

Restoration Plans for Cheonggye Stream & the City Center (2002 – 2006)

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Background

Cheonggye Stream: Past & Present

With the birth of the Korean dynasty of Joseon and its decision to move its capital to the current location in October 1394, Seoul has served as the nation's political, economic, social, and cultural hub for over 600 years. Cheonggye Stream is 10.92 km long, made up of branches of water from nearby mountains and valleys, and cuts across the city from west to east. Throughout time, it has been closely related to the formation of history, culture, and the daily lives of Seoul residents.

The construction work to reverse the covering of Cheonggye Stream began in 1958; by 1961, in 4 different projects, the pavement had been removed from a total of 2,358.5 m. At the time, the stream was full of rubbish, responsible for an overpowering stench as well as being a visual blight on the city landscape. With the lack of inner-city roads to accommodate the growing number of cars, building roads around the stream was seen as a way to improve the situation.

An overpass (5.65 km long, 16 m wide) was built over Cheonggye Stream Road between August 1967 and August 1971, and the stream was fully uncovered by December 1977. With that, the project to uncover the stream had finally been completed almost 2 decades after it had begun.

After the construction of Cheonggye Overpass, Cheonggye Stream Road and its vicinity witnessed a boost of commerce and business, starting from retail and wholesale markets, which became the driving force behind the city's industrial development.

Now that 30 – 40 years have passed since the construction, the buildings near the overpass have deteriorated and are in need of a complete overhaul and rebuilding. Furthermore, while diverse and complex industrial networks had been in the locality, the deteriorated buildings and poor environment led to a decrease in floating population, which in turn stunted local development.

Change in the Urban Planning Paradigm

Factors behind the Push to Restore Cheonggye Stream

–Congestion in the City & Excessive Through Traffic

Before the restoration, the Cheonggye Stream area had a 5.4 km-long structure over the uncovered stream, a 5.86 km-long Cheonggye Overpass, and an 11 km-long extension of intersecting pipes. Traffic volume was heavy at more than 168,000 cars daily, 62.5% of which were just passing through.

– Environmental Degradation, Air Pollution, & Noise

Air pollution measurements near Cheonggye Stream Road revealed a very poor situation. General pollutants, except for fine dust (PM10), exceeded the Seoul average; nitrogen oxide levels exceeded Seoul's air quality standards. Of the carcinogenic volatile organic compounds (VOC), benzene levels were especially high. Demands grew louder for improvements to be made to the area.

–Damage to Historical Heritage

Under the Cheonggye Stream structure remains Gwanggyo and other items of ancient heritage. Supyogyo was moved to Jangchungdan Park, and only a part of its original structure can be seen. According to historical records, the stream was embanked on either side for better waterway control, and there are records about stonework as well. However, it is believed that much of this ancient stonework was lost during the uncovering of Cheonggye Stream.

–Decreased Competitiveness

Such issues as traffic, air pollution, and building deterioration in the Cheonggye Stream area significantly dulled the competitive edge of the Gangbuk center. In the past decade, the floating and employed population dropped by 50,000 and 80,000 respectively; the number of businesses headquartered here is only 63%

of those in Gangnam.

Gangbuk center redevelopment plans failed to attract private capital; the vulnerable urban industrial structure became one of the major causes of Seoul's degrading competitive edge as the hub for Northeast Asia. Gangbuk's finance and business functions (12.5%) fell far short of the sub-center in Gangnam (27.0%). In Gangbuk, small, non-urban traditional manufacturing businesses were heavily concentrated, while knowledge-based industries in particular did not grow as had been hoped.

-Low Growth Potential of the Northeastern Zone

When Seoul is viewed in 5 geographic zones, the Northeastern Zone had relatively fewer jobs, and its inbound against outbound travel was 0.8 – the lowest in Seoul. Because of the spatial mismatch between housing and jobs, the average daily distance traveled is the longest (at 34.6 km) with a travel time of 64.2 minutes – the highest of all 5 zones. Due to such inconvenience, area real estate is the cheapest in Seoul, 17.3% less than the city average.

Pull Factors behind the Cheonggye Stream Restoration

-Restoration of Natural Environment & Improvement of Quality of Life

The key to restoring Cheonggye Stream was to create an eco-friendly environment, clean and habitable for life in and around the water. On either side of the restored stream, one-way, two-lane roads would be built, a bridge that would connect the north side of the stream to the south side, and bicycle and pedestrian paths by the riverside, providing space for leisure and rest. With the Cheonggye Stream Restoration Program, plans were developed to expand the green belts to approximately 3.3 km² in area and secure access roads to the Han River.

- Restoration of Historical & Cultural Heritage

The restoration of Cheonggye Stream is meaningful in that it boosts the sense of pride that residents have in the city as the center of history and culture. Excavating and restoring historical relics in the Cheonggye Stream area signifies that Seoul was and is indeed the center of history and culture. Historical and cultural restoration goes hand in hand with stream restoration as the stream area

provides a place to rest and relax (as a park area), admire and experience some history and culture.

