



Article

Urban Entertainment Center (UEC) as a Redevelopment Strategy for Large-Scale Post-Industrial Sites in Seoul: Between Public Policy and Privatization of Planning

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Abstract: The decline of inner-city manufacturing industries is a global phenomenon, leaving behind vacant land and brownfield sites in cities. These post-industrial areas with their negative images of dereliction and obsolete urban environments have prompted many cities to implement various redevelopment strategies, among which is the concept of the Urban Entertainment Center (UEC), which combines shopping, recreation, and entertainment, with various public spaces. This study attempts to understand the changes that have been triggered by the revitalization strategy of UEC development in large-scale post-industrial sites in Seoul. Here, Special Planning District (SPD) regulation has been adopted to induce creative and long-term urban developments; however, this has been limited to private high-rise residential buildings. This paper examines two UEC development cases applied along with the SPD in semi-industrial areas for their achievements that differ from former implementations. Our analysis reveals several positive aspects: it provides a sustainable urban infrastructure for the region, overcomes the limitations of the SPD regulation practice, and establishes improved urban environment and design quality oriented toward public interest. The "privatization of planning" has become an issue in redevelopment projects. However, the two UEC precedents that are discussed imply that building cooperative public-private partnerships through a reciprocal process will secure more public benefit overall.

Keywords: post-industrial city; brownfield redevelopment; Urban Entertainment Center (UEC); Special Planning District (SPD); public–private partnership

1. Introduction

The decline of manufacturing industry and the rise of new form of development in cities has been a global phenomenon. A global shift in the industry has resulted in the decentralization of manufacturing industries in the city [1]. The manufacturers have been relocated to urban fringes and suburbs, leaving vacant land and brownfield sites in the city [2]. There are multiple issues associated with these brownfields: obsolete conditions when abandoned, remaining environmental contaminants, remediation process and cost, a mixture of leftover industrial facilities with some residential replacements, a lack of essential infrastructure for living, and the absence of sociocultural amenities [3]. There has been growing attention in North American and European countries to renew these leftover industrial sites for multiple benefits that range from expanding the tax base, creating jobs, enhancing the urban image, and improving the quality of life [4]. In particular, the United Kingdom (UK) policy agenda addresses the notion of "sustainable development" among UK's brownfield

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regeneration projects [5]. Nonetheless, practically, the public sector diminishes its role and preferably encourages private investment to redevelop these underutilized properties due to the high transaction cost, uncertainties regarding cleanup liability, and the additional cost to environmentally remediate [6]. Since these brownfield transformations should foster a more sustainable urban setting, tactics for redevelopment must consider its influence in the broader planning context, including economic, environmental, social, communal, and aesthetic dimensions [7–9]. Thus, it is necessary to develop "policy maturity" by understanding the brownfield condition, attaining political commitment to action, and promoting collaboration with the private sector [2].

Global cities have been dealing with different types of post-industrial sites, such as factories, power plants, railyards, mining districts, and shipyards, through various revitalization strategies that include heritage sites for tourism appeal, cultural and commercial facilities, city parks, and mixed-use urban development incorporating entertainment and creative industries [7,10]. In Yokohama, a new business district called Minato Mirai was designed as a master plan that incorporates convention centers, shopping malls, and art museums, replacing the heavy industries located in the shipyard [11]. Also, in Sydney, a UNESCO (United Nations Educational, Scientific and Cultural Organization) World Heritage Site—the Cockatoo Island shipbuilding yard—has been revitalized by introducing cultural events utilizing industrial heritage [12]. A coal mining district in Essen, Germany, also reopened as Zollverein Industrial Complex, a landmark tourist destination with art museums dedicated to history [13]. Military and electronics factories in Beijing transformed into the 798 Art Zone [14]; a sugar factory was converted into Niccolò Paganini Auditorium in Parma [15]; and in Winterthur, Switzerland, steel factories changed into the Sulzer-Areal, which has cultural amenities [16]. Former energy or sewage treatment plants have been converted into cultural and ecological parks, such as the Olympic Sculpture Park in Seattle [17], Washington, the Tate Modern in London [18], and the Seonyudo Park in Seoul [19]. In addition, the former industrial area of Poblenou district is now an important scientific platform within the masterplan of "22@Barcelona" [20].

From the diverse cases mentioned above, it is evident that cities are engaging culture as well, as tertiary and entertainment industries have increasingly become essential for urban tourism in these post-industrial sites [21–23]. The merging of the consumption sector with cultural entertainment resources has led to the evolution of shopping into a "leisure experience" in itself [24,25]. Beyard explained the background of this phenomenon of urban commercial programs enmeshed with entertainment through six reasons: intensifying sales competition with the online market, exhibiting lifestyle experiences, increasing eat-out demand, aiming for efficient entertainment experiences, capital extension in the entertainment industry, and economic realization of urban revitalization [26]. This strategy generates more revenue from service industry tenants while providing services and keeping residential property taxes relatively low [27]. Essential local amenities are expanding toward recreation and consumption realms, offering culture and entertainment [1], as it creates benefits for the wider community and locality by providing an improved urban environment, infrastructure, service, and livability in terms of urban sustainability [21,28,29].

