



Urban regeneration and gentrification: Land use impacts of the Cheonggye Stream Restoration Project on the Seoul's central business district



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The definition of gentrification has expanded significantly since its initial application in the US and UK nearly 50 years ago to cover any process by which urban space is produced for more affluent users. Some authors are now questioning the utility of such a broad concept, arguing that it is virtually indistinguishable from the process of urban regeneration. Through an exploration of land use changes in Seoul's historical central business district in the wake of the widely touted Cheonggye Stream Restoration Project, this paper argues that urban regeneration and gentrification are irreducible views of the same process that concentrate on the interests of different stakeholders. Therefore, the paper concludes that the broad definition of gentrification is more useful since it focuses public debate on the ideological and ethical question of favoring some stakeholders' interests over those of others.

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Introduction

In 2003 the Seoul Metropolitan Government began tearing down an elevated highway that ran through the center of the historic downtown, opening Cheonggye Stream to the air for the first time in almost 50 years. Completed in 2005 at a cost of roughly US\$325 million, the Cheonggye Stream Restoration Project created a 5.8 km long linear park. The project had multiple, complementary goals: restore one part of Seoul's urban history, improve environmental conditions, and economically revitalize the area. This restoration project has been a widely acclaimed success. Despite some controversy, the stream was restored and historic bridges were replaced. Environmentally, Kim et al. (2008) estimated that the project reduced near-surface temperature by 0.4–0.9 °C and found that the cooler air temperatures are evident along the streets traversing the stream. And the stream has become a destination for tourists, local residents and workers, and shoppers (Yang, 2008), which has contributed to the regeneration of the surrounding area.

Despite these positive outcomes, the project faced opposition from parties who feared that the project would lead to commercial

gentrification and the displacement of clusters of small industrial firms (Song, 2003). The pollution and noise from the elevated highway had created a hospitable environment for small firms, and over the decades, printing, trophy, or metalworking clusters had formed in the area (Song, 2003). Opposed parties argued that improved environmental quality and attractive open space would raise land prices and rents beyond the reach of these small firms. This concern was aggravated by the Seoul Metropolitan Government (SMG)'s economic regeneration plan to strengthen the business services and commercial cluster in the historic central business district (SMG, 2004). Because these clusters are ecologically linked to the surrounding businesses, another concern was that displacing them from the area might not only threaten the livelihoods of these small businessmen but also increase operating costs for the surrounding businesses (Kang, 1995; Song, 2003).

The importance and value of urban parks and open spaces, as well as their impacts on their surrounding neighborhoods, is not easy to measure, although there have been several notable exceptions (Darling, 1973; Geoghegan, 2002; Tyrvaenen & Miettinen, 2000). In particular, Darling attempted to quantify the value of urban water parks, demonstrating that the value of the parks can be measurable and that the value of urban water resources is large (Darling, 1973). In addition, several studies found that the accessibility and cityscape of urban parks increased the property value

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around the parks (Hammer, Coughlin, & Horn, 1974; More, Stevens, & Allen, 1988). Tajima (2003) also identified the value of the urban open spaces resulting from Boston's Big Dig Project on the surrounding neighborhoods. These studies employed hedonic pricing models to evaluate changes in property prices. However, urban open spaces can impact not only the value of surrounding property but also the character of their use. Therefore, this study asks how a new large-scale open space in a city center impacts land use in adjacent areas. We hypothesize that land uses dependent on lower property values will be displaced by more affluent uses.

This study seeks to contribute to this literature by examining the land use impacts of the Cheonggye Stream Restoration Project, a large-scale open space megaproject in Seoul, Korea. To evaluate the impact of this newly created open space on land use in the surrounding area, this study employs a novel research method by examining government records of land use changes in four megablocks at the heart of Seoul's central business district (CBD) that straddle the stream over the decade before and after the project. The next section briefly sketches the current literature about the impacts of open space on gentrification and regeneration. The following section explains the methodology and scope of this study. The paper then illustrates the project's impact on the study blocks with a focus on analyzing patterns of land use change. Finally, these findings are evaluated in light of the literature review.

Literature review

It is widely recognized that urban environmental quality is a key element in economic regeneration (Stanners & Bourdeau, 1995). In particular, public spaces function as useful components of urban regeneration strategies by improving the image of a city and thus a regeneration site's attractiveness to potential inward investors (McInroy, 2000). Open space also figures prominently in Richard Florida's recipes for attracting the so-called creative class that he claims are vital to urban growth in developed economies (Florida, 2002). Open space not only contributes to the visual appeal of a neighborhood but also provides recreational spaces that increase non-vehicular traffic, which in turn boosts retail sales (Choi & Shin, 2001). Thus, in the last decade, several cities have attempted to create large-scale open spaces in central districts, such as the Big Dig in Boston and the Highline in New York City, seeking not only to provide open space within the cities but also to regenerate the areas surrounding the projects.

