementations of principles of the new urbanism can smoothly be adjusted based on specific cases either local characters.

1.2. Objectives and Method

Regarding the effect of the new urbanism and maybe there are possibilities of its movements in Japan, this study aims to clarify the principles of the new urbanism, and then to examine and analyze existing Japanese urban conditions based on that new urbanism principles, whether both Japanese urban condition and its neighborhood have actually been adopted some principles of the new urbanism already. It is hoped that this study will be useful to examine level of readiness of Japanese cities conditions to adjust new conditions related to global phenomena related to sustainability in urban planning and development. Conversely this study can also represent some Japanese advantages to give new ideas related to the new urbanism strategies, at least its development based on local characters. It is likely a vice versa between Japanese urban and recent the new urbanism conditions. Finally, results of the analysis may also be used to evaluate and to make improvements of actual conditions.

Firstly, to understand what principles of the new urbanism, a basic step to clarify the principles of the new urbanism should be done. This study aims to do such works from some relevant literatures in the new urbanism and then present them in the beginning section. This approach of the compiling literatures on the new urbanism is acknowledged not in high variety resources, since in the theoretical level almost all literatures always adopted either Charter of the New Urbanism or experience from the New Urbanizers to handle their projects as meaningful data. Discussion to carry out some related problems concerning the new urbanism in Japanese urban conditions is introduced such as sprawl meaning in Japanese urban context and its regular strategy to avoid them. In this case, senbiki (urban boundary) and machi zukuri (community planning) as formal and usual Japanese urban strategies become important to get attentions (please refer 3.2. Relevant Japanese Urban Policies). Furthermore, the findings results in ordering the principles of the new urbanism are used to analyze Japanese urban condition, both common condition (Japanese major cities context) and specific level (a study case in Sapporo City, Hokkaido). To structure contains of the study, this paper study will be opened with a relevance of the problems, its necessities, and method to discuss them, all are briefly stated within an introduction. Section 2 discuss the new urbanism, its recent development status, and its principles, and followed by section 3 which represents Japanese
urban condition and its characters. Section 4 in the study contains of both a transformation a-set principles of new urbanism in Japanese urban context in general and a clarification by analysis of a sample study in particular. In section 5, the study will be closed by a concluding remark.

2. New Urbanism: Between Sprawl and Compactness
2.1. Recent Development

Started in 1993, a small group of architects and urban planners got together to formulate an approach to America's built landscape aimed at undoing what they considered the damage by post-World War II urban sprawl. The result was the formation of the Congress for the New Urbanism (CNU, see completely in CNU, 2003). It proceeded from a simple idea that is to persuade builders to model new developments on the compact scale of small towns. Since that time, the New Urbanism has blossomed to become a new phenomenon in architecture and urbanism. One of the new urbanists group, Andres Duany and Elizabeth Plater-Zyberk (2001) said that the new urbanism basic movement is to create development patterns minimizing sprawl and reviving traditional ideas of livable communities. The new urbanism is also considered as an emerging planning philosophy that melds recognition of urban culture and history with emphasis on making human and physical connections, encouraging public engagement in civic affairs, and improving the public realm, initially from the neighborhood level which is limited in physical size, has a well-defined edge, and has a focused center. In its development, the new urbanism trend goes by other names, including smart growth, neotraditional design (NTD), transit-oriented development (TOD), traditional neighborhood development (TND), and many derivative names. In the comprehension level, compactness development is believed could answer principles of the new urbanism to hamper sprawl development (Tab.-1).

