In 2002, then Mayor Lee declared "Once the stream is restored, we want this area to stand out as a center of foreign investment. The ultimate goal is to make Seoul a great city." The project endorsed was the Cheonggyecheon Restoration Project in Seoul, South Korea—the most expensive river restoration to be undertaken in the world. At that time, the pressing question was: Would Mayor Lee be able to deliver on the desired project outcomes?

Mayor Lee Myung-bak, was schooled in the "institute of hard knocks", so to speak. Born on December 19, 1941 to a poor family from Pohang, a port city in southeastern Korea, he saw his brother and sister killed during the Korean War. He hauled trash to pay for his university tuition. Despite the adversities he faced, he rose to become the Chief Executive Officer of Hyundai Engineering and Construction by age 35. In the 1970s and '80s, Lee Myung-bak helped build much of postwar South Korea. Lee was also known as "the bulldozer" for his determination and focus to get the job done<sup>2</sup>. This is what he brought into the table when he was tasked to restore the Cheonggyecheon River during his 4-year term as mayor of Seoul. Lee Myung-bak conceded,

"...the highway had become an eyesore. I make no apologies for my role in Korea's industrialization...Back then...There were no jobs, no sources of income. We had to build the economy...now...we can afford to... strike a balance between economic growth and quality of life."

However, the Cheonggyecheon Restoration Project was strongly opposed by local businesses because of the extensive scope of construction that would disrupt city life. In addition to the necessary work on the river, the project entailed the dismantling of an almost 5.5 km elevated highway. There were fears that the project would exacerbate Seoul's traffic problems due to the decrease in road capacity. It seemed like a tough sell for the Seoul metropolitan government. Many observers thought that this project, if it did not succeed, would diminish Mayor Lee's political capital.<sup>4</sup>

"When the Korean economy was just trying to get back on its feet after the war, having parks was a luxury...now we try to achieve a balance between function and the environment, and we try to put the environment first." - Lee Myung-bak<sup>5</sup>



<sup>\*</sup> This case study was developed by Prof. Fernando Martin Roxas, DBA, and Prof. Andrea Santiago, DBA, for the Asian Development Bank.

<sup>&</sup>lt;sup>1</sup> Križnik, Blaž (2013). Selling global Seoul: Competitive urban policy and symbolic reconstruction of cities. *Revija Za Sociologiju* 41(3), p. 302.

<sup>&</sup>lt;sup>2</sup> Walsh, Bryan (2007, October 17). Heroes of the environment series: Leaders & visionaries, TIME, from <a href="http://content.time.com/time/specials/2007/article/0,28804,1663317\_1663319\_1669884,00.html">http://content.time.com/time/specials/2007/article/0,28804,1663317\_1663319\_1669884,00.html</a>.

<sup>&</sup>lt;sup>3</sup> Ward, Andrew (2004, May 22). Choking on its fumes, Seoul undergoes a green facelift. The Financial Times, from http://www.indiaenvironmentportal.org.in/content/188975/choking-on-its-fumes-seoul-undergoes-a-green-facelift/, para7.

<sup>&</sup>lt;sup>4</sup> Simek, Peter (2014, May). What other cities learned D Magazine. From http://www.dmagazine.com/publications/d-magazine/2014/may/what-other-cities-learned-tearing-down-highways?single=1.

<sup>&</sup>lt;sup>5</sup> Walsh, Bryan (2007, October 17). Heroes of the environment series.

Fast forward to more than a decade later, Cheonggyecheon River had become the green centerpiece of tourism in Seoul.

## **Seoul – A Premier Global City**

Seoul was undoubtedly one of the global Mega Cities. In 2014, it was home to 25.6 million residents, more than half of the total South Korean population. Seoul was also the world's second most populous city. While the image of Korean companies focused on the high technology products created by globally competitive companies such as Hyundai, Samsung, LG Corporation, Kia Motors, and the like, Seoul was fast becoming one of the most visited cities in Asia. In fact, the metropolitan government had designated tourism as one of six growth engines that would transform Seoul into a clean and attractive global city.

In 2013, tourists spent almost US\$18 million while visiting Korea and this amount continue to grow by 8% every year. Also in 2013, tourism accounted for 5.8% of total gross domestic product and 1.58 million jobs directly and indirectly depended on tourism. For the first time, tourism arrivals exceeded 12 million visitors. According to data from the United Nations World Trade Organization, the growth rate of 12.5% in tourism arrivals to Korea from 2009 to 2011 was the highest among OECD nations. 10

"The number of overseas tourists who visited Korea in one year hit one million in 1978, five million in 2000 and ten million in November 2012. This rapid increase has largely been due to Chinese tourists." Seoul was taking tourism very seriously.