On the other hand, urban environments that have been improved by open space may result in gentrification. The definition of gentrification has been under debate since at least the 1980s (Marcuse, 1986; Redfern, 2003; Slater, 2006). It has expanded from its narrow concentration on middle-class individuals who buy homes in poorer neighborhoods for personal consumption (Glass, 1964) to take on Hackworth's very broad definition of "the production of space for progressively more affluent users" (Hackworth, 2002). Overall, the definition of gentrification has expanded in at least three ways. First, the term has expanded from its concrete roots in London and New York City to incorporate urban processes throughout the world. Smith and Timberlake (2002), for example, offer a long list of locations, including Seoul, which they claim indicates that gentrification is now a global process.

Second, the nature of the gentrifier and gentrified have expanded from the original emphasis on young, middle-class couples gentrifying working class neighborhoods to include a variety of actors. Early conceptions of gentrifiers focused primarily on middle-class owner-occupiers. However, in their study of the transformation of Stockholm's CBD, Clark and Gullberg (1991) show that office development may also function as a gentrifying force. Additionally, commercial enterprises have been considered

gentrifiers in studies of Amsterdam and Rotterdam (Kloosterman & Leun, 1999), in San Francisco and Cambridge (Thrash, 2001), and in New York City's Lower East Side (Zukin & Kosta, 2004). Notably absent from this expansion of the list of gentrifiers are industries. On the other side of the equation, those whose neighborhoods have been gentrified were originally identified as low-income, working class families. As the commercial gentrification claims suggest, commercial activities can also become subject to displacement by higher profit enterprises. And from at least the early 1980s, industrial firms have been subject to displacement as loft living has become more appealing (Zukin, 1982). More recently, Curran (2007) has examined industrial displacement in Williamsburg, Brooklyn, illustrating uneven outcomes for various industrial residents. These studies (and many others) reinforces Hackworth's 2002 claim that the concept of gentrification has been "usefully applied to nonresidential urban change" in support of the broad definition above.

Third, though originally the prime movers in gentrification were considered households responding to market incentives (often characterized as the "rent-gap" [Smith, 1996]). According to Hackworth (2002), these smaller actors have now been displaced by larger, corporate real estate interests. He also argues that government involvement emerged actively during the 1970s, as local governments began to counter decline from deindustrialization by actively encouraging gentrification. After receding to indirect intervention in the 1980s, governments at all levels (in the US) have intervened much more actively, as entrepreneurial cities seek to compensate for declining state funding by raising property tax revenues. In the process of urban regeneration, which emerged in the UK during the 1990s, government intervention in upgrading neighborhoods has become conscious, active, and intentional, even a source of pride (Slater, 2006).

Ultimately, as many have argued (Maloutas, 2012; Slater, 2006; Smith & Timberlake, 2002), gentrification became synonymous with urban regeneration. If we adopt Hackworth's broad definition, it is clear that at heart the two are one. Both seek to produce space that will appeal to, attract, and serve the interests of more affluent users. And both involve displacing existing residents. Thus, we suggest a parallel with Clark's 1992 attempt to draw the supply and demand arguments over the cause of gentrification together as complementary but irreducible concepts that both describe important aspects of the same phenomenon. While both gentrification and urban regeneration conceptualize the same phenomenon, the former pays attention to the losers and the latter to the winners. The name one uses is only a matter of whose interests one prizes most highly.

Maloutas (2012), however, has recently argued that this generalization of the concept has produced a "half-way de-contextualization". That is, in the effort to apply a theory that explained a historically and geographically specific phenomenon to changing socioeconomic conditions and to a wider variety of national contexts, gentrification has been uprooted from its original Anglo-American context and applied uncritically and unproductively, shifting the emphasis of analysis to identifying similar outcomes rather than causal mechanisms. In particular, he argues that this de-contextualization has only proceeded half-way, as the particular historical circumstances under which the concept aspects was developed, such as deindustrialization, neoliberalism, and urban abandonment, are uncritically retained and assumed to be pertinent to other contexts. Instead Maloutas argues that scholars assessing development outside the Anglo-American setting should not assume gentrification as the cause of change but rather be attentive to "gentrification-like processes" taking place within locally specific institutional and economic conditions (cf. Beauregard, 1986). Contrary to Maloutas (2012: 42), the authors

believe that the very de-contextualization of the gentrification concept makes it possible “to compare contextually embedded forms of urban regeneration and inquire about the role of gentrification-like processes within them”.

This paper simultaneously expands the concept and contextually embeds the concept of gentrification. Hypothesizing that industrial uses, which depend of lower rents, will be displaced by commercial uses capable of paying higher rents, our contribution expands the gentrifier-gentrified dynamic to incorporate office development gentrification of industrial neighborhoods. This exploration offers support for the claim that gentrification and displacement describe the same process from different perspectives. The paper also adds to the literature on gentrification and regeneration processes in East Asia (e.g., Ha, 2004; He, 2007; Lützel, 2008; Shin, 2009). Finally, it seeks to recontextualize “the production of space for progressively more affluent users” in the localized setting of Seoul, Korea. In this regard, attention is given to the complex mixture of government intervention and market dynamics at play in the historic CBD’s transformation.

Scope and methodology

This study evaluates the progress of land use changes induced by the project through a detailed examination in the Seoul’s historic CBD. As the project was announced in July 2002, construction was begun in July 2003, and the project completed in October 2005, this study brackets these pivotal moments by examining the period from 2000 to 2011. Because this study examines the displacement of one use by another and because the SMG requires that such changes be recorded, this study is able to employ a new method for examining gentrification that is unavailable to those who study only residential or commercial gentrification.

