

Urban Regeneration by widening streets in Tokyo

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1. Introduction

In the 20th century, cars changed the form of the city. Constructing of road expanded an urban area. It promoted a high-rise building to have widened the street. However, the past method has many problems. The problem is not only carbon gas increase. In the urban area, widening the street has a great influence on the life of inhabitants.

The road construction of Japan has been pushed forward nationwide after 1960's. In the urban area of Tokyo, the widening of the street has been performed to prevent a disaster. It supported growth of Japanese economy to have widened the street, but expense of the construction causes a serious financial crisis.

It is necessary to recommend sustainable urban regeneration to utilize limited resources effectively. Widening a street must contribute to improvement of the quality of life of inhabitants. It is necessary for us to create the alternative method that put foundations in the local community.

At first, with this paper, I comment the history of widening streets in Tokyo. Then, I explain an example of Mukojima where I was concerned with for 25 years in Tokyo, and an example of Ichikawa that my laboratory studies from three years ago. Through them, I'd like to think about the urban regeneration by winding streets.

2. The history of widening streets in Tokyo

The city of Japan was not surrounded like Europe by the city wall. The road and the street were very small until 19th century. The street narrowed it on purpose to protect the castle from invaders. In addition, there were many dead-end streets. Wooden houses were built density. Therefore big fires occurred frequently in Tokyo until the 19th century. Most of Tokyo were burnt and had spread to the castle. Streets were widened not to burn to the castle. The widest street was 18m. Wooden

construction was prohibited in London where there was the big fire, but did not prohibit it in Tokyo. Therefore a big fire destroyed more than 16ha was generated once in two or three years.

In 1872, a big fire was generated in Ginza of the central city area of Tokyo. 5,000 people were burnt to death by the fire. Tokyo metropolitan government employed a British architect toward the city that was hard to burn like London. The streets were enlarged to width 27m, and buildings of Western-style bake bricks were built up on the streets. The inhabitants were made to move out forcibly, and they were forced an expensive house on. The house had many walls, and a window was small. Therefore houses were not suitable for a humid climate of Japan. Though a large amount of fund was cast, there were many unoccupied houses. All these buildings failed by the Great Kanto Earthquake disaster.



Ginza Street (1878) ;Ishiguro Collection

The aim of the then Japanese Government was to make catch-up in the Western countries. A German architect was invited to make the dignified appearance that was good for Japanese emperor nation's capital. Because the plan was too big, it came true partly. The main purpose was widening

of the streets of inner cities. thought that the city was formed naturally if a street was widened. The thought to give priority to street construction over continued until recently.

Tokyo changed completely after the Great Kanto Earthquake in 1923. By the earthquake disaster, 3,466 ha equal to 44% of Tokyo were destroyed by fire, and 58,000 people died. For revival of Tokyo, the Japanese Government cast a large amount of fund equal to a one-third of the national budget, widened streets of Tokyo by land readjustment project. The scale didn't watch an example in the world. In the suburbs that were not destroyed by fire, the construction of the large road was given priority to. As a result, the road via the district was built in Mukojima. However, the street which was familiar to inhabitants was not got ready, and the densely build-up area that seemed to be a slum was formed rapidly.

The road was widened, but most of houses were wooden. Therefore the government was afraid of the air raid of the United States Armed Forces and the government broke buildings and widened streets. However, in March, 1945, eastern half 4,100ha of Tokyo was destroyed by fire by only one air raid with the incendiary of the United States Armed Forces, and 84,000 people died. It was a death toll equal to an atom bomb of Hiroshima. 27,000 inhabitants disappeared in Sumida-city with Mukojima.

After World War II, a plan to widen streets of Tokyo more was made. By the plan, all the roads had it than width 40m, and the central part of the road of width 100m located a belt-shaped green tract of land of 40m. However, for financial lack, the most of this plan were abolished.

