

Cheonggyecheon

Green-blue infrastructure as economic and socio-cultural catalyst

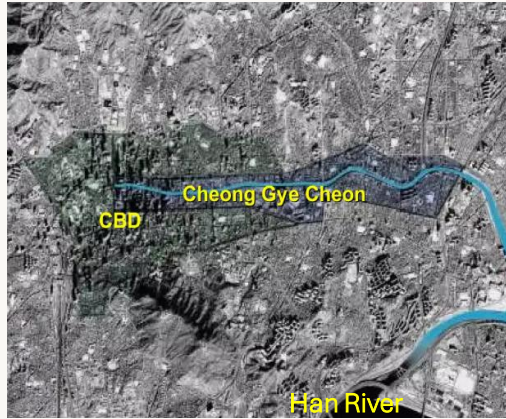


GPSC City Academy | Samarkand | June 2, 2026
Yuna Chun, World Bank Group

Overview

- 1 Background of Cheonggyecheon
- 2 Project: Regenerate, Restore, Revitalize
- 3 Environmental, Economic, Socio-Cultural Impact
- 4 Lessons Learned

Cheonggyecheon



● Joseon Dynasty (14th-early 20th Century)

- A 10.9 km natural stream flowing through central Seoul
- Part of Seoul's urban fabric, functioning in drainage, transport, crop irrigation, flood control, and also a public gathering space
- 20+ historical bridges along the stream

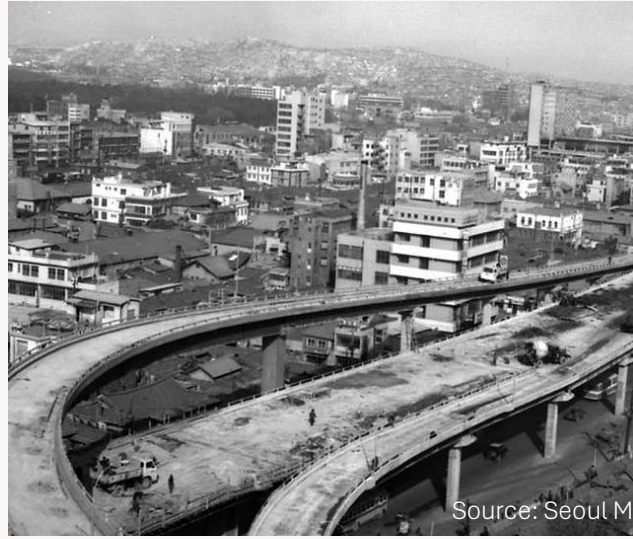
● Early 20th Century and post-Korean War

- Post-Korean War urban expansion and refugees led to unplanned settlements, poor sanitation, and increased waste pollution along the stream
- Industrial growth and weak infrastructure further worsened water quality through untreated waste discharge
- Stream buried beneath concrete decking by the 1960s



Source: Seoul Metropolitan Government

Cheonggye Highway



Source: Seoul Metropolitan Government, Seoul Facilities Corporation



- In the 1960-70s, a highway was constructed above the covered Cheonggyecheon to support rapid urbanization
 - 5.4km long, ten-lane covered road and 5.7 km long, four-lane elevated road, carrying 170,000 cars daily.
- Markets and factories were built next to it
 - Around 60,000 small shops and 3,000 street vendors
- Symbol of modernization and growth

Safety and structural issue

- Aging elevated and underground infrastructure, posing safety risks and operational inefficiencies
- No proper management of pedestrian movement
- Reduced public confidence in the safety and reliability of the area

Economic

- Decline of the old downtown, discouraging private investment and redevelopment opportunities
 - Population decreased by 52% (1975-1995)
 - Businesses declined by 24% (1991-2000)

Environmental

- Air pollution, traffic congestion, noise pollution and poor urban ecosystem quality
- Covered stream eliminated natural ecological functions and environmental resilience

Socio-Cultural

- Reduced livability, pedestrian accessibility, and public space quality for residents
- Loss of historical and cultural assets
- Loss of the area's historical identity and connection

Emerging issues



Source: Seoul Metropolitan Government

Regenerate, Restore, Revitalize



Structure demolition: Removal of elevated highway, covered stream structure, interceptor sewers and pedestrian overpasses (96% recycled)



