

Transit Oriented Development Using Collaborative Planning in Building Large Scale Housing in Jakarta Metropolitan



Andri Dirgantara

Head of Sub-Division Planning Preparation for Landed and Thematic Housing, Deputy of Formal Housing
Ministry of Housing of Republic of Indonesia

Background

There are many issues and aspects of urban development; one of the important issues is controlling the urban growth. It is interesting because almost of the developing countries facing the high urbanization do not well prepares and plans to deal with that issue. Government, both central and local, cannot move and react as fast as urbanization does. That condition lead to unplanned of city growth with its settlement and push the urban sprawl and slum area. Urbanization cannot be avoided and continue whether we like or not, but it needs to be controlled. In order to help control urbanization, preparing the expansion of the city with development satellite city is an important aspect.

I agree with statement that city is an engine of development, but we must think about the city's capacity. We cannot let the urbanization happen without control. The government both central and local must be aware of and concerned to the issue otherwise many problems will arise and become more complicated if not anticipated properly. To deal with the complex problems we need to accommodate all of the involved actors/stakeholders. To integrated so many actors and stakeholders there is a need to apply a collaborative planning which considers all of the involved actors from the beginning of the process so they can support more in achieving the goals.

The growth of economic activities in the city needs more land and spaces includes for housing, settlement and trigger the large-scale housing development. In Jakarta

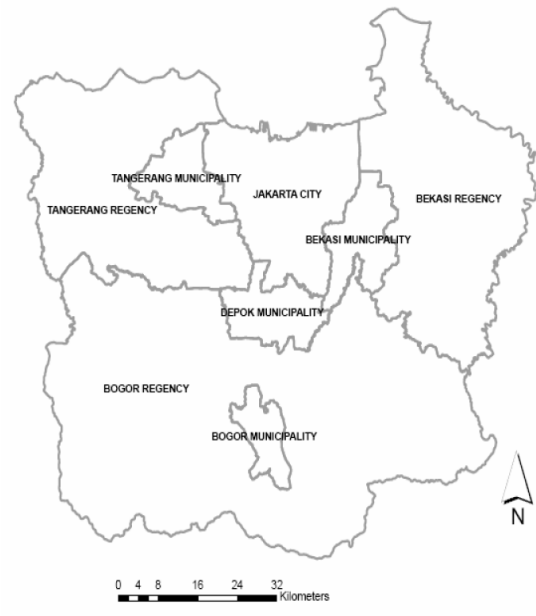
Metropolitan Region (JMR) there are two major trends in housing development, the first is vertically housing oriented in the inner city area, and the other is developing large scale housing /satellite city in periphery area. In building large-scale housing or developing new settlements, it is need to consider transportation. Transportation is important to respond land availability especially for middle and low income housing which tend move toward periphery area. The role of transportation infrastructure and services are important because people only want to live there if they can deal long distance with adequate transportation facility and services. The concept of integration between large scale housing and mass transportation is known as TOD (Transit Oriented Development).

The basic requirement to develop TOD is collaborative planning because TOD is an integrated approach development. In implement TOD, it is need to involve all actor involved such as local government, private sector, government institution of transportation, private corporation in public services, and other actors. Building large scale housing in periphery need huge investment then sharing investment from all actors effectively and efficiently is crucial and need to be discussed from the beginning of the planning until implementation and monitoring stages.

1 Shelter Situation Analysis

1.1 Geography and Administration

Jakarta, which is located on the northwest coast of Java island, has area of 661.52 square kilometers (255.41 sq mi). Jakarta is the capital city of Indonesia, which has significant economic activities to the whole of the country. The Jakarta's economic role to the nation influence people moving to Jakarta. The influence of Jakarta's urbanization not only to Jakarta itself but also to the city surrounding which is forming metropolitan city called Jabodetabek, (consist of City of Tangerang, Tangerang Municipality, City of South Tangerang, Bogor Municipality, City of Depok, City of Bekasi, and Bekasi Municipality).