–Promotion of Economic Revival

Taking advantage of Seoul's geopolitical benefits (the city can be reached within 3 hours by air from some 43 cities with 1 million or more in population), the Cheonggye Stream Restoration Program has the potential to assist the city in becoming one of the most important hubs in Northeast Asia where conditions and environment are favorable for multinational companies and other businesses. Some parts of the Cheonggye Stream area are to be designated as foreign investment zones, providing tax benefits and "one-stop" services for business permits. Other considerations include building international schools, international communities, and employment assistance for spouses of employees with multinational companies.

–Shift to More Sustainable Development

Seoul has a blueprint for use of the city's resources for tourism, which includes restoring Cheonggye Stream and building public squares and a cultural/tourism belt within the boundaries of the ancient Four Gates of the city. Based on these programs, the city aims to achieve the following:

- Create "history zones" to boost history education in a more natural setting;
- Expand commercial zones and improve public awareness of the benefits of pedestrian traffic over vehicle traffic;
- Increase the city's competitiveness by reinforcing the tie between commerce and restoration of its historical heritage;
- Revive traditional culture, restore damaged historical assets, and return those alienated; and
- Make the city center more environmentally-friendly, with natural waterways and eco-friendly spaces.

To respond to rising demands and the shift from the physical development-oriented approaches of the past to sustainable development, restoration of the stream also sought to reflect the voiced desires of city residents who want Seoul to return to its old, environmentally-friendly ways. The restoration was deemed significant as it reminded the public and the nation of the importance of a natural environment.

- Development of a Future-oriented Urban Environment

Restoration of the stream was the city's attempt to prepare for a new era where the significance of a natural environment is recognized. "Future-oriented" refers to an urban environment where the local community is at peace with nature. Restoration of the stream is the starting point where the community begins to find ways to coexist with nature and make the city greener.

Public Voices & the Cheonggye Stream Restoration

Role of the Media

The media can promote the necessity for and direction of the programs for successful implementation and effective conflict management. It can promote positive aspects while correcting misinformation to help clear up negative views. Ultimately, the media can help facilitate program implementation. In the Cheonggye Stream Restoration Program, the media was utilized to raise public awareness and deliver accurate, objective information.

Voting & Public Discussion

The Cheonggye Stream Restoration Program involved a voting process, opening the door to public discussion. Because of this, the value of the voting process as a policy was acknowledged.

As stream restoration became one of the core issues in the city's mayoral elections, the candidates engaged in fierce debate, the process of which tested policy feasibility. The core focus of such debate was essentially on the basic direction of the restoration program and on the resolution of issues (finance and other general matters such as vendors, traffic, etc.) that would likely arise.

<Table 1> The Cheonggye Stream Restoration Program: Views of Seoul Residents

Category		Ratio
Ideal Image of Surrounding Environment after Cheonggye Stream Restoration	Environment/Eco-friendly Streets	59.6%
	Cultural/Artistic Streets	24.2%
	Shopping/Fashion Streets	10.2%
	Finance/Business Streets	4.0%
Most Important Element to Consider in	Environment & Ecosystem	39.4%
	Pleasant Space to Rest & Relax	25.8%
	Cityscape	22.8%

	Category	Ratio
Cheonggye Stream Restoration	Revival of Local Economy	11.2%
Greatest Stumbling Block to Cheonggye Stream Restoration	Opposition by Small Vendors	31.8%
	Traffic Congestion	31.4%
	High Cost of Restoration	27.8%
	Lack of Willingness by the City of Seoul	6.4%
	Opposition by Residents	2.2%

Cheonggye Stream Restoration Program: The Process

Under the leadership of the Civic Committee for the Restoration of Cheonggye Stream, opinions on the restoration project were collected from the general public, relevant experts, and interested parties. Feasibility tests were conducted and basic plans developed which involved a careful review of the restoration methods and approaches.

Restoration required close cooperation between the city government and relevant local district offices. Each of the related 4 *gu*-district offices – Jongno-*gu*, Jung-*gu*, Seongdong-*gu*, and Dongdaemun-*gu* – installed a temporary body related to the restoration to develop a system for collaboration, such as through a city/*gu*-district council, and to discuss details (preliminary tests, resident opinion surveys, etc.). In addition, 25 *gu*-district offices also joined in the efforts to promote the program to the public, provide adequate employee training, and so forth.

Development of Governance & Assignment of Roles

Cheonggye Stream Restoration Headquarters

In the early days, the Cheonggye Stream Restoration Headquarters were under the 2nd Vice-Mayor for Administrative Affairs, comprised of one headquarters and 2 teams. The director of the headquarters was of Class Ga (commensurate with Class 1), while the head of the countermeasures organization in each field was held concurrently by the director or chief of the corresponding office. In consideration of the program schedule, a temporary body was set up which would later become a regular organization.

On July 2, 2002, the Cheonggye Stream Restoration Headquarters began its work with election of the new mayor. On July 13, 2002, one Administrative or Facility Director (Class 2 or 3) was added to the office of the Headquarters Director to facilitate the restoration program. As for the staff of Class 4 or lower, the job series would be partially altered and 4 staff members would be added as needed over the course of the program after assigning 33 members in Phase 1. On July 20 a new position was added – “Special Advisor for the Cheonggye Stream Restoration Program” – to be placed directly under the mayor. The Headquarters would be placed under the 2nd Vice-Mayor for Administrative Affairs, with the Special Advisor concurrently holding the position of Headquarters Director. The original organization of 1 headquarters and 2 teams was altered to 1 headquarters, 1 department, and 3 teams to assist with planning.