Tab-1. Comparison of Sprawl Development and the New Urbanism

<table>
<thead>
<tr>
<th>Category</th>
<th>Sprawl</th>
<th>New Urbanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>Lower-density</td>
<td>Higher-density</td>
</tr>
<tr>
<td>Growth pattern</td>
<td>Urban periphery (greenfield) development, spread out</td>
<td>Infill (brownfield) development, compact</td>
</tr>
<tr>
<td>Land use</td>
<td>Homogeneous land uses, segregated</td>
<td>Mixed land use, firmly united.</td>
</tr>
<tr>
<td>Scale</td>
<td>Large scale (larger buildings, blocks, wide roads), less detail, since people experience the landscape at a distance, as motorists.</td>
<td>Human scale (smaller buildings, blocks and roads), rich of details, care to design details for pedestrians.</td>
</tr>
<tr>
<td>Community service</td>
<td>Shopping mall, car trips, facilities are far and difficult to find</td>
<td>Main street, walks, all facilities can be found</td>
</tr>
<tr>
<td>Neighborhood type</td>
<td>Low diversity with weak relationship, loss neighborhood characters</td>
<td>High diversity with strong relationship, characters of community is remain</td>
</tr>
<tr>
<td>Transportation</td>
<td>Automobile-oriented transportation and land use patterns, poorly suited for walking, cycling and transit.</td>
<td>Multi-modal transportation and land use patterns that support walking, cycling and public transit.</td>
</tr>
<tr>
<td>Street design</td>
<td>Streets designed to maximize motor vehicle traffic volume and speed (collector roads, cul de sac)</td>
<td>Streets designed to accommodate a variety of activities. Traffic calming (grid streets)</td>
</tr>
<tr>
<td>Building design</td>
<td>Buildings set back, dispersed single houses</td>
<td>Buildings close to street, variety dwelling types</td>
</tr>
<tr>
<td>Public space</td>
<td>Emphasis on the private realm (yards, shopping malls, gated communities, private clubs).</td>
<td>Emphasis on the public realm (streetscapes, pedestrian environment, public parks, public facilities).</td>
</tr>
<tr>
<td>Development costs</td>
<td>Higher costs for new development and annual public service development</td>
<td>Lower costs for new development and annual public service development</td>
</tr>
<tr>
<td>Planning process</td>
<td>Unplanned, with little coordination between jurisdictions and stakeholders.</td>
<td>Planned and coordinated between jurisdictions and stakeholders (community based)</td>
</tr>
</tbody>
</table>

In the development level, Fainstein (2000) described that the new urbanism actually refers to a design-oriented approach in urban development, regards to economic diversity (affordability) and regionalism (location). Developed primarily by architects and journalists, it is perhaps more ideology than theory, and its messages are carried not just by academics but by planning practitioners and a popular movement. The new urbanism has initially emerged in the United States. Since then, consequently it has received considerable attention there and, to a lesser extent, in Great Britain with more popular name, urban renaissance or urban regeneration. Their orientation resembles that of the early planning theorist Ebenezer Howard, Frederic Law Olmsted, Patrick Geddes- in their aim of using spatial relations to create a close-knit social community that allows diverse elements to interact. In their implementation, urban infill and creation of new community becomes most popular strategies to realize the principles of the new urbanism (Ford, 1999).

2.2. Principles of the New Urbanism and the Neighborhood Context

Typically, the principles of the new urbanism from the reviews are conceived as a spatial and physical problems defined by how the residential density and their concentration activities fit into at
least a certain neighborhood placed in regeneration of urban center or suburban infill with good access and appropriate connection in the area to guarantee a better process of sustainable community life, even though there are no reviews explicitly in proposing concrete principals to support the definition of the new urbanism. In this study, from related literatures, in particular Charter of the New Urbanism, the principles of the new urbanism explicitly categorize into 4 principles. They are diversity and mixed use activity; accessibility and connectivity; smart transport and walkability; and density, unity, and regionality respectively as shown in Fig-2.