The Urban Entertainment Center (UEC) is usually a dominant structure in the urban landscape that includes components such as shopping complexes, multiplexes, restaurants, and theme parks in addition to a spectrum of "outdoor plaza, corridors, paths, trails, courtyards, and interior spaces that blur the line between public and private property and space" [30], which distinguishes it from an ordinary shopping mall. Developing these large-scale urban retail systems involve multiple issues among public and private sectors, regulation policies, local communities, and quality of space. These developments have been classified as public–private partnerships; however, private developers have taken a dominant role with a profit-maximizing perspective. The public sector occupies a more subservient role within the planning process [31]. Banerjee made the point that the increasing dominancy of the private mechanism leads to "a steady withering of the public realm" [32]. The active participation of the public sector, the broader community, and citizen groups are necessary in terms of land use, quality of urban space, and consideration of the local context. In addition, criticism regarding

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the strict application of the land-use zoning system has highlighted the resulting neglected, underused, and unpopular urban spaces, and restricted innovative developments [33].

Asian cities are experiencing similar consequences of change in industry and urban landscapes, as well as emerging cultural consumption-oriented developments to revitalize former derelict industrial areas [34]. In Seoul during the 1990s, most inner-city factories were relocated to the outer suburbs. As a result, there were many derelict large-scale manufacturing brownfield sites, especially in the southwestern part of the city. As a revitalization strategy for the resulting obsolescent environment lacking urban amenities and services, multi-purpose commercial complexes that integrate culture and entertainment were developed. However, in Seoul, urban planning regulation for land use has been slow in reacting toward recently built multi-use or mixed-use development, while the principal agent for development has switched from the public to the private sector. This phenomenon, referred to by Shatkin as the "privatization of planning," has resulted in allowing the private sector to develop mega-projects that identify local forces and conducting a detailed analysis of the overall urban form, particularly in Asian cities that are experiencing the process of "Westernization" [31]. Healy showed concerns with the "simple-minded supply-side economics" of the private sector redeveloping large derelict industrial lands, resulting in undermining regional differences [35].

This study attempts to understand the changes in large-scale post-industrial sites through UEC development as a revitalization strategy in the city of Seoul. The research is composed of two parts: (1) the historical background and related issues of decentralization of the manufacturing industry in Seoul; and (2) two UEC development cases that have been selected to examine the development process, public–private relationship, and the physical outcome regarding the urban design and architectural dimensions. Although UECs are market-driven projects where the private sector has greater impact, a special planning regulation has been applied in the two UEC cases for the public interest, which are different from previously applied precedents. Moreover, discussions will include planning implications from the two UEC cases and limitations regarding constant efforts to establish a well-balanced public–private partnership that suits their respective purposes.

2. Materials and Methods

This research primarily utilizes two prominent and representative case studies located in the declining industrial area in Seoul. It highlights multiple inherent urban issues, including the historical background of the emergence of brownfields in Seoul, Yeongdeungpo region, redevelopment tactics through UEC developments and specifically applied regulations, as well as the process and outcome between the public and private sector. In this regard, there are two main sections. Firstly, the Yeongdeungpo region, once an active manufacturing district in Seoul, is historically investigated followed by the designation of special urban planning regulations such as the District Unit Plan (DUP) and Special Planning District (SPD) within the zoning system. Particularly, UEC developments have been induced in two SPD sites within the semi-industrial regions. Literature including governmental reports, archival materials, and articles are reviewed to understand the historical evolution and context of the manufacturing industry restructuring and the leftover large-scale post-industrial sites. In order to verify the suburbanization of the manufacturing industries, we acquired the annual survey data of secondary industry company and employee numbers from the Korean Statistical Information Service (KOSIS) and examined the respective trends of the inner city and outskirts through the data. In addition, mapping the urban industrial area by using GIS (Geographic Information System) through ArcGIS 10.1 software is supplemented for further evidence-based insights. By looking into articles and research papers, a brief history of UEC development is followed by investigating specific planning regulations to induce and materialize extraordinary urban mega-projects.

In the second section, as a result, urban design and architectural outcomes, including the overall planning strategy, exterior and interior design, public space, and other infrastructural elements are examined. In addition, the development process of the two UECs is examined regarding planning regulation issues, including aspects of public–private partnership. In order to understand the

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change before and after the developments, multiple field observations and informal interviews with shopkeepers were held, along with the referencing of news articles and planning and design of reports. Shopkeepers who participated in the interviews were mainly in their 30s to 50s and had been running their business within an approximately 300-m radius from each UEC development. On top of the author's perception and evaluation based on on-site observation, news articles and media reports, along with the multiple stakeholders' perspectives and assessments that have been acquired through interviews, are reflected seamlessly throughout in the section regarding urban and architectural outcomes. In addition, an interview with a developer in charge of one of the UEC development projects provided supplemental information pertaining to the spatial planning and design process. Furthermore, three sessions of face-to-face interviews were conducted with governmental officers of the Yeongdeungpo and Guro boroughs in order to acquire details on the issues with development processes regarding SPD regulation and public-private partnership relations. The in-depth interviews lasted between 40–90 min each, used a structured questionnaire, and were held with the consent of the interviewees. In the end, various implications on planning aspects and the relationship between the public and private sector are discussed through comprehensive interpretations.