Sewer system improvement: Rehabilitation of interceptor sewers and overflow treatment facilities



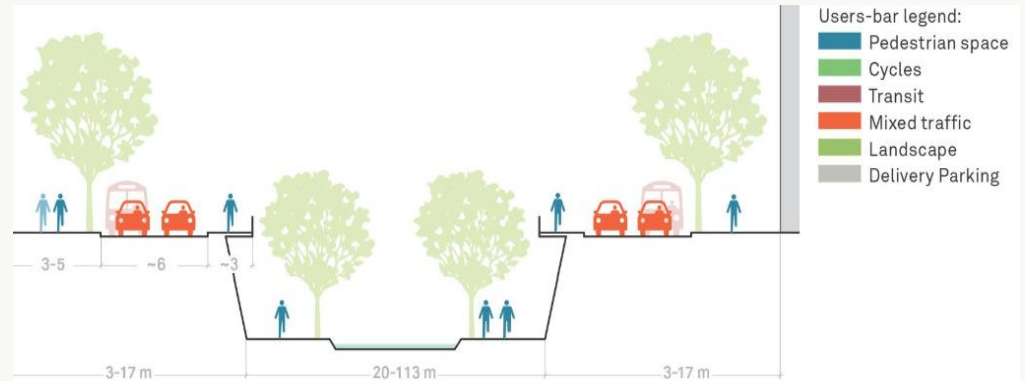
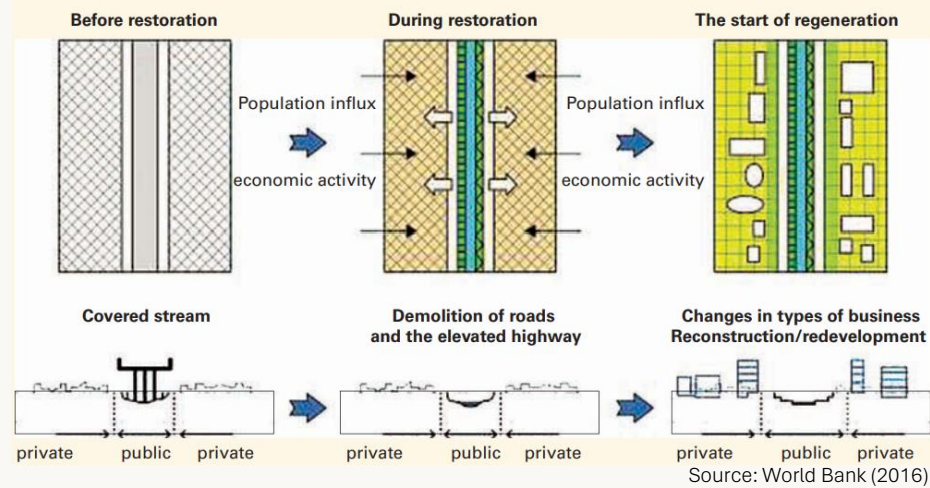
Infrastructure construction: Construction of 2-3 lane roads on both banks, 21 bridges, water supply facilities, waterfront promenade



Cultural landscape restoration

Regenerate, Restore, Revitalize

Phased strategy



Public Transit Reform

- Improve subway connectivity
- Circular-route buses
- Increased bus/subway capacity
- Bus rapid transit system
- GPS-based real-time bus information
- Smart card bus and subway integrated payment
 - Transfer discount system

Commercial District Revitalization

- Redevelopment of deteriorated industrial and wholesale buildings to attract new businesses and higher-value industries
- Traditional market modernization
- Adjacent district regeneration linkage

Urban Design Control

- Pedestrian friendly redesign
- Public space enhancement
- Signage regulation
- Coordinated streetscape standards
- Night-lighting for safety and night economy activation
- Destination branding

- **Cost:** USD 345 million
- **Period:** 2003-2005 (27 months)
 - Scaffolding (July 2003) → Highway demolition (Jan 2004) → Sewer, road, bridge construction (Sep 2004) → Landscaping (May 2005) → Completion (Sep 2005)
- **5.8km** of Cheonggyecheon restored, average depth of 40 cm
 - Continuous blue-green corridor for pedestrians, bicyclists and wildlife