<sup>&</sup>lt;sup>6</sup> https://en.wikipedia.org/wiki/Seoul.

<sup>&</sup>lt;sup>7</sup> Križnik, Blaž (2013). Selling global Seoul.

<sup>&</sup>lt;sup>8</sup> Visit Korea website from http://kto.visitkorea.or.kr/eng/tourismStatics/keyFacts/visitorArrivals.kto.

<sup>&</sup>lt;sup>9</sup> South Korea 2014 Tourism Statistics: World Travel & Tourism Council, Travel & Tourism Economic Impact 2014: South Korea, from <a href="http://www.wttc.org/media/files/reports/economic%20impact%20research/country%20reports/south\_korea2014.pdf">http://www.wttc.org/media/files/reports/economic%20impact%20research/country%20reports/south\_korea2014.pdf</a>.

<sup>&</sup>lt;sup>10</sup> Jungyun, Kwon (n.d.). Korea welcomes 10 millionth visitor. Korea Net from http://www.korea.net/NewsFocus/Travel/view?articleld=103920.

<sup>&</sup>lt;sup>11</sup> Korea.net, Korea's Inbound Tourist hits 12 Million, 30 December 2013, from <a href="http://www.korea.net/NewsFocus/Culture/view?articleld=116685">http://www.korea.net/NewsFocus/Culture/view?articleld=116685</a>.

Another major source of tourism arrivals in Seoul was Meetings, Incentives, Conferences and Exhibitions. Seoul ranked fifth among the most important International Meeting Cities in 2010. The number of international events and conventions held in the country went up by over 70% in the four years from 2007 (268 events) to 2011 (469 events). South Korea had also been leading various league tables for medical tourism, particularly cosmetic procedures. Medical tourism profits from 2009 to 2011 rose by 300%. In terms of numbers, there were 399,000 medical tourists who received treatment in Seoul during 2013.

The popularity of Korean culture globally was no doubt responsible for the interest in visiting South Korea, and Seoul in particular. Korean cuisine was the food craze in many cosmopolitan centers and Korean restaurants were mushrooming in the best commercial areas amidst the major global cities. Korean movies and series made for television were watched in many countries by dubbing the dialogue in the local language. The Korean martial art "Taekwondo" had been part of the Olympics events since 1992 and millions of young children and teens learned and practiced taekwondo in schools and private dojos worldwide. The global interest in all things Korean had undoubtedly stirred the interest to visit Korea. <sup>15</sup>

# The History of Cheonggyecheon<sup>16</sup>

The natural waterway had been a centerpiece of Seoul since King Taejong of the Choson Dynasty moved into the new capital 600 years ago. The waterway was aptly named Gaecheon, which means "digging out" as the kingdom, under King Sejong, Taejong's successor, continued digging ditches to prevent flooding in the city. At that time, King Sejong's advisors were split on the best use of Gaecheon. The idealists believed that the water should be kept clean, as dictated by Feng Shui. The pragmatists believed that the expanding city needed a waterway to carry out its sewage; the Gaecheon was the only option. Thus, it came to pass that during the 500 years of the Joseon Dynasty, the surrounding 23 tributaries supplied the city with clean water and the Gaecheon carried away its wastes and refuse. The current name Cheonggyecheon, a common Korean name for a river, replaced Gaecheon during the Japanese occupation.



<sup>&</sup>lt;sup>12</sup> UAI, Annual International Meetings Statistics Report for the Year 2010, Brussels, as used in Križnik, Blaž (2011).

<sup>&</sup>lt;sup>13</sup> Jungyun, Kwon (n.d.). Korea welcomes 10 millionth visitor.

<sup>&</sup>lt;sup>14</sup> Mundy, Simon (2014, October 15), South Korea's Ambitions in Medical Tourism, The Financial Times, from <a href="http://www.ft.com/cms/s/0/b84a4f08-4570-11e4-9b71-00144feabdc0.html#axzz3qoQcs57Q">http://www.ft.com/cms/s/0/b84a4f08-4570-11e4-9b71-00144feabdc0.html#axzz3qoQcs57Q</a>.

