

Seoul: Transportation Reform as an Enabler of Urban Regeneration

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 **TUT-POL**

Transforming Urban Transport – The Role of Political Leadership

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Introduction

Over the past decade Seoul emerged as a ‘model city’, owing in no small part to the development of a public mass transit system that is widely regarded as reliable, affordable, user friendly and, increasingly, environmentally sensitive. The sheer geographic reach of its rapid transit network, the successful reorganization of its urban bus system, the demolition of sixteen of its elevated highways and overpasses, the speed at which ‘hard’ and ‘soft’ interventions have been and continue to be carried out, and the constant push for ‘smart transportation’ problem solving combine to make the lessons of Seoul relevant to other cities in Asia and beyond.

The concrete facts and figures are impressive: with over 25 million residents, 765 bus routes, 19 passenger rail lines (9 subway) and 617 subway stations and counting, the transportation network in the Seoul metropolitan region is one of the largest and most heavily utilized urban mass transit systems in the world.² That contemporary Seoul emerged from abject poverty and physical devastation at the close of the Korean War in July 1953 makes the city’s stunning economic growth and urban expansion, popularly referred to as the ‘Miracle on the Han River,’ all the more stimulating.

One may be tempted to attribute the success of Seoul to the heritage of an authoritarian past, when a tradition of top down planning allowed government authorities to implement their transformative vision rapidly and decisively. Indeed, a big part of Seoul’s current urban landscape owes to the rapid construction of one of the world’s most extensive highway and rail transit networks during this pre-democratic period, which was closely coordinated with the development of a constellation of new towns in the urban periphery to accommodate growth in this rapidly expanding metropolis. However, Seoul stands apart from other “exemplars” in the Asian continent, such as Singapore and Hong Kong, in that its more recent transport innovations have been implemented in the context of a vibrant, highly competitive democracy. This case focuses on transformative projects dated after the arrival of democracy in Seoul, particularly those championed during the administration of Mayor Lee Myung-bak from July 1, 2002 to June 30, 2006.

The residents of metropolitan Seoul first elected a mayor and city council in June 27, 1995, coincident with a major devolution of authority of local jurisdictions throughout South Korea.

² The nomenclature of political jurisdictions in Korea can lend itself to confusion. The Seoul metropolitan *region* (designated formally as the *Seoul Capital Area*) does not have a unitary government. Its territory is divided among three autonomous jurisdictions: the special city of Seoul, the metropolitan city of Incheon, and the province of Gyeonggi-do. In this document, we focus *only* on the special city of Seoul, an area of 605 square kilometers inhabited by 10.4 million residents. The special city of Seoul is divided in 25 districts (*gu*) and in several hundred neighborhoods (*dong*). Its government, headed by a Mayor, is known as the Seoul Metropolitan Government (SMG). Its local assembly, composed by 102 members elected to represent the 25 districts, is known as the Seoul Metropolitan Council. The SMG has direct authority over the nine subway lines of the transportation system that services the region. However, all 19 rail lines enter the territory governed by the SMG, and all are now fare integrated.

The years immediately following these developments were most notable for political gridlock in the surface urban transport arena and for increasing vehicular congestion and urban decay in the centrally located downtown. The extension of the subway and of highways, and the development of new towns in the urban periphery during the previous decades had indeed caused several unintended consequences. An increasing number of urban residents made the car their primary form of travel, and travel times in buses -which shared the roads with cars, dramatically increased. The share of people commuting by bus decreased, and several bus companies faced bankruptcy. While the suburbs boomed, the downtown experienced disinvestment and decay. In contrast to his predecessors, Mayors Cho Sun (1995-1997) and Goh Gun (1998-2002), Mayor M.B. Lee set out to shift the development priorities of the city of Seoul: Away from the suburbs and into the downtown, and away from cars and subways to improving the bus.

This agenda materialized in a very concrete flagship project, the Cheonggyecheon Stream Restoration, designed to signal his administration's commitment to redeveloping downtown. Mayor Lee set out to demolish two major expressways, and to restore the stream they covered, transforming the area into a linear park. Partly as a traffic mitigation measure, Lee announced the reorganization of the city's bus network, including the establishment of bus priority lanes, the replacement of the city's aging bus fleet, fare integration with the subway system, and implementation of the world's first prepaid 'smart card' for use on all modes of local surface transportation (including taxis as well as bus and rail transit).

Combined, these interventions increased public transit ridership (12.8% increase in the average number of bus and subway passengers carried per day between 2003 and 2010),³ and effectively curbed a decades long trend of decline in the bus share of vehicle trips. After losing market share consistently since the eighties, the bus share of vehicular trips has started to recover (from 26.2% in 2004 to 28% in 2013), surpassing once again the share of trips by private automobile (which fell from 26.4% to 25.9% in the same period).⁴ These reforms dramatically reduced the number of bus traffic fatalities and injuries (by 44.4 and 94.9% respectively, between 2004 and 2011).⁵ The bus fleet was also completely overhauled, increasing passenger comfort and convenience, as well as contributing to reducing the emission of air pollutants. Prior to the reform, Seoul had no low-floor buses, and 81.5% of its existing bus fleet used diesel fuel. As of 2011, Seoul has 1,329 low-floor buses in operation, and 95% of the bus fleet, 7,234 buses, use compressed natural gas (CNG) for fuel.⁶ With cleaner, more convenient, and frequently faster buses than before, the yearly Seoul Survey registered in 2006 (the year Lee left office) an increase of 19.5% in customer satisfaction with bus services, relative to 2003, the year prior to the reforms.⁷ And we must not forget that while all this was achieved, the demolition of the elevated highway and restoration of the Cheonggyecheon Stream spurred significant investment into Seoul's downtown, transforming a decaying center city area into one of the most popular tourist

³ Kim, Cheon and Lim, 2011, 727.

⁴ Kim, 2014.

⁵ Kim, Cheon and Lim, 2011, 730.

⁶ *Ibid.*

⁷ *Ibid.*

destinations of Seoul (visited by more than 120 million people by 2011, 20% of them foreign)⁸, considered even by critics as “the most attractive cultural civic space in downtown Seoul.”⁹ This case begins by recounting the political and economic context surrounding Lee’s bid for Seoul mayor, which caused his team to not embrace transportation reform as an end in itself, but as a mechanism to facilitate redevelopment of the city’s dilapidated central business district *Gangbuk* (“north of the river”). The case also briefly overviews Seoul’s growth and transportation development during the half-century preceding Mayor Lee’s term of office. In particular, it contrasts Seoul’s urban expansion and concurrent rapid rail and highway investment during the long period of authoritarian government and in the early years of democratic rule, with its neglect during these years of the bus system and of the city’s deteriorating core. This section also covers the transition to democracy, both at the national level (1987) and in Seoul (1995), which partly resulted in political gridlock in the surface urban transport arena as vehicular congestion and urban disinvestment and dilapidation plagued the city’s central business district. Among the myriad entrenched interests were bus companies, unionized bus drivers, retailers and residents along the Dubong Mia corridor, local council and national assembly members, and even local bureaucrats enjoying longstanding ties with the private bus owners, all of whom could incite considerable public conflict and controversy.