The highway construction plan of Tokyo has been examined many times from the beginning in the 20th century. It was predicted that the transportation changed from a railroad to a car like U.S.A. After World War II, the possession number of the car rose approximately 50,000 every year in Tokyo. At the end of 1950's, it was increased 7 times in comparison with the beginning in the 20th century. As a result, because traffic jams were frequent in each place, the construction plan of the highway was decided in 1958.

In the next year, it was decided that OLYMPIC

held it in Tokyo in 1964, and has to have come to build it at a high pace. Therefore the route of the highway will use not only the upper part of the road but also the upper part of the river. As a result, a cultural scene of the history of Tokyo was sacrificed. In Mukojima, a highway was built on a row of cherry blossom trees and a park along the Sumida River, and a cultural scene of the history of Mukojima was lost.



The highway which steps over important cultural property

There are ringed roads in Tokyo in the same way as other cities. Because Tokyo is a megacity, there are the ten plans, and construction continues now. The second beltway through the central city area of Tokyo was planned just after war as a road of width 100m, but stopped for a long time. The road would build many parts underground, and construction began in 2003. The ninth road runs through suburb of Tokyo. In Ichikawa, the local government objected to this plan with inhabitants for many years, but the construction is pushed forward now.

3. The improvement by public sector in Mukojima

Mukojima is located in the 7km away place northeast from the center of Tokyo. Until 100 years ago, it was a rural area, not belong to Tokyo. Speaking of “ If one talks of flowers, Mukojima cannot be left out”, one finds beautiful rural scenery that features a cherry blossom promenade along the river bank as well as a temple and large villas along that path.

Mukojima was urbanized rapidly in the beginning in the 20th century. After the Great Kanto Earthquake disaster, some roads were got ready. Other than them, a densely residential area was

formed along the street that did not reach width 4m. Many houses were small tenement or row houses for workers. During the war, to prevent a fire, some houses were broken forcibly, and, some streets were widened. In World War II, most were destroyed by fire by the air raid. However, the street which wound narrowly remained the without being got the road ready after the war, and density area was formed again. In 1965 of the next year of the Tokyo OLYMPIC, a shocking investigation report was announced. If a large-scale earthquake of the Great Kanto Earthquake grade happens again, it is said that the survival rate in Mukojima region would be less than 50%. Taking the results of the survey seriously, Tokyo metropolitan government constructed a housing by redeveloping the Shirahige district of the Sumida River area in the 1970's. The project was designed to provide a place of escape for people's survival during a disaster. Because this was planned in the latter part of the 1960's, the project complied faithfully to the modern urban planning of CIAM, which placed weight on functionality.

During this time, the Kyojima district, which was Tokyo's most densely populated area with over 500/ha, also began think of redevelopment on the slum clearance model as utilized by the Shirahige district. On the other hand, the study team of Tokyo University announced the working papers to assume that you have had better be improved with the participation of inhabitants slowly. According to it, the redevelopment plan was changed.

Then, for the first time in Tokyo, an Association of Community Development was set up with the participation of the inhabitants, and thus commenced the community development of the improvement type. In reality, the project entailed the redevelopment of the urban district based on the model of small scale clearance. Because there was some opposition to the method of execution where Tokyo metropolitan government took the leadership, the project did not accomplish much and only the construction of a publicly managed, three story building was completed. The project was suspended for several years.

I was concerned with a disaster prevention project of Mukojima since 1985. The purpose of this project has set up an emergency support system centered



The disaster prevention complex of Shitahige

at the elementary schools so that the residents do not have to escape to Shirahige district at the time of disaster.

In this Ichitera-kotooi district, the inhabitants were the primary agents of operation from planning to administration. The most famous project was the creation of a well using rainfall, which is called Rojison. This was a device which manually pumped water from an underground tank, which stored rain that fell on the roof of nearby house.

Rojison is a project to make the small park which featured the theme of ecology and recycling. Rojison has been installed, and the inhabitants administer it on their own. While all projects are publicly sponsored, workshops were organized on many occasions with the participation of the inhabitants. The assembly hall was constructed according to this method.