<sup>&</sup>lt;sup>15</sup> Leong, Melissa (2014, August 2). How Korea became the world's coolest brand, National Post, from <a href="http://business.financialpost.com/news/retail-marketing/how-korea-became-the-worlds-coolest-brand">http://business.financialpost.com/news/retail-marketing/how-korea-became-the-worlds-coolest-brand</a>.

<sup>&</sup>lt;sup>16</sup> The Preservation Institute (n.d.), Removing Freeways – Restoring Cities, from <a href="http://www.preservenet.com/freeways/F

In 1953, at the end of the Korean War, refugees settled into the Cheonggyecheon. Through the rest of the 1950s, Cheonggyecheon became "a symbol of the poverty and filth brought about by a half-century of colonialism and war." To mitigate the unsightly view and odor, the area was converted into a series of sewers in 1959. <sup>18</sup>

A few years later, the stream was covered by concrete roads, and a new elevated highway was built over it. The rapidly industrializing city required more and more highway capacity to manage the movement of goods and people. The open sewer in the middle of the city was also a major hindrance to the development of the capital. In the 1980s, the inner city began its economic decline, followed by air pollution and unsanitary conditions, which accompanied civic neglect. "Cheonggyecheon area had become a shabby industrial area, filled with flea markets and tool(s) . . . lighting, shoe, apparel, and used book stores."

# Looking for a "Green City" Champion

In 2001, Dr. Kee Yeon Hwang, a transport planning expert, worked on a traffic model to see what would happen if they took out a major roadway being used by around 170,000 cars per day. <sup>20</sup> In his calculations, he wanted to see if Seoul could survive without the freeway. The output of the model stunned him, "not only could it work, but it would actually improve travel times in downtown Seoul." <sup>21</sup>

At that time, the elections for the next mayor of Seoul was just around the corner. Dr. Hwang and his reform-minded colleagues decided to look for a mayoral candidate who would push urban renewal and their plans for the Cheonggyecheon. They found one in Lee Myung-bak. Ironically, Lee was the previous president of the company that built the elevated roadway in the first place. Lee ran on a platform based on removing the elevated roadway and restoring the river. He won! Evidently, his strong personality and pragmatism resonated with many of Seoul's constituency. Since he was not born wealthy, he identified with the average, hard- working and patriotic Korean – traits which he parlayed successfully past his mayoralty term. <sup>23</sup>

<sup>&</sup>lt;sup>23</sup> Economist (2007, December 20). A landslide in South Korea: Does a new era beckon? The Economist, from <a href="http://www.economist.com/node/10342348">http://www.economist.com/node/10342348</a>.



<sup>&</sup>lt;sup>17</sup> The Preservation Institute (n.d.), Removing Freeways, para 16.

<sup>&</sup>lt;sup>18</sup> Green, Colin (n.d.). Case study brief – The restoration of the river Cheongyecheon, Seoul, from <a href="http://www.switchurbanwater.eu/outputs/pdfs/w6-1\_gen\_dem\_d6.1.6\_case\_study\_-\_seoul.pdf">http://www.switchurbanwater.eu/outputs/pdfs/w6-1\_gen\_dem\_d6.1.6\_case\_study\_-\_seoul.pdf</a>.

<sup>&</sup>lt;sup>19</sup> The Preservation Institute (n.d.), Removing, para 19.

<sup>&</sup>lt;sup>20</sup> New Castle Urban Design (n.d.). The Cheonggyecheon river restoration project: The restoration of environmental, Social & Economic in Seoul. From <a href="http://www.nclurbandesign.org/uncategorised/cheonggyecheon-river-restoration-project-restoration-environmental-social-economic-seoul/#sthash.xuNCNw7S.dpuf">http://www.nclurbandesign.org/uncategorised/cheonggyecheon-river-restoration-project-restoration-environmental-social-economic-seoul/#sthash.xuNCNw7S.dpuf</a>.

<sup>&</sup>lt;sup>21</sup> Rao, Kamala (2011, April 11). Seoul tears down an urban highway and the city can breathe again, Grist, from <a href="http://grist.org/infrastructure/2011-04-04-seoul-korea-tears-down-an-urban-highway-life-goes-on/">http://grist.org/infrastructure/2011-04-04-seoul-korea-tears-down-an-urban-highway-life-goes-on/</a>, para 9.