Jakarta Metropolitan Region (JMR)

Jakarta with a population of 8,489,910 is the twelfth-largest city in the world; the metropolitan area, called Jabodetabek, is the sixth-largest in the world with population more than 20 million. Administratively and officially, Jakarta is not a city, but a province. It has a special status because of its function as the capital of Indonesia. It is administered much like any other province in Indonesia that has a governor (instead of a mayor), and divided into several sub-regions with their own administrative systems. Jakarta, as a province, consists of five cities (*kota*), each headed by a mayor, and one regency (*kabupaten*) headed by a regent. Jakarta Metropolitan or called Jabodetabek, is located in 8 local-governments and three provinces: DKI Jakarta province, Banten province and West Java Province.

Jakarta's economy depends heavily on financial service, trading, and manufacturing. Financial service constituted 23% of Jakarta's GDP in 1989. The manufacturing industry is well diversified with significant electronics, automotive, chemicals, mechanical engineering and biomedical sciences manufacturing sectors (Wikipedia, May 2009). Jakarta is the most luxurious and busiest city in Indonesia. In 2009, 13% of the population has income per capita more than US\$ 10,000 are about 13% of the total population (similar with Rp 108,000,000 annually) (Wikipedia, May 2009).

Recently there are many new satellite towns built surrounding Jakarta or in Jakarta Metropolitan area. Most of them are initiated by big developer which is responding the potential market. Those New satellite towns were building in beginning and middle of

1990's. They produce houses in the large of number such as Bumi Serpong Damai (BSD), Lippo Karawaci, and Kota Legenda Cibubur etc. Target group of those satellite towns are middle and high income, but some provide for the low-middle income group. Their developer invested most new towns themselves and government only approves their planning. The idea of making new satellite town which is collaborated within government and private sector and other related stakeholder is to create or building new satellite city which share investment and government support not only infrastructure but also basic service such as mass transportation. With that cooperation, it is hoped that it can reduce the developers' investment and some of the area can be allocated for low-income housing.

Regarding their function as satellite city, the connection between those satellites with city center is crucial. Transportation between two of parts of cities have to adequately support commuter activities that is why TOD became one of the proposed solution in developing big new settlements in the periphery area.

As one of the big populations' cities in the world, Jakarta is strained by transportation problems. Despite the presence of many wide roads, Jakarta suffers from congestion due to heavy traffic, especially in the central business district and commuter line in the peak hours. Numerous railways serve Jakarta, connecting the city to its neighboring regions but during peak hours, the amount of passengers greatly exceeds the system's capacity.

Jakarta cannot separate its transportation system from its surrounding area (Botabek region) because their linkage is very high. Almost 30% of populations in the work hour in Jakarta stay in Botabek region. The extension of TOD and BRT to Botabek region is a crucial aspect that needs to be considered in the long term because settlement growth in this region is fast and will be faster in the next several years. The shuttle bus facilities which were done by several satellite cities like BSD, Lippo Karawaci and Citra land which connect their resident area with city center of Jakarta can be done to the other satellite cities as a good feeder for bus way system.

Related to the commuter activity, Asri (2005) wrote that every day, around 700,000 people travel from Botabek to Jakarta and if the trend of dependency on Jakarta continues and doubles by increasing private car usage, the development of road cannot accommodate the fast vehicle growth. The pattern of commuter trip forms concentric radial toward city center. Commuters coming from outer toward city centre contribute significantly to the heavy congestion in the city centre. Because of the linkage between Jakarta and its surrounding area is high, it is needs a good coordination among local governments of

Botabek region. This condition was considered by two governors in 1976 by establish BKSP (Development Coordination Agency) when the first Jabotabek Metropolitan Development Plan was arranged. The main task of BKSP is preparing, determining a cooperation policy and action/implementation plan and supporting the integrated regional development implementation.

Transportation coordination is one of the most important aspects, which needs to be coordinated among metropolitan area because citizen movement cannot be bordered by administrative boundary. Although Macro policy in Indonesia is pursuing decentralization that gives local government higher authority, in the case of Jakarta Metropolitan or Jabotabek region with its commuting phenomena and high inter-linkage, the transportation must be managed cooperatively among them. The effort of reducing dependency to the private car to use public transit also needs to be done involving many local governments. Otherwise, Jakarta will face total congestion in about next ten to sixteen years like many transportation experts have predicted.