3. UEC Developments and Planning Regulations in the Post-Industrial Areas of Seoul

3.1. Industrial Restructuring and Urban Transformation of Yeongdeungpo Region

South Korea achieved rapid economic development and the expansion of its cities on the strength of the dictatorship of the military regime after the 1960s. The central government at the time was directly involved in city planning, constructing many national industrial complexes and establishing numerous city-reorganizing plans. However, there was little national finance after the Japanese colonial rule (1910~1945) and the Korean War (1950~1953). Hence, a strategy to create physical changes in the cities through the use of private capital, without directly investing public finances in the execution of individual projects, was frequently employed. In the mid-1970s, three core areas were anchored in the city of Seoul for strategic developments: the old downtown, Gangnam, and Yeongdeungpo region [36]. Yeongdeungpo is located in the southwestern part of the city, which once retained vigorous manufacturing industries, but is no longer a periphery; its spatial stance has acquired increasing spatial importance, and received continuous development pressure.

Throughout the 1980s, the industrial structure of Seoul underwent several changes, and the traditional manufacturing industry began to decline (Figure 1). The large-scale factories were relocated to the outskirts of the city, and the derelict manufacturing sites were replaced with extensive apartment blocks. The fervent trend of the redevelopment of such sites that began in the 1980s—which was seen also in the Yeongdeungpo region—resulted in indiscriminatingly changing brownfield sites into apartments. Most of the land use was gradually converted from semi-industrial zones in the 1990s into other usages, followed by corresponding policies from the Seoul Metropolitan Government [37]. Figure 2 illustrates the drastic land-use change that took place within the semi-industrial zoning region of Yeongdeungpo until 2011. In general, unlike the cities in the West, where brownfields were abandoned for a certain period, which resulted in deterioration, the large-scale brownfields of Yeongdeungpo were not abandoned for long, because of the high development pressure and the vitalization of the real estate market. As this process of change occurred without a sufficient amount of time for a systematic response from the public sector, various urban problems appeared. Small operating factories that remained obsolete were randomly mixed with newly built residential areas, forming substandard housing conditions. Infrastructure was in short supply because of the oversupply of housing and lack of sufficient planning [38]. In the 1990s, as the real estate market was booming throughout the cities, the public sector had no intention to actively intervene in the regional transformation. In addition to the indifferent attitudes of the public-private sectors, there were no conscious plans to create the vision for the area, which has been the center of the southwest sphere of Seoul.

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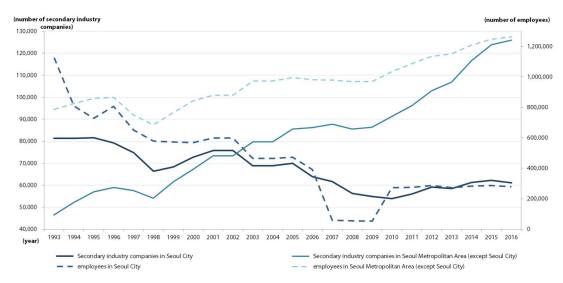


Figure 1. Decline of the inner-city manufacturing industries and relocation to the outskirts of Seoul (Source: Modified data from the Korean Statistical Information Service (KOSIS)).

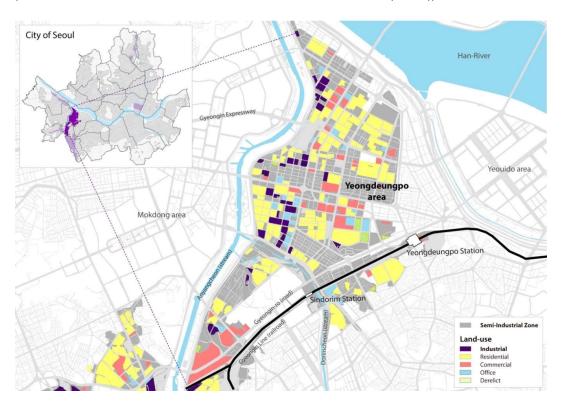


Figure 2. Industrial areas in Seoul and large-scale post-industrial sites in the Yeongdeungpo region (Source: Author using 2011 land-use (GIS) data).

According to statistics from the 1930s, there were 14 factories, including pottery and brick manufacturing, leather shoemaking, and brewery factories, in Yeongdeungpo region. As the construction of large-scale textile factories increased, the Yeongdeungpo region began to develop into an emerging industrialized area [39]. In 1937, the year after the Yeongdeungpo region's incorporation into the city of Seoul, the land readjustment project was implemented to create large-scale lots. In 1939, as the zoning system was enforced, the Yeongdeungpo Station area was designated as a commercial zone, while the surrounding area was appointed as a semi-industrial zone for its locational competency, convenient transportation, and water supply [39]. Even amidst the confusion of the national liberation in 1945, the industrial function of the Yeongdeungpo region expanded and became the largest industrial zone

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throughout the Seoul Metropolitan Region. The Korea Export Industrial Complex, which includes the Yeongdeungpo region, together with today's Guro and Geumcheon borough, played a pivotal role in Korea's economic growth in the 1960s to the 1980s. According to the 2000 statistics of Seoul City, there were 205 industrial sites with sizes of over 3000 m². As of 2000, only 48 of these were operated as factories, and 128 were converted into apartments and offices, while 28 were shut down and awaited changes [38]. As a consequence, newly developed residential complexes are mixed disorderly with still-operating large and small factories among an overall deteriorating urban environment. In addition, urban infrastructure and amenities are insufficiently planned and provided for, compared to the rate of land-use conversion into residential neighborhoods.

