Recent Changes in the Central Areas of Japanese Cities

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1 Introduction

The areal growth of Japanese cities is a noticeable aspect of urbanization. Urban sprawl since the end of World War II has been most dramatic. The reasons for the occurrence of this phenomenon are: (1) the migration of population concentrated to the large cities, (2) the rise in land values in the older built-up areas, and (3) the remarkable development of motorization, especially the increase in personal cars. This urban sprawl has consequently led to numerous problems of planning, land use, commuting, and noise pollution, etc.

While this dramatic phenomenon in the suburban areas has attracted much attention, the central area of cities is not without change. The author will discuss three important changes in the areal structure of the central part of large Japanese metropolitan areas. First, the underground commercial areas have been formed within the central business districts of cities. Second, another recent phenomenon, the number of parking lots have increased rapidly to accommodate the increased use of cars, but the location of these lots is different in comparison to the location of parking lots in American cities. Third, the concept of a shopping mall has been implemented in Asahikawa, Hokkaido, as an experiment to provide shoppers with a relaxed atmosphere and to initiate the urban renewal of new type.

2 Underground Commercial Area

When the first underground shop was open in the basement of any building is not certain, but when multistorey buildings were constructed, coffee shop, stationery shop and cigarette-store were usually prepared on the basement for the workers in the buildings. This trend has been especially noticeable after World War II along with the increase in size of the buildings. Where the shops are numerous and where they have been located along corridors in the basement, they have been referred to as “X-biru chiika-shōten-gai (X-building’s underground shopping street)”. However, this designation is not suitable, for the “gai (street)” is only a passage on a floor within a building. So that the group of shops on the basement of a building have to be called a “chiika-shōten-gun (underground shop cluster)”.

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Many underground shop clusters are distributed in business section of CBD independently in each building. The shops in these underground shop clusters serve mainly the personnel in offices in each building for the rest, lunch or some limited shopping. Therefore, these shops are not shopping areas for the general public. But the expansion in number of underground shop clusters certainly indicates a change of the land utilization within CBD.

There is another change which has been observed of the underground of CBD. The growth of underground shopping street, in true meaning, is this. This origin is different from that of the underground shop clusters mentioned above.

In the central area of large metropolitan cities, underpasses were constructed to facilitate pedestrians and insure public safety. Occasionally, shops were constructed on both sides of the underpass, this was the start of an underground shopping street. Underpasses have been in existence for a long time and only one underground shopping street was constructed in Ueno, Tokyo in 1933.

With the construction of subways, underground passage ways were aligned with the road but above the subway tunnel. Long underground passage ways of this nature were at Nihonbashi and Shinjuku, Tokyo, which extended over 1 km. In both underground passage ways, show-windows of department stores overhead were placed in the both wall and small offices of travel bureau were established.

The opening of many shops in both sides of underground passage ways in March 1957 initially in the area immediately to the east of Nagoya Station of the National Railway. This was followed by the openings the underground shopping streets in Himeji (Nov. 1959), Umeda-Osaka (Nov. 1963), Yokohama (Oct. 1965). These shopping streets were extended several times since the opening. And the most recent was the opening of an underground shopping street in Sapporo in June 1971. Fig. 1 shows the distribution of underground shopping streets in Nagoya and Osaka.

Japanese underground shopping streets generally originated as a result of underground construction associated with subway construction, underground parking lots and passage ways. These underground streets can be classified into three major types according to their origin.

A type is the formation of underground shopping streets accompanying the construction of subways: eleven streets in five areas in Nagoya, seven streets in four areas in Osaka, two in Kobe and one in Sapporo.

B type is the formation of underground shopping streets accompanying the construction of underground public parking lots below public roads: two in Nagoya and one in Yaesu-Tokyo, Yokohama and Sannomiya-Kobe.

C type is the construction of underground shopping streets as underground passage ways: two in Nagoya, a part of Umeda-Osaka, a part of Sannomiya-Kobe.
Occasionally, there are underground shopping areas which consist of several streets having different origins. For example, in the area next to Nagoya Station, the first underground shopping streets were built in March, 1957 in the underpasses and underground passage ways between the station area, shared by Nagoya Station of the National Railway, Meitetsu-Nagoya Station of the Nagoya Railway Co., Kintetsu-Nagoya Station of the Kinki-Nihon Railway Co. and Chikatetsu-Nagoya Station of the Nagoya Subway Co., and several large buildings. This was followed by the construction of other shopping streets above the subway in Nov. 1957. The most recent addition was built in conjunction with the construction of an underground parking lots. The underground shopping streets below the Nagoya station area have different origin of A, B and C types, which were interconnected to form an underground shopping area.