1.2 Shelter Related Fact and Figures

1. Access to Shelter

According to BPS Housing and settlement Statistic 2004, 70% of families in urban area and 89% in rural area have access to their house by cash. Typically, most households own their house by self-finance and provide their own housing in an incremental manner using whatever resources available. Other mode of access to housing finance is formal housing loan from banks/microfinance or finance by individual incrementally self-help.

2. Housing Demand

Housing demands in Indonesia is substantially high, considering a total population of more than 220 millions, accumulation of unfulfilled housing demands up to 2005 ranges 7.2 million units plus the fact that the housing demands increased to 800,000 unit each year. Housing development for low-income community is only absorbed averagely 80,000 units/year. Housing gap between supply and demand in 2006 is about 6.2 million housing units and will increase because of the addition of new family

3. Home ownership

Home ownership is very high even in urban areas that reached 70%. The crucial fact is the great majority of owner household hold legal ownership title to the land as result of a massive campaign to improve land titles by the Land Agency (BPN). The extension of

property right clarification and registration is a major improvement over 15 years ago when approximately 80 percent of urban plots were not formally registered.

Related to formal land, according to Basic Agrarian Law no 5 of 1960, the kind of land titles are divided in two categories, such as:

- Primary Titles which is directly from the state, which consist of: Hak Milik (freehold), Hak guna Usaha (right to cultivate), Hak Guna Bangunan (right to build), Hak Pakai (right to use) and Hak Pengelolaan (right to manage)
- Secondary Title is titles granted by other holders on the basis of mutual agreement such as Hak Sewa (right to lease), Hak Gadai (right of land pledge) and Hak Menumpang (right to lodging).

4. Urbanization Rate

From the late 2000 census, total population of Indonesia is 205.132 million. In the year of 2000, 40% of the total population or approximately 86 million live in urban areas. The number increased to approximately 105.87 million in 2005. In 2010, it was estimated the percentage would become 43% or 126.52 million (BPS, Statistic Bureau, 2006). That increasing of urban population generate urban growth rate to 3.2% in year 2000, became 3.7 in year 2005 and will achieved 4.2% in year 2010.

5. Large scale Housing Development in Jakarta Metropolitan Region (JMR)

Trend of development of large scale housing in JMR achieve its peak in late of 1990's before economic crises in 1997. Those kinds of large scale housing developments seem to create an urban sprawl which is cause the infrastructure investment not efficient and boost congestion.

The development of large scale housing or new town in JMR has had almost nothing to do with any spatial planning of the area (Firman, 2004). The violations of land use plan by developers and even by local government occur in JMR in late of 1990's and beginning of 2000's due to pressures and interests of profitable development economic point of view.

Furthermore Firman (2004) argue that local government capacity in managing and implementing urban spatial plan ('Rencana Tata Ruang'), particularly for monitoring and to controlling land conversion, has been inadequate, whereas pressures from the developers are immense.