Regenerate, Restore, Revitalize

1960s



1980s



2000s



Regenerate, Restore, Revitalize



1 Highway removed and stream restored

2 Ecological corridor, collecting, storing and filtering stormwater, mitigating heat island effect

3 One-way roads along the central greenway

4 Heritage-inspired design

Regenerate, Restore, Revitalize



Environmental impact



3.3-5.9°C

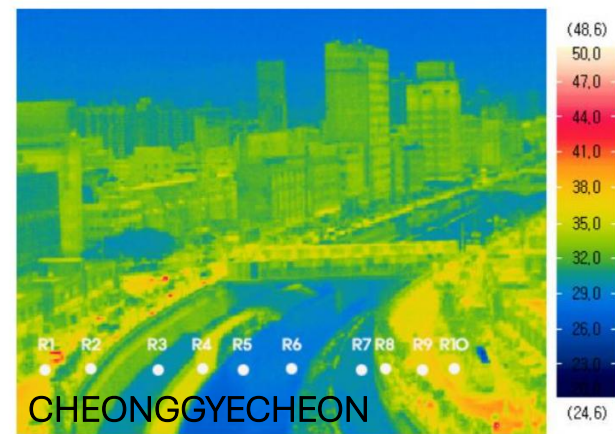
Urban heat island reduction

35%

Reduction in air pollution

200-year

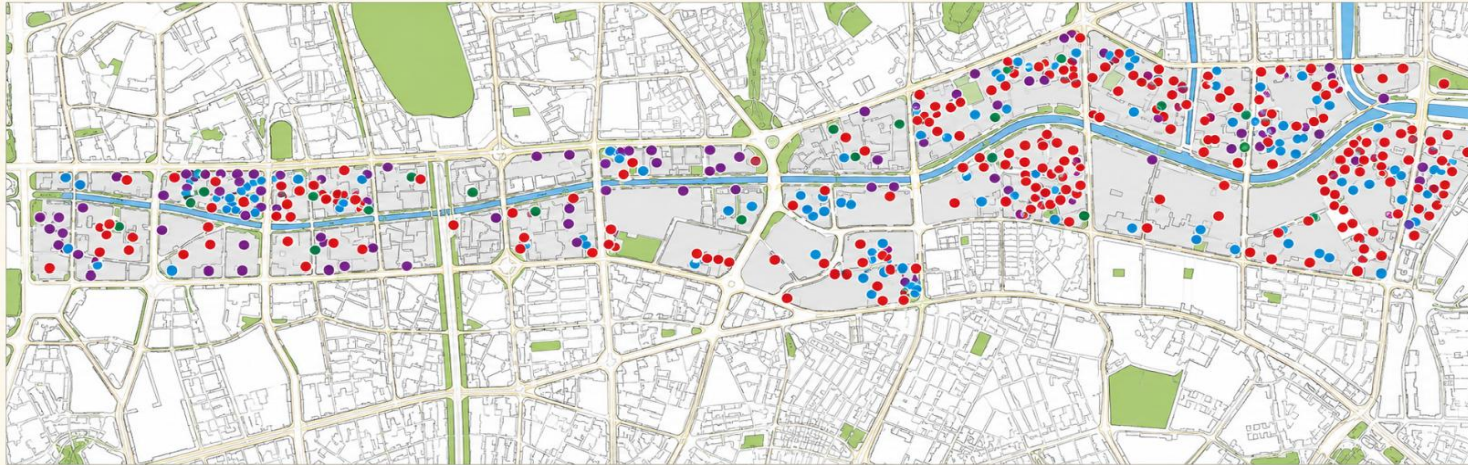
Flood protection capacity



| Species | Before restoration | '06 | '07 | '08 | '09 | '10 |
|----------------------|--------------------|-----|-----|-----|-----|-----|
| Total No. of species | 98 | 421 | 573 | 626 | 788 | 864 |
| Plants | 62 | 268 | 312 | 308 | 314 | 300 |
| Fish | 4 | 23 | 19 | 25 | 27 | 25 |
| Birds | 6 | 33 | 29 | 36 | 34 | 37 |
| Water insects | 5 | 39 | 26 | 53 | 39 | 29 |
| Land insects | 15 | 46 | 174 | 192 | 206 | 248 |
| Mammals | 2 | 4 | 4 | 4 | 4 | 6 |
| Amphibians | 4 | 8 | 9 | 8 | 7 | 9 |