Sakae-machi area, another underground shopping area, in the central part of Nagoya City consists of four streets of A type and two streets of C type. And the area of Umeda-Osaka is A and C types, and also the area of Sannomiya-Kobe is B and C types.

The construction and organization of each underground shopping street is undertaken by a company. Each company has hived former members of planning, construction and other relating departments of the city as officers. The company
is responsible for the construction of underground passage way and lots for shops, of water supply and sewerage system, and of piping of gas, ventilation and fire protection. Upon completion of construction, the company leases the lots to shops and stores. The placement of shops within the complex groups similar shops together. The spaces of shops are different in size.

In Table 1, there is a comparison of the shops among the large underground shopping areas in several cities. The composition of shops in the underground shopping areas shows very little difference in comparison with that of the central shopping streets. The percentages of food stores and food service shops are generally high. But the number of food stores and food service shops varies greatly among underground shopping streets. This can be explained by the relative site of underground shopping street in the relation among the streets and the terminal stations of the national and private railways and the underground shop clusters.

Underground shopping areas are related to CBD through their development. These are (1) a formation of a new underground commercial area through the joining of the underground shop clusters in the business district, and (2) the enlargement of the ground commercial area through the joining of underground shopping area. These two types of development can be seen in the underground shopping streets of Umeda-Osaka, Nagoya Station and Sakae-machi areas. In the former two

Fig. 2 Underground commercial area in the station area of Umeda-Osaka and Nagoya
<table>
<thead>
<tr>
<th>Shops</th>
<th>Terminal Business Bldgs.</th>
<th>%</th>
<th>Total Business Bldgs.</th>
<th>%</th>
<th>Shops</th>
<th>Terminal Business Bldgs.</th>
<th>%</th>
<th>Total Business Bldgs.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women &amp; Children's Clothing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Japanese Clothing</td>
<td></td>
<td></td>
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<tr>
<td>Male's Clothing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cosmetic &amp; Accessories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Watch &amp; Jewelry</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>Shoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hobby, Sports &amp; Book</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td>Comfortaneries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restaurants &amp; Coffee-Shops</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td>Groceries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Branch shops from other cities</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td>(from the first-rank- city)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1: Comparison of shops among large underground shopping areas

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Underground Shopping Streets</td>
<td>Underground Shop Clusters</td>
<td>Underground Shopping Streets</td>
<td>Total %</td>
<td>Total %</td>
<td>Total %</td>
<td>Total %</td>
</tr>
<tr>
<td>Nagoya Chikatsuto Shinko K.K.</td>
<td>34</td>
<td>23</td>
<td>18</td>
<td>98</td>
<td>96</td>
<td>18</td>
</tr>
<tr>
<td>Nagoya Chikasai K.K.</td>
<td>81</td>
<td>18</td>
<td>16</td>
<td>238</td>
<td>24</td>
<td>236</td>
</tr>
<tr>
<td>Misaka Chikasai K.K.</td>
<td>11</td>
<td>13</td>
<td>16</td>
<td>213</td>
<td>24</td>
<td>210</td>
</tr>
<tr>
<td>Shintei Fudo K.K.</td>
<td>17</td>
<td>21</td>
<td>18</td>
<td>193</td>
<td>22</td>
<td>190</td>
</tr>
<tr>
<td>Yantesu K.K.</td>
<td>17</td>
<td>21</td>
<td>18</td>
<td>193</td>
<td>22</td>
<td>190</td>
</tr>
<tr>
<td>Total</td>
<td>154</td>
<td>180</td>
<td>161</td>
<td>1668</td>
<td>200</td>
<td>195</td>
</tr>
</tbody>
</table>

Note: Percentage values may not add up to 100% due to rounding.
Central Areas of Japanese Cities

Photo 1  Landscape of Nagoya station area

Photo 2  Underground shopping street in Nagoya station area

Photo 3  Underground shopping street in Sakae-machi area at Nagoya
situations shown in Fig. 2 and Photo 1~2, originally there were only underground shop clusters in each building. While in Sakae-machi area, there were numerous retail shops with two large department stores, which was the traditional central commercial area of Nagoya City (Photo 3).