<sup>&</sup>lt;sup>22</sup> Rao, Kamala (2011, April 11). Seoul tears down an urban highway.

In 2002, Mayor Lee made the Cheonggyecheon Restoration Project, a center piece of his administration. He named Dr. Hwang the director of the Research Center for the Cheonggyecheon Restoration Project at the Seoul Development Institute and mandated him to complete a "two-year design process in just six months."

The Cheonggyecheon was not a popular, nor an easy project to sell to the Seoul stakeholders. Not only was it extremely expensive, but the massive civil works was expected to disrupt the rhythm of life and commerce around the area for a long period. Case in point, there were at least 3,000 street vendors earning a living by hawking wares to drivers stuck in traffic. They vowed to create trouble if the city government continued with their plans.

"I'm afraid of losing my business," confessed Kim Byung Soo, a hawker of socks, shirts, and underwear in a small shop around the expressway. "I don't have any other way of making a living." <sup>25</sup> Chang Young Soon, vending hats from a cart added, "I understand why they want to tear it down. It's good for the future, maybe 10 years from now. . . but we are losing business." <sup>26</sup>

Unfazed, Lee went out of the comforts of office, and met one merchant after another and did his best to sell his idea of a revitalized Cheonggyecheon. He promised to patronize their shops and helped them relocate. "I made some 4,000 rounds of visits to meet one businessman after another," Mayor Lee recalled<sup>27</sup>. "We resolved close to 1,000 requests. As a result of such strenuous effort on our part, the shopkeepers and various organizations finally agreed to our plan just fifteen days before the scheduled start of the project."<sup>28</sup>

The issue of the restoration became such a hot topic that debates about its merits attracted a lot of media coverage. Riding on the successes of the 1988 Seoul Olympics and the 2002 FIFA World Cup, Mayor Lee declared, "Now we are just waking up to the fact that such an economic miracle had come at a steep price and have made the first step toward ridding Seoul of its concrete eyesores and making the city greener." 29



<sup>&</sup>lt;sup>24</sup> Rao, Kamala (2011, April 11). Seoul tears down an urban highway, para12.

<sup>&</sup>lt;sup>25</sup> Kirk, Don (2003, July 2). Stream of History, The New York Times, from <a href="http://www.nytimes.com/2003/07/02/news/02iht-seoul\_ed3\_.html">http://www.nytimes.com/2003/07/02/news/02iht-seoul\_ed3\_.html</a>, para 9.

 $<sup>^{26}</sup>$  Kirk, Don (2003, July 2). Stream of History, para 11.

<sup>&</sup>lt;sup>27</sup> Mi-young, Anh (2007, August 23), South Korea: Presidential candidate relies on business savvy, Global Information Network, from https://www.highbeam.com/doc/1G1-167946629.html.

<sup>&</sup>lt;sup>28</sup> Jae-soon, Chang (2011, October 26). Lee renews commitment to reunification, green growth in upcoming biography. Yonhap News Agency, From http://english.yonhapnews.co.kr/national/2011/10/25/15/0301000000AEN20111025005500315F.HTML, para 20.

<sup>&</sup>lt;sup>29</sup> Kirk, Don (2003, July 2). Stream of History, para 18.

While Mayor Lee commanded respect, his leadership style was also criticized. Many conceded that he displayed a lot of entrepreneurial qualities and a strong bias for action, but some sectors called his style "un-democratic". Many political observers described his obsession with project outcomes as an unfortunate exclusion of the private and civil society sectors, especially in the planning phase of the project. Likewise, some opined that the rehabilitation was largely "cosmetic" in the sense that 120,000 tons of water from the Han River had to be pumped into the Cheonggyecheon, at great cost, every day so people can actually see a 'living' river. 31

No doubt, Mayor Lee was the type of person who knew what he wanted and knew how to get it, thanks to the challenging childhood poverty he had to overcome. "Poverty clung to my family like a leech," Mayor Lee revealed in his autobiography. Taking lunch to school was... out of the question. While other kids ate their lunches, I would go outside to the water pumps, and fill my stomach with water... That's when I learned that no matter how much you drink, water never makes you full. "33

In fairness to Mayor Lee's political sensitivities, Seoul residents were invited to view the site and assess the environmental challenges themselves. Foreign and Korean environmentalists, as well as urban planners and architects, were consulted about the city's plans. To mollify displaced street vendors, the city installed a market for the hawkers inside an old baseball stadium. Many agreed that economic, environmental, safety, cultural, and historical facets of the project were given due consideration by Mayor Lee. The project had been described as "a master stroke of branding...a positive influence on downtown Seoul and tourism development, involving extensive symbolic reconstruction and the telling of a compelling new narrative. The restored stream has been an important tool in marketing Global Seoul." 34



<sup>&</sup>lt;sup>30</sup> Bertelsmann Stiftung (2014)/ BTI 2014 — South Korea Country Report. Gütersloh: Bertelsmann Stiftung. From http://www.bti-project.org/uploads/tx\_itao\_download/BTI\_2014\_South\_Korea.pdf.