The fact that the City of Seoul continued to reinforce the Headquarters organization indicates that it emphasized the latter’s role in carrying out the program, to reinforce the governance system. The Headquarters appointed a permanent committee under the city council to enact an ordinance that would enable installation of the Civic Committee and secure a budget, endeavoring in different ways to maintain good relations with the city council. In response, the City of Seoul requested 3 of 9 committees under the Seoul City Council to operate and manage the permanent committee related to stream restoration. On July 18, 2002, the City paid a visit to the head of the Operating Committee and explained the restoration program, asking for matters to be discussed and adjustments to be made at the city council.

Civic Committee for the Restoration of Cheonggye Stream

On September 12, 2002, the Civic Committee was established pursuant to Ordinance #4032 “City of Seoul Ordinance on the Establishment & Operation of the Civic Committee for the Restoration of Cheonggye Stream”.

The Civic Committee was led by 2 chairpersons – the mayor and a chairperson from the private sector – and 3 deputy chairpersons. The Committee’s responsibilities included deliberation and decision-making on program plans, and was comprised of a main committee of 30 civic representatives from different backgrounds to review and pass resolutions at the top level; a planning committee (15 members) to mediate between subcommittees and determine what items needed to be brought to the main committee; and working level subcommittees comprised of experts to study, investigate, deliberate, and decide on matters in their respective fields.

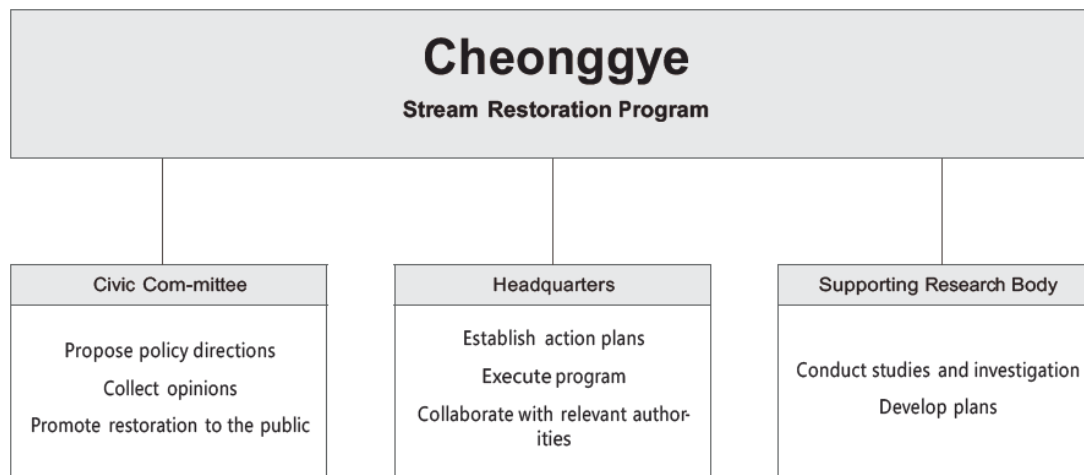
Supporting Research Body for the Restoration of Cheonggye Stream

The Supporting Research Body for the Restoration of Cheonggye Stream was a temporary organization of the Seoul Development Institute, founded in order to work with industry, academia, government, and research bodies to conduct studies, analyze data, and develop basic plans for the success of the stream restoration. It was launched on July 1, 2002 and was active for 36 months until June 30, 2005.

The research body held various discussions and debates (debate on the restoration held by the Research Institute for National Security Policy, the Ahnmin Forum debate, Cheonggye Stream Restoration Seminar for the Future of Seoul, International Symposium on Cheonggye Restoration, etc.) to promote stream restoration.

Once or twice a month, the research body held an experts' seminar or meeting (on air pollution and its harm to human health, restoration program process management, and conversion of environmental elements in financial terms) to seek advice as needed. While conducting various studies, the research body was engaged in activities to promote and deliver accurate program information based on academic research, both nationally and internationally.

<Figure 1> The Cheonggye Stream Restoration Program: Process



Cheonggye		
Stream Restoration Program		
Civic Committee	Headquarters	Supporting Research Body

Propose policy directions	Establish action plans	Conduct studies and investigations
Collect opinions	Execute program	Develop plans
Promote restoration to the public	Collaborate with relevant authorities	

Source: Cheonggye Stream: Dreams & Hope of Seoul (2003), Seoul Metropolitan Government.

Conflict Resolution

Traffic

Some of the greatest conflicts during the restoration program involved traffic and vendors. Of these, the traffic issue was used most significantly to lambast the program. It was claimed that removing the Cheonggye roads and overpasses, the main pillars of the urban transportation system, to give way to a natural waterway would precipitate congestion. Some traffic experts and civic groups were opposed to the restoration program, fearing that it might cause inconvenience for residents. As part of a resolution to potential issues in the restoration, an option was developed to be implemented alongside the restoration program that would allow modification of the public transit system and minimize congestion and confusion.