Scope: study area

Because the Cheonygye Stream Restoration Project runs for over 6 km from the center of the Seoul’s old downtown to the Majang Rail Bridge and traverses 22 blocks, the area impacted by the project is potentially vast. However, the character of prevailing land uses shifts over the length of the stream. This study limits its study area to four mega-blocks covering 74 ha that are considered Seoul’s historic CBD and incorporate both office and industrial land uses. As shown in Fig. 1, these four mega-blocks (A, B, C, D) are subdivided to reflect their individual characteristics. Block A functions as the core of the historic CBD and was transformed by large-scale redevelopment projects implemented in the 1970s and 1980s. It is dominated by offices. Block B is divided by the stream into two distinct areas: B-1 is a commercial district with smaller scale office buildings, while B-2 is similar to Block A in scale and function. Blocks C and D have both maintained industrial uses, including metalworking, printing, trophy and plaque manufacturing, other light manufacturing, and retailers of these manufactured goods. In particular, C-2, C-3, C-4, and D are considered as one of the most specialized industrial clusters in Seoul (Fig. 1). However, since Blocks C-1 and C-2 mix the small scale commercial uses of Block B-1 with the dominant industrial activities of Block C, they can be characterized as transitional blocks. The transition to industrial uses is completed in Block D, which is home to Sewoon Market, a specialized market for electrical and mechanical goods and services. This block, however, was subdivided into five redevelopment districts in 2004 and designated as a special district in 2006 during the stream’s restoration to stimulate the redevelopment projects. Though the redevelopment has not yet begun, the SMG envisions this block’s future as a mixed-use area with substantial open space (SMG, 2004) (Fig. 2).

Methodology: measuring land use changes

Particular aspects of this study allow for the introduction of a novel means for measuring the progress of gentrification. Studies that investigate residential or commercial displacement do not explore explicit land use changes and must rely on indirect evidence of gentrification like income surveys or interviews. However, the displacement of one land use by another in this study permits the use of government records of such changes to obtain a direct indication of displacement. To determine levels of displacement, the authors went through SMG archives and catalogued all land use change permits granted for the study area and the comparison area (Teheran Street CBD) and confirmed the latest uses through field surveys. These permits were then sorted into categories appropriate for the Korean case and aggregated. This data is used first to evaluate the overall level of construction activity in the study area. Second, as each land use change indicates the displacement of one use by another, cross-tabulating prior and subsequent uses by period illustrates ongoing trends in more detail. In theory, residential gentrification of industrial districts should also be measurable in a similar way, but the authors are unaware of any studies that actually do so. This method thus represents a new approach that may be employed in other gentrification and displacement studies.

In Korea, land use changes can be separated into two categories: lot-based changes and redevelopment. Lot-based land use changes can occur in three ways: (a) a new building is constructed; (b) an existing building is renovated; and (c) only the use itself is changed. Under Korean law, a building permit must be issued to construct a new building and an “as-of-right” permission is required to renovate an existing building or to change use of a building (Architectural Act, Articles 11 and 14). Thus, to track these changes, we collected data on all building permits and “as-of-right” permissions issued for the study area from January 2000 through December 2011 by the SMG.

Redevelopment projects, on the other hand, constitute major changes for a block and fall under a separate legal process. Under Korean redevelopment law, there are two steps in implementing a redevelopment project: designating the redevelopment district and issuing a permit for the redevelopment project plan. Therefore, even though a redevelopment district has been designated, a given redevelopment project may not go forward until the city issues a permit for a redevelopment project plan that a developer is prepared to actually implement (Urban and Residential Environmental Improvement Act, Articles 4 and 28). Consequently, the date a permit is issued is of great significance, since it indicates genuine movement on a redevelopment project. Thus, we have collected data on all redevelopment permits issued for the study area as well.

To trace the patterns of land use change, we use the permits and permissions to record primary use before and after the project. These uses were divided into five use groups: office, commercial, educational, industrial, and other. Although a building may have more than one use, they have been categorized on the basis of their primary use. Official records were confirmed through field survey. One contextually specific necessity is the distinction of educational institutes from other commercial uses. Korea’s culturally defined emphasis on education—especially English language education—has led to private educational services constituting a large sector of the economy. Many of the nation’s largest educational institutes have headquarters and major institutes in the study area.