The case will then focus primarily on the administration of Mayor Lee Myung-bak (2002-2006), seeking to explain why and how it demolished a major elevated expressway in central Seoul, replacing it with a linear public park built around a restored historic stream; why and how it pursued a large scale, contentious reform of the city’s bus system, including much closer integration of bus operations with the subway network; and its use of cutting edge technology to develop the smart card, providing integrated fares throughout the transit network and allocating fare revenues among the multiple providers on the basis of their contributions to each trip. It will also consider how Mayor Lee utilized transportation reform as a source of leverage for urban regeneration and for the mobilization of a support base for a widely anticipated, and ultimately successful, presidential campaign. The case will conclude with a brief epilogue, describing the outcomes of the Cheonggyecheon Restoration project and transportation reforms implemented and the transformative implications of Lee’s political and civic leadership.

WHY FOCUS ON THE OLD GANGBUK?

Mayor Lee and his team did not embrace transportation reform as an end in itself, but as a mechanism to facilitate redevelopment of the city’s dilapidated central business district *Gangbuk* (“north of the river”). This broad redevelopment objective led the Seoul Metropolitan Government to champion the demolition of an 5.8 kilometer-long and 16 meter-wide elevated highway that cut east-west right through the heart of downtown, in turn forcing the administration to come up with a credible transportation alternative to replace the lost roadway capacity. This process involved design of a new urban and transport landscape for downtown Seoul, and balancing the political agendas of constituencies that had frequently been at odds with

⁸ Kriznik, 2011.

⁹ Cho, 2010, 145

one another, bringing together camps that fought for affordable, efficient and environmentally sustainable public transit, with wider forces pushing for economic growth and real estate development.

Mayor Lee, a former CEO of Hyundai Engineering and Construction, was a conservative, business-oriented politician, in a city dominated by an increasingly progressive electorate. Having been defeated in a first attempt to become Mayor in 1995, he was elected to the Korean National Assembly, but resigned in November 1998, and left the country for close to two years. During that time, Mr. Lee was a visiting fellow at the George Washington University in the United States, where he sought to reinvent himself, to fit the new concerns of an increasingly engaged citizenry only recently empowered to articulate and defend its interests and concerns.¹⁰ The South Korean electorate was changing, more aware and preoccupied of the negative side effects of decades of *ppali ppali* (quickly, quickly) development than ever before¹¹. During the morning rush hour of October 21, 1994, The Seongsu Bridge had collapsed over the River Han, killing 32. On June 29, 1995, only two days after the residents of Seoul elected its first mayor, the five-story Sampoong Department Store also collapsed, killing 502 and leaving 937 injured. Investigation of both events unveiled systemic corruption linking engineering and construction firms and local politicians, who took bribes to allow builders to cut corners and skirt safety codes.¹² These accidents, coincident with the transition to democracy in Seoul, entered the public's imagination as “the visual representation of the collapse of the developmental regime.”¹³

Neither Lee nor Hyundai came under suspicion, but the political environment did not seem receptive to former big business executives. Lee nonetheless used his time in the USA to prepare a new run for Mayor in 2002, actively researching transformative projects from which he might harvest attractive ideas for Seoul. It was during a visit to Boston, which was in the process of constructing a new underground expressway to replace its elevated Central Artery -- as part of a still larger project known colloquially as the Big Dig -- that Lee, as he later related it, realized that environmental and economic goals could be advanced simultaneously, brought together in a single infrastructure project -- precisely his area of professional expertise. As he later wrote in his memoir, “the highway, although still serviceable, was being demolished in favor of a massive tunnel that would both relieve traffic congestion and improve air quality throughout the city... once finished, the tunnel would not only make Boston a green city, it would transform the way the people lived and enjoyed life. At first glance, the project may have seemed unrealistic, even impossible, but upon closer examination, I understood that it had the potential to change the future of the city forever. In short, it was an outstanding investment... While looking at the Big Dig and imagining the future of Boston, the image of downtown Seoul came to mind.”¹⁴

Lee's first idea inspired by the Big Dig was to spark downtown renewal in Seoul by demolishing the Cheonggye elevated highway (and its Samil bypass), and to replace it with a new underground expressway like Boston's. These highways carried an average of 168,000 vehicles each weekday, but were widely perceived as environmental and aesthetic nuisances.

¹⁰ In his memoirs, Lee explains he “wanted to develop a new and different vision for my country, to set myself apart from the usual politics” (Lee Myung-bak, 2011, 244).

¹¹ The phrase *ppali ppali* is used to describe both the Korean pride with rapid economic development, and the national urge to sustain growth and become globally competitive.

¹² See Kie Chiang Oh, 1999, “Korean Politics: The Quest for Democratization and Economic Development”, 168-9.

¹³ Hong Bin Kang, personal interview.

¹⁴ Lee, 2011, 250.

Further, a study conducted in 1991-1992 by the Korean Society of Civil Engineering had found more than 20% of the highway's steel beams thoroughly corroded.¹⁵ A second investigation found that corrosion was likely to accelerate, as the bottom of the covered stream was seriously polluted by heavy metals, and the massive concrete deck was trapping methane gas and carbon monoxide at dangerous levels of concentration.¹⁶ The conditions of the highway were such that in 1997 heavy vehicles were restricted from accessing the Cheonggye highway.

It seemed clear that making the highway safe again would at very least require significant repairs, "almost to the point of reconstruction."¹⁷ Since 1999, a group of academics and intellectuals, gathered together in a "Society for Saving Cheonggyecheon," had been campaigning for demolition instead.¹⁸ This group, led by Kyung Ni Park, a bestselling author and outspoken conservationist, was loosely associated with the Democratic Party.¹⁹ Planners at the Seoul Development Institute (SDI), a government owned think tank, published a report in 2000 (later circulated to all candidates for mayor in the 2002 election) simulating traffic conditions in the downtown if the highway was demolished without being replaced.²⁰

Even as the Seoul metropolis was growing rapidly during the 1980s and 1990s, its central area was bleeding population and jobs, and its built environment was suffering decay. More specifically, the neighborhood surrounding the elevated highway —twenty-two blocks of small lots and narrow streets, 75% occupied by buildings lower than four floors and 53% by structures made of wood or decrepit brick— lost 66% of its population during these two decades. Air and noise pollution were among the highest in the city, and according to Lee associates, citywide air pollution had gotten to the point of hindering Seoul's ability to attract foreign investment. The number of businesses located in the broader central area of Seoul had reduced to only 77,000, declining by 24.1% from 1991 to 2000.²¹ "The reason the Cheonggyecheon needed to be reformed," recalled Je Taryung, who was a close political advisor to Lee's campaign, was that "the overpass above the stream made the development of downtown impossible. While real estate prices in Gangnam (south of the river) were extremely high, the land around (the highway) was then very cheap. About 300,000 people had moved from Gangbuk to Gangnam prior to the restoration because they realized that living conditions were better there." To Lee, this represented a tremendous missed opportunity for the city. By redeveloping the decaying downtown, Seoul could curb air pollution and become more livable, all while also transforming neglected prime real estate into a global hub for banking and commerce, able to compete for

¹⁵ Kee Yeon and Kyounga, 2011, 6-7. Also see Kim et al 2010, 31

¹⁶ GDPC, 2014, 161; Cheong Gye Cheon Museum, 2011

¹⁷ Rowe 2010, 31

¹⁸ Other sources, such as Kim et al 2010, note the name of the group as the "Cheonggyecheon Revival Academy."