These 4 principles actually reflect two grand visions in the new urbanism which are economic diversity to contain issues of affordability and regionalism to represent location characteristic. First of all, diversity and mixed use activity means that various activities in same location by means mixed use development will lead greater opportunities to a successful sustainable concept in the area. Proponents of the new urbanism envisage a city well served by facilities, with a proportional-balance of residential and non residential land uses. Accessibility and connectivity as well as smart transport and walkability principles are both arguably the important issues for environment arguments relating to urban form, as reflected by the large number of reviews devoted to this topic. It is claimed that the new urbanism concept reduces travel demands, increases the propensity for walking and cycling, supports public transport usage, enhances infrastructure effectiveness, even though also needs a rigid transport system and management which able to advocate ideal conditions. Density, unity, and regionality principle is seen to be fundamental principle to urban vitality and the way to achieve sustainability by many reviews. In the USA and some countries where the new urbanism development have started to implement, higher density in a unit city region is believed to be an essential component of walkable communities where many activities can easily do without dependencies on vehicles, mainly on private car usage. Regionality in this context refers to an idea of “designing” the region, to addressing centrally the issues where development should be happen and how it should fit into the whole.
<table>
<thead>
<tr>
<th>Category</th>
<th>Attributes</th>
<th>Indicators</th>
<th>Principles Relation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>Architecture</td>
<td>Style, Design, Construction</td>
<td>1 and 4</td>
</tr>
<tr>
<td></td>
<td>Space</td>
<td>Public-private space, Space morphology, Sense of space</td>
<td>1 and 4</td>
</tr>
<tr>
<td></td>
<td>Function of land use</td>
<td>Residential, Non residential, Mixed use</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Structural of residential and non residential buildings</td>
<td>Type, Scale, Material, State of repair, Density, Landscaping</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Infrastructure and service</td>
<td>Roads, Sidewalks, Streetscaping, Utility service</td>
<td>2 and 3</td>
</tr>
<tr>
<td></td>
<td>Environment</td>
<td>Degree of pollution, Topographical feature, View</td>
<td>1 and 4</td>
</tr>
<tr>
<td>Social Economic</td>
<td>Demographic/population</td>
<td>Age distribution, Family composition, Racial, Ethnic, Religious type</td>
<td>1 and 4</td>
</tr>
<tr>
<td></td>
<td>Class status</td>
<td>Income, Occupation, Education</td>
<td>1 and 4</td>
</tr>
<tr>
<td></td>
<td>Tax/public service package</td>
<td>The quality of safety force, Public school, Public administration, Parks and recreation (in relation to the local taxed assessed)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Proximity</td>
<td>Access to major destination (work, shopping, entertainment), By both distance and transport infrastructure</td>
<td>2 and 3</td>
</tr>
<tr>
<td></td>
<td>Political</td>
<td>The degree to which local political networks are mobilized, Spatially rooted channels or elected representatives</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Social interactive</td>
<td>Local friends, Kin networks, Degree of inter-household familiarity, Type and quality of interpersonal associations, Residents perceive commonality, Local participation, Strength of socialization, Social control force</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Sentimental</td>
<td>Resident's sense with identification with place, Historical signification</td>
<td>4</td>
</tr>
</tbody>
</table>

Notes: 1. diversity and mixed use activity; 2. accessibility and connectivity, 3. transport smartly and walkability, 4. density, regionality, and unity
Furthermore, as argued many times in related reviews for instance in Furukawa (1997) that the new urbanism advocates a planning model structured around building of communities laid out to mirror antecedent urban plans. Out of this urban form, neighborhood life and sense of community are rejuvenated. CNU (1999) added that the project of the new urbanism possible done in various level (from a building to a city) as a whole should connect well with surrounding neighborhoods, district, or towns, while also protecting regional open space. On the other word, the primarily action or core area for the new urbanism action is a neighborhood. The principles flush call for a broad range of descendant indicators as well as use within each neighborhood as represented in Tab-2. It implies that to construct rigid new urbanism development there will be many factors represented in indicators should be delivered initially. Each indicator may represent a set or a combination value from the principles of the new urbanism.

3. Japanese Urban Condition and Its Characters

3.1. Japanese Urban Characters

Traditionally since the end of the World War II, Japan becomes one of developed countries that have high level of development. Consequently, number of big cities in Japan began to emerge so fast after that time. Compare with other big cities in the developed world, Japan leads total number of population, though for density level, other cities in Europe with small area such as Barcelona and Madrid in Spain are more densely than Greater Tokyo, Greater Osaka, and Greater Nagoya as shown in Tab-3. Regarding the new urbanism, population density becomes more important in the future to steer development in the cities toward a better significant condition to attain sustainable communities. However, positive and negative externalities of such growing cities will follow and exist in Japanese urban development (Alden, et al, 1994, Hebbert, 1994, Sorensen, 1999, Murayama, et al, 2000). Inevitably, an opposite tendency has been grown towards a dispersion of population and sprawl development through the expansion of bigger cities into the surrounding areas. This phenomena we have seen also in Japan, particularly for the capital regions, and more specific mainly in surrounding Tokyo (namely Tokyo Megapolitan Area, including some parts of Kanagawa, Chiba, and Saitama Prefectures), and area surrounding Osaka and Kobe as well as Nagoya which will gradually be the other big megapolitan areas. Related to a dominant characteristic of Japanese urbanization, Sorensen (1999) described that Japanese urbanization has been the spread of scattered, unserviced, haphazard development, or sprawl, particularly in suburban areas within commuting range of the major metropolitan areas of Tokyo, Osaka and Nagoya. Indeed, these urban growths demand new scenarios or strategies to solve the problems emerged based on their scale consideration.