**New Town Project Occupying Land of 500 Hectares and Over
in Jakarta Metropolitan Region, 1995 and 2001**

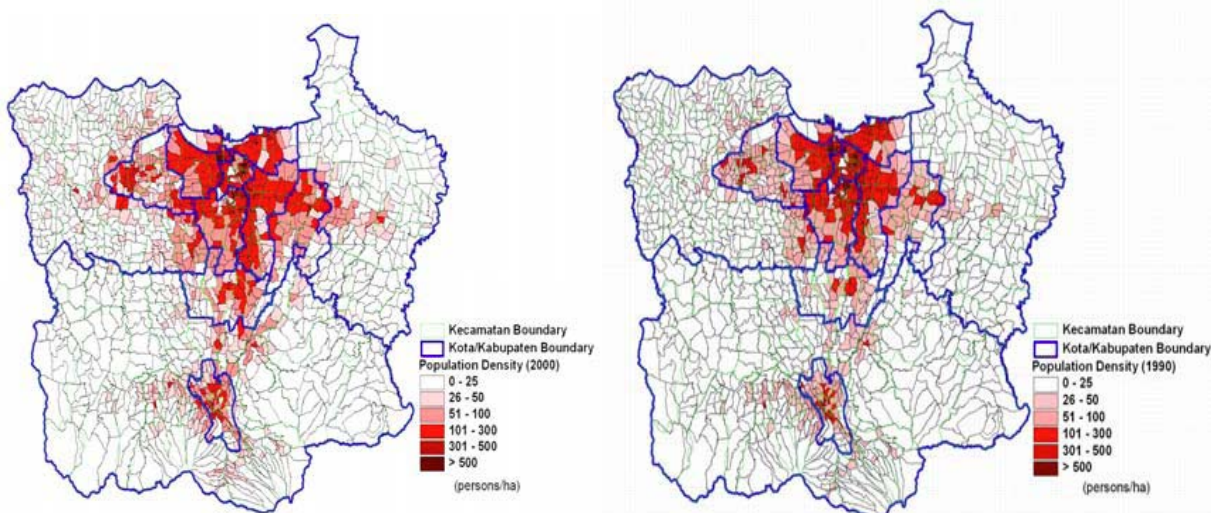
Project Area	Hectare	Location	1995	2001
1. Bumi Serpong Damai	6000	Tangerang	√	√
2. Kota Tiga Raksa	3000	Tangerang	√	√
3. Bintaro Jaya	1700	Tangerang	√	√
4. Citra Raya	1000	Tangerang	√	√
5. Gading Serpong	1000	Tangerang	√	√
6. Kota Modern	770	Tangerang	√	√
7. Alam Sutera	700	Tangerang	√	√
8. Kota Jaya	1745	Tangerang	√	-
9. Pantai Indah Kapuk	800	Tangerang	√	√
10. Lippo Karawaci	700	Tangerang	√	√
11. Lippo Cikarang	3000	Bekasi	√	√
12. Kota Legenda	2000	Bekasi	√	√
13. Harapan Indah	700	Bekasi	√	-
14. Cikarang Baru	5400	Bekasi	√	√
15. Rancamaya	550	Bekasi	√	-
16. Royal Sentul	2700	Bogor	√	√
17. Banyu Buana	500	Bogor	√	-
18. Maharani Citra Pertiwi	1679	Bogor	√	-
19. Bangunjaya Triperkasa	500	Bogor	√	-
20. Kuripan Jaya	500	Bogor	√	√
21. Resor Danau Lido	1200	Bogor	√	-
22. Pantai Modern	500	Jakarta	√	-
23. Kota Wisata	n.a	Bogor	√	√

Source : 1. adapted from Firman, 2004

2. Jurnal Property, 2002

Note : √, still in operation;

-, no longer in operation or completed



1.3 Housing Policy

According to Tommy Firman, et al. (2006), Urbanization is a transformation from a rural to an industrial way of living and it is considered as one of the world's most phenomenal socio-economic changes. The high disparity in city-rural development has a significant impact to the urbanization. In terms of economy, there is a strong correlation between improving living condition with the urbanization, but one aspects that must be consider is city have its carrying capacity, when in the certain time cannot accommodate its growth and many problems will arise. To deal with unbalance of urban-rural development its need integrated approached both in each level government and related sector development. And that condition will be more complicated in the decentralization era which every local government have more autonomy to develop their region.

There are two major development programs aimed to improve housing specifically targeted at the poor and low income household: First, Housing development programs that focused on improvement of housing regulations, the provision of housing infrastructure and amenities for the poor, development of healthy housing (low and high rise), exchanging experiences and best practice on housing development, secondly Housing empowerment program, that focused on developing housing finance system, improving slum quality, traditional villages, fishermen villages and resettlement areas, facilitating and stimulating simplification of procedures, improving secure tenure, revitalization, revitalization of local housing institutions such as micro finance institution such as micro finance institution /cooperative, strengthening stakeholder forum and supported and supporting social housing development.