¹⁹ Ki Yeon Hwang, personal interview. The role of this writer and organization deserves further exploration, but we have not been able to get much more than what Dr. Hwang shared with us about her. According to him, "Very few highlighted her role during the project. She passed away in 2008. Her role as a civic leader was great."

²⁰ We have not had access to this report. However, Kee Yeon Hwang, who participated in its preparation, confirmed its existence and described its content. For future reference, Dr. Kee Yeon Hwang obtained his phd from USC, and studied under Martin Wachs.

²¹ Hwang and Park, 2011, 9

investment with other Asian giants like Tokyo and Shanghai.²² Rather than continuing to promote urban growth in the periphery and fostering decay and squalor downtown, as had his predecessors, Lee imagined the construction of “new towns in-town.”²³

Once back from the United States, Lee clinched the nomination of the conservative Grand National Party for Mayor. As customary, mayoral candidates engaged with officials from the Seoul Development Institute (SDI) seeking information and advice prior to formalizing their campaign proposals. Lee’s close associates spoke with the transport planners at the SDI that had evaluated the likely impact of demolishing the highway, and they, in turn, connected the campaign with the members of the “Society for Saving Cheonggyecheon.”²⁴ Lee surprised them by announcing he would campaign openly and vigorously for the highway demolition project, making it the cornerstone of his plan for Seoul. To be sure, details were lacking. It was not clear at the time if Lee’s idea to build an underground highway and the conservationist’s goal of restoring an urban stream were mutually exclusive, nor if the aims of urban regeneration would come in conflict with the goals of environmental recovery. Nonetheless, this decision quickly captured the attention of the electorate, not only because Lee’s former company had been heavily involved in the construction of urban highways in the past, but also because demolition had previously been supported only by groups farther to the political left than Lee’s progressive opponents.

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²² In Lee’s words, “my thought was that Seoul should be not only a city where it is convenient for citizens to live in, but also a city that foreign investors could come and visit comfortably. There are various Asian cities like Shanghai or Tokyo, but in order to attract foreign investment to Korea, South Korea has to have some merit. So convenient transport, clean air, and restoring the Cheonggyecheon Stream also makes the air better, making a good place for people to live, a good place to do business. My goal as Seoul’s mayor was to make Seoul Asia’s economic center.” (Personal interview, 10 July 2014).

²³ Hong Bin Kang, who was vice mayor of Seoul during the administration preceding Lee, suggested this term. He went further, “what Lee Myung-bak wanted to achieve was not only the restoration and creation of the water ways, but to spur development along the new stream. I think he actually had an international project – fancy office blocs – in his mind” (Personal Interview, 9 July 2014).

²⁴ Kee Yeon Hwang, personal interview.

Date	Event
Sep. 1 & 2, 2000	1 st “Saving Cheonggyecheon” Symposium led by Prof. Roh Soo-hong & Bestseller Park Kyung-ni. “Society for Saving Cheonggyecheon” was established with the speakers at the symposium and Prof. Roh became a head of the Society)
April 27, 2001	2 nd “Saving Cheonggyecheon” Symposium
Sep. 2001	M.B. Lee visited Roh Soo-hong (head of the Society for Saving Cheonggyecheon) to examine whether the Cheonggyecheon Project could be incorporated as campaign promise
Dec. 31, 2001	Hankyoreh newspaper article “Giving life to Cheonggyecheon” (interview with the bestseller Park Kyung-ni) published
Feb. 22, 2002	Lee officially announced at a press conference. Lee said “Cheonggyecheon project will be my 1 st campaign promise (Cho, 2005, p.238)”
March 6, 2002	Cheonggyecheon Restoration Symposium for Saving Seoul’s Economy and Environment [organized by Society for Saving Cheonggyecheon & Asia-Pacific Environment NGO (Lee was a chairman)]
April 5, 2002	Lee was elected/confirmed as the Grand Nation Party’s candidate for Seoul Mayor Election
April 9 to July 3, 2002	Hankyoreh newspaper running story “Giving life to Cheonggyecheon” (10 articles)
April 30, 2002	Mayor candidate public debate on Cheonggyecheon Project (YTN: a 24-hour news channel)
May 17 & 18, 2002	3 rd “Saving Cheonggyecheon” Symposium
June 13, 2002	Lee was elected as a Seoul Mayor
July 1, 2002	Lee’s Seoul Mayor Inauguration, Lee established the “Office of Cheonggyecheon Restoration”
July 4, 2002	Open a Research Center for Cheonggyecheon Restoration
Sep. 12, 2002	Open a Citizen Committee for Cheonggyecheon Restoration

The Cheonggyecheon project provided invaluable cover to the Lee campaign against attacks that sought to frame his future administration as “a return of the dead paradigm of a developmentalist past.”²⁵ As Ki Yeon Kwan, who at the time served as the Director of the SDI, explained, “this project made us really forget about political factions and ideological differences.” Soon, the highway demolition and downtown revitalization championed by Lee became the single most important proposals discussed in the mayoral debates. “The other candidates didn’t even talk about their own projects,” recounted Je Taryong. “Instead of saying what they would do, they used their time to discuss why they were against Lee’s proposal.” The front running candidate from the governing Democratic Party dismissed the idea as impossible. He stated the project would cause traffic chaos, disrupt commerce, inconvenience neighbors and cost an exorbitant amount of money. Soon, all of Korea knew about Lee’s plan to demolish the elevated highway. Between January 1 and election day, the left leaning newspaper *The Hankyoreh Shinmun*, ran an article series titled “Bring New Life to Cheonggyecheon.” Academics and intellectuals, like Kyung Ni Park, took turns arguing for the project.²⁶ The election itself became a referendum on the future of Cheonggyecheon and of the broader Gangbuk area, even if the details remained unclear. In a poll published by *The Hankyoreh* two months before the election, 74.6% of the respondents were supportive of demolishing the highway, with 30% showing strong support.²⁷ Suddenly, a vote for Lee seemed palatable to an electorate that would rarely consider voting for

²⁵ This idea suggested by Hong Bin Kang. Personal interview.