During actual restoration work, there was potential for the construction to undermine the business activities of the local vendors. To minimize any such interruption, plans were developed to create a space where vendors could park or load/unload freight. Various other actions were also taken to resolve potential problems related to traffic.

Vendors

Local surveys and research were conducted to learn more about the status of the commercial and business zones in the restoration area to facilitate effective response to potential complaints. Furthermore, the Cheonggye Stream Promotion Center was opened, and an onsite public relations center installed at Dongdaemun Market which provided consulting to some 7,200 people. Promotional activities were held and opinions gathered at-site as well. One example of conflict resolution from the restoration program was the “4,200 Meetings”. Through this event, and as soon as the Cheonggye Stream

Restoration Headquarters began operations, its executives and staff began to visit the commercial districts, relevant groups, and the site to brief interested parties on the program and receive their input.

The official negotiating body was the Policy Council, providing a channel of conversation between the City of Seoul and the merchants' association in the Cheonggye area. It was a practical body that helped negotiate on public interest issues such as compensation, reaching agreements, and operation and management after completion. The Council also played a significant part in conflict resolution.

< Table 2> The Cheonggye Stream Restoration Program: Vendor Issues & Resolutions

<p>Minimize interference with business</p>	<ul style="list-style-type: none"> - Limit construction work to width of Cheonggye Stream Road - Secure 2 lanes on either side of Cheonggye Stream Road and space for business - Build a parking lot at Dongdaemun Stadium, operate free shuttle buses during construction
<p>Revive commerce in and around Cheonggye Stream area</p>	<ul style="list-style-type: none"> - Provide financial assistance for building remodeling and work to improve the environment at traditional markets (up to KRW 800 million). - Provide loans for redevelopment to modernize the market (up to KRW 10 billion). - Provide loans for management and stability of small companies and vendors (KRW 360 billion in the following 4 years).
<p>Help businesses desiring to move</p>	<ul style="list-style-type: none"> - Provide administrative and financial assistance to vendors to move to their desired regions. - Pursue plans to develop a distribution site (approx. 495,000m²) in Munjeong District.

History & Culture

Although different opinions were heard and collected, restoration of historical and cultural heritage was not to be decided on solely by the City of Seoul. Consequently, the Cultural Heritage Administration decided to lead heritage restoration upon completion of studies on the Cheonggye Stream restoration area.

Division of Jobs & Collaboration

In a modern society with complex demands on leaders to resolve various conflicts and meet a variety of challenges, one ideal type of leadership that has the

appropriate mechanisms, requirements, and developments would be transformational in its nature.

Transformational leadership best promotes organizational effectiveness and provides the roles and mechanisms for resolving the complicated conflicts of modern society. Democratic, creative, and entrepreneurial types are the leaders best able to provide these things. In pursuing the Cheonggye Stream Restoration Program, the leadership model that was in effect in the process of conflict management was pushed ahead with 2 main systems – political (the mayor and Headquarters) and governance (the Civic Committee) – driven by collaboration and division of responsibilities.

Summary of the Cheonggye Stream Restoration

Nature of the Restoration

The Seoul city government sought to return to the city a restored Cheonggye Stream and its natural waterway – a source of life – and help the ecosystem in the urban climate to return to self-sustainability. Based on the following directions, the restoration program aimed to be a “space creation” program where the city’s residents could enjoy the ‘vivacity of a friendly Seoul’.

1) There are 3 major axes of time to confer diversity on the restored areas: history (tradition), culture (modernization), and nature (future);

2) “History” and “tradition” were the key starting points over the next 2 km segment; from 2 km to 4 km “culture” and “modernization” would be the main themes; and from 4 km onward “nature” and “future” would be the key ideas; and

3) These 3 segments include 8 points of key vistas, to which the ecosystem/street modules are applied.

<Figure 2> Cheonggye Stream



Introduction to the Cheonggye Stream Restoration Program

- **Period:** July 2003 – December 2005 (2 years 6 months)
- **Spatial Scope:** The 5.84 km segment from a point on the Cheonggye Stream Road (Sejong-ro – Dongdaemun – Shindap Railroad) in front of the Donga Daily building to Samil Road and its surroundings
- **Time Scope:** Starting year (2003), interim target year (2008), long-term target year (2013)
- **Cost:** Before restoration began, construction was estimated to cost KRW 349.423 billion; however, this increased during construction due to design and price changes, and additional tasks.

<Table 3> The Cheonggye Stream Restoration Program: Costs

(Unit: KRW 1 million)	2002	2003	2004
Total	354,400	357,692	379,307
Design	12,700	2,097	2,097
Construction (Facilities)	331,200	345,063	366,358

