New Spatial Possibilities of Railway Station: Everyday Heritage, Enjoyable Landscape

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Abstract

Railway became a major transportation means for distribution and people approximately a century and a half after it was first constructed in 1825 from England. In addition, the construction of railway station back then has physically occupied the city partially in a linear fashion and variously influenced the urban space. The importance of the railway station in the city was mentioned in the Building News in 1872, that the “Railway termini and hotels are to the nineteenth century what monasteries and cathedrals were to the thirteenth century.” After 130 years, Ferrarini(2005) explained that while factories are isolated in the suburb area, railway station is one of the most industrial structures located in the center of the city supporting the city function as a complex facility. Furthermore, he referred to the railway station the possibility as a city facility among the typical facilities being decided by the function as a school, museum, library, City Hall or factory. From recent projects, such as Japan’s Tokyo Station Restoration project, Paris’ Gare du Nord and the surrounding area regenerating project, New York’s High Line project, and Busan’s Integrated Regeneration of the old harbor project, railway station, since the nineteenth century’s industrial revolution, is not only functioning as the daily use, but also the accelerator in regenerating the old city with its historical background. Thus, this study applies recent cases occurred in geographically various locations such as Tokyo Station, Paris Gare du Nord, the High line Project, and Busan Station. Through the railway stations appearing in each instances, the urban application plan will be analyzed in a social-scientific way and discuss how railway station is not simply a temporary traffic facility for transporting, but a recyclable industrial heritage and a possibility as a urban space with enjoyment of the city scenery.

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1. Introduction

The railway built in the United Kingdom first in 1825 has been used as the main means of transportation for logistics and people to date even after about one and a half century have been passed thereafter. In addition, railway tracks built at that time have had a large impact on the urban space while occupying some parts of the city physically and linearly up to now. It is all the more so since the infrastructure called as ‘railway’ such as the railway track, facility, railway station building installed within the urban space has the physical property where spatial transfer or transformation of constructed space itself is difficult if installed once in comparison with the form of modern urban space which repeats its extension and expansion continuously. Especially, railway station building is the traffic facility built in the trackside of railway and the urban facility for regional linkage of people to logistics on the basis of railway network, and is transfigured to the mega building complex within an urban space which performs a gradually complex role such as the shopping, conference, lodging and entertainment. Meanwhile, the railway traffic which was declined rapidly due to the supply of automobiles had been the cause of spatial disconnection and decline within the city along with the functional decline of railway-related infrastructure. Recent Tokyo station restoration project of Japan, Gare du Nord and nearby regional regeneration projects of Paris, High Line project of New York, and Busan station project performing integrated regeneration with old port provide several important suggestions in that how the old railway station buildings try to restructure within the urban space in the modern city.

This study was started from three big questions as follows by focusing on a series of recent railway station building projects occurred in the geographically wide variety of regions.
- In what fashion old railway station buildings and railway facilities are regenerated as the railway station buildings and nearby areas?
- In each of the regeneration methods being promoted in various regions, how ‘railway station buildings and railway facilities’ are coping with spatially?
- As the old infrastructure which triggered urban development of the latter part of industrialization, what kind of possibility does it contain in the space of modern city?

2. Old Infrastructure and Space of Modern City as the Heritage of the Latter part of Industrialization

2.1. Railway, Railway Station Building as the Infrastructure and Transfiguration

Change in social structure by the modernization and industrialization is closely associated with the phenomenon such as the urban concentration of population, and caused a change in the urban structure necessarily. Various ‘urban facilities’ centered on the purpose necessary for the urban function were emerged, and the development of physical urban structure(infrastructure) such as the railway and road was worked as the axis of growth direction within the city and new town formation.

The physical ‘railway track’ had an effect on the growth and decline of city more closely while occupying a fixed part of city linearly. That is, although construction of railway in the industrialization era became the main influence factor for the explosive urban growth shown simultaneously in various regions all over the world, but it was started to be shown as the factor of urban decline through the spatial disconnection and isolation of surrounding regions centered on the railway stations and railway tracks according to the movement of main means of transportation from the railway to the automobile after passing through the middle of 20th century. Especially, in the early stage of railway construction, with the train stopped at each node region of railway network, the railway station became the node through which people and logistics are moved and performed complex functions such as the gateway of city, landmark of city, and formation of central urban place. However, with the rapid decline in the demand of use, the
old and falling behind station facilities had been the spatial triggering point where forms a slum within the city together with surrounding regions also.