Economic impact

Changes in the development patterns after the project



● Newly built ● Extension ● Major repair ● Other

Source: Seoul Institute

\$1.98B

Capital investment
catalyzed

30–50%

Property value increase
within 50m of the stream

3.5%

Business growth in area,
Double the citywide rate

Socio-Cultural Impact

+15.1%

Bus ridership

302M

Total visitors since 2005
~50,000 daily average

-45%

Vehicle volume

3.83M

Lantern Festival visitors
(2025)

+76%

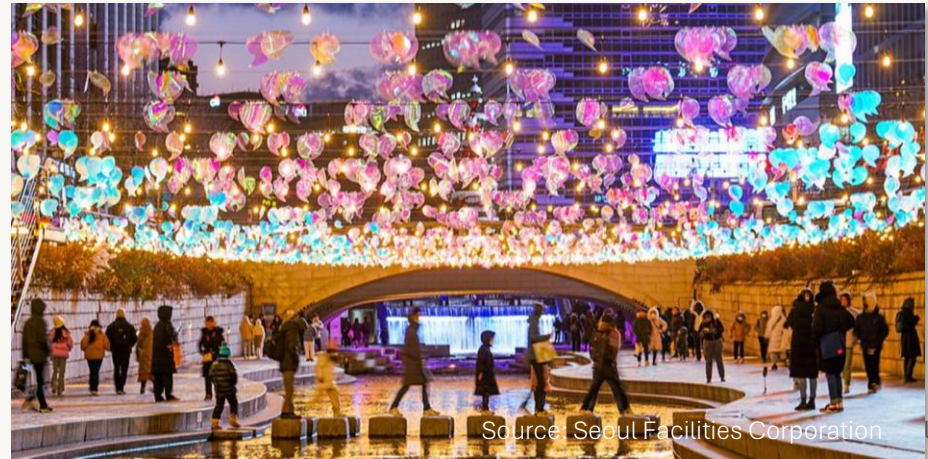
Pedestrian activity

**Popular tourist
attraction &
Most popular
K-content
production site**

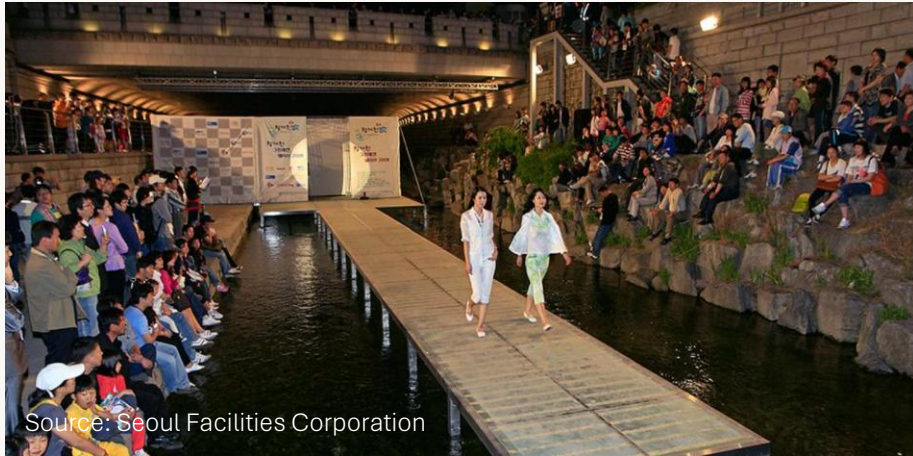


Source: Visit Seoul

Socio-Cultural Impact



Socio-Cultural Impact



Source: Seoul Facilities Corporation

Lessons learned

- 1. Approach urban development as an integrated network, not a collection of separate projects.** The greatest value emerges when projects strengthen and connect urban systems rather than function as isolated interventions.
- 2. Green infrastructure enhances urban livability while also serving as a catalyst for tourism.** The cleaner, healthier and more attractive environments benefit both residents and visitors alike.
- 3. Environmental and economic returns compound over time.** Green infrastructure reduces long-term maintenance costs compared to grey alternatives, raises nearby property values, and attracts private investment — delivering returns that grow over time.



THANK YOU