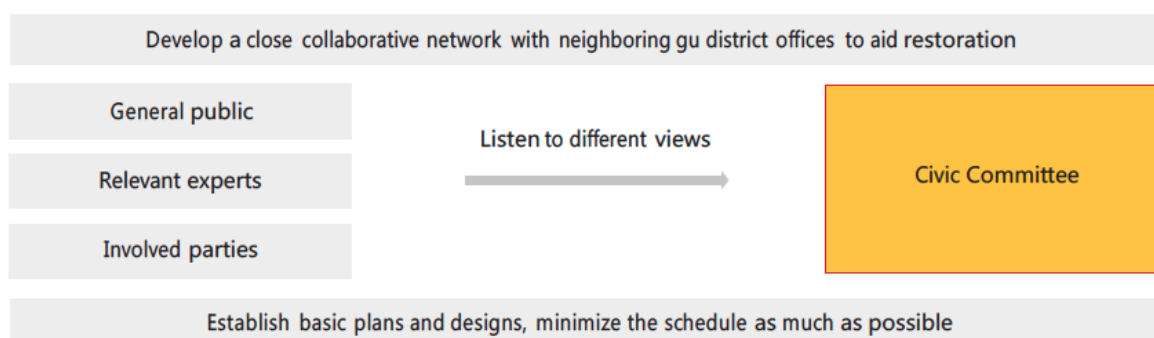
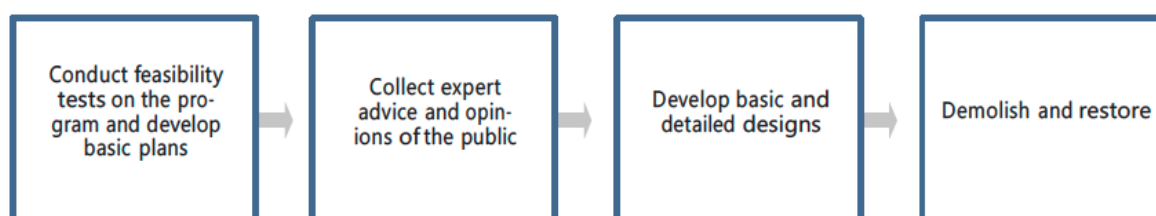
(Unit: KRW 1 million)	2002	2003	2004
Compensation (Land Purchases)	–	2,706	2,706
Supervision	9,900	7,226	7,546
Installations	600	600	600

Sequence

The sequence for the Cheonggye Stream Restoration Program consisted of: feasibility tests on the program and development of a basic plan; expert advice and public opinion for open discussion on the restoration; basic and detailed designs for the restoration; removal of Cheonggye Road and Overpass; then the restoration itself.

To facilitate the restoration plans, the City of Seoul formed a collaborative network of citizens, experts, and interested parties, thereby ensuring effective conflict resolution and management of construction.

<Figure 3> The Cheonggye Stream Restoration Program: Sequence



Conduct feasibility tests on the program and develop basic plans	Collect expert advice and opinions of the public	Develop basic and detailed designs	Demolish and restore
Develop a close collaborative network with neighboring <i>gu</i> -district offices to aid restoration			
General public	Listen to different views	Civic Committee	
Relevant experts			
Involved parties			
Establish basic plans and designs, minimize the schedule as much as possible			

<Figure 4> The Cheonggye Stream Restoration Program: Sequence



Benefits & Evaluation of Outcomes

Benefits

Program Monitoring

-Changing Public & Vendor Awareness

A survey on the Cheonggye Stream Restoration Program indicated that 7 out of 10 responding Seoul residents (66.8%) thought positively of the program, saying that it had been carried out as planned. A majority (77.6%) also thought future developments would be positive. However, some pointed out a greater loss in sales as the restoration program reduced demand. Metal/machining, manufacturing, and retail/wholesale were particularly affected by this loss in sales and overall reduction of the market for their goods.

-Urban Planning

Land, construction and transaction prices in the stream area after the restoration were affected by the overall sluggishness in the market of 2004. Considering that land transactions and construction on and around Tehran Avenue in Gangnam dropped significantly, the city center and the Cheonggye area were less affected by market fluctuations and tended to maintain the status quo, proving more competitive in relative terms.

-Urban Industry

According to an analysis of the effect of the restoration on industrial activities in the stream area, the changes in operating profit and loss were most prominent while changes in business methods, size, and logistics were relatively minimal. No conspicuous change was observed in terms of rent and land prices.

-Traffic

Monitoring in the morning and afternoon on city center roads as part of the traffic LOS analysis 5 months before and after restoration, showed that average travel speeds remained similar, at "E" and "F", respectively. It was also found that the standard deviation of daily speed changes gradually decreased and traffic patterns entered a stable phase despite the ongoing construction.

In terms of bus users (the number of transport card uses), there was no noticeable change immediately after restoration but the number rose by 11% year on year after the public transit system was modified. The number of metro and subway users rose by 6.0% in all of Seoul, and by 13.7% in the city center.

A survey of vendors operating near the stream indicated that most complaints were related to the new parking space for business owners, demonstrating a strong demand for more such facilities on Cheonggye Road.

-Environmental Changes

Monitoring of air in the Cheonggye area and other areas in Seoul showed that general air pollutant concentration was on the decrease overall. Compared to the period between July and October of 2002, the concentration of fine dust fell from $60 \mu\text{g}/\text{m}^3$ to $55 \mu\text{g}/\text{m}^3$ in the monitored area despite the construction. The removal of Cheonggye Overpass helped limit the number of vehicles entering the city center by 2.3% while helping to increase the use of public transport such as buses (up by 1.4%) and the metro/subway (up by 4.3%; 430,000 on daily average). Restoration was found to have had a positive impact on air quality and the environment in general.