3.2. Adopting the Special Planning District (SPD) Regulation for UEC Develoments

The city of Seoul was aware of the deteriorating environment and lack of infrastructure in the Yeongdeungpo region, and consequently established guidelines to manage the semi-industrial zone in the late 1990s. To improve the obsolete environment of post-industrial sites and reinforce the region's urban status as a sub-center, commercial, cultural, and lodging facilities were developed through the District Unit Plan (DUP). In particular, Special Planning District (SPD) regulation was applied [38] on large-scale land over 10,000 m² in order to integrate local conditions and allow collaborative public–private partnerships for providing quality urban spaces.

SPD can be designated as land in cases where special architectural programs are necessary, and complex developments are imperative, to accommodate multiple buildings within one piece of land. It also applies to architectural facilities with special functions that are difficult to generalize, such as large-scale shopping malls, exhibition halls, and terminal and wholesale markets. SPD, together within the DUP, is an area-based system to supplement the disadvantages of the rigid zoning system. The DUP was adopted to reflect regional characteristics and conditions in the uniformly applied zoning regulation. The SPD supplements the DUP through the collaboration between the public sector's more active interventions in the complex development process in the regions that need to secure the public interests more carefully [40,41]. Initiated in the 1980s, the SPD inherited characteristics similar to New York's Special Zoning District or the Specific Project District in the Japanese planning system [42]. In general, projects are proposed by the private sector, and the public sector undertakes the evaluation and approval process. The DUP provides a platform for the private sector to execute projects according to public guidelines, and actively coordinates a public-private partnership (Figure 3). The SPD allows the principal development agencies and stakeholders to establish cohesive and integrated development plans, especially between the public and private sectors, where public-private partnership has not yet become a solidified process.



Figure 3. Planning agents and the hierarchy of zoning for the District Unit Plan (DUP) and Special Planning District (SPD).

The SPD intends to guarantee public involvement by inducement rather than control, which differentiates it from zoning. Moreover, its merit lies in securing public interest by considering and respecting the indigenous urban context of each project site. Nevertheless, when it comes to the compensation and negotiation process, this type of regulation by nature requires much effort,

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while public concerns cannot be fulfilled unless this process properly precedes development. In fact, during the mid-2000s, the South Korean academic circle raised criticism regarding the problems of the application of SPD regulations, when most of them were applied to mixed-use residential high-rises. There have been projects executed with conflicting problems such as an imbalance between the public and private interests [43–45] and neglect of the surrounding environments and contexts [46]. Moreover, there have been issues of lowered quality in the quantity of public facilities [42], the ambiguity of the SPD designation criteria [40,45], and the inadequacy of principal design agents.

UECs began to appear as facilities for regional regeneration in Seoul from the early 2000s. The development of large-scale land materialized through applying the SPD system that had flexibility in scale, density, land use, height, the interior and exterior designs of buildings, and the development process [47]. In fact, the first UECs in South Korea appeared in Gangnam, a region that was newly developed only in the 1970s. Two examples are the COEX Mall (2000) and Central City (2000), which were developed to suit newly developed areas. These facilities, which introduced new forms of shopping, culture, and leisure space, attracted many visitors after their opening. UECs have become an anchoring development in both new towns as well as obsolescent urban areas marked for regeneration. The following section comprehensively examines the indigenous context of the transformation of the industrial period of Seoul and exemplifies two representative cases of UEC as alternative regeneration strategies. A particular flexible urban planning regulation is applied through public–private partnership, and the issues that reveal its pros and cons during the UEC development process are discussed.

4. Two Cases of UECs Developed with the SPD: Time Square and D-Cube City

4.1. Urban Context and Development Process of the Two UEC Cases

The two cases proceeded with a much more complex progression than traditional development projects, which normally follow the pattern of the public sector evaluating the private sector's initial project proposal, followed by the private sector leading the development. In both cases of the UEC development process, there were numerous consultation and coordination steps between the public and private sectors, right from the planning phase to the completion of the construction. Earlier on, the public sector had planned the area, taking into consideration the district unit plan, and actively searching for developers. Private developers examined the business value thoroughly and proposed design and planning alternatives. During the stage of establishing detailed development plans, the Yeongdeungpo and Guro borough offices and the developers consulted each another constantly regarding authorization for project implementation and various requests for construction permission. Through this planning process, the district unit plan, SPD, and detailed development plans were established. In accordance with the set urban planning framework, public facilities were secured, incentives were decided, and the use and buildings designs were confirmed.