The other condition of Japanese urban characters to reflect recent global trends in urban planning and development, there has been growing spirit and support in recent years in Japan to adopt some global phenomena in urban planning such as the new urbanism. However, Japanese cities are actually believed have already had some traditional characteristics which should be fulfilled to create a new urbanism development. Adopted from Mather (1997), Japanese urban landscape actually has primary been characterized by a paucity of idle land, inter-digitation, compactness, meticulous organization, and immaculateness. The secondary aspects of urban landscape of Japan are gardens with sculpture, lack of lawns, profusion of aerial utility lines, walled areas with gates, and waning of traditional architecture. All of these conditions are possible to encourage an implementation of the new urbanism principles in Japanese cities. Particularly related to these conditions, some Japanese cities have also adopted new paradigm in urban planning toward a new strategy to obtain such as sustainable communities, a compact city, or other strategic objectives related to the new urbanism waves (see for instance Koike, 2001).

<table>
<thead>
<tr>
<th>No.</th>
<th>Urban Area</th>
<th>Density</th>
<th>Area (km²)</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Barcelona (Spain)</td>
<td>9,504</td>
<td>337</td>
<td>3,200,000</td>
</tr>
<tr>
<td>2</td>
<td>Madrid (Spain)</td>
<td>8,654</td>
<td>526</td>
<td>4,550,000</td>
</tr>
<tr>
<td>3</td>
<td>Tokyo-Yokohama (Japan)</td>
<td>6,762</td>
<td>4,229</td>
<td>29,950,000</td>
</tr>
<tr>
<td>4</td>
<td>Osaka-Kobe-Kyoto (Japan)</td>
<td>6,228</td>
<td>2,279</td>
<td>74,190,000</td>
</tr>
<tr>
<td>5</td>
<td>Milan (Italy)</td>
<td>5,068</td>
<td>829</td>
<td>4,200,000</td>
</tr>
<tr>
<td>6</td>
<td>Paris (France)</td>
<td>3,543</td>
<td>2,722</td>
<td>9,645,000</td>
</tr>
<tr>
<td>7</td>
<td>Manchester (England)</td>
<td>3,309</td>
<td>725</td>
<td>2,400,000</td>
</tr>
<tr>
<td>8</td>
<td>Greater London (England)</td>
<td>2,952</td>
<td>4,144</td>
<td>12,232,000</td>
</tr>
<tr>
<td>9</td>
<td>Nagoya (Japan)</td>
<td>2,925</td>
<td>2,745</td>
<td>8,030,000</td>
</tr>
<tr>
<td>10</td>
<td>Los Angeles (US)</td>
<td>2,729</td>
<td>4,320</td>
<td>11,789,000</td>
</tr>
<tr>
<td>11</td>
<td>Toronto (Canada)</td>
<td>2,643</td>
<td>1,652</td>
<td>4,367,000</td>
</tr>
<tr>
<td>12</td>
<td>Dusseldorf (Germany)</td>
<td>2,222</td>
<td>2,655</td>
<td>5,900,000</td>
</tr>
<tr>
<td>13</td>
<td>New York (USA)</td>
<td>2,050</td>
<td>8,684</td>
<td>17,800,000</td>
</tr>
<tr>
<td>14</td>
<td>Montreal (Canada)</td>
<td>1,851</td>
<td>1,738</td>
<td>3,216,000</td>
</tr>
<tr>
<td>15</td>
<td>Miami (USA)</td>
<td>1,702</td>
<td>2,890</td>
<td>4,919,000</td>
</tr>
<tr>
<td>16</td>
<td>Sydney (Australia)</td>
<td>1,683</td>
<td>2,103</td>
<td>3,539,000</td>
</tr>
<tr>
<td>17</td>
<td>Chicago (USA)</td>
<td>1,511</td>
<td>5,499</td>
<td>8,307,000</td>
</tr>
<tr>
<td>18</td>
<td>Washington (USA)</td>
<td>1,313</td>
<td>2,997</td>
<td>3,934,000</td>
</tr>
<tr>
<td>19</td>
<td>Detroit (USA)</td>
<td>1,195</td>
<td>3,266</td>
<td>3,903,000</td>
</tr>
<tr>
<td>20</td>
<td>Philadelphia (USA)</td>
<td>1,105</td>
<td>4,659</td>
<td>5,149,000</td>
</tr>
</tbody>
</table>