Underground shopping streets have diffused to large cities and expanded in size in Japan, however, there are some unanswered questions associated with the
use of underground areas. A major question is the right of private business to utilize underground areas which were basically constructed for public use. The original intent of the use of the area under public roads was for the passengers of subways and trains as underground passages and for parking. The utilization of areas along the passage way by an underground shopping street company and private retail shops as a private business is the permanent use different from the temporal occupancy of hawkers' shops or street stalls on sidewalks. Another major question is the land value under a public road. The value of this land is not clear but different from the surface land value. In addition, the land value of a public road has not been established. Since their values are not clear, the rental cost for a shop is not based on a clear standard of land valuation.

3 Distribution of Parking Lots

The rapid increase in the use of cars has brought numerous problems due to the heavy traffic flow by car and its associated problem of parking spaces in the cities of the world. Japanese cities are no exception. The increase of automobiles in Japanese cities is due to several changes, such as changes in the sprawl of residential area, the need for individual transportation as public transportation become in adequate, the ease with which cars can be purchased and the idea of leisure which includes driving. Recently, there have been a growing trend in the separation of residences and place of work since many people work in places which employed hundreds or even thousands. As a consequence of this separation, the commuting distance had become longer. In the older compact cities of the past, it was adequate to commute by trams, cars, electric trains and buses. But, the suburbanization of people have contributed to the increased use of personal automobiles to commute to

work. Another economic factor in the increase of automobiles is essentially the buying of an automobile which costs comparatively less than the purchase of home lots and the construction of houses. And also, there is the diffusion of increased leisure time which include driving.

Japanese cities have responded to increased number of automobiles by the adoption of traffic flow alteration, the construction of by-pass roads around cities, and the adoption of one-way streets. Also, laws have been enacted to provide parking spaces for business patrons in the new buildings. Furthermore, with the
advancement of high speed road construction the areal structure of cities appear to be inadequate to handle the increasing number of cars in this period of motorization. In cities several improvements, such as the widening of streets, the disappearance of tram-cars, the designation of bus lanes, have been made.

The problems related to increasing motor traffic were already noticeable in American cities earlier. The impact of the advancement of the interstate highway system since the beginning of the early 1960’s had caused areal changes on the urban structure was seen. For example, one of these changes was the construction of office and industrial areas outside the cities along the new high speed roads, which was a decentralization phenomenon). Another change was the construction of branch stores of down-town department stores in the suburban areas.

In the inner part of urban area, on the other hand, there has occurred the expansion of the number of parking lots, the construction of new parking buildings and the remodelling of older buildings as parking garages. Essentially, the parking lots are built around the CBD as shown in Fig. 3 and Photo. 4. Even in small

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cities, it has been noted by R.E. Preston⁴ that parking lots are located around the CBD. In other words, the zone of parking lots has formed within the transitional areas close to the CBD in American cities.

In 1971, a survey of parking areas in the City of Sendai was conducted to compare the distribution of parking lots in the CBD of American cities. The parking lots were haphazardly distributed within the central part, transitional area, and CBD of the city (See Fig. 4). This pattern of parking lots in Sendai is similar to the distribution of parking lots in other Japanese cities. These parking areas can be categorized by whether it is paved or unpaved; located in underground floors of large buildings and parking buildings; permanent or temporary use; and, private or public use. However, it is not possible to show any distinct pattern of distribution of parking lots based on the above classification.

These parking lots were restricted as to its use. In most of these parking areas, those located under the large buildings and those located next to large buildings are restricted to the use of patrons of businesses located within the buildings. Some public parking lots were opened to the general public with charge. Depending on the location, some of the city-owned lots were used free of charge for limited parking time. Privately-owned parking lots are usually constructed on vacant land and small parking lots generally charged a fee by hour or month. Those which operated on a monthly fee basis were restricted only for the use of certain companies. Those which operated on hourly fee basis were opened to the general public. These types of lots are shown in Fig. 5, but again, the pattern of distribution is not clear.

Some of these parking lots on large vacant land appeared to be a temporary phenomenon. In these situations, these lots were replaced by a building within a year or a few months. It existed as parking lot immediately after the destruction of an older building and prior to the construction of a new building. Also, small parking lots usually were used by private companies and businesses in the CBD for their garages since they generally have no additional land for the construction of their parking areas. These lots were leased on a monthly basis. In many cases, these lots were also of a temporary nature.