Time Square was built on the former site of a large-scale textile factory of Kyungbang Co., Ltd. (Seoul, Korea), which was constructed in 1932 and operated until it was closed in 2003 (Figure 4). It is located at the transportation hub, and the neighboring area is surrounded by small factories such as printing and metal processing shops, vegetable and fruit markets, and old commercial zones. Since the development of Time Square, existing urban fabrics are gradually being replaced by business, commercial, and residential facilities. Changes began in the neighboring area of Sindorim Station, which had the image of an industrial region for a long time because of the large-scale factories located therein. Daesung Industrial Co., Ltd. (Seoul, Korea) constructed a briquette manufacturing factory on the adjacent plot of land to the north of Sindorim Station of the No. 2 subway line. D-Cube City opened in 2011, and though smaller in scale than Time Square, includes lodging facilities such as the Sheraton Hotel and two high-rise residential buildings forming a landmark within the low-rise urban fabric (Figure 5). Based on references from Won and Park and Kim and Lee, the overview of the two UECs is shown in Table 1.

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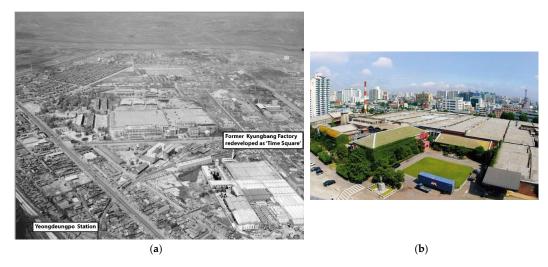


Figure 4. Industrial landscape of Yeongdeungpo region in 1963 (a) and former Kyungbang textile factory in 2007 (b) (Source: (a) National Archives of Korea and (b) Yeongdeunpo-gu Office official website compiled by authors).

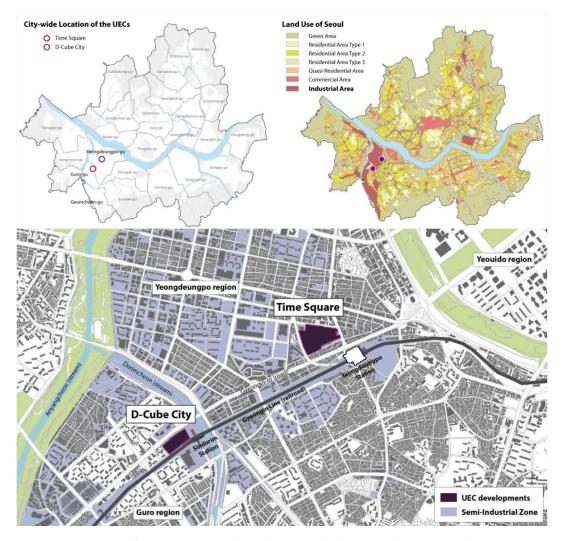


Figure 5. Location of Time Square and D-Cube City developments (Source: Author using 2015 administrative boundary, land use and building GIS data).

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Table 1. Overview of Time Square and D-Cube City Urban Entertainment Center (UEC) developments.

	Time Square		D-Cube City	
Development Period	• July 2006 to August 2009		• April 2007 to July 2011	
Lot Area	• 44,290 m ² (Building-to-land ratio: 59.45%)		• 25,650 m ² (Building-to-land ratio: 56.90%)	
Gross Floor Area	340,136 m ²		350,247 m ²	
Scale	Five-story below groundFive-story to 20-story above ground		Seven-story below groundSix-story to 51-story above ground	
Facilities & Programs	Retail (Department store and other stores)	227,891 m ²	Retail (Seven Global SPA brand stores)	177,295 m ²
	Cultural (Multiplex/ Wedding hall/Museum)	27,211 m ²	Cultural (Musical Theater/Art center)	30,542 m ²
	Hotel: Marriot	23,810 m ²	Hotel: Sheraton	77,825 m ²
	• Office	5,442,176 m ²	Office	60,978 m ²
			Residence	120,134 m ²
Project Cost	Approx. \$5500 million		Approx. \$9100 million	

(Source: [48,49]).

The scale of the two UECs is massive, with total building floor areas of around 350,000 m². The facility integrates multiple urban services and functions—including commercial facilities such as department stores, shopping malls, and big discount stores; cultural facilities such as multiplexes, musical theaters, and children's theme parks; and lodging facilities such as fine hotels, offices, and apartments—within a single building complex. Research studies related to various media and real estate have indicated that such facilities have been successful as individual businesses, and moreover, exert a positive influence on regional changes, such as expanding the commercial sphere of the regions, developing the deteriorating surrounding areas, and providing exemplarily upgraded architectural and environmental design.

Both UECs are highly estimated in terms of aspects of urban and architectural design as an urban landmark [50,51], the effects of successful redevelopment as a redevelopment strategy by inducing further local developments and expanding local business [52], and real estate with high sales figures and visitor numbers [53,54]. In the case of Time Square, daily sales reached an average of \$2,500,000 with over 160,000 people visiting on weekdays and 280,000 people over the weekend. Obviously the "straw effect" revitalized local businesses by creating around 35,000 jobs and raised commercial and residential rental fees. Visitors constantly increased in the case of D-Cube City as well, showing a 26% annual increase in 2016 and a 42.5% sales increase from three years ago, and also invigorating the nearby businesses. According to a survey of 200 visitors to both UECs, most were satisfied with the provision of places for relaxation and leisure, and stayed longer and spent more money for this reason [55]. With regard to the sense of the overall image transformation of the place, it shows an influence on the increasing preference and intention to live in the adjacent residential area [56].