Source: [www.demographia.com](http://www.demographia.com) with some appropriate adjustments
Nevertheless, as critiques for the new urbanism or compactness development, the trend such development in Japan also bring serious consequences of spatial senses. Takahashi, et al (1996) identified that there has been a leading to the disintegration of some communities and neighborhood, particularly in some areas in big cities. Intensification development where office buildings have been enthusiastically constructed, there have been a gentrification process where the old traditional urban communities tends to vanish. The older housing stock, with older residents or other disadvantages have gone to elsewhere, while only very little low-income housing has been provided in the new development. As an example in Tokyo area taken from White Paper of Ministry of Construction, 1990, Fig.-3 shows that areas with close distance to urban center are dominated by high income residents.

3.2. Relevant Japanese Urban Policies

In this section, Japanese urban policy related to both controlling sprawl and creating a neighborhood may be useful to be reviewed briefly to obtain clearer aspects. After World War I, the pioneering city planning act in Japan was first introduced in 1919, together with urban building act. Coincide with greater urbanization particularly sprawl development after World War II in Japanese major cities, in 1968 Japan introduced New City Planning Law that has been used until now. This current city planning act mainly seems to prevent urban sprawl and to provide a development permission system where senbiki (seems boundary in the USA and Europe) has a main role to this system. This senbiki is divided into two parts, the urbanization promotion area (UPA) and the urbanization control area (UCA). Primarily, The UPA covers all existing built-up areas and those areas which have been designated for the advancement of urbanization in a planned fashion within about 10 years, while the UCA covers those areas have been designated as areas were urbanization is in principle restricted. (see further Sorensen, 1999, Alden, et al, 1994, Hebbert, 1994).

In spite of it still needs further responsible examinations, the significance results of implementation of senbiki are claimed to be able to attain some positive impacts such as reducing income differential, maintaining fairly full employment, increasing homogenous social structure, as well as reducing disadvantaged groups in inner cities. Conversely some problems still exist like poor housing problems in large cities, high land price in the city, increasing vacant land in inner cities, and others (Alden, et al, 1994, Takahashi, et al, 1996).

Concerning the policy in creating a livable community or neighborhood, the concept of machi-zukuri (community/neighborhood planning) has become widely used in recent years in Japan, both within the field of urban planning and in more general usage. Evans (2001, 2002) indicated that it is seen as a radical departure from the conventional centralized, top-down approach of Japanese urban planning (toshikeikaku), or even as playing an important role in the regeneration of Japanese civil society over the last period. Although in the implementation level, however, it seems to be argued that it is not fundamentally different from the conventional model of planning. Primarily, the existence of a tradition of urban neighborhood or its association associations (chounai-kai) is acknowledged and involved during planning process of its surrounding areas. It refers to a variety of activities where local residents, working together or in cooperation with the local government, make the place where they live and conduct their day-to-day business into one that is attractive, pleasant to live in, and appropriate for the area. These ideas actually seem with approach of the new urbanism where the new urbanists as long as possible will generate community ideas in their charüettes (media based on communicative theory) that of persuasive salespersons for a particular point of view and deployers of strategies aimed at co-opting people (a part of community or neighborhood).