Parking areas for the general public use are, generally, in comparison to Chicago or Los Angeles, limited to the commercial parking buildings operated on hourly fee in Fig. 5, but the number is very few in Sendai. At the city parking areas for people who commute to work in their own automobiles are practically non-existent. In certain administrative offices, parking spaces are available to their office workers. Most offices and shops do not offer parking even to their custo-

mbers, though department stores offer limited parking to their customers but away from the stores. In other words, parking facilities in the CBD of Sendai in comparison to the increase in the use of cars is completely inadequate when the number of parking spaces is considered from the viewpoint of the availability of parking space for general public use. And that, these facts are common to the whole Japanese cities.

4 The Shopping Mall in Asahikawa, Hokkaido: An Experiment

Between August 6 to 17, 1969, the City of Asahikawa experimented with a shopping mall concept closing 1,050 meters of Heiwa-dori central shopping street. The main objective was to create a "pedestrian paradise" for leisurely walking and shopping unlike the hurried shoppers in many of the congested streets of the large Japanese cities. The experiment was thought to be the first ever. The exclusion of cars from certain streets was later tried by New York City and then by Tokyo on the Ginza during certain days of the week. At present, there are about 15,320 such areas in Japan. However, this number includes those streets which are blocked during the school hours, so that the number of shopping streets where cars are excluded may be less. Nevertheless, on the main shopping streets of every cities traffic are closed on Saturdays and Sundays or Sundays only, and a kind of pedestrian paradise occurs.

In the 12 day-experiment of the exclusion of cars from the central shopping street of Asahikawa, the long-range goal was, not merely the exclusion of cars from the street, but also the creation of an enjoyable environment and resting area in the city through the improvement of the street and the ability of shop even during snowy cold season. That is, the creation is the renewal of the city center.

In order to achieve this objective "Heiwa-dori Kindaika Iinkai (the Heiwa-dori Modernization Committee)" and "Kaimono-koen Suishin Renraku-Kaigi (the Association for the Promotion of Shopping Mall)" were organized in 1968, which evolved into "Kaimono-koen Kikaku Kaigi (Shopping Mall Planning Committee)" and "Kaimono-koen Jikko Iinkai (Shopping Mall Executive Committee)" in 1969. In 1970, these committees regrouped into the "Kaimono-koen Iinkai (Shopping Mall Planning Committee). As a result of the work of these organizations, the Asahikawa Shopping Mall was opened on June 1, 1972.5)6)

5) The members of these associations and committees were to come from the city, chamber of commerce, and "Heiwa-dori and Sanwa Shoten-gai shinko kumiai (Association of Promotion of both shopping streets, Heiwa-dori and Sanwa)".

6) The following example was indicated in a personal discussion with Dr. K.K. Oshiro, Ass. Prof. of Geogr., Wright State Univ. Dayton, Ohio. A similar type of shopping mall has been completed in Richmond, Indiana, U.S.A. Also, there have been the construction of numerous covered shopping malls close to residential areas, similar to the dispersal of business offices (office parks, for example) from the down-town areas.
Various construction projects were undertaken in the 60 days prior to the opening date to prepare the street for its function as a city park. During the first phase, traffic was re-routed, the path zone for the travel of emergency and service vehicles was designated. During the second phase, the “terrace zone” and “symbol zone” were constructed as a part of the park. The equipment of the latter zone are as follows: the placement of five statues, 3 fountains, 1 flower timepiece, 1 timepiece-like glove, 1 mountain hut, 1 monument, 1 scribbling board, 3 tents, 1 bird house, 11 small animal shelters, 48 ash trays, 32 trash cans, 16 notice boards, 85 benches, 16 show cases, 40 flower pots, 30 trees, 30 flower garden areas (160 sq. meters), 600 sq. meter lawn, 80 electric lamps, 8 drinking fountains, 8 telephone booths, and 1 tower. The construction of the first and the second phases costed ¥81,000,000 and in future construction the cost will be amounted about ¥950,000,000 including road heating equipment and the construction of the pedestrian deck.

The entire shopping mall of 1,050 meters length and 20 meters width is divided into 8 sections. The road is divided into 4 zones: (1) “Gallery Zone” is for shopping and walking, (2) the “Terrace Zone” is for resting, (3) the “Symbol Zone” flower gardens, fountains and statues to show the special characteristics of each section, (4) the “Path Zone” (having sine-curve with four nodes) for the passage of emergency and service vehicles.