4.2. Urban and Architectural Outcomes

Figure 6 exemplifies the consequential outcomes of focusing on the process of private–public partnership, on the three major aspects of urban planning, urban design, and architecture, and infrastructure and public space. From the urban planning aspect, the public sector designated an extensive area of DUP districts, followed by assigning two UEC development sites as SPD areas. Overall guidelines regarding privately owned public spaces, public plazas, pedestrian passageways, and so on were determined. These public attributes of UECs facilitate links with not only the local

community, but also affect their social function among various visitors regardless of its large-scale within the urban fabric [57].

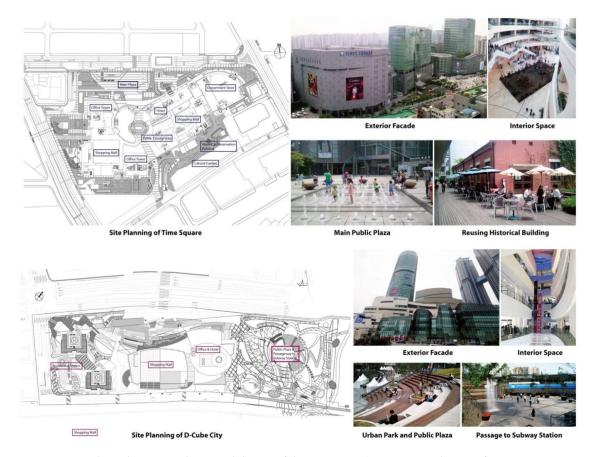


Figure 6. Urban planning architectural design of the two UECs (Source: Site planning for Time Square is from a Junglim Architects internal document, and for D-Cube City is from a Samoo Architects and Engineers internal document, while all of the other images were photographed by the authors).

In terms of urban design and architecture, architectural programs were segmented into individual building masses in order to blend in with the surrounding context, while a unique façade provided a distinctive presence. In Time Square, 10 to 20-story program masses such as a hotel, office, and department store combined with a shopping mall beneath them as a "complex style" structure, which allows for a well-balanced landscape with the surrounding buildings and urban blocks. At the same time, the respective masses show connectivity through a consistent façade design and material. Office and hotel façades were applied with a glass bar pattern that exemplified rhythm through its repetition and spacing. D-Cube City aimed at creating an evident landmark as a catalyst to transform the overall imagery of the deteriorating relocated manufacturing sites, and accordingly designed two high-rises: a 42-story office tower, and a 51-story residential tower, along with a 10-story shopping center mass.

Diverse piloti spaces are provided for visitors to perceive and access the UECs easily. The lower part of the department store in Time Square was planned with six-meter-high piloti spaces to create a sense of openness and visual continuity for visitors entering from the subway station to the main plaza. Areas that were set back from building lines were not only leveled with the existing road but also used a similar pavement material, thereby creating a sense of unity for the pedestrian environment. Three out of a total of 14 entrance points for easy access were planned as sunken to directly connect to the basement anchor retails. D-Cube City possesses a main pedestrian flow from Sindorim station. Accordingly, the extended building-front area was designated as a public pedestrian passageway, with several entrance points placed along it. A multi-dimensional circulation system including a subway

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concourse level, a ground level, and stairs that connect to the second floor, provides a variety of approach experiences for visitors. Inside the buildings in both UEC projects, atriums and glass curtain walls are arranged to allow natural light and create an open indoor space. Transparent glass is utilized not only to overcome the closed attributes of the interior space, but also to integrate multiple levels and generate an internal plaza where various cultural events can be held. This consistent design effort to provide physical, visual, and social access enhances the notion of accessibility, comfort, and stability within the UECs [58].

Lastly, the outcomes of public–private partnership are well displayed across the various public spaces within the UEC development. Numerous places have both exterior and interior landscaping, with amenities linked to public spaces. In addition, existing historical buildings were well conserved and further utilized for urban activity. Further, public spaces that link existing streets or stations are providing a well-organized communal space for both visitors and local residences. Supplementary urban infrastructure such as road-widening and new extensions, public pedestrian pathways, and public parking spaces were also secured to accommodate the increasing traffic due to these large-scale developments.

Regarding public infrastructure in detail, Time Square acquired 3602.6 m² of public plaza area, with other public spaces of 17,920 m² within the private property. Artistic sculptures and fountains that shoot from the ground were installed to provide playing spaces for family visitors. There is a two-story public parking lot with 172 parking spaces for the adjacent neighborhood community to utilize. Ecological landscapes were created along with rooftop gardens and a communal facility that adds up to 17,568 m². An additional 3000 m² of building space on the second basement floor was also donated for public usage. A 10-meter-wide public pedestrian passageway was integrated into the building for cross-circulation. Further, decisions were made to preserve one of the existing textile factory buildings, through its conversion into a community café with modern architecture.