Min-ho, Jung (2015, October 1). Cheongye Stream Restoration Marks 10<sup>th</sup> Year. Korea Times, from http://www.koreatimes.co.kr/www/news/nation/2015/10/116\_187821.html.

<sup>&</sup>lt;sup>32</sup> Jae-soon, Chang (2011, October 26). Lee renews commitment, para 22.

<sup>&</sup>lt;sup>33</sup> Jae-soon, Chang (2011, October 26). Lee renews commitment, para 22.

<sup>&</sup>lt;sup>34</sup> Lee, Jong Youl and Anderson, Chad David (2013). The restored Cheonggyecheon and the quality of life in Seoul. Journal of Urban Technology, 20(4), p. 19. http://dx.doi.org/10.1080/10630732.2013.855511.

## **Resurrecting the Cheonggyecheon**

Seoul grew around the Cheonggyecheon, the natural waterway that separated the northern from the southern half of the city. The river was fed by tributaries flowing down from the mountains around the city. Seoul's major east-west access road became the Cheonggyecheon. Around 170,000 cars used the roadway marked for retirement. Despite some opposition from businesses that would be closed to allow the demolition, the project was supported by the overwhelming majority of people who lived in Seoul. According to a survey conducted by the mayor's office, about 79% of residents supported the plan. Nonetheless, some pundits were of the opinion that it may not have served Mayor's Lee political career to have placed his bet on an "iffy" gamble. Mayor Lee was quite firm in his intentions. The strategic objectives of the project were

- 1. improve the environmental and living conditions in downtown Seoul;
- 2. remove the uneven development between the northern and southern part of the city;
- 3. revive natural and cultural heritage;
- create new public spaces;
- 5. improve traffic safety and efficiency; and
- 6. enhance the tourism development of the city.

A major component of the plan was to slash automobile usage by half and to absorb the excess traffic by building a Bus Rapid Transit (BRT) System. This BRT System, an exemplar of public-private partnership<sup>39</sup>, was planned as a complement to Seoul's underground metro system since it would have been too costly and time consuming to extend the Metro as part of the freeway demolition plan. Instead, integrating the BRT with the existing metro system added transit capacity in a straightforward manner. 40



<sup>&</sup>lt;sup>35</sup> The Preservation Institute (n.d.), *Removing Freeways*.

<sup>&</sup>lt;sup>36</sup> The Preservation Institute (n.d.), *Removing Freeways*.

<sup>&</sup>lt;sup>37</sup> Križnik, Blaž (2013). Selling global Seoul.

<sup>&</sup>lt;sup>38</sup> BRT is a bus-based, mass transit system using dedicated lanes, with busways and iconic stations typically aligned to the center of the road, off-board fare collection, and fast and frequent operations.

<sup>&</sup>lt;sup>39</sup> Oh-Seok, Hyun (2012, December 13). South Korea's progress is taking a social turn. The National, from http://www.thenational.ae/business/industry-insights/economics/south-koreas-progress-is-taking-a-social-turn.

<sup>&</sup>lt;sup>40</sup> The Preservation Institute (n.d.), *Removing Freeways*.

#### Implementing the Plan

Lee Myung-bak did not waste any time starting the project. He was elected mayor in July 2002. The master plan for restoring the stream was completed by February 2003. Freeway dismantling began in June 2003 and was completed in four months. Stream restoration commenced in July 2003 and the river was opened to the public by September 2005, at about the same time that Lee's four-year term ended<sup>41</sup>. Millions came to celebrate the opening of the restored river that cost the government "US\$367 million with the social cost worth US\$1,900 million." <sup>42</sup>

Mayor Lee Myung-bak was fond of saying, "I give thanks to the 220,000 merchants who believed in me. Because I persuaded them using democratic methods, trust arose in the process, and I was able to guide an agreement." This statement proved prophetic because ten years later, visitors to the Cheonggyecheons' promenade abound and include merchants from the thousands of nearby shops that were among the biggest oppositionists during the planning and construction phase of the project.