In July, 1972 the author toured the shopping mall area. The construction of four zones was incomplete, but the symbol zones were completed while the terrace zones were considerably advanced. The overall plan of the shopping mall was clearly evident. But since the second phase of construction, the construction of the pedestrian deck, the second storey walkway, and the construction of shops along the walkway have been not started. However, the future locations of parking
Central Areas of Japanese Cities

lots, parks and public open spaces and traffic system were clearly established.

The shopping area of this mall, presently, appears to be a great success and that a unique shopping area has been achieved. In the present status of this mall the project is appeared a new type of urban renewal, certainly. But in regards to the long-range and large-scale plans of this shopping mall there are some questions. The limited area around Asahikawa and the lack of potential shoppers close to this city require consideration in the future expansion of this shopping mall. The present scale of the mall appears to be adequate to the present city size, both population and area of Asahikawa. Furthermore, the future population increase may not be large enough to warrant the execution of the latter stage of this shopping mall. The second problem arises out of the general trend of the decline of population in the central part of cities. At present, this trend is weak in this city, consequently, considerable number of population is kept in the central part. So that the central shopping street retains some characteristics of a neighbourhood shopping street. It is sure to foster this characteristic by means of the project of a shopping mall. It may be seen from the fact that the project appears to be a success and the shopping street has revived. Consequently, it is questionable whether this atmosphere of the mall will continue, if the residents begin to move toward the suburbs.

5 Conclusion

Both the formation of underground commercial area or shopping streets and that of parking zone reflect the high concentration of population in large cities and of heavy flows of motor cars toward the CBD. The former has developed much more in Japanese cities than in northern European cities.7) The latter have completely surrounded the CBD in the cities of the U.S.A. but exist sporadically in the cities of Japan.

The development of underground commercial area, including shopping streets and shop clusters, is related to the lack of space and number of retail shops in the CBD in accordance with the increase of population in large cities. Also, the formation of underground commercial area is one of the changes of land utilization related to convenience for the shoppers since it accompanies the development of subway transportation systems and motorization.

The formation of underground commercial area is, surely, a kind of urban renewal. It has been said that the underground land utilization will be a feature of the future CBD in large cities. However, the utilization of underground areas holds much disadvantages and dangers compared to surface areas such as air

7) The author has known the existence of underground shopping streets in Oslo, Stockholm and Paris.
pollution, fire and labor sanitation. So that the author believes that this feature will not be a part of the areal structure of future cities, even though its formation is a recent fashion in Japanese cities.

The construction of underground parking lots beneath public roads is also related to the lack of space within the CBD to handle the large number of cars in Japan. In American cities, the construction of office parks outside the city or the formation of a parking zone around the CBD are features which correspond to motorization. The former is a phenomenon of decentralization and the latter is the change of areal structure surrounding the CBD. The parking zone is the inner part of Burgess' transitional zone and the zone is formed as a link in the chain of slum clearance and of removal of the old factories of light industry to industrial parks. Therefore, the parking zone in American cities is a new form of urban land use, and of areal structure, but in Japan the zone has not formed completely in general. While underground parking lots containing that of large buildings in the CBD of several large cities in Japan perform the same function within an area which lack space for surface parking areas. Consequently, it is one of the typical features of recent changes of urban areal structure in the motorization era.

The recent construction of a shopping mall in Asahikawa City presages a new feature which may change the areal structure of urban areas. Though it is one type of urban renewal, the anticipated changes are not in the area or in the landscape, but in idea and thought which initiated this construction. The construction of the shopping mall is not only the formation of a pedestrian paradise for the security of shoppers and pedestrians by excluding motor cars from the central shopping street, but it is an attempt at reiving intimate social relations like neighbourhood among citizens, similar to that of the traditional type, which tend

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Kurihiro Narume: Study on a Street as a Space of Behaviors of the People. (in Japanese), City Planning Review, No. 71 (1972), pp. 43-48
Osaka Branch, Japan Scientist Association: Underground Street — its Problem and Countermeasure. (in Japanese) 1971
to disappear with the growth of a city. Namely, the object of the experiment is mainly to the latter point. The experimentation of Asahikawa City appears to be greatly successful at present, however, it is questionable whether this concept can be adopted to large cities. While, on the other hand, the formation of a shopping mall though the re-designing of an older shopping street and the construction of a shopping mall in suburban areas as a phenomenon of decentralization have existed in the cities of U.S.A. for a considerable period without any fore thought given to the concept of a neighbourhood.