4.1. General Urban Context

This section tries to examine existing Japanese urban condition and its planning strategies related with the new urbanism movement and its principles. As discussed in the prevailing sections that Japanese urban conditions have specific characters which were not had by other same developed countries. Although
the conditions among them are the same, Japanese urban conditions through its planning have specific issues to be loosened and specific characters to contend them. As suggested by Mather (1997) in Fig.4, again the Japanese urban landscape characters are synthesized with findings in the principles of the new urbanism. In general, what suggested by Mather (1997) have already represented an existing of some values of the new urbanism principles. However, these suggestions are very descriptive and rarely receive enough supports in appropriate data which should be examined in the next investigation.

<table>
<thead>
<tr>
<th>Category of characters</th>
<th>Aspects</th>
<th>The New Urbanism Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>Lack of idle land</td>
<td>Diversity and mixed use activity</td>
</tr>
<tr>
<td></td>
<td>Interdigitation</td>
<td>Accessibility and connectivity</td>
</tr>
<tr>
<td></td>
<td>Compactness</td>
<td>Smart transport and walkability</td>
</tr>
<tr>
<td></td>
<td>Meticulous organization</td>
<td>Density, unity, and regionality</td>
</tr>
<tr>
<td></td>
<td>Immaculateness</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>Gardens with sculptured plants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lack of lawns</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Profusion of aerial utility lines</td>
<td></td>
</tr>
</tbody>
</table>

Fig.4: Relation between Japanese Urban Characters Defined by Matter (1996) and the New Urbanism Principles

To initially attain an assumption of the new urbanism principles existence in Japanese urban condition, in urban context level, furthermore, the study needs analysis with real urban data to describe a preposition of the new urbanism principles in Japanese cities. For this analysis, as indicated that sprawl may exist in major cities and since concentration in major cities in Japan keep rising, this study used data from 40 major cities which have biggest population (Japanese City Mayor Association, 2001, Toyo Economics, 2001). These major cities comprise almost all regions in Japan, from Hokkaido in northern part of Japan to Kyushu in the south. Nevertheless, we have known well that these major cities are still dominated spread of growth limited in some regions, in particular in the three largest metropolitan regions, are National Capital (Tokyo), Kinki (Osaka-Kobe-Kyoto), and Chubu (Nagoya) Regions respectively, while the rest of cities represent the other regions like Hokkaido, Shikoku, Kyushu, Tohoku and Chugoku Regions. Inevitably, since a study to explore all related indicators to perform almost the new urbanism principles in a city needs heavily data, this study initially only presents one reliable data for an indicator of each principle as indicated in Tab.4. However, each measured indicator here is suggested as a key element to conduct the reliable principles of the new urbanism within appropriate information to set the objectives. It also monitors performance of a principle in particular, and the new urbanism action in general.

Using a principal component analysis, it has been found some findings related the principles of the new urbanism conditions in 40 Japanese big cities. Furthermore, based on results,
the analysis system of these principles represents actualization condition of the new urbanism movement based on Japanese city conditions. There are two groups of variables, first are diversity-mixed use activity and smart transport-walkability principles (variables group 1 at x axis written briefly in “diversity-walkability”) and second are accessibility-connectivity and density-unity principles (attribute group 2 at y axis written briefly in “accessibility-density”). Between these two groups of attributes, Japanese major cities have strong concerns in the existence of variables group 2 as shown in Fig-5. In spite of it is caused by the availability or variance of the data and the spread of data from Japanese cities is almost on average. Indeed, it also indicated some traditional evidences of Japanese urban conditions as apart of the findings from Mather (1997). For instance, Tokyo and Yokohama city are dominant both from diversity in urban space and mixed use of activity. While high value for smart transport and walkability just have emphasized clearer that both areas have rapid transportation system which reach almost for outlying space. Nevertheless, in common sense, Japanese cities still face same problems with almost other cities in the world, they are suburban growth or sprawl and its derivative problems.