D-Cube City also constructed a main public plaza called Millefleur Park with a size of around 14,000 m² that connects to the D-Cube Sunflower Plaza and the subway concourse. As Sindorim station is characterized with the second largest floating population in Seoul, a large plaza and public seating area that were naturally created following the slope lines were planned as a resting area and place for cultural events. There are several parks, including Ssamzi park (2367 m²) and a longitudinal park (3301 m²), along with various types of gardens (5000 m²) such as "Carpets in the Sky" or "Music Gardens", which were implemented under an Italian hill-town concept for sustainable design throughout the building complex. As the Dorim stream flows right next to the site, there have been keen urban design efforts to integrate the underground pass connecting the Sindorim station, "Sunflower Plaza", and the streamlet park. Preserved machineries tracing back to the area's history were placed within the site. There are additional donated public facilities, such as a roof garden, the renovated Dorim Bridge, and multiple public artworks, installed all over the project site. In both Time Square and D-Cube City, all of the public facilities that were declared in SPD guidelines were secured, including the public plaza, parking, road infrastructure, multiple public areas, and the pedestrian passageway for the community and visitors. These quantitative and qualitative efforts to create enhanced public spaces where people congregate build mutual relationship and have influenced social values [57].

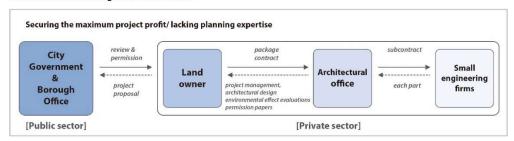
4.3. Planning Regulation Issues and Public-Private Partnership

UECs developed within the framework of the SPD system also have the problems of the previous mixed-use development projects. There are multiple issues to be examined regarding the process of adopting and applying the SPD regulations in terms of the public and private perspectives. The issues include (1) selection of the principal design agency, (2) the presence of clear public purposes and criteria for SPD designation, (3) consideration of the surrounding context, and (4) the provision of public facilities in terms of quantity and quality.

(1) Selection of the principal design agency

Major urban developments in Korea have been executed rapidly while securing the maximum project profit. Nevertheless, most of the time, public characteristic and quality of space were rather overlooked. This fast track has been possible due to making an efficient package contract with architectural offices, which again subcontract the work to small engineering firms. However, the two cases in the Yeongdeungpo region are different from the existing domestic practices (Figure 7). The landowner, Kyungbang Co., Ltd. directly participated in the project as the project operator and the developer selected the architectural designers from the beginning stage of the project, and organized the project team with the manpower dispatched from its own company. The private consortium that was organized in this way exchanged opinions with the Yeongdeungpo borough office from the early stages of urban planning, and secured the urban planning expertise that can hardly be done in the existing subcontracting system. Moreover, the architectural designers who participated in the establishment of the urban planning continued to participate in the construction process to maintain consistency between planning and designing. This partnership, which lasted for a long time, enabled the stakeholders to be involved in the procedure to overcome the difficulties that they encountered in tense situations such as changes in the design scheme, even after the construction had already begun. Ultimately, the public-private partnership formed within the two UEC projects simplified the subcontracting system by working closely between the public sector and private sector, including the consortium, landowner, and designer groups, which ensured direct communication, planning consistency, and design quality.

General Urban Planning Hierarchal Process



Attempt Towards Public-Private Partnership among Two UEC Developments

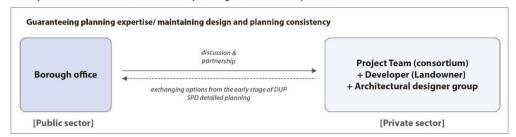


Figure 7. General urban planning process and the UEC development process in both cases.

(2) Presence of clear public purposes and criteria for SPD designation

In the district unit plan report [37], it is stipulated that a building site over 5000 m² should be designated as an SPD. According to practitioners in the field, the main criterion for the designation of a special planning district is "a place where the *development pressure* is high". However, there has been deficiency in judging the degree of development pressure, and it has been determined primarily on the public sector's discretion. Public purpose for the designation of a SPD is acknowledged in the district unit plan reports [59,60]. It is stated that as the Yeongdeungpo region has been raised to the status of the city's sub-center in the southwestern sphere of Seoul's spatial hierarchy, appropriate developments of post-industrial sites as well as the conversion of inappropriately used lands have to be initiated.

Borough offices were all aware of the need to instigate the conversion of the inappropriately used lands in the surrounding areas. Relevant land uses were encouraged by setting up facilities for business, commerce, culture, etc. in balance, and target values for these public facilities were set to raise their quality and quantity. Elaborating on the public sector's organizational system and process, the borough office proposes the contents of the district unit plan, and the SPD details the design guidelines that were prepared through consultation with the developer. After the urban management plan was confirmed, the developer acted as a coordinator between multiple public organizations in the hierarchy, the private sector, and related stakeholders, in order to obtain project permission. The borough office has incomplete authority to make decisions in each case, as a deliberative committee of the city of Seoul is in charge to evaluate the establishment and amendments of the plans that the borough office submits.