As the stream was being restored, Seoul began constructing its first BRT line designed to carry the equivalent passengers of 170,000 cars by March 2003. Even before the completion of the BRT line, Lee had re-organized the city's mass transit system into a single-fare system, thus allowing fluidity in passenger transfers. Passengers began using the BRT resulting in better bus speeds along some routes for buses managed by 63 bus operators. <sup>44</sup> By the first quarter of 2005, there were already 36 kilometers of BRT service.

Car drivers benefited from the BRT since the buses were removed from general traffic, thus minimizing swerving in and out of lanes to pick up passengers. The greater efficiency had also caused the decline in bus accidents by 30%. More importantly, each median BRT lane carried six times more passengers than buses on other routes, further minimizing cars traveling along the BRT routes. However, the concern became the increasing amount of subsidies to run the mass transport system. An operating gap of US\$270 million, three times as much prior to the reforms, became apparent.<sup>45</sup>



<sup>41</sup> The Preservation Institute (n.d.), Removing Freeways.

<sup>&</sup>lt;sup>42</sup> New Castle Urban Design (n.d.). The Cheonggyecheon river restoration project.

<sup>&</sup>lt;sup>43</sup> Cited in Han-yong, Seong (2009, January 28). The two faces of Lee Myung-bak, The Hankyoreh, from http://english.hani.co.kr/arti/english\_edition/e\_opinion/335467.html.

<sup>&</sup>lt;sup>44</sup> Pucher, John, Park, Hyungyong, Kim, Mook Han and Song, Jumin (2005). Public transport reform in Seoul: Innovations motivated by funding crisis. *Journal of Public Transportation*, *8*(5), 49-56. From, http://projects.ig.harvard.edu/files/tut/files/publictransportreforminseoul.pdf.

<sup>&</sup>lt;sup>45</sup> Pucher, John, Park, Hyungyong, Kim, Mook Han and Song, Jumin (2005). Public transport reform in Seoul.

If there were weaknesses in the planning stages, most experts would probably cite the lack of inclusiveness. For example, the needs of seniors, people with visual disabilities, and those with mobility problems were not taken into consideration in the design of the project. In September 2005, a protest march demanded the right to access the new embankments alongside the stream by physically impaired groups. To address the problem, Mayor Lee had seven elevators installed and provided wheelchairs for people with disabilities. However, the fact that these facilities were not in the original design meant that these had to be retrofitted into the plans at additional costs. <sup>46</sup>

#### The New Cheonggyecheon

"We've basically gone from a car-oriented city to a human-oriented city" Lee In-keun, Seoul's Assistant Mayor for Infrastructure

Did the project deliver real benefits to the residents of Seoul?



<sup>&</sup>lt;sup>46</sup> Commission for Architecture and the Built Environment (n.d.) Cheonggyecheon Restoration Project, Seoul, South Korea. From http://webarchive.nationalarchives.gov.uk/20110118095356/http://www.cabe.org.uk/case-studies/cheonggyecheon-restoration-project/evaluation.

AT Revkin, Andrew (2009, July 16). Peeling back pavement to expose watery havens. *The New York Times*, from http://www.nytimes.com/2009/07/17/world/asia/17daylight.html?pagewanted=all&\_r=0.

After several years of gathering baseline data and measurements, the Landscape Architecture Foundation established the following benefits.<sup>48</sup>