Ministry of Housing in 2007 has launched National program for 1.000 Housing Towers aimed to increase housing supply in metropolitan area such as Jakarta and big cities include its surrounding such as Medan, Batam, Palembang, Bandung, Tangerang, Bekasi, Bogor, Surabaya and Ujung Pandang).

To deal with rapid growth of housing needs in order to respond to the backlog, the government, through the Housing and Human Settlements Law no.4/1992 promotes the concept of Kawasan Siap Banguna (Kasiba) or “ready to build area”. In that Law, it is stipulated that the development and settlements conducted in the “Large Scale” principle through the development of “Ready to Build Area” each of which comprises of lingkungan Siap Bangun (LISIBA) or “Ready to Build Neighbourhood” and controlled and managed by local owned enterprise. The advantage of application of large development concept are to discourage land speculation, provide efficiency and bring urban land development under government control in order to achieve well planned and serviced urban area.

1.4 Actors in Shelter Delivery and their Roles

Actors involved in Developing TOD by Collaborative Planning in JMR are:

1. Government at National Level
 - a. Ministry of Housing
 - b. Department of Public Work
 - c. Department of Transportation
 - d. Badan Pertanahan Nasional/BPN (National Land Board)
 - e. PT. KAI (National Railroad Enterprise)
 - f. Perum Perumnas (National Developers)
2. Government at Local Level
 - a. BKSP (Development Coordination Agency)
 - b. BAPEDA (Local Development Planning Board)
 - c. Public Work Agency
 - d. Transportation Agency
 - e. Agency which deal with urban land use and permit
3. Private Sector
 - a. Developer
 - b. Private Transportation Enterprise
 - c. Other related investor who interest to participate
4. Supporting institution
(Banks, cooperatives, multi finance and micro finance institutions, community based organization, and NGO.
5. Family and household as end user

2 Organisation

The Ministry of Housing of Republic of Indonesia is a national level of institution that deals with housing and settlement. The Ministry of Housing consists of four deputies (Financing Deputy, Formal Housing Deputy, Region Development Deputy, and Self-help Deputy) and one secretary. Before it was established as self ministry in 2005, housing and settlement was held by the directorate general housing and settlement in Public Works Department. The role of the Ministry of Housing is to conduct macro policy, strategy, program, and act as regulator, coordinator, facilitator, and advocator, as well as the enabler.

Its role in shelter design and development is crucial. The failure of housing market which not pro poor is the main task of this ministry to be solved. Without government intervention housing market tends to serve and focus for middle and high income people. Basically, government, in this case represented by ministry of housing has to push all stakeholders to support all people to have their own house. The regulation and standard must be created in order to be used by local government to deal with housing and settlement development.

The Ministry of Housing has a vision that every family can stay in adequate healthy house. The mission stated that in order to achieve that vision, the following conditions must be achieved: firstly, improvement towards conducive circumstances for housing development; secondly, pushing society community empowerment, institutions and stakeholders; thirdly, improvement of effectiveness of related resources; and the last increasing housing production to fulfill the need and improving the settlement environment quality.

Related to the vision, mission and function of the Ministry of Housing, it is obvious that pushing the development of collaborative planning in building large scale housing/satellite town with TOD is the responsibility of this ministry together with other related sectors. The author works in the Planning Division of Development System of Formal Housing in the Ministry of Housing as Head of Sub-Division of Landed and Thematic Housing Planning Preparation. The Planning Division deals with development of cooperation between government and formal private institution and policy making related to formal housing development institution. To deal with housing and settlement, there is a need to have an integrated approach from among the concerned actors, since it cannot be solve by

the ministry itself. Thus, the collaborative planning is significant. There is a possibility to elaborate this issue deeper with related actors or stakeholder in the formal research project.

3 Shelter Recent Conditions, Issues and Problems

Urbanisation in Jakarta Metropolitan Region (JMR) is very high and tends to increase by the years. To deal with high and uncontrolled urbanization, awareness and political will in every level of government and sector institutions play an important role. Without enough political will, it is hard to control the urbanization because it link to rural-urban linkage with so many aspects in the city growth

There are two Trends in Large scale housing in JMR which is: vertical housing in inner city area and satellite/new town in periphery area. For the Vertical Housing There is supporting government policy with program 1000 Tower but no direct policy for second trend, so it is important to develop some policy constructed by certain concept which match with the JMR circumstances.