²⁶ Rowe 2010, 31

²⁷ *Ibid*, 42

his Grand National Party. The Democratic Party candidate, an iconic figure who had led the student movement in the 1980s demanding democratization for South Korea but who now stubbornly opposed demolition of this highway, saw his popularity plummet.²⁸ On June 13, 2002, Lee Myung Bak was elected mayor by a large majority.²⁹

How: From a Vision to a Program of Interventions

Following Lee's election a Master Plan prepared under his auspices called for regenerating the Gangbuk CBD “as a historical and cultural center, a business and commercial center, and a center for tourism and shopping.” Seven “cultural belts,” would be refurbished and beautified, with the restored stream serving as the backbone. Tourists would be able to walk, sightsee and shop through special routes. Twenty-five residential developments were foreseen for the area, “targeting underdeveloped or undeveloped areas with a concentration of dilapidated buildings.” Finally, “international business complexes consisting of multinational firms’ headquarters and financials institutions are to be developed in the core of downtown,” with “convention facilities and hotels added to support these activities.”³⁰ In Lee’s own words, “my thought was that Seoul should be not only a city where it is convenient for citizens to live in, but also a city that foreign investors could come and visit comfortably. There are various Asian cities like Shanghai or Tokyo [in the region], so in order to attract foreign investment South Korea has to have some merit. Restoring the Cheonggyecheon Stream would make the air better, making Seoul a good place for people to live, a good place to do business. My goal as Seoul’s mayor was to make Seoul Asia’s economic center.”³¹

While Lee had a clear electoral mandate with which to move forward, the question of what to do with the 168,000 cars that would be displaced, and how to manage redevelopment of the Cheonggyecheon area was far from solved. “Everyone told us the whole project would be impossible because there was no viable transportation alternative,” recalled Je Taryung much later. “Many suggested that we build underway passages, which would take 10 years to complete.” This prolonged time frame led the Mayor to quickly discard building an underground highway similar to the one he had observed being built in Boston. He wanted a project that could be completed within a few years. “If you let a project take too long,” Lee observed during our interview, “it will cost two or three times more. Also, when you finish faster, the developed area can be utilized, and profits begin accruing earlier.” In addition to being an experienced

²⁸ Since democratization in 1995, three mayors had governed Seoul, all from the Democratic Party.

²⁹ In addition to the growing appeal of the proposal to demolish the highway, Lee may have benefited from a larger turn to the right of the South Korean electorate, expressed nationally. In this election, the Gran National Party won 11 of the 16 mayoral and gubernatorial races, including Seoul and Busan (Kihl, 2005, 281).

³⁰ Hwang and Park, 2011, 18.

³¹ Personal interview. Lee has been quoted elsewhere making similar statements. For example, he reportedly said “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, one that can compete as an attractive center of business with Shanghai, Tokyo and Beijing” (quoted in Kane, 2003).

construction executive and real estate developer, Lee was also a politician. The underground highway option did not mesh well with his personal political calendar. Whether he was to seek reelection in 2006 or be a candidate for president in 2007, he wanted to compile a record of concrete accomplishments during his four-year term.

His team of advisors evaluated a “Cheonggye bypass” alternative, which included widening several existing roads and altering traffic flows on several others.³² While this option should be pursued, they judged, it could provide only limited relief. “Rather than making cars go through a spider web of roads”, explained Je Taryung, “we suggested the best way was avoiding the web altogether, making buses faster and more efficient than cars.”

Congestion pricing was also briefly considered as an instrument to reduce travel to downtown. Kwansik Kim, a professor emeritus from Sungkyunkwan University and respected transportation specialist, remembers explaining to Mayor Lee the concepts advocated by London Mayor Ken Livingstone, which only months later would lead to the implementation of that city’s congestion charge in February 2003. “He listened to my explanation, [and] said ‘okay, very good,’ but never brought the topic up again with me. [Congestion pricing] was a huge political risk, and the mayor was very concerned about the acceptability of his policies.” Political advisors to Mayor Lee confirmed this concern when interviewed. “We knew that if we put a dollar fee on certain highways and expressways, we could manage demand and even make some money to cover public transit subsidies,” recalled Taryung, “but [we concluded] this would decrease public support too much.”

Lee’s team reviewed the SDI’s proposals to improve the bus network. At SDI, Kim Gyeng Chul, a phd in transport planning and administration from the Seoul National University, had been researching the bus industry worldwide, and had identified several international “exemplars.” One of these was Curitiba, a relatively small city in Brazil, known among transportation planners as “the cradle of Bus Rapid Transit (BRT).”³³ This city had successfully implemented a system that, using buses, achieved rail-like standards of service. Curitiba had also improved the urban environment for pedestrians and expanded the city’s parks, often by limiting or banning motor vehicle usage of streets. Only months after the start of Mayor Lee’s administration, Kim Gyeng Chul persuaded him to visit Curitiba with a group of his advisors. During this trip, the Seoul delegation met with Jaime Lerner (among others), the three-time former mayor of Curitiba who had implemented the city’s most celebrated innovations. Lerner offered his visitors a tour of the city, explaining to Mayor Lee not only the content of his reforms but also the strategies used to implement them. Lerner recommended beginning with small, rapidly implemented, high visibility actions, chosen for their potential to build momentum.

On his return home, Lee had his staff begin drawing plans to build one or two median bus corridors, modeled after Curitiba’s BRT, and to replace a complicated traffic interchange in front

³² Hwang and Park, 2011, 20

³³ In 2001, Kim Gyeng Chul wrote a policy paper titled “Urban Policy and Lessons of Curitiba, the City of Hope.” In 2002, the Seoul Development Institute commissioned a “Study on the Implications of Curitiba’s Urban Transport Policy.”

of Seoul's City Hall with a park.³⁴ He recognized, though, that it would be difficult to persuade Seoul residents to support Curitiba style bus improvements -which required taking additional lanes from cars, canceling left turns, and reorganizing the existing bus network- while at the same time asking them to support demolishing the highway. As he explained when interviewed for this project, "there is a close relationship between both projects, but if I had tried to introduce both at the same time, the people would have thought that the endeavor was too complicated and may have opposed all of it. [Keeping the two projects separate] was my political strategy to ensure both projects would succeed." So Lee's bus planning was kept under wraps during the first year of his administration.

A big challenge was to gain the support of career bureaucrats working in the local government, many of whom were concerned of the technical feasibility of the plan to remove the highway, and who did not share Lee's urgency. During that first year, Lee tried to align the incentives of local officials with his vision of the Cheonggyecheon project by highlighting opportunities within the electoral system for aspiring city councilors and national assembly members.³⁵ By some accounts, the mayor stated: "Once the capability of each director-general or director level officials is approved by successfully supporting the mayor's project, the city will help those officials to run for the head of a borough, the city council, or even for the National Assembly."³⁶ In time, Lee promoted the head of the Cheonggyecheon Project to vice mayor in July 2004³⁷ and appointed another key player in the Cheonggyecheon and transportation reform projects as minister of Government Administration in 2008 and head of National Intelligence Service in 2009.³⁸ Other public officials who worked on the projects with Lee gained appointment as high-level officers at the 'Blue House' (the President Office).