Project impacts on land use

The project has had a major impact on the area in at least two ways. First, a number of major redevelopment projects secured

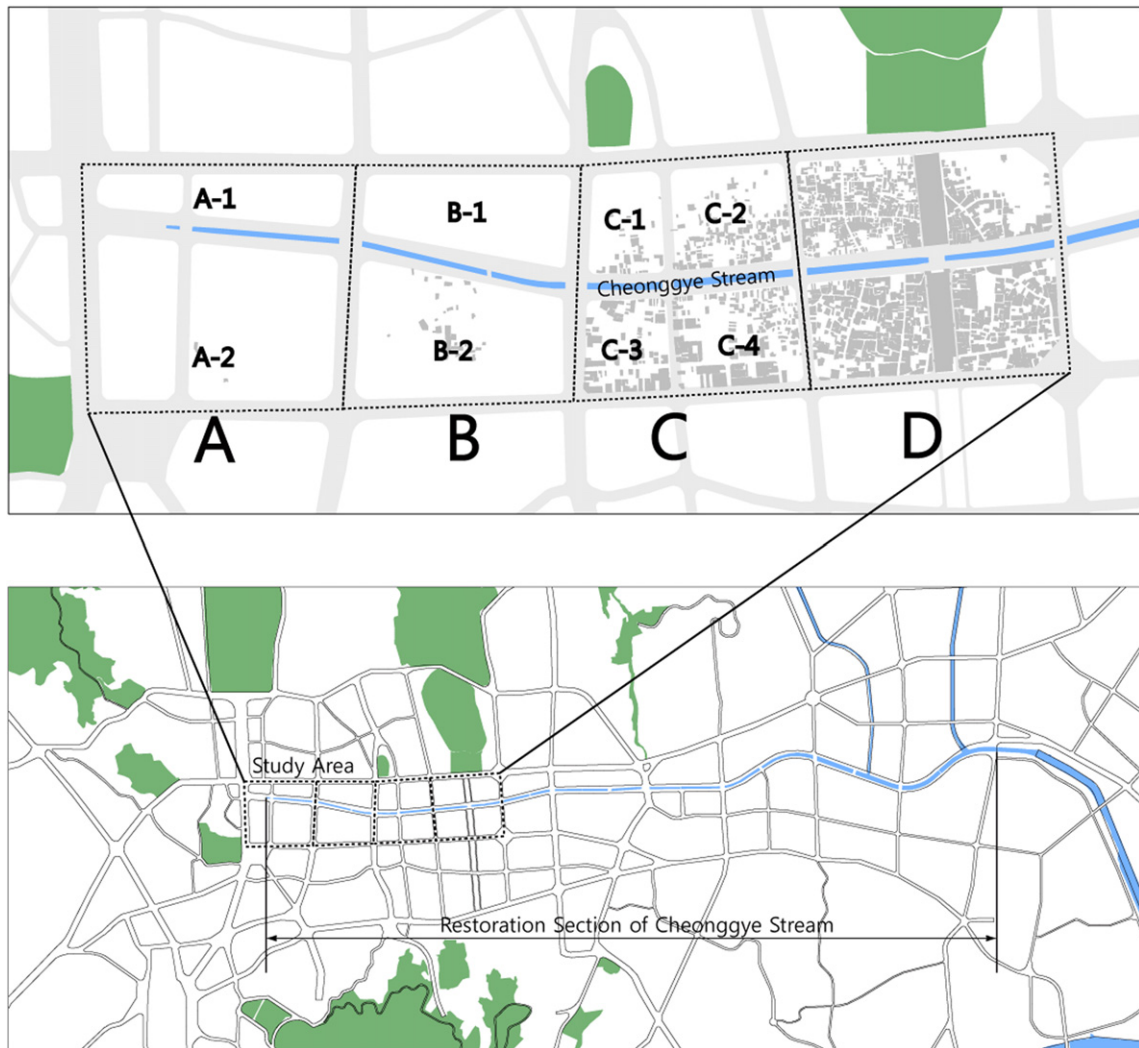


Fig. 1. Study area blocks in Seoul's historic CBD and urban industrial clusters formed in Blocks C-2, C-3, C-4 and D.

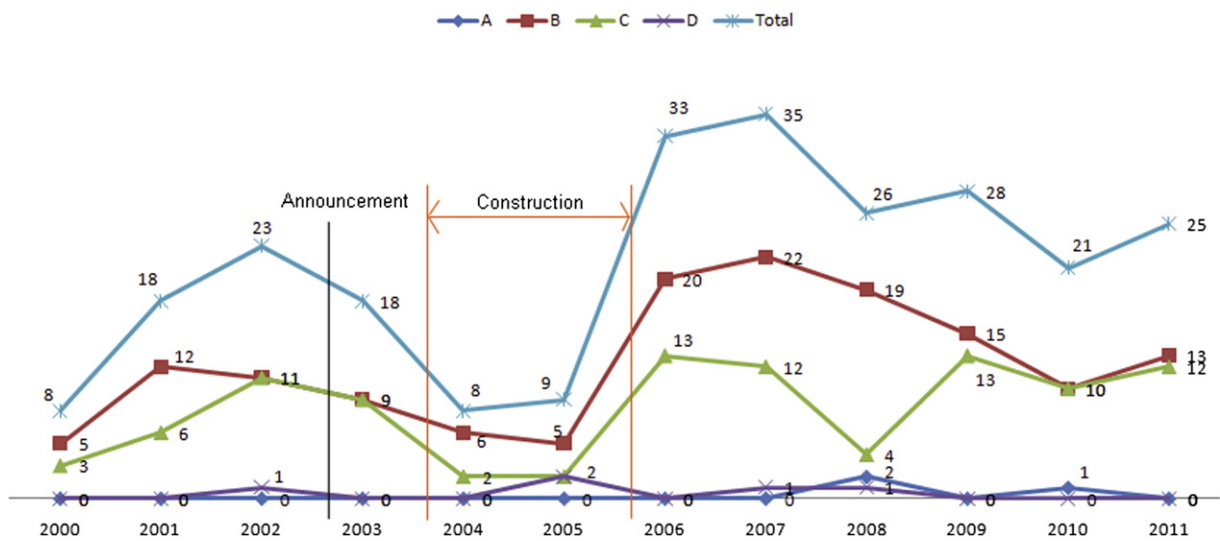


Fig. 2. Number of land use changes by block.

resources sufficient to move forward. And second, the number of lot-based land use changes skyrocketed, particularly in the transitional blocks B and C.