Large-scale housing projects and new town development in the periphery boost daily interaction between Jakarta as the core of JMR, and the new town surrounding it, as dormitory towns. Because of dependence socioeconomically to core city still heavy so it has resulted higher commuters and exacerbate traffic problem. (about Rp.14.8 milliard /day congestion cost in JMR according to SITRAMP, 2003). Valverde (2005) argues that when the demand for travel in an urban system exceeds the system capacity, travel times increase significantly and it has the consequence of waste of productive time. Facing urban congestion related to the new development in periphery area cannot only do by transportations side but it also must consider the land use which generating trips.

The development of Mass Rapid Transit is a concept which can be implemented to face that condition. But unfortunately the development of mass rapid transportation usually cannot accommodate well the need of commuter. The Mass Transportation investment is very huge & need high demand level and existing condition the development of mass transportation (MRT) and all of its facility waiting demand before it has been build.

To direct the large scale housing development more responsive to the need of commuter movement and avoid congestion, it is need to integrate satellite/large scale housing development with macro transportation development. The strong linkage between urban mobility and land use make the Transit Oriented Development as an advance concept to integrate both the shaping urban growth and effective urban transportation. The

improvement of mass public transit must be integrated with the urban development, because with the integration of transit and urban development as focused in Transit Oriented Development, both of them will synchronize the developments. The transit development without integration with land use can be done with low effectiveness in dealing with efficient urban mobility, congestion and private car dependency.

To coordinate and integrate all involved actors to make consensus planning in building large scale housing with Transportation as its backbone or implement TOD concept it is need some concept and adequate mechanism to achieve their goals. Collaborative planning concept is one concept that can be use for integrated all stakeholder involved start from building the concept of the plan, physical plan, sharing investment until concept of joint cooperation management. It will result the agreement of who done what, and who responsible for what, and what can benefited for whom so there will be sharing investment and risk then the investment will be more effective and efficient.

Before to implement the concept it is need to elaborate each actor's perception related to the concept, mechanism and implementation of collaborative planning above with involved all actors so it can be understand the chance to do it and possibility implement the concept. In the Jakarta Metropolitan Region context, it is need to be analysis the role of involved actors and how to make that concept successfully implemented.

4 Theoretical Reviews

Transit Oriented Development (TOD)

Transit Oriented Development is a concept, which integrates mass transportation system with urban development. With this concept, the integration and synergy of transit and urban development used as basic consideration in managing urban growth. One of the most important aspects in implementing TOD concept is the existence of extensive transit system that covers a large part of the city. Transit Oriented development can use one of several kinds of transit mode as their "backbone".

Due to TOD is one important concept of this proposals, it is important to elaborate TOD related to its meaning and understanding and some important related aspects. There are several meanings and understandings related to the TOD such are:

- a. TOD is an umbrella term which include project with several different elements (Bornet & Compin, 1996)

- b. Building medium to high density residential development near rail transit station which supported by commercial and office development near station (Cervero. 1994)
- c. Concentration of both commercial and residential development suggesting the possibility that rail system could serve an optimal combination of work trip origin and destination node (Cervero, 1994)
- d. TOD Propose changing land use near station to enhance rail transit ridership (Bornet & Compin, 1996)

Large scale housing which developed with implement TOD concept has neighborhood with typically has a center with of mass transportation such as train station, metro station, tram stop, or bus stop, surrounded by relatively high-density development with progressively lower-density development spreading outwards from the center. Beside encourage of public transportation, TOD also encourage of walking distance home from transport station with considered supported by adequate pedestrian way. To make TOD can be develop well, it must consider location within one-quarter to one half mile (about 400 – 800m) from a transit stop.

There are many cities that build their large scale housing and cities using TOD concept such as San Diego, Denver, and San Fransisco in USA, Curitiba in Brazil, Toronto in Canada, Melbourne in Australia, Hong Kong and other cities in the world.