On the transportation planning side, Lee's reform strategy was more straightforward, as he reorganized the bureaucracy to better support major changes. As his transportation vice mayor, he appointed Eom Sung-Ji, a respected journalist who had previously worked for a government research institute and importantly, lacking preexisting relationships with bus companies. Mr. Eom was an outsider, but knowledgeable about the inner workings of Seoul's government bureaucracy. Mr. Eom, in turn, divided his team into two. While leaving day-to-day management of the city's transport network to the career bureaucrats, he created a 300-person "Transportation Improvement Task Force," consisting of newly recruited specialists and tasked with reimagining the future of Seoul's bus system in close collaboration with the Seoul Development Institute. Such use of taskforces and committees manned by specialists and experts as well as civil society representatives and other political supporters operating in close review by the mayor and vice

³⁴ According to Kim Gyeong Chul, "the mayor asked him after the visit to Curitiba, 'what is the easiest project for me to show the citizens?' And I proceeded to draw the Seoul Plaza in a piece of paper. I said the project could be completed in six months. He said I had to do it in less than two" (Personal Interview). Interestingly, Lerner tells this same story in his 2014 book, *Urban Acupuncture*, when recounting his decision to pedestrianize a street in downtown Curitiba in 1972.

³⁵ Source: Park and Lee, 2008, p.77

³⁶ Source: Park and Lee, 2008, p.78

³⁷ Source: Seo, 2005

³⁸ Source: Kim, 2009

mayor to gather relevant information and knowledge, develop plans, and pre-empt opposition would be a hallmark strategy of the Lee administration.

With this task force established, Lee invited Lerner to visit Seoul, using his presence to motivate and inspire his team. Upon arrival, Lerner was hurried onto a large van equipped with a table full of designs and plans, and driven around the elevated highway and into nearby streets that could fit bus corridors similar to Curitiba's. According to Lerner, who later wrote of his visit to Seoul, "the enthusiasm of the mayor and his staff was compelling... the planners, architects, and engineers involved demonstrated a very sharp understanding of the city: Its design was clear... I had no doubt that soon enough their projects would come to life as well."³⁹

Lee frequently rode the system himself, interviewing ordinary riders, and he asked senior members of his administration to do the same, letting him know of their observations or suggestions. Kim Gyeng Chul, head of the mayor's Transportation Improvement Task Force, later recalled: "The 6000 government officers in Seoul Metropolitan Government became monitors of the system. The Mayor also used subways and buses every Monday, and his knowledge of the system became a force for change."⁴⁰ The mayor and vice mayor reviewed progress of the Transport Improvement Task Force every other week.⁴¹ According to Kim Gyeng Chul, the mayor's instruction was, "to pursue change very quickly and very effectively, even if there's people who do not fully agree. If the changes were good, after some struggle, they would come to understand."⁴²

In its evaluation of the current bus system, the task force concluded that it was very expensive per unit of service provided, that the route network was difficult to understand and that the city was not getting good value for its subsidy contributions. Bus routes were circuitous and unnecessarily lengthy, extending in some cases to as much as 80 kms.⁴³ Most bus routes converged in only a few heavily patronized corridors, congesting the streets and leaving other areas with sparse service. In 2003, the Seoul Metropolitan Government provided US\$131 million in bus subsidies, US\$65 million for operating expenses and US\$66 million for capital investment in new buses and garages.⁴⁴ The task force produced a master plan, which called for an integrated transit network, inspired by that of Curitiba, including 191 kilometers of median bus lanes on 16 corridors. When implemented, passengers would be able to transfer comfortably between public transit vehicles, without having to pay a full fare for the second or third leg of the trip, and with a smart card calculating how much to deduct depending on passenger characteristics (elderly, student, etc), or trip length (after the first 10 kilometers, a surcharge would be automatically added every 5 kms). Bus operators would no longer have to race for

³⁹ Lerner, 2014, 13. This account was also confirmed by the author of this report in a recent, informal conversation with Jaime Lerner held on October 18, 2014 at the Harvard Graduate School of Design, Cambridge, USA.

⁴⁰ Kim Gyeng Chul, personal interview.

⁴¹ Kim Gyeng Chul, powerpoint. KOTI.

⁴² Kim Gyeng Chul, personal interview

⁴³ Kim and Dickey, 2006, 1039.

⁴⁴ Kim and Dickey, 2006; Seoul Development Institute, 2005, 13. Several of our interview sources claimed to recall much higher subsidy totals, but their recollections are undocumented. They may be mistaken, or they may be recalling transit subsidy totals that included the subway system.

passengers at the curb, as they would be compensated per vehicle kilometer (rather than per rider), and buses would -- at least in the corridors with bus lanes -- become faster than cars during peak hours.

The task force proposed an immediate trial of two BRT corridors in the vicinity of the Cheonggy highway: the 15.8 km Dobong Mia corridor (northeast to downtown) and the 7.6 km Cheonho-Hajeong corridor (east to downtown). In these corridors, median lanes would be set aside for buses and passengers would pay prior to boarding, in small stations more widely spaced than the existing bus stops. Many of the bus routes converging on these corridors would terminate upon reaching them, with convenient transfers available to their passengers.

Moving forward with the bus system reform (including the median corridor trial) and with the demolition of the highway required addressing several interrelated challenges: Obtaining authorization from the National Government and from the National Assembly for financing and permitting, defusing organized opposition from property owners and bus operators, mitigating harm, and addressing the managerial challenges of administering the reformed system. Before discussing the ways in which the Lee administration addressed these challenges, let us say a bit more about the context.

EVOLUTION OF THE BUS INDUSTRY 1960-2002, AND PREVIOUS REFORM EFFORTS

Seoul's bus transport industry developed in similar fashion to many cities in the global south. Service providers through the 1970s were family owned businesses, which operated with no fixed bus stops, fares, headways, routes or timetables. Owners typically operated their buses directly, with few family members or few staff, and some of these owners leased their vehicles to other persons or their drivers on a daily or monthly basis.⁴⁵ The number of buses increased nine-fold between 1960 and 1980, but soon thereafter stabilized in the 8000-9000 range.⁴⁶ Grounds for regulation of the industry emerged both from within the industry itself and from the authorities concerned: to protect existing operators' interests in the former case; for better services and lower fares in the latter.⁴⁷

A series of legislative acts in the early 1980s required these enterprises to incorporate and obtain government permits, which led to a first wave of consolidation. Regulation of participation enabled existing bus operators to get monopolistic or oligopolistic profit on most routes and to operate without any special subsidy from the government.⁴⁸ In 1990, when bus ridership peaked at 10.7 million passengers per day,⁴⁹ there were about 100 thriving bus companies, which could

⁴⁵ Kang, 1995, 362

⁴⁶ Taxis, on the other hand, surged from less than 3000 in the sixties to about 70,000 in 2000. See Bae and Richardson, 2011, 56.

⁴⁷ Kang, 1995, 359

⁴⁸ Ibid., 362

⁴⁹ Seoul Development Institute, 2005, 13.

barely keep up with the demands of a rapidly growing population. Seoul's population had been doubling every 10 years.