Redevelopment

The first major impact of the project was to jumpstart long languishing redevelopment projects and to spur several new ones. As show in Tables 1 and 2, permits were issued for five redevelopment projects within two years of the stream's restoration and a total of eight since the project's completion. Particularly notable is the fact that over 23 redevelopment sites had been designated in the mid-1970s and had laid dormant until the project's completion. In fact, no permits for implementing redevelopment projects had been issued between 1990 and 2005. This outburst of redevelopment activity is a clear indicator that the project has been successful in attracting and stimulating new investment in the study area.

Lot-based land use changes

The second major impact of the project has been on lot-based land use changes. Table 1 depicts these changes during the study period for three categories: new buildings, renovation of existing buildings, and simple use changes. The first significant finding is that the annual number of lot-based changes accelerated with the completion of the stream restoration. Compared to the construction period (2004–2005), the number of changes increased by 240% in the year the project was completed. Although there were a significant number of changes just prior to and after the announcement of the project in 2002, the total number of changes per year after construction increased by 50% over this peak. Only now in the face of the global economic crisis is this rate settling in to one equal to that of the early peak, demonstrating a particularly robust property market in this area.

Within this broad measure of lot-based land use changes (illustrated in Table 1), the average rate of new building construction (exclusive of redevelopment projects) has only expanded mildly from an average of below two new buildings per year prior to construction to a bit over 2 per year since completion. Rather, changes concentrate predominately on use changes and renovations, which will be summarized below and detailed in the following section.

Most changes occurred in the central transitional Blocks B-1 and C, which maintain the density, small-scale, and functions that have been present for decades. As previously discussed, Block A to the east of these central blocks had already been transformed into a business district through several redevelopment projects in the 1970s and 1980s. On the west end of our study area, the entirety of Block D was designated as redevelopment districts in 2004 and a special district for redevelopment in 2006. This legal designation prohibits all building activity and few changes have been observed. Thus, with Block A hosting tall office towers in the east and Block D designated for similarly large-scale redevelopment in the west,

Blocks B-1 and C are now experiencing the strongest pressure for change.

Figs. 3 and 4 reveal the impact of the stream restoration in more detail. In the five years prior to the opening of the project, changes were limited to use changes and renovations in Blocks B-1, C-1, C-2, and C-4. However, after the project was open, not only did the number of such changes in Block B-1, C-1, C-2, and C-4 increase significantly but also seven redevelopment projects were launched in Blocks A, B-2, and C-3. All areas of Block D were designated to redevelopment districts while the project was underway and are awaiting implementation.

Comparison to the Teheran Street CBD

To rule out the possibility that the significant growth of new construction and lot-based land use changes are simply an artifact of business cycles that affected the entire city, it is useful to compare the study area to one of the other major CBDs in Seoul. The Teheran Street CBD, an area that covers roughly 670 ha in the southern part of the city, serves as the largest and arguably most important business district in Korea. Fig. 5, which presents a comparison of the Teheran Street CBD and the study area, illustrates that the rapid decline in land use changes from 2002 to 2004 and the trough through 2005 is common to both CBDs. However, rather than following the study area's fourfold increase in 2006 and 2007, the rate of land use changes in the Teheran Street CBD enjoys only a momentary but minor improvement before initiating a slow rise after 2007 that has barely recovered half its 2002 level. Moreover, the study area has also successfully sustained the robust volume of land use change since 2006. This suggests that the restoration project had an immediate, direct, and enduring impact on land use changes in the surrounding blocks.

More affluent users

The broad pattern of change in land use suggests a movement toward purportedly higher uses. An analysis of all 168 land use changes since 2006 indicates that changes are converging on commercial and office uses (Table 2). Of 168 changes since the project opened in 2006, almost half can be categorized as commercial, which includes such uses as cafes, restaurants, bars, and retail. If one considers private educational facilities and hotels as commercial uses, such uses would exceed 65%. Over one-quarter of land use changes have resulted in office uses. Only 8 cases (4.7 percent) have resulted in industrial uses (Table 2).

Due to the unique characteristics of each block, as explained above, it is necessary to evaluate land use changes on a block-by-block basis. Block A forms a typical commercial office district consisting of tall buildings constructed under large-scale redevelopment projects. Since this block's major transformation into an office district occurred during the 1970s and 1980s, land uses have been little affected by the project. The project has, however, contributed to intensifying these commercial office uses. Since the project opened, two redevelopment projects were begun and one

Table 1
Number of land use changes by year.