Collaborative Planning

Beside TOD other important concept in this proposal is collaborative planning, so it is important also to elaborate collaborative planning related to its meaning and understanding, and some important related aspects. The terms collaborative planning is commonly used to address planning processes in which public and private parties collaboratively want to develop space in order to increase spatial quality. Collaborative planning is primary used by planning theorist considering and encouraging the advantages of public participation.

Patsy Healey, one of the most well known who elaborate the concept collaborative planning, believes that the potential synergies between established and emerging stakeholder interests can only be reaped through open debate and because the meaning of place can only become shared if it is dialogically constructed and articulated. Furthermore Healey (1997, 2003) launched the concept of collaborative planning in an attempt to break out of traditional hierarchical and ‘bureaucratic’ processes, to involve new groups and

networks, new 'partnerships'. In this concept, planning is as a process by which societies and social groups interactively manage their collective affairs.

According to Healey (2003) such a collaborative planning process should be as inclusiveness as possible. Implementing collaborative planning is spend more time than conventional planning ones but it will be supported by all involved actor through consensus among them besides encourage more effective and efficient investment. Some countries which have some collaborative planning in their urban planning are the Netherlands and England.

Urban Sprawl

Urban sprawl as happen in Jakarta Metropolitan Region is one of the reason for propose to implement TOD by collaborative planning so it is necessary to be elaborated in this proposal. Although there are many definitions of sprawl, a central component of most definitions and of most people's understanding of sprawl is given as:

“Sprawl is the spreading out of a city and its suburbs over more and more rural land at the periphery of an urban area. This involves the conversion of open space (rural land) into built-up, developed land over time”.....
(US Bureau of Census data and Urbanized Area)

The problem of urban sprawl is that it is costly to initiate the development of new infrastructure adequate enough to support its residents

Urban sprawl is the unchecked spreading of a city or its suburbs over rural land at the edge of an urban area and often involves the development of rural areas and open space into residential or shopping areas over time (<http://www.wisegeek.com>). Frumkin (2002) argue that in urban sprawl city extend to the rural area, large track of land are build and develop in a “leapfrog” low density pattern that the location of housing retail stores, office, industry and public space are kept separate from each other.

According to some articles about urban sprawl, there are some impacts of it to the city as a whole such as environment impact, social impact, and economic impact beside urban land use impact. In term of environment, urban sprawl will push higher air pollution, and result water quantity and quality degradation. In term of social, urban sprawl will increase car dependency, social segregation and impacted on mental health. From economic point of view, urban sprawl boosting inefficient investment and spend more resources especially related to the congestion cost. Related to the land use planning, urban sprawl cause push

agricultural land conversion, leap frog build area development and higher investment of infrastructure and service cost.

5 Proposal for Change and Improvement

In order to push the development of new satellite town that minimize the negative impact of high urbanization, the Transit Oriented Development (TOD) should be done through an integrated and collaborative approach. Through collaboration, the concerned actors will be involved in the development from the beginning so they can shape the master plan and goals together and fully support to achieve it. With the collaborative planning all actors can share the investment, thus, the achievement of goals can be easier to achieve.

The existing approach, which is more fragmented approach and lacks of collaboration, should be changed systematically. There are several steps to make this proposed change and improvement systematically. Those stages or steps are:

1. Making a comprehensive analysis of the importance of building and formulated Transit Oriented in Building using collaborative planning in developing large-scale housing.
2. Developing this proposal, it is important to elaborate all concepts (collaborative planning, TOD, urban sprawl and large scale housing development) in the context of Jakarta Metropolitan.
3. Defining and elaborating supporting concepts such as public-private partnership, park and ride, city carrying capacity, economics of scale, which are important related to the issue by discussing the basic concepts, concept implementation and application to the JMR context.
5. Fifth step is formulated conceptual approach collaborative planning using TOD in Building New Satellite Town in Jakarta Metropolitan. This conceptual is consist of construct an *ad-hoc* organisation which consist of all involved actors and define each role in making consensus systematically and continuously.

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