Subsequently, however, the bus industry struggled. The number of private vehicles in Seoul exploded, from 60,000 in 1979 to 2.2 million in 1997, while road network capacity scarcely more than doubled in this period.⁵⁰ Facing crippling congestion, Seoul officials focused on widening roads in the city's core, on constructing flyovers and overpasses for vehicles and underpasses for pedestrians, and limiting opportunities for pedestrians to cross streets at grade. To decentralize activities, moreover, local authorities opened new areas for development south of the Han River. Five massive suburban new towns, Ilsan, Bundang, Sanbon, Pyeongchon and Jungdon, were built in this period.⁵¹ In concert with these developments, and to connect them with core city destinations, the government more than doubled the length of its existing subway, adding four new lines and 170.4 kilometers to its network between 1989 and 2000.⁵²

Traffic congestion continued to worsen rapidly, however, and with it bus transport speeds. Buses that in the eighties managed seven or eight round trips of their routes now completed only 3 or 4. Bus companies would, reportedly, keep up to 10% of their vehicle fleet parked in depots, unable to cover the costs of operating them.⁵³ Curbside bus lanes, implemented for the first time in 1986, failed to bring much relief because private vehicles routinely invaded them "without risk of prosecution."⁵⁴ Stuck in traffic, the bus could never compete against the subway. Kim Gyeng Chul later commented: "When we opened one line of the subway, five bus companies would go bankrupt." A vicious cycle ensued, "wherein a decrease in bus users is followed by a decrease in fare revenues, poor management of bus companies, poor service quality, and another decrease in bus users."⁵⁵ By the late nineties, buses carried almost half of the passengers they had in 1985. The mode share of buses fell dramatically, from 65% of all vehicular trips in 1980 to 28.3% in 2000.⁵⁶ Several bus companies serving the city of Seoul merged, and others went out of business. By 2000, 68 companies were left.⁵⁷

In conjunction with a broader decentralization trend authority over fares and fare increases was devolved to local governments in July 1994.⁵⁸ The first democratically elected Seoul Metropolitan Government (1995-1997) proposed a redesign of the bus route network to reduce

⁵⁰ According to a powerpoint presented to us at the Korea Transport Institute (KOTI), road capacity in Seoul expanded only at a 4% annual growth rate in this period. In 18 years a 4% annual growth rate adds up to growth of 102%.

⁵¹ Between 1986 and 2011, these suburban new towns successfully attracted 3.3 million people from Seoul (Bae and Richardson, 2011, 53).

⁵² There have been several phases of subway construction in Seoul. The first was from 1970 to 1985, comprising 4 lines, 116.5 kilometers, and 115 stations. The second phase included 4 additional lines and extending the existing ones. This phase was completed between 1989 and 2000, with a total length of 170.4 kilometers and 160 stations. Since then, the system has continued to expand, adding a ninth subway line in 2007, as well as several commuter rail lines (including a 58 kilometer line to the airport).

⁵³ Kang, 1995, 365

⁵⁴ Kim and Gallant, 1998; Kim and Dickey, 2006.

⁵⁵ Kim and Dickey, 2006, 1038.

⁵⁶ Seoul Development Institute, 2005, 14. Also, In Keon Lee, personal interview.

⁵⁷ Kim Gyeng Chul, personal interview.

⁵⁸ Kang, 1995, 367.

overlaps with subway lines, reduce the number of bus routes entering downtown, shorten some routes, and increase frequencies. An incipient “smart card” was briefly piloted in Spring 1996.⁵⁹ These efforts largely failed due to opposition from bus operators. No company wanted to risk losing its most lucrative routes, and most feared that any rationalization of the system would leave them worse off in relation to their rivals. Similarly, a proposal for transfer ticketing (valid on both buses and subway) failed as operators quarreled about alternative formulas for revenue allocation.⁶⁰ Mayor Cho Soon was not willing to entertain a showdown with the bus operators, especially since he remained a presidential aspirant, seeking to participate in the closely contested December 1997 national elections.⁶¹ In fact, he resigned one year before his term, announcing his presidential candidacy on August 13, 1997. According to observers, government planners at that time “pursued... incremental change, not major change,” and seemed content “with having a master plan, and doing only the very easy parts.”⁶² The mayor himself rarely became personally involved. His administration is recalled as one whose “basic policy was status quo.”⁶³ Our informants also suggested that the bureaucracy had longstanding ties with the private bus owners and tended to have internalized their concerns more than the mayor's announced reform objectives.⁶⁴ In the end, the only significant change in this period was the introduction of subsidies for the bus operators to ameliorate their deteriorating finances.

The second democratically elected Mayor of Seoul, Goh Kun (1998-2002), had previously served in this position between 1988 and 1990, appointed by then President Roh Tae-woo. During his first term as Mayor, Goh had initiated construction of the second phase of the subway, including lines 4-8 of the system. Now back in the mayor's office, he completed construction of this project, and built the city's inner and outer ring roads.⁶⁵ In addition he broke ground for a massive 80-kilometer extension of subway line 1 towards southern and northern new towns.⁶⁶ With the Mayor's focus concentrated in subway and road efforts in the fringes of the city, there was little appetite left in the Goh administration to attempt to reorganize the buses. Nonetheless, the increasing deficits incurred by the bus companies necessitated a corresponding increase in subsidies from the Seoul city authority, if fare increases were to be prevented.⁶⁷ The bus subsidy total increased rapidly over the next several years, to \$105.6 US million in 2002.⁶⁸

⁵⁹ Kim and Gallent, 1998, 93

⁶⁰ Kim and Gallent, 1998.

⁶¹ Oh, J. K.-c., 1999, 217-218; Saxer, 2002, 195-196. After polls placed him in third place, he resigned to support an opponent.

⁶² Kim Gyeng Chul, personal interview.

⁶³ Kim Gyeng Chul, personal interview.

⁶⁴ “The owners of the most profitable routes probably gave money to the government officials.” (Kim Gyeng Chul, interview).

⁶⁵ Hong Bin Kan, personal interview.

⁶⁶ The southern extension included two stages: 7.2 kilometers from Suwon to Byeongjeon, and 47.9 kilometers from Byeongjeon to Cheonan. The northern extension spanned 24.4 kilometers from Uijeongbu to Soyosan.

⁶⁷ Kim, Cheon and Lim, 2011.

⁶⁸ KOTI powerpoint. The increase in the bus subsidies during this period suggests that Mayor Goh was at least somewhat interested in sustaining the existing level of service of the buses.