(3) Consideration of the surrounding context

In the case of Time Square, landscapes were carefully set in place to block the licensed quarters adjacent to the south side, and on the north side, public facilities such as a plaza, fountain, and public artworks were set. On the east side, the low-rise parts were designed as pilotis to secure a pedestrian space connecting the subway station to the plaza. However, the development's impact on the surrounding area was not considered in-depth. According to preceding research that dealt with the consequences of the development of Time Square on the contiguous commercial sphere, the effects varied depending on the business types and the locations of the facilities [61]. In the case of D-Cube City, a pedestrian passage was set at the part connected with the subway station, and was designed to be connected to the ground park. The façade of the ground floor of the department store was designed to open in a widthwise direction, so as to be connected with the outside. Environmental effects were considered by carrying out the environment improvement project on the Dorim stream, which was adjacent to the project site. As the other surrounding areas adjacent to D-Cube City were newly developed or in the process of redevelopment, they appeared to have been less affected than in the case of Time Square.

(4) Provision of public facilities in terms of quantity and quality

Previous developments under the SPD regulation revealed limitations such as the lower quality of public contribution that was shown through the size of spaces, when compared to the overall derivative value that could be generated with unsettled pre-negotiation system [62]. However, all of the public facilities that were outlined in the district unit plan and SPD guidelines were secured in both the UEC cases, and other open spaces and public pedestrian passages were well created, according to the people who use them all of the time, as perceived through interviews and field observation. Besides, according to interviews with the city officers, the space for the community was donated in the form of interior space rather than being located outside the building. The public sector's decision on the specific usage of theses spaces for the community is still pending. Overall, the development of public facilities was appropriately achieved in terms of quantity and quality, when compared with other existing projects developed within the framework of SPD regulation

5. Conclusions

Many cities have brought in culture, entertainment, and sports-related development as catalysts to create new economic infrastructure, replace the de-industrialized economy, and transform declining former industrial areas in inner cities into "spectacular" areas of consumption [29,63–66]. Globalization has led to an increase in competition among cities, which are promoting their city's image by creating attractive "world-class" urban spaces through cultural and leisure industries [29,67]. Our research attempted to bring up similar yet distinctive issues regarding large-scale UEC developments within the post-industrial situation of Seoul. In the context of the urban developments in Seoul, Korea, the resultant environment and provision of public spaces were manifested by the emerging

public–private partnership process that involved a greater role for the public sector for a market-driven mega-project. In addition, the application of a special planning regulation to a project with more publicness is handled differently by reflecting local indigenous characteristics on post-industrial sites. The research investigated the issues concerning the SPD regulation, which were applied to two cases of UEC development as regeneration strategies for previously industrial areas. The outcomes and limitations of these projects, which have been evaluated as successful public–private development projects from the urban planning aspect, were also discussed.

As positive outcomes, land donations were made in diverse forms compared to earlier projects where SPD was applied, and the quality of the public facilities provided was superior. The existing land donations primarily involved provisions of outdoor public facilities such as parks, whereas in the case of Time Square, practical alternatives were presented by supplying building space to be used for the community. In the case of D-Cube City, efforts for a holistic urban design were made by integrating the underground pass connected to Sindorim Station building to the park above ground, through which Sindorim Station—D-Cube City—Dorim stream can be recognized as a unified space. Second, the public-private partnership has evolved into a consultation-type relationship by going through a more continuous, reciprocal, and collaborative coordination. A more advanced public-private partnership turned out to be the essential aspect of the SPD that optimizes planning flexibility. In this process, the public sector takes more responsibility as compared to the formerly assisting-only role, and the private sector also deviates from merely acquiring permissions to actively negotiating for effective results. Third, the principal agent established and operated a public-private cooperative system, including an architectural office from the beginning that allowed consistency and professionalism in order to provide higher quality urban spaces. As large-scale mixed-use commercial facilities were built, the derelict environment was improved with consideration for architectural and urban design. It further raised the development pressure among the surrounding areas, and as the region's commercial sphere was vitalized, the floating population increased in great numbers. In both cases, the UEC development became a catalyst in changing the surrounding urban space and moved forward from the privatization of planning.

However, some limitations can be pointed out as negative aspects of this urban phenomenon. There had been different opinions between the public and private sectors on the matter of incentives through land donation. The public sector insisted that the incentives resulting from land donation were granted in accordance with the criteria stipulated in the guidelines, so that the private interests were sufficiently guaranteed. On the other hand, the private sector contended that the land donations that were made were far greater in value when compared to the incentives. Also, the strict and rigid demeanor of the public sector still remains in its organizational system, as seen in the hierarchical relationship between the city and the borough offices. Third, as land donation was provided in the form of building space for the community, the planning process omits the inclusion of the community's participation. This results in bypassing the community's perspective on what kind of space is needed and holding off on the utilization of space for a long period. In this sense, there are limitations in that it did not examine how much the residents in the applicable region participated in the planning process, and how well the information about what was happening with regard to the land was disclosed. However, in the case of South Korea, although there are guidelines that encourage residents' participation and stipulations regarding opinion gathering, public hearings, questionnaire surveys, and the disclosure of plans, whether they are properly implemented is doubtful. Moreover, as Mommaas suggested, it is crucial to enhance the strategic involvement of the cultural sector and the commercial sector among urban cultural policies [68]. Reflecting back on the Geddes spatial social ideology, accentuating the active role of community along with other stakeholders and actors will allow for the sustainable management or further developments of these UECs, which declare more publicness in the city of Seoul [31,69].

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