The Kyojima district project was influenced in this way by the Ichitera-kotooi district project and as such, the relationship between the administration and inhabitants improved. In the 1990s, with the impact of the economic boom, the project recommenced. Sumida local government has carried out a road improvement project where roads that were less than 4m wide have been broadened to 6-8m. To accomplish this project, the cooperation from the residents were essential; the local government built new public collective houses called Community Houses for the affected residents to relocate to. Along a widened street, the housing development with a store and the work place was prepared into the first floor. These were public infill projects, which pursued partial improvement in a chain like fashion.



The public housing constructed according to the widened width of the street in Kyojima District

4. Community-based Approach in Mukojima

The great earthquake, hit Kobe in 1995, signaled the dangers facing the dense residential areas. The area such as Mukojima saw their modern industry decline due to progressive aging, and they are also faced with the task of improving the residential conditions.

In order to discover the future that could be set as their objective and the method of realizing it, the Mukojima International Design Workshop was held in 1998, with the participation of students as well as architects and urban planners. The organizer was the local community group, named Kawanote Club had administered civilian exchange with the local community group of Ottensen in Hamburg.

I offered as the primary issues to be debated the following three ideas.

1. A method of urban regeneration that accentuates the quality of the alley space
2. The natural attitude of the local community where inhabitants of different lifestyle live together
3. The concept of housing which forms the basic unit of urban regeneration

And as the keywords that will lead the future of Mukojima, the following were offered.

1. Urban village;
2. Urban nature;
3. Priority given to the pedestrian and cyclists;
4. Soft guard (community and privacy);
5. A chain of small redevelopments;
6. Community business;

Approximately 150 people from fifteen countries participated at the workshop which lasted for two weeks. Reflecting many ideas, the proposal led to

the organizing of the Mukojima Expo two years later.

In Japan, an initial draft for a legal district detailed plan can be proposed to the local government if the consent of the more than 2/3 of the property owners are secured. In the words, they can decide on a proposal for regulation on remodeling that is possible to be applied only in that district.

If a site does not face the streets more than width 4m in the Japanese Building Standard Act, the building is not built. In Mukojima, there are many sites that rebuilding has difficult. Therefore we conducted a various investigation and suggested the legal district details plan.

5. The Impact by the highway plan in Ichikawa

Ichikawa is a residential area of the Tokyo suburbs, where was formed before World War II. There are many bent alleys, but it is the green rich residential area where 4,000 black pine trees were kept in good condition. Attracted by the natural scenery, there are many inhabitants who moved from Mukojima. The Tokyo Outer Ring Highway of width 60m runs through the residential area for north and south 10km.

The highway was planned in 1950s, formalized in 1969. Many inhabitants heavily opposed this plan and waged an opposition campaign for 30 years. As a result, the plan was amended in 1996 based on considerations to the dwelling environment of the inhabitants.

The plan of main road was set to run underground to avoid segregating the area by an elevated highway. The plan above ground comprised a



Revised plan of highway in Ichikawa

banquette, a cycling road, pavement for local traffic and a green zone. However, the structure of the huge junction was not changed.

Nowadays, the ratio of land acquisition in the planned route has exceeded 90%, but reluctant estate owners have remained strongly against the plan. Because of this situation, it is anticipated that the completion of the buying up the land needs more time. Though the purchase plan has already been extended in the past, it is expected to miss the deadline of 2010. These uncertainties and delays have hindered the buyout of vacant lots for over 10 years since 1996, which in turn became a source of anxiety in the region for locals and their life environment. Existing problems are as follows.

1. Increasing number of vacant lots in built-up areas
2. Decoupling of communities by 60m wide hollowed patches
3. Lack of natural surveillance by inhabitants
4. Deteriorating circumstances and litter
5. Degrading local environment fueled fear of further environmental changes
6. Ongoing deterioration worsened by over 10 years of delay

While the number of vacant lots was expanding among built-up areas, neighborhood residents were concerned about the negative impact of the plan to their region. With the project's completion uncertain due to failure buying up land, different residents' associations demanded access to these lots to prevent the deterioration of their life environment. The Ichikawa local government thus developed an interim use system and financially supported the initial costs for its usage by the neighborhood community. That support encouraged regional communities to come up with various ways to maximize use in and around the vacant area.