4.2. Urban Planning Context: Examples from Sapporo City

Sapporo City, the third largest city in Japan (1,121km²), is located on the western plains of Hokkaido, the northernmost island of the country. Not as other traditional Japanese cities, Sapporo City really represents as a symbol of western culture (modernization of Japan) which can be felt on the city development where western city planning is implemented very clear in the central city area (Odori Parks and its surroundings, see Fig-6.). Nevertheless, in the city which has ranks 5th after Tokyo, Yokohama, Osaka, and Nagoya) with 1,830,506 in total population or as 792,797 in total household number (2000), it can be observed the modernization process of Japan and other characteristics of Japanese cities, such as corporation both residential and business areas with rapid transportation system. Sapporo City actually has already an urban structure to support mixing activities in the central area. It is proofed by the concept of city center planning adopted from a centralized style western city planning where it is very possible to concentrate almost activities in the existing central area by a modern and intensive public transportation support and a proper city management (Sapporo City Government, 2003).

To observe Japanese urban planning implementation in relation with the new urbanism paradigm, here Sapporo City is taken as an example for a case study to provide results in year of 2015 from a traditional Japanese urban planning (senbiki, urban boundary) and a new urbanism strategy (transport oriented development, TOD). It reasonably only considers availability data from previous works, although it needs many appropriate adjustments (Roychansyah, 2002). The results for 2015 were obtained from analysis of a popular urban model namely TRANUS based on basic assumption of increasing 10% household number from data of year 2000 in Sapporo City. The system is able evaluate various policies based on basic forecast (or without policies) in year of 2000 as a benchmark. The area study itself covers area of Sapporo City, where most urbanized area seems distributed in almost areas. It compiles 7 wards with 75 total medium zones and divided more into two kinds of type: central areas which have more than 15 households/acre and suburban areas which has 2-13 household/acre as shown in Fig-7.

The results of comparison between urban boundary (senbiki) and transport oriented development (TOD) as figured in Fig-8. are emphasized from aspects of energy consumption, private car trip, public transport trip, and non motorized trip (walking and cycling) were obtained. It clearly illustrates that implementation TOD which can represent a strategy of the new urbanism in Sapporo City has greater benefits and more effective to enhance centralized development in inner city areas than implementation of urban boundary which represent a traditional urban control strategy in Japanese urban planning act. It is
understandable since in the case of TOD (transit oriented development), the increment available land of TOD is focused on residential and commercial land along transit lines (both subway and train stations). While the case of senbiki, available lands for residential and commercial are almost in area of the study. It is caused, actual urban boundary in Sapporo City only exclude 4 zones from entire zones. Furthermore, policy implementation seems to be more effective in certain areas/spots by doing specific theme of development. The results also mean that in Japanese urban planning, areas within boundary seem freely to be developed and easily provided for public facilities, utility lines, and transportation improvements. For this case, it is still happened in Japan, though the other developed countries have not categorized sprawl anymore based on the unplanned spread of scattered unserviced development along existing rural roads only, but also consider more on the overall patterns of metropolitan growth and development, and the consequences for travel patterns, energy use and amenity as experienced by Sorensen (1999).

![Fig-7. Greater Sapporo Map and Area of Analysis](image)

![Fig-8. Comparison Results between Senbiki and Transport Oriented Development (TOD) in 2015](image)

(a) Results of household distribution  (b) Results of aspects measured

5. Concluding Remarks

The present study has developed a-rigid-principles of the new urbanism as basic apart to better understand issues related its new phenomenon. It is likely to be obvious and acknowledged that theoretically, from the urban planning theories and supported by real projects with many aspects of analysis, the new urbanism movement premise an improving a quality of life in existing urban area, through both urban infill in suburban and urban regeneration in inner city. Indeed, these dynamics movement which its influences can be seen in some developed countries, still needs many proofs in the level of practice comprehensively based on local characters.

However, although real articulations of the new urbanism movement are still rare to be found in Japan, the spirit of its implementation on neighborhood scale has been blossomed in Japanese urban planning recently, since rivals of the new urbanism also becomes serious issues of Japanese cities like sprawl or spread development. Characters of Japanese urban living which contains similarity values of the new urbanism principles assumed to easily adopt the new urbanism movement. Despite in the policy level, Japanese urban planning system may need more flexible recommendations to adjust such new challenges from global urbanism landing onto Japanese urban conditions. For instance based on simple example of this study, an evidence that the role of senbiki in case as an effective planning tool to avoid sprawl should be adjusted either combined with other regulations towards a more comprehensive planning tool.
6. References


Smith, N., Williams, P., eds. (1986) Gentrification of the City, Allen & Unwin, Boston