Measured temperatures also dropped by 10% ~ 13% when water flowed in Cheonggye Stream. For instance, when the temperature was 30°C on a summer day, the area would be cooler by 3 ~ 4°C . Before restoration, the average temperature near the Stream was 5°C or more, greater than the Seoul average, but the removal of the overpass opened up a wind path which, combined with the presence of flowing water, dropped the ambient temperature.

The major factors that brought the average temperature down around the stream include water flow, reduced number of vehicles, and the natural wind corridor after removal of the overpass. As the aquatic plants and trees planted in the area grow, the green zone is likely to expand, substantially mitigating the “heat island” effect.

Analysis of “before and after” showed that wind speed was slightly greater after restoration, commonly identified on the roads by or in the areas near the stream. The waterway had been covered for use as a road, but now the uncovered waterway helps create a waterfront wind corridor through which cool air moves.

Evaluation of Outcomes

Transformation of the Urban Paradigm: Domestic

The Cheonggye Stream Restoration Program was not simply recovery of a natural stream by a local government. It has changed the paradigm across many fields, helping Seoul, the face of South Korea, become a more eco-friendly city where people come first. With the success of this program, the City of Seoul was one step closer to becoming a regional hub and financial center for Northeast Asia.

–Pedestrian/Public Transit–Orientation

The restoration was a major driver behind the transportation policy paradigm shift from a supply/vehicle-oriented approach to one that is more people/public transit-oriented.

–Spread of the Urban Restoration Movement with a Focus on Waterways

Restoration programs began to focus on rivers with the start of the Cheonggye Stream restoration and soon led to efforts to restore other streams, such as Seongbukcheon, Jeongneungcheon, and Hongjecheon. Moreover, studies were begun in earnest to restore all other streams in Seoul with a particular focus on the environment. As a result, real estate prices in the surrounding areas soared, encouraging local residents to take a more positive interest in and cooperate with the programs.

The effect of the Cheonggye Stream Restoration Program on the improvement of urban waterways was not confined to Korea. Many major cities around the world were positively affected. From Tokyo, local experts and city councilmen visited Cheonggye Stream for their plan to restore Shibuya Stream. Civic groups, experts, and administrative officials from Osaka also used restoration of Cheonggye Stream as their reference for their “City of Water” project utilizing streams, rivers, and the ocean.

–Balanced Development of Gangbuk and Gangnam with a Focus on Sustainability

The success of the Cheonggye Stream Restoration Program led to a gradually spreading revival from the stream area across Gangbuk, which is noteworthy. The changes near the stream included: (1) increased rent and land prices; (2) increased lot sales of apartment units; and (3) changing commercial arcades from a dilapidated concentration of shops into a redeveloped district.

Achievements of the Cheonggye Stream Restoration Program: Overseas

–Birth of a New Korean Wave

The social effect of such a great transformation as the Cheonggye Stream restoration attracted the attention of cities around the world. In particular, Japan analyzed its history thoroughly and decided to use it to spark a revival in political leadership and social reform that had been sluggish due to bursting of the economic bubble in the past decade.

From January 2003 to the end of 2004, the number of countries who sent representatives to visit the Cheonggye Stream Exhibition Center reached 19, many of whom were from Japan, China, and the US. A total of 2500 official visitors arrived for 120 different visits. By continent, Asia accounted for the majority – 92 visits from 9 countries – at 88% of the total, followed by 7 from the EU (7%), and 5 from the US (5%). Analysis of the nature of the visiting groups

from Japan indicated that the visit was more than a simple tour; they visited with special interest, to use the visit for a thorough analysis.

Future Challenges

New Start after the Cheonggye Stream Restoration

The Cheonggye Stream Restoration Program was completed in September 2005, but this represented a new beginning rather than the end. Upstream of Cheonggye, Baegundong and Jungnang streams could also be restored to connect to the source of Cheonggye Stream, while interest grew in restoring a dozen branches of water on either side of the stream. The restoration program will only be fully completed when the natural waterways of Seoul are identified and widened to allow Cheonggye Stream to run naturally.

Seoul – an Eco-friendly, Global City

Cheonggye Stream restoration was designed according to 3 major axes of time: history (tradition), culture (modernity), and nature (future). Over time, the restored stream will have plenty of natural flora, offering Seoul a natural ecosystem at the heart of the city.

Seoul – Modern but Traditional

Reduction in noise and pollution completes the requirements for a residential area. With the addition of other facilities (e.g., shopping, educational, cultural and recreational), an urban residential area can easily meet the demands of both the younger and older generations, the elderly, and foreign residents. Reborn as a new city, Seoul will be able to breathe vitality into the old, fatigued city center, encourage balanced regional development, and become a global city that exudes a 600-year old historical charm, tradition, and culture as well as financial and economic vivacity.

The Korean Brand: Cheonggye Stream

The commercial districts around Cheonggye Stream are comprised of a business district in Mugyo-dong, an electronics/communications and redevelopment district at Seun Arcade, and a clothing/fashion district in Dongdaemun. Up and running 24 hours a day, these districts will redefine the key functions of the city. The commercial districts around the stream will go through industrial restructuring, logistical improvements, and e-commerce transformation to become one of the

most competitive centers of business in the 21st century.