As such, the infrastructure called as ‘railway’ which entered into close correlation with spatial differentiation of city, movement of people and accessibility while going through the era, and the ‘railway station building’ which is the node point of such a railway network are going through the great functional transfiguration within the urban structure while going through the era.

2.2. Transfiguration of Old Infrastructure

According to Peter Smithon, the infrastructure built after modern era and urban facilities gradually acquired more variability as the building complex system which has the interrelation in the modern urban space, and Albert Levy argued that the traditional urban structures such as the plot, street, constructed space and open spaces are being collapsed with the conversion of traffic facility which performs complex functions into the mega structure. [1] These points shown in the modern city suggest also that, although railways and railway station buildings have associated with the urban decline since they were remained as the heritage of the latter part of industrialization era, they may contain another possibility to cause the spatial conversion on the basis of this region.

That is, since it is provided to the people in the modern city as a new space not a simple traffic facility in accordance with how an urban facility developed in the latter part of industrialization era can be restructured again. Also, the transparency, which is offered by metal material and glass in mono tone of dominating the whole space, and the integrity, which is made by the structural repetitiveness, form image in the generally and characteristically modern airport architecture. The architectural space in this equal hugeness that mixes the compositeness in numerous diversities 'neutrally' has influence upon railway station, terminal, and large multi complex shopping mall as well as airport, and is becoming the typical shape in urban architecture. [2]

3. Urban Recycling/Regeneration of the Railway and Railway Station Building

We may check that railway station buildings and nearby areas which had occupied the center of Industrial Revolution since 19th century are regenerated in the many-sided direction through the following four projects, that is, Tokyo station restoration project of Japan, Gare du Nord and nearby regional regeneration projects of Paris, High Line project of New York, and Busan station project performing integrated regeneration with old port, etc.

3.1. Regeneration Utilizing Historical Symbolization: Tokyo of Japan, Tokyo Station

Tokyo station is a representative case which spread a regeneration project so that the Tokyo station building and nearby Marunouchi area can perform the symbolic and functional role within Tokyo simultaneously by linking the symbolic/spatial value of facing with the imperial palace of Japan in the historic city to the functional value of railway traffic facility which is the core means of public transportation within the Japan. Looking into it concretely, in case of the Japan, railway was built after 1872, and thereafter Tokyo station was built in 1914 as the central station of capital. At that time, Tokyo station was the gateway of Tokyo, the capital of Japan, after it was built in the Daimaruyu district as the ‘front entrance of the imperial family’, and its role as the gateway of Tokyo is continued even now. Tokyo station which fulfilled functions as the historic facility of railway traffic which is the main means of Japanese public transportation at the same location for one century was existed together with the history of city called as Tokyo. If limited to the physical change of constructed space, the ceiling part of the rooftop of Tokyo station which was initially built in 1914 was collapsed by the air raid in 1945, and after being used in the form of two-storied building after being restored twice after 1947, it was completed in 2012 by commencing a preservation and restoration plan of Marunouchi station building from 2007 and conducting construction works.[4] Currently, the restored Tokyo station is utilized as the ‘historic place’ where many-sided public events are held while being used as hotel. Meanwhile, hidden side of the physical change in recently completed Tokyo station as the gateway of Tokyo started to contain the more complex meaning due to its located position. That is, there had been a discussion regarding regeneration of Marunouchi area together with the necessity of remodelling on deteriorated historic
facilities of 1990s in Tokyo station which kept its role as the gateway through which people entering the Japan from overseas enter into the downtown of Tokyo by linking to the Narita airport in 1980. Community development of both sides centered on Tokyo station while having tracks in-between acted as the catalyst promoting revitalization of nearby area by utilizing historic symbolization of the old Tokyo station actively, not as the development where economic investment value is paramount simply.

![Fig.1 Tokyo Station & “Station City Two-Stage Restoration Plan “Monument of Defeat” Contest Item[3]](image)

3.2. Paris of France, Gare du Nord

![Fig.2 Structure of Paris stations system & Paris’ Gare du Nord and Gare de l’Est Area’s Redevelopment Zone](image)

The 10th district where Gare du Nord is located is the old downtown keeping the traditional urban structure of typical Paris, and at the same time, it is the area where various traffic facilities are meeting each other. Especially, although north side area of the Gare du Nord was the place where industrial facilities were located in the past, it was the situation where recycling and regeneration of corresponding facilities were necessary because their functions...
were in the declining condition at that time. Especially, Gare du Nord has the spatial rank as the intermediary area between the mainland Europe and U. K. by performing its function of terminal station of the EURO STAR.