Redevelopment		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
		0	0	0	0	0	0	0	2	3	1	1	1
Lot-based change	New Building	0	1	3	3	0	3	2	3	1	1	4	2
	Renovation	6	12	12	7	3	3	10	11	4	7	6	9
	Use change	2	5	8	8	5	3	21	19	18	19	10	13
Total		8	18	23	18	8	9	33	35	26	28	21	25



Fig. 3. Permits issued between 2000 and October 2005.



Fig. 4. Permits issued between November 2005 and 2011.

renovation was completed within the block. The two redevelopment projects are primarily used as offices with retailers or restaurants on the ground level. The renovation demonstrates no use change; the building maintains its previous office use in updated conditions.

Block B should be examined in two separate parts because Block B-2 (south of the stream) retains the same character as that of Block A in that it was redeveloped for office uses in the 1980s. Meanwhile, Block B-1 to the north of the stream is a commercial district consisting of restaurants, bars, cafes, and shops on the lower floors and

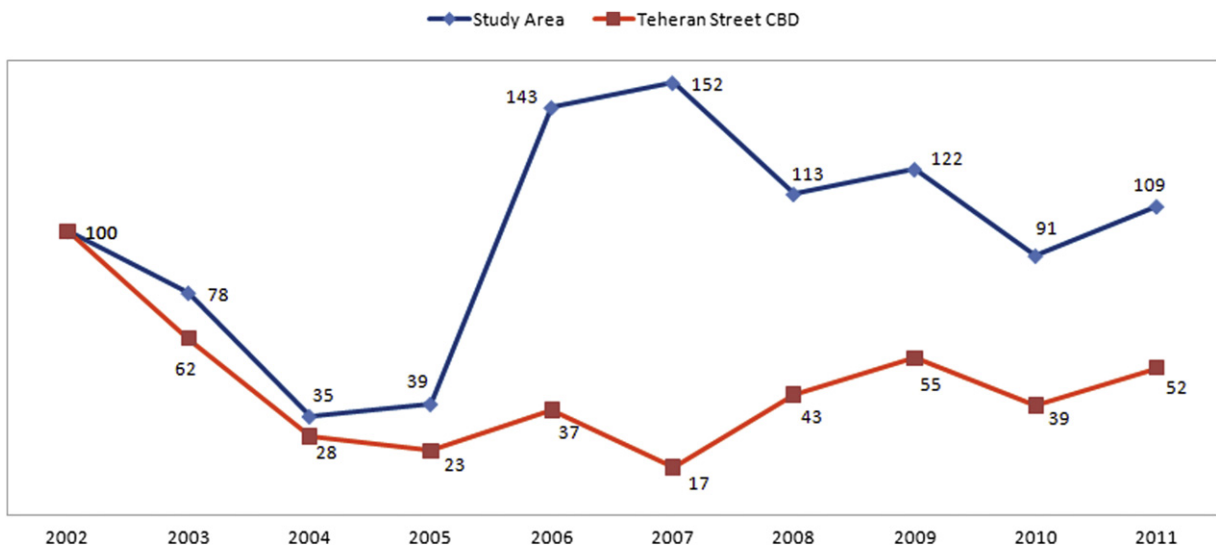


Fig. 5. Index of lot-based land use changes in study area and Teheran Street between 2002 and 2011 (2002 = 100).

office uses on the upper floors. In Block B-2 three redevelopment projects that were designated for redevelopment in 1977 and had since lain fallow were launched after the project opened and were recently completed. Thus, B-2 has strengthened its character as an office district, reinforcing similar improvements in Block A.

Block B-1, which is abutted by office uses to the south and east, has experienced the most active change among the blocks under study. Most of these changes have relied on renovation and use change rather than new construction. An overwhelming proportion of changes have been to commercial uses, such as cafes, restaurants, and shops. In particular, fully 100% of land uses in the lots adjacent to the stream have been converted to cafes and restaurants and as a result only two buildings in Block B-1 maintain lobbies on the ground level without a cafe or restaurant. It is clear then that since the project opened, Block B has strengthened its character as a commercial district and pedestrian-friendly environment.

According to a survey conducted in 2004, over 70% of land uses in Block C consisted of light manufacturing comprised of concentrations in trophy and medal manufacturing, printing, and metalworking (SMG, 2004). These industrial uses naturally agglomerated here, concentrating along the banks of the towering elevated highway to take advantage of the low rents produced by the highway's negative impact on the area's image. As a result, this block has functioned as an urban industrial cluster for decades, but now the banks of the highway have been upgraded to the banks of the restored stream.