In the future, Cheonggye Stream will be improved far beyond its present existence as a simple stream to become part of the brand that represents South Korea

Q&A

- How many visitors does Cheonggye Stream see?
- By the end of 2013: 18,264,000 people/year

- What are some statistics of the Cheonggye Stream Restoration Program?
- Construction: KRW 384.4 billion (USD 384 million (USD 1 ≐ KRW 1,000))
- Stream Flow: 120,000 tons/day
- Maintenance: KRW 1.8 billion/year

- What are the chief elements behind the success of the Cheonggye Stream Restoration Program?
- Participation by residents: This was the driving force behind the program, providing public discussions on the issue and justification for the project.
- Leadership: Strong leadership facilitated the resolution of different issues (e.g., traffic congestion, restoration of cultural heritage, and compensation for vendor operating losses) via the event called the “4,200 Meetings”.
- Planning: Appropriate responses were made to deal with the elements of success/failure and pursue the Cheonggye Stream Restoration Program.

Epilogue

Shift to a more sustainable city paradigm

Recently, the international community has been working to universally promote the concept of environmentally healthy and sustainable development by adopting preservation with development. The Cheonggye Stream Restoration Program was in line with this recent trend, adopting a novel 21st century paradigm of urban management, going from a development/vehicle-oriented approach to a more people/environment-oriented approach.

Recovery of the Ecosystem

People are becoming significantly more interested in improving their quality of life. Consequently, the latest trends are reflected in universal adoption of environmentally-friendly urban design. The Cheonggye Stream Restoration

Program was designed to bring back the natural water flow to Cheonggye Stream, help the ecosystem recover, and make Seoul an environmentally-friendly city.

Removal of the Cheonggye Overpass & Risks of Uncovering the Stream

Covering Cheonggye Stream was an action from the development era with a great emphasis on efficiency and effectiveness. The structures covering the stream were completed by 1958. At the time of the restoration, the Cheonggye Overpass was 30 – 40 years old, its cement crumbling and rebar corroding. The structural hazards this created endangered public safety.

Restoration of Historical & Cultural Space

The Cheonggye Stream Restoration Program also restored some historical heritage – Gwangtonggyo, Supyogyo, etc. – from the past Joseon dynasty, strengthening a sense of pride in people.

Balanced Regional Development

The areas near Cheonggye Stream were mostly occupied by buildings that were 40 – 50 years old, contributing to the reduction of the floating population and degradation of the cityscape. Furthermore, the imbalance between Gangbuk and Gangnam was one of the problems that Seoul needed to resolve to realize balanced development. The restoration of Cheonggye Stream can turn the surrounding areas into centers of international finance, business and high value-added industries, thereby sharpening the region's competitive edge. The deteriorating areas in the vicinity would also be subject to development and therefore have higher potential for growth. Such vitality in Gangbuk and the addition of high value-added industries to the Cheonggye Stream area will help Seoul achieve better balance in its development.

External Evaluation of the Cheonggye Stream Restoration Program

– New Globalized Korean Wave

The New Korean Wave, kindled by the success of the Cheonggye Stream Restoration Program, is unique in its global reach. At the 9th Venice Biennale in Italy, newspapers such as La Nuova and Gazzettino explained in detail why the Cheonggye Stream program won "The Best Public Administration Award", adding that the city's intervention in changing the waterfront scene breathed life into Seoul.

The success of the program helped make Seoul the choice of the WHO (World Health Organization) for designation as a Healthy City in 2004. Such international attention on the Cheonggye Stream Restoration Program seems to be one of the signs that the "Korean Wave", which until then had mainly spread only within Asia, was finding a home in other regions of the world as well. Just as South Korean corporations like Samsung, LG, and POSCO are enjoying increased influence in world markets, this new trend is likely to be the touchstone for Seoul's competitiveness as a global city.

-Overseas Award: Venice International Architecture Exhibition 2004

The Cheonggye Stream Restoration Program was invited to be displayed at the Venice International Architecture Exhibition, an internationally authoritative exhibition of culture and art. It was an apt opportunity to promote Seoul's proud history, culture, and the city's willingness to restore its urban ecosystem. At the event the program won the Best Public Administration award (featured on Italian TV and radio stations, as well as the UK's BBC), reconfirming the world's interest in the restoration.

International Media Attention

- Award, 'Cities on Water', the 9th Venice Architecture Biennale (Sep. 12, 2004)
- Award, the Civil Engineering Conference in the Asian Region (Jul. 3, 2007)
- Environmental Award, Japan Society of Civil Engineers in 2006 (May 25, 2007)
- Honorary Special Citation Award, UN Habitat (United Nations Human Settlements Programme) in 2009
- Reuters, UK (Oct. 1, 2005): The covered stream was restored as part of the city's environmental projects.
- Asahi Shimbun, Japan (Oct. 1, 2005): Seoul city center, alive with a stream – old overpass removed.
- Sina, China (Oct. 2, 2005): Cheonggye Stream is officially opened.
- Sam, Taiwan (Oct. 2, 2005): Seoulites celebrate the restoration of Cheonggye Stream.

- AP, USA (Oct. 3, 2005): Seoul restores its covered river after 50 years.
- Le Figaro, France (Oct. 12, 2005): Seoul, in the midst of a new war...
- NHK, Japan (Oct. 30, 2005): Live report from Cheonggye Stream.