This interim use system requires that borrowers see to common land upkeep. It is very hard for residents to voluntarily manage it due to troublesome tasks such as weeding and cleaning. On the other hand, they can use these places for any purpose except building a structure that would hamper the road's future construction. This flexibility in usage enabled regional communities to enjoy a variety of activities. Thus some mere vacant lots were changed into lively commons with added

value to the region. The interim use system enhances awareness by providing a human presence on the common and its surrounding environment.

This complement of human oversight prevents the deterioration of their environment and of their living standards.

6. Workshop for urban regeneration in Tokagi

Tokagi elementary school district is having trouble with urban problems which caused environmental deterioration and bothered residents' associations as well as parents of schoolchildren.

1. Disjunction by existing highway
2. Lack of natural surveillance by vacant lots
3. Darkness at night by vacant lots

The area will be changed dramatically by the Tokyo Outer Ring Highway plan. It is inevitable for local residents to consider these significant changes to their locality and their lives.

1. Massive green zone
2. Additional disjunction by the Highway
3. Overlong and complicated footbridge

The Tokagi elementary school district committee for urban regeneration was established in 2008 to consider existing and prospective urban problems. Through several workshops with the community, participants gained a much better understanding of the inhabitants and debated their vision of that area.



Prospective urban problems in Tokagi school district

When the highway construction finishes the Tokagi district, one-third of the district changes in the highway and the green place. The inhabitants cannot image influence on life of figure and oneself of the town only by having watched the illustrated map of the highway in total. Therefore we performed the workshop using the residential area model of 1/1000. About 30 representatives of the inhabitants group gathered for the workshop. The participants were divided into five groups and argued by the problem of the district after the highway construction and a future ideal method. The participants checked home in the map which spread greatly, and they confirmed the course that they would use when they went to an elementary school and the station from their home after the highway construction. They understood the forms of some grade separation and the pedestrian bridges of the highway through the model. They pointed it out concretely what kind of problem occurred at which place. For example, they have fear of crime on the long pedestrian bridge. Children must make a detour to go to the elementary school. The public eye is hard to get the green tract of land of the junction.

There is already the junction of the road in the Tokagi district. Many drivers using the junction go through the street in the district. There are a lot of cars going through a narrow street without the sidewalk at high speed. Children walk while having the fear of the traffic accident. Therefore I performed the workshop of this transportation problem.

We held the test-ride event of the Soft Q Car while inhabitants measured the speed of the car with a speed gun. The Soft Q Car is the small electric car which can immobilize speed. Prof. Oguri developed it and showed it at the time of Earth EXPO held in Japan.

After two traffic experiments, the participants were divided into three groups and checked the place where the traffic accident was dangerous to a map. They wrote down those solutions in the map.

The result of these workshops is announced in the portal site of the Tokagi district. We push forward examination of the suggestion of urban planning of this district on the basis of the result of these workshops. The Ichikawa local government pushes

forward the reexamination of the road plan on the basis of the opinion of inhabitants sent in this workshop.



Some Workshops in Tokagi District

7. Conclusion

Many of streets in Tokyo had been widened for the purpose of disaster prevention, but the build-up area encountered the damage of the disaster many times. It was difficult to get over the disaster only by the widening of the street. Of course widening of a street is important to improve safety and function of the city. However, we must not forget to be accompanied with much sacrifice. Examples of Ichikawa show it well.

On the other hand, we can find various possibility about urban regeneration through a workshop, as well as the example of Mukojima and Ichikawa. It is multidirectional approach for the complicated problem.

Through this Valencia international workshop, I expect what can find new possibility.