To obtain a full understanding of this block, it is necessary to examine its four components and their varying character: C-1, C-2, C-3, and C-4. Since the project opened in October 2005, there have been 64 changes in Block C. First, Block C-3 south of the stream has witnessed the recent completion of one redevelopment project and has another redevelopment project under construction. Since C-3 is adjacent to Block B-2 where an office environment has been clearly established, it is being assimilated into the larger office district in the south and east of the study area. Second, all changes adjacent to the stream in Block C-1 have converted industrial uses to cafes and restaurants. One tall building has been completed on the corner of the block with a cafeteria and lobby on the ground level and an educational institute on the upper floors. Third, Blocks C-2 and C-4 have demonstrated a slightly different trend from Blocks C-1 and C-3. While most lots inside the blocks and along the stream have maintained their prior small-scale, light industrial character, the domination of cafes and restaurants in lots adjacent to the stream seen in Blocks B-1 and C-1 is slowly creeping into Block C-2 as well. Additionally two hotels have recently opened in newly renovated buildings; one is located next to the stream and the other is inside the block. Most changes in C-4 have maintained industrial uses, thus sustaining the block's industrial character. However, it is likely that the changes in Blocks C-2 and C-3 may impact Block C-4 in the near future. In short, it is apparent that the office and commercial uses that dominate Blocks A and B are expanding linearly along the stream.

Outside of one renovation, Block D has experienced no change since the project was completed. This is due to the 2004 designation of the block as five distinct redevelopment districts and its

Table 2
Primary use after land use changes since 2006.

	Office	Educational institute	Commercial	Hotel	Industry	Etc
A	3					
B	28	12	54	3		2
C	13	7	29	7	8	0
D				1		1
Total	44 (26.2%)	19 (11.3%)	83 (48.2%)	11 (5.9%)	8 (4.7%)	3 (1.7%)

Table 3
Total number of land use changes by type since 2006.

Before	<Block B>						<Block C>					
	O	E	C	H	I	Other	O	E	C	H	I	Other
O	14	5	5				4			2		
E	2	1	4					7				
C	2	4	31	1		1	2		12			
H				2					2	2		
I	7	1	9			1	5		13	2	3	
etc	3	1	5				2		2	1	5	
Total	28	12	54	3	0	2	13	7	29	7	8	0

O: Office, E: Educational institute, C: Commercial, H: Hotel, I: Industry.

re-designation in 2006 as a special district to accelerate redevelopment, which was accompanied by a legal moratorium on renovation, land use change, and new building within the block. For decades this block has sheltered a dense network of highly specialized manufacturers and a large market for mechanical equipment and electronics. In fact, this use has intensified over time. A 1980s survey showed that roughly half the block consisted of manufacturing uses, including light mechanical equipment, electronics, and light manufacturing, and seven percent consisted of light manufacturing retailers (SMG, 2004). However, a 2003 survey by the SMG showed an expansion of manufacturing uses to over two-thirds of the block and almost twice the proportion of manufacturing retailers.

Despite this intensification of use, in *The 2004 Development Plan of the Seoul' Downtown by the Cheonggye Restoration Project* the SMG envisions Block D as huge open space and mixed-use area that leads visitors to a center for culture, entertainment, tourism, shopping, and living. The plan simultaneously calls for retaining much of the industrial activity within the newly redeveloped structures, but seeks to upgrade existing industrial uses to internet and telecommunications firms, which are believed to serve a more affluent clientele. However, in apparent contradiction to this industrial retention plan, the SMG decided to move most manufacturers to a new mega-building built in the distant southeastern quarter of the city called "Garden 5 City". Although the relocation plan has failed to proceed as planned due to the distance and underestimated rents,¹ the current flow of events suggest that this industrial cluster is likely to be displaced by commercial and residential mixed-uses in the near future if the large-scale redevelopment projects get underway.

Consequently, existing trends in land use changes indicate that the entire CBD is being transformed into commercial and office districts for more affluent users. These trends are even more evident in Table 3, which analyzes Blocks B and C, which are undergoing the most commercial land use changes of the four study blocks. In Block B, with one exception, commercial offices, educational institutes, and retailers retained their original use or stayed within this group of uses, while 18 industrial uses were displaced by commercial or office uses. In Block C, which houses more industrial activity than Block B, over 86% of previously industrial uses (20 out of 23) converted to higher uses, while only 5 cases were converted to industrial uses from vacant land or warehousing and three industrial uses retained their original uses.

¹ Many Korean newspapers reported this issue (see, for example, The Kyungyang Shinmun, 9–30, 2009). In addition, an inquiry by the National Assembly found that only 16.8% of owners who wanted to move had been relocated to Garden 5 City by 2009 (E-Today, 6–19, 2012).