<Table 4> International Media Coverage

Media Outlet	Date	Description
Yonhap News English	Jun. 26, 2003	<ul style="list-style-type: none"> ▪ Focus on the leadership of Mayor Lee behind the Cheonggye Stream Restoration Program. ▪ Shift from development-oriented approach to a sustainable, environmentally-friendly paradigm through the Cheonggye Stream Restoration Program.
International Herald Tribune	Jul. 2, 2003	<ul style="list-style-type: none"> ▪ Start of the Cheonggye Stream Restoration Program. Seoul, a city with brand value. ▪ Resolution of traffic and vendor conflicts via promotional activities and discussion. ▪ A program with a greater focus on the environment and the economy at the same time.
The Asia Wall Street Journal	Jul. 11, 2003	<ul style="list-style-type: none"> ▪ Interviews on the restoration program with the Seoul Mayor, a Munhwa Daily reporter (Kim Yong-ok), and vendors near the Stream. ▪ Transformation from an industrial city to an eco-friendly city. A new “green” city is born.
World Today Asia BBC News (UK)	Jul. 16, 2003	<ul style="list-style-type: none"> ▪ Start of the Cheonggye Stream Restoration Program: changing into a beautiful, eco-friendly city. ▪ No city that disregards the importance of environment can be a global city.
Radio France Internationale (France)	May 9, 2004	<ul style="list-style-type: none"> ▪ Introduction to Seoul, priority environmental issues, and a full-scale urban readjustment project that has entered its execution stage. ▪ Environmental policies that consider both the environment and economy.
Financial Times (UK)	May 22, 2004	<ul style="list-style-type: none"> ▪ Seoul, polluted with exhaust, undergoes a green revolution; an interview with the mayor. ▪ Charming Seoul, a good city to live: about the

Media Outlet	Date	Description
		Cheonggye Stream Restoration Program, Seoul's green projects, etc.
CNBC "Asia Market Warp" and "Business Center"	Jul. 2, 2004	<ul style="list-style-type: none"> ▪ Interview with the mayor on the Cheonggye Stream Restoration Program.
Xinmin Weekly (China)	Nov. 1, 2004	<ul style="list-style-type: none"> ▪ Mayor Lee Myung-bak: a former CEO runs Seoul like a company. ▪ The Cheonggye Stream Restoration Program based on collection of various opinions and discussion. ▪ No more ordinary projects.
TV Asahi Broadcasting Station (Japan)	Oct. 21, 2004	<ul style="list-style-type: none"> ▪ The back alleys of Seoul, the starting point of the Korean Wave.
Asahi Shimbun (Japan)	Dec. 21, 2004	<ul style="list-style-type: none"> ▪ The Cheonggye Stream Restoration Program as part of environmental and city redevelopment programs. ▪ Nature comes alive in Seoul.
Sankei Shimbun (Japan)	Dec. 29, 2004	<ul style="list-style-type: none"> ▪ Cheonggye Stream, the symbol of a new environmentally-friendly city: to be restored by October 2005. ▪ Winner of the Best Public Administration Award in 2004 at the Venice International Architecture Exhibition, well-known in urban planning and construction.
Yomiuri Shimbun (Japan)	Jan. 13, 2005	<ul style="list-style-type: none"> ▪ The restoration program is featured in the "Trend" section. ▪ The restoration program serves as a role model for the restoration of Nihonbashi. ▪ Cheonggye Stream, viewed from the perspective of the Korean Wave (other than on TV and in film).

Cheonggye Stream Promotion/Culture Center

Cheonggye Stream Promotion Center

As part of the options to promote the program to the general public, the Cheonggye Stream Restoration Headquarters built the Promotion Center to exhibit the past, present, and future of the stream. However, more than just a promotional center, it also served an educational purpose, providing information on the environment and safety, and was a place where residents could lodge complaints.

On average, 300 people visited the Promotion Center on a daily basis. As of August 2005, 300,000 people had visited the center in total; of them, 3,000 visitors on 200 different occasions came from other nations.

In September 2002, the Headquarters took the input it had received from residents on the restoration and incorporated them into a new website: (<http://www.metro.seoul.kr/kor2000/chungaehome/seoul/main.htm>) to introduce the program to more people.

<Figure 5 > Cheonggye Stream Promotion Center / <Figure 6> Inside the Promotion Center



Cheonggye Stream Cultural Center

The Cheonggye Stream Cultural Center was built to effectively exhibit a wealth of information such as the history and culture surrounding the stream and its environs, to preserve and display the city's cultural resources related to the program, to provide space for various academic activities, and to assist with the

making of the Cheonggye Stream Maintenance Office.

Organizations & Contact Information

- 2002: at the time the program to restore Cheonggye Stream was first pursued, the Cheonggye Stream Headquarters of the Seoul Metropolitan Government was launched.
- 2005: After the program was completed, overall management was carried out by the River Management Department (Seoul Metropolitan Government) (02-2133-3891~3).
- The Cheonggye Stream Management Office of the Seoul Metropolitan Facilities Management Corporation maintains the facilities (02-2290-6801, 6840, 6851).
- Contact: Cheonggye Stream Management Team, River Management Department, Office of Urban Safety

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