Date	Event
10. 01. 1985	Bus-only-lane was introduced – 19.5km (4 sections)
02. 03. 1995	Compulsory “ 10th-day-no-driving system ” was introduced (Feb. 3 – May 30, 1995) to reduce traffic congestion mainly due to the Seongsu Bridge collapse (Oct. 21, 1994)
05. 10. 1995	Expansion of the existing bus-only-lane : 173.3km (41 sections) in 1995 to 219.3km (54 sections) in 1997
01. 29. 1996	Prepaid Smart Card for Bus was introduced This bus card was operated on a trial basis. Riders who bought cards saved a specific sum of money and fares were automatically calculated for each ride
11. 11. 1996	Congestion charging was introduced (Vehicles with less than two passengers including the driver to drive through Namsan Tunnel 1 and Namsan Tunnel 3)
04. 18. 1997	Mayor Cho Sun established a “ Bus Improvement Planning Team ” with 35 city officials and a Bus Reform Committee ” with invited transport experts and citizens (04. 21. 1997)
07. 30. 1997	<p>Mayor Cho Sun announced ‘Comprehensive Public Transportation Improvement Plan’</p> <p><i>“Seoul City has announced a draft for comprehensive measures to reform and renovate the problem-ridden operation system of city buses. We have great expectations, as many existing measures for the city buses made all their problems chronic, patching up them consistently due to interests of bus companies and limitations of city policies. When looking at the major measures in the draft we feel a will to reform structures such as introducing public buses, restructuring routes and abolishing regulations regarding bus operation. Problems like long curbed routes, deficit routes and rough driving that causes passengers inconvenience should be fundamentally resolved at this opportunity. Also we hope that the operation of public buses will be an opportunity to understand the operating situation of the bus companies, so that there may be measures against claims of deficit and fee raising that bus companies seem to continue every year.” - Joongang Ilbo editorial, Seoul Buses Going on Operating Table, June 16, 1997</i></p> <p>Cho Sun attempted to change bus system to a ‘public bus system’ from existing private bus operation and reorganize bus routes in some degree, dividing buses into intercity, trunk, circulation, and town buses. However, the efforts failed due to extensive opposition of bus corporations and disapproval of the operating budget by the city council.</p> <p>“Other reasons Cho’s bus reform was failed,” recalled Je Taryung, who was a close political advisor to Lee’s campaign, was that “bus privatization was a global trend in the late 1990s, but Cho tried to row against the stream, and previous failure experience made people think it is inefficient (Park Chung-hee had previously failed to make it as a public bus service system around 1967).” (Je Taryung personal interview, July 2014)</p>
12. 31. 1999	Mayor Goh Kun Introduced the Local Motor Fuel Tax : Seoul City Council amended the local tax law to utilize 3.2% of transportation tax to improve local transportation
01. 20. 2000	Enabling compatible use of bus (prepaid) and subway (postpaid) fare card
01. 20. 2001	The Seoul Bus Transport Association submitted a petition asking 30% reduction of their entire

	bus operation due to declining profits. However, the city refused the association's petition on February 1, 2001
10. 01. 2001	Discount transfer fee: 50 won (0.05 dollar per transfer between subway and bus within one hour)
07. 01. 2002	Lee Myung-bak's Seoul Mayor Inauguration, and he established the "Office of Cheonggyecheon Restoration"
08. 16. 2002	Lee reorganized the city's transportation office and established the Transportation Improvement Implementation Office to work directly on the bus system reform Bus System Reform Citizen Committee was established on August 21, 2003
10. 18. 2002	New Town In Town demonstration projects were selected (Eunpyeong, Wangsimni, and Gireum New towns). All three sites were located in Gangbuk within 10km radius from Cheonggyecheon
01. 18. 2003	Lee and transportation related public officials visited 6 cities (LA, New York, Boston, Providence, Sao Paulo, and Curitiba from January 18 to 26, 2003)
03. 26. 2003	Seoul held a briefing session of Dobong-Mia Corridor Bus Reform Trial to bus operators
04. 17. 2003	Seoul Bus Transport Association submitted an petition requesting the trial be canceled to the Seoul City
05. 26. 2003	Lee visited the Seoul Bus Transport Association and the Seoul Bus and officially retracted the Dobong-Mia Bus Reform Trial
06. 30. 2003	Cheonggyecheon Highway Demolition and the Project Start
07. 01. 2004	Transport Reform Enforcement: Bus route and operation system reform: trunk-feeder system and blue-green-red-yellow buses, Quasi-public operation system, Exclusive Bus Median Lanes, Seoul City Transportation Headquarters (Bus Management System, Transport Operation and Information Service, and Automatic Violation Enforcement System), Integrated public transport fare system (Distance-based rates system and Transfer Fare Discount*)
07. 21. 2003	Car Free Day Campaign (one day per week) was introduced: the city initiated the citizens' voluntary participation program in July 2003. In order to promote the campaign, Seoul provided various incentives such as vehicle tax reduction, free car-wash, and car insurance discount to the participants. Congestion Charge (Namsan Tunnel 1 and 3): 50% discount up to 800cc light passenger cars and to "No-Drive Day Campaign" participants
Oct. 1, 2005	Cheonggyecheon Restoration Project Completion

Transforming Urban Transport Where Others had Failed

On assuming office in 2002, Mayor Lee faced political gridlock in the surface urban transport arena as vehicular congestion and urban disinvestment and dilapidation plagued the city's central business district. Determined to make progress in enhancing Seoul's bus transit, to do so quickly, and simultaneously to rein in the subsidy cost trend, where his predecessors had failed, he faced myriad entrenched interests including bus companies, unionized bus drivers, various merchant and resident groups, and even local bureaucrats enjoying longstanding ties with the private bus owners. As we shall see, he and his team relied on a multiplicity of mechanisms to nurture support among the public, to manage or win over organized opposition, and to maintain timely delivery of his proposed interventions. His closest associates were hands-on, and quite willing to operate in the background, letting others claim the credit when doing so advanced the overall aim of the administration. They were quick to experiment, but also nimble in adjusting strategies as circumstances changed.

GAINING AUTHORIZATION FROM THE NATIONAL GOVERNMENT

To finance his plans for the development of BRT and other bus service enhancements, Mayor Lee quickly concluded that he needed to obtain authorization from the national government to reallocate funds previously committed to subway expansion. In Korea, most construction of new transportation infrastructure is funded by the national government, drawing on gas tax revenues. This system originated in the 1960s and was greatly expanded in 1993.⁶⁹ The National Assembly distributes available funds to local jurisdictions, and in the case of Seoul nearly all of it had previously been utilized to finance Mayor Goh's road and subway investments. It was estimated that the cost of this program reached US\$100 million per kilometer for underground mileage, though it would be considerably less in suburban above-ground sections. "Simply delaying this investment" Kim Gyeng Chul recalled, "would provide a huge inflow of money for our project." The Mayor worried that by the time the National Assembly finally made a decision, the funds already available to the city would be committed. Lee In Keon, the official in charge of subway expansion at the time, recalls that Mayor Lee "asked me to consider stopping the construction project." When it became clear that cancellation of the subway expansion program (which was already contracted) would cost the city even more than finishing it, "[the Mayor] asked me to slow it down, and he did not change his position until after 2004 [when the bus reform project had been completed]."⁷⁰

⁶⁹ Hyeon Park, "Transport Infrastructure Development in Korea: Role of Public Institutions." Powerpoint presentation at the IADB, Washington, DC. May 13, 2014.

⁷⁰ After 2004, the Mayor authorized extending Line 9 of the subway, which would not open until 2009. This line was built with private funds, under a PPP.