- 1. Provided flood control capability for up to a 200-year event that can sustain a flow rate of 118 mm/hr. Flood control capacity is particularly important for large cities in Asia.
- 2. Raised 2003 biodiversity levels by more than 600% compared to 2008. Urban development usually decreases biodiversity. This is a case where more species were welcomed by the new environment.
- 3. The removal of the paved expressway cooled the immediate surroundings with temperatures 3° to 6°c cooler than on roads 4-7 blocks away. A 2005 survey revealed that respondents took note of improvements in air and water quality, as well as noise levels and odors.
- 4. Slashed small-particle air pollution by 35% from 74 to 48 micrograms per cubic meter. Prior to the reforms, more residents suffered from respiratory ailments than those in other parts of Seoul.
- 5. Increased bus ridership by 15%, subway usage by 3% between 2003 and 2008, largely from the reconfiguring of the transport system. Increased usage of public transport meant that less cars were needed to be on the road.
- 6. Attracted an average of 64,000 local and foreign tourists per day.
- 7. Improved real estate prices by 30-50% for properties adjacent to the project. However, this also meant that many of the previous residents could not afford to go back to their old addresses because they could no longer afford to do so.
- 8. During 2002-2003, the number of businesses in Cheonggyecheon increased by 3.5%, double the rate of business growth in downtown Seoul. The favorable environment led to an increase in the number of workers in the Cheonggyecheon area by 0.8%, compared with a decrease in downtown Seoul by almost 3%.
- The project established a 3.6-mile east-west green zone for pedestrians, bicyclists, and fauna. Some likened having the new Cheonggyecheon to the Central Park in New York City.
- 10. The rehabilitation increased connectivity within the Central Business District by adding 22 bridges, links with 5 nearby subway lines, and 18 bus lines.

Further, potential traffic problems were successfully mitigated by tons of forward planning. Vehicular speeds within the affected areas only marginally decreased (12%), public transport utilization improved while walkways became attractive alternatives for street-level walking tours, and more pedestrian activity was encouraged. According to the Landscape Architecture Foundation, had the elevated roadway been kept, the city government would still have spent about US\$90 million plus three years of rehabilitation to ensure structural safety. 49



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<sup>&</sup>lt;sup>48</sup> Landscape Architecture Foundation (c. 2011). Cheonggyecheon Stream Restoration Project, Seoul, South Korea, Landscape Performance Series, from http://landscapeperformance.org/case-study-briefs/cheonggyecheon-stream-restoration.

<sup>&</sup>lt;sup>49</sup> Landscape Architecture Foundation (c. 2011). Cheonggyecheon Stream Restoration Project.

#### The Birth of a Green City

The greening of the Cheonggyecheon not only reintroduced the ethos of the natural environment but it also highlighted the importance of an eco-friendly approach to urban design. Parallel successes were also achieved in the restoration of history and culture of the capital city which had been lost and misplaced over the last 30 years. All these developments happened at the time that the economy of Seoul was also blooming.

Yeon Yeong-san, 63, ran a sporting apparel store with his wife, Lee Geum-hwa, 56, in the Pyeonghwa Market, a recognized global center in the fashion industry. Mr. Yeon's family moved to old Seoul in the late 1940s and he had been in business for four decades. "Parking is now harder for my customers...but because of lesser traffic, we have better air and natural environment," according to Yeon. <sup>50</sup> He and his wife took long walks along the river every day. "We did not think about exercising here when the stream was buried underground," Yeon said.

Without a doubt, the rebirth of Cheonggyecheon became a win-win situation for all the stakeholders. In fact, the Cheonggyecheon experience became a model for several restoration projects not only in Korea but in other countries as well. As of 2015, 19 million tourists visited Cheonggyecheon. The site has also become a favorite venue for various artists and performers. In 2014 alone, almost 2,000 public events were held along the riverbanks.<sup>51</sup>

Perhaps, one of the greatest beneficiary of this success was Lee Myung-bak himself, whose foresight, resolve, planning and execution prowess gained him not only national, but international recognition as well. The restoration project earned him the Best Public Administration award at the Venice Biennale's 9th International Architecture Exhibition in 2005, followed closely by the 2006 Sustainable Transport Award. He did take risks and the payoffs were huge. The get-things-done attitude of Lee made him the 10<sup>th</sup> President of South Korea in December 2007. December 2007.



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<sup>&</sup>lt;sup>50</sup> Revkin, Andrew (2009, July 16). Peeling back pavement to expose watery havens.

<sup>&</sup>lt;sup>51</sup> Min-ho, Jung 2015, October 1). Cheongye Stream Restoration.

<sup>&</sup>lt;sup>52</sup> Butler, Don (2006, June 18). The future is now. *The Ottawa Citizen*, from, proquest.

<sup>&</sup>lt;sup>53</sup> Mi-Young, Ahn (2007, August 23). South Korea: Presidential candidate relies on business savvy.



The picture shows Lee Myung-bak relaxing at the Cheonggyecheon. The photo was used in Time's feature of Lee as one of the Heroes of the Environment in 2007. Reprinted with permission of Ki Ho Park of kistone photography (www.kihoparkphoto.com).