In this situation, the urban regeneration policy of France at that time was enforced within three frames such as 1) the restructuring of old and large-scale clustered houses, 2) recycling of abandoned industrial facilities and corresponding sites, and 3) regeneration of old downtown, and this situation at the north side area of Gare du Nord became the background of enforcing the Gare du Nord transfer station project in accordance with the fact that some of them were matched to the directivity of urban regeneration policy of the France. Especially, the north side area of Gare du Nord is the core area connecting lagged behind north parts of metropolitan area with Paris in accordance with the objective targeting at the connection of traffic network between the north part of Paris and metropolitan area and the balanced development in the wide area plan for metropolitan area of France. Redevelopment of Gare du Nord and the urban regeneration project of nearby area are in force.[5]

3.3. New York of the United States, High Line Project

![Figure 3: Details of High Line Project & Photos](Image1)

In the urban space of Manhattan having a highly-dense grid, the linear overhead trail, newly made by utilizing the heritage of industrialization era called as the obsolete railbed, became the routine cultural center of New Yorkers.
3.4. Functional Reorganization of Railway Station and urban restructuring integrated with the old port: Busan of Korea, Busan station

In Korea, modern urban infrastructures built while undergoing port-opening in the early 19th century are considered to be mainly ports and railways. In case of Busan, it was the area as seaport where development of its downtown was started from the nearby area of port which was the base of logistics. Although it was grown as the starting and destination points of railway by linking to the port, it is the area where its old downtown was declined while undergoing the process of urban growth such as the extensional spread of city.

Especially, the Port of Busan was the Korean port which was opened first in Korea in 1876, and its full-scale development had been accomplished from 1906, about 30 years after opening the port, which may be considered to be started from movement of logistics to the inland from the Port of Busan through Busan station adjacent to the Port of Busan that was built as the terminal station of Gyeongbu-Line connecting Seoul to Busan that was opened in 1905. [6]

In case of Busan station, although railway station is the terminal station of passengers, accessibility to the port was away from it in case of the traffic line of people since it was formed with structures to facilitate mainly unloading and movement of logistics because it was located geographically at the area to meet the ports in eastern coast of Korean Peninsula. Due to this situation, urban spatial connectivity leading to the old downtown-railway facility site-port had to be degraded necessarily.

Redevelopment plan of Busan station started from this background is the case where functional reorganization between nearby railway station and railway facilities and the redevelopment plan of north port located at the rear of Busan station are promoted by linking through integration. If looking into it further, in the aspect of railway network, while functions and roles of each railway station such as the high-speed railway flag station and terminal station, etc. had been relocated together with Busanjin station and Bujeon station, the utilization of railway site was tried to be maximized in the redevelopment plan for old port and railway station, and nearby area by establishing an integrated land use plan through linkage to the redevelopment plan of north port being promoted by the Busan city with the north port which is the old port as its target.
4. Conclusions: Possibility of Urban Infrastructure kept by Railways and Railway Station Buildings

As a result of this study, it was confirmed that the old infrastructure was the physical heritage built in the urban space during the industrialization era, and recently, the method to reutilize it was shown in the similar method in various regions in the whole world.

That is, in the recent Tokyo station restoration project of Japan, Gare du Nord and nearby regional regeneration projects of Paris, High Line project of New York, and Busan station project performing integrated regeneration with old port, etc., we may confirm that railways and railway station buildings which had occupied the center of Industrial Revolution since 19th century act as the catalyst vitalizing old cities which have the historicity while maintaining their routine functions as railway station buildings in the past, present and in the future too, and on the other hand, which form the landscape of region that can be directly experienced and 'enjoyable,' 'not just seen'.

This point is considered to provide more possibility to the new necessity called as the spatial value conversion to the existing physical spaces for modern urban residents, rather than the collapse of traditional urban structures such as the functional linkage of old infrastructure which was occupied as the mega structure and increase in mutual variability in the modern urban space, and the complexity of traffic facility, etc. expressed by Peter Smithon or Albert Levy mentioned previously. That is, the reutilization of old industrial heritage refers to transfiguration to the daily space of modern urban residents, and transfiguration to the place and landscape where they may participate in and enjoy the culture of corresponding areas by themselves.

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