Obtaining authorization for this reallocation of resources and obtaining the required permits to move forward with demolishing the elevated highway required intensive negotiations with members of President Roh Moo-Hyun's national cabinet and with key members of the National Assembly. Here, Mayor Lee was doubly disadvantaged by the fact that both President Roh and the Assembly leadership were members of the Democratic Party, in competition with his own Grand National Party. Expectations that Mayor Lee would be a candidate for president in 2007 further intensified reluctance to offer assistance. Goh Kun, now serving as the Prime Minister, was also eyeing a presidential run, and had publicly opposed the Cheonggyecheon project. Where South Korean police fall under the purview of the Prime Minister, and have authority over “traffic control,” Lee was hard pressed to receive their needed approval to demolish the highway. They only gave the green light after Lee appealed directly to the President, asking his invitation to a cabinet meeting to plead his case.⁷¹

Close advisors to President Roh worried that a President Lee would quickly overturn many of their progressive policies. “The National Government was very left, very distant ideologically, from Lee Myung Bak,” recalled Ki Yeon Hwang. “For this reason, many within the [national] administration did not want [the mayor’s] projects to succeed.” As it turned out, the ideological consensus within the upper ranks of the National Government was undermined by its political divisions. In 2003, however, President Roh did approve Lee's proposals, and the National Assembly followed suit. President Roh’s former chief of staff offered his view on why President Roh came around. Part of it had to do with not wanting to be perceived as obstructionist of local authority. Additionally, President Roh was not polling well, and thought it likely that his party would lose the next election. In Lee’s party, there was another contender who Roh disliked even more. She was Park Geun-hye, the daughter of the late General Park. So President Roh was motivated to strengthen Lee, at least within Lee's own party.

ACHIEVING FINANCIAL VIABILITY THROUGH PUBLIC AND PRIVATE INVESTMENT

The cost of the Cheonggyecheon Restoration was, reportedly, US\$380 million dollars, “about the same cost the city could save without paying for ten years of maintenance of the existing highway.”⁷² The entire bus reform project (including private investment and infrastructure) cost approximately \$500 million USD.⁷³ Obtaining information for an exact breakdown of public vs. private costs of the bus reform is an ongoing effort. Generally, the public contribution covered the median line confinement, the stations, and road surface improvements, while the private investment included the fare validation equipment, and the buses. However, the Lee administration managed to shift some costs to the private sector. For example, a French

⁷¹ “They delayed and delayed for a long time, until Lee Myung Bak asked the President for a meeting” Ki Yeon Hwang, personal interview.

⁷² Hwang and Park, 2011, 11. Critics featured in the popular press, however, place the real cost of the Cheonggyecheon Restoration project at US\$900 million.

⁷³ Kim, Gyeng Chul, personal interview (and powerpoint).

advertisement company footed the cost of the stations in exchange for 15 years of advertising rights, and the Korea Smart Card Company (KSSC), the company hired to develop and run the new payment mechanism, paid for the installation of all fare validation equipment onboard the buses (getting compensated with a 1.5% fee over each transaction). Similarly, the government absorbed some of the private costs. For example, the purchase of new buses was greatly facilitated by a subsidy program funded largely with national funds (detailed later). However the point here is to highlight that both the Cheonggyecheon restoration and the bus reform projects were achieved without any borrowing.⁷⁴ Reflecting on both the pacing and financing of these projects, Lee reflected, “in the government, if it takes a lot of time and money then anyone can do it. But the most important thing is reducing time and money, which saves the national budget and makes citizens’ lives more comfortable. That, not everyone can do. But Seoul did.”⁷⁵

CONFRONTING ORGANIZED OPPOSITION BY EXPANDING THE CONFLICT

Locally, the main challenge was to deal with organized opposition, including from bus companies and drivers union, retailers and residents along the Dubong Mia corridor, and local council and national assembly members. In attempting to shift the balance of power away from opponents to his transport goals, Lee utilized a scalar strategy whereby he expanded the single-corridor pilot to a citywide scale in order to broaden the potential policy gains and terms of discussion about the future of the city as to provide more room for maneuver. As we will see, it became impossible to build a single corridor BRT in the face of bus operator opposition, but not impossible to reform the bus system citywide, *including* that single corridor. The main reason was that a city-wide bus reform allowed Lee to rely on a wider array of citywide interest groups, whom his administration incorporated into citizen’s committees lacking formal authority but nonetheless actively engaged in public discussions, debates, and consultations as to lend considerable political and programmatic support. Further, a citywide reform allowed Lee to compensate bus operators that stood to lose from the BRT implementation by expanding their operations and increasing their revenues elsewhere in the city.

Particularly where the dynamics between local authorities and stakeholder groups proved contentious and outright hostile, the presence of such committees, councils, and informal channels of communication was key to resolving impasse, moving the project forward, and avoiding political fallout for Lee’s administration and political party.

In first confronting the bus industry, Lee took advantage of its precarious state. In addition to the long-term factors driving down its patronage, the Asian crisis of 1998 had further damaged the financial standing of the bus companies. Several were on the brink of bankruptcy, and most now

⁷⁴ “At no point did we have to borrow money. Taxes paid for it. We never had money prior saved up for these projects,” explained Je Taryung.

⁷⁵ Personal interview

depended on local subsidies to remain in business.⁷⁶ Hence, some of the bus industry leaders were receptive. According to Kim, “we explained, over many meetings, that *only* by working together with us did they have a future” The Seoul Metropolitan Government announced the Draft Basic Plan on the Cheonggyecheon Stream Restoration Project on February 11, 2003,⁷⁷ and only weeks later, on March 2003, the median bus lane trial was launched in the Dubong Mia corridor. Rapid implementation was possible because the trial did not require significant public investment: No new buses were acquired, nor was a special fare collection mechanism installed. Further, the police authorized the required permits.⁷⁸

Nonetheless, protests and demonstrations from bus companies and the drivers’ union soon followed the bus trial. The owners of most bus routes along a major arterial street, Dubong Mia, were expected as part of this trial to shorten their routes so as to terminate at a transfer station. The portions of their routes to be eliminated, continuing into downtown, were the most profitable, and there was no revenue sharing agreement in place with the companies that would continue to operate on these route segments (benefiting as well from the exclusive median lanes). Further, passengers would have to pay a second fare to transfer. Numerous retailers and residents along the corridor also mobilized in opposition to the trial -- concerned about shifts in traffic patterns and the location of stops, about the removal of curbside parking, and about likely increases in traffic in some neighborhoods to which it would be diverted from Dubong Mia Street. Some local council and even National Assembly members joined in, lobbying task force members as well as the mayor to call off the trial.⁷⁹

The Lee administration went forward, but then stopped the trial just three months in -- saying that it would defer application of the median bus lane concept until it could be implemented throughout Seoul.”⁸⁰ The combination of this cancellation with an announcement that the same concept would be implemented subsequently at a grander scale may seem paradoxical. However, this decision enabled Mayor Lee to widen the discussion. More supportive constituencies, until then underrepresented in the process, were unwilling to engage in a single-corridor NIMBY debate but were potentially supportive within the framework of a more general deliberation on the future of the city. Further, many of the legitimate concerns of the bus operators, such as revenue sharing and route realignment, were more easily addressed citywide.

Demolition of the Cheonggye highway began at just about this time, on July 1, 2003, with no traffic mitigation strategy in place. Alarmed, an array of citywide interest groups supportive of the Cheonggyecheon restoration approached the