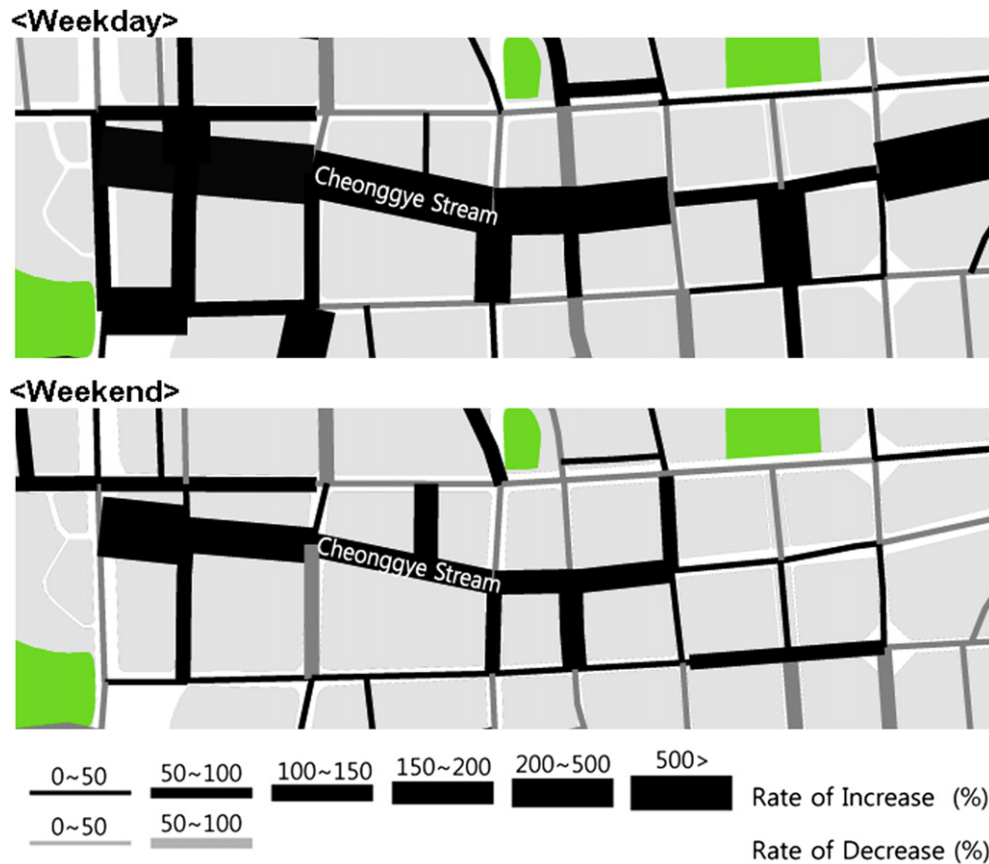


Fig. 6. Pedestrian volume changes in April 2006 compared to April 2003.

Conclusion

The project has not only provided linear open space within the city but also economically regenerated the surrounding areas in a way that stimulates land use changes for more affluent users. Our analysis of land use changes in the study blocks of Seoul's CBD reveals that land use changes have accelerated since the project opened. Evidence of regeneration is also manifest in the increase of pedestrian traffic, land prices, and rent.

First, as intended, the project strongly impacted pedestrian flow patterns. Fig. 6 illustrates the change in pedestrian flow along each major and minor artery in the study area in April 2006 compared to April 2003. During the work week, pedestrian flow shifted away from the busy major arteries parallel to the stream to the stream itself, and pedestrian flow increased along routes that provided workers in the surrounding blocks access to the stream. The weekends witnessed a dramatic increase in pedestrian volume well exceeding 200%. In both cases, there is a clear growth in overall pedestrian traffic in the area that is focused on the stream itself.

Second, the project has contributed to increasing land prices and rents as proved in previous studies. According to an April 2006 survey that compares the land prices and rents to those in April 2003, rents for offices near the stream increased 13% on average soon after the project's completion. Meanwhile land prices in redevelopment districts increased anywhere from 35 to 80%, depending on how close the land is to the stream (Seoul Development Institute, 2006). These differences are reinforced by another survey of commercial rent increases in April 2006 that demonstrated increases of 33 to 233% over rates in April 2004 depending on proximity to the stream (SDI, 2006).

Thus, it can be argued that the project as a public open space has not only attracted more people but also increased land prices and rents, thereby accelerating land use change as land owners seek to maximize profits by attracting more affluent users who value the newly created urban open space. These results suggest that McInroy is correct in arguing that large public open spaces function as a key factor in successful regeneration strategies by attracting investment based on improved physical environments.

However, the other side of this success story is that commercial gentrification has been progressing by displacing existing industrial uses. The study demonstrates that most land uses have been converted to higher uses such as commercial or office uses, resulting in the displacement of industrial activities. Over the 5 years since the project opened, 98% of land use changes in the study area consist of higher uses such as office, commercial, hotel, or educational institutes. Moreover, it is likely that this trend will accelerate in the near future if the stalled redevelopment projects in Block D start moving forward.

The rapid redevelopment of the area for "higher uses" qualifies the case of the Cheonggye Stream Restoration Project as a successful case of urban regeneration, while the ongoing displacement of "lower" industrial uses falls under Hackworth's broad definition of gentrification as "the production of space for progressively more affluent users". We thus follow Clark (1992) in suggesting that urban regeneration and gentrification describe the same process from irreducible points of view that differ primarily in which stakeholders are more valued. One view sees success in increased overall profits through "higher uses" while the other considers the threat to the livelihoods of more vulnerable users. In this sense, though the Seoul case differs contextually from the Anglo-American setting

in which gentrification processes were first identified as such, the authors disagree with Maloutas (2012) that the concept of gentrification has become less useful in analyzing socio-spatial change. Rather, by abstracting from historically specific contexts like deindustrialization and highlighting the fundamental quest for economic growth that drives processes of regeneration, gentrification, and displacement, analyses adopting the broader definition are more useful precisely because they do focus public debate on the ideological and ethical questions involved in favoring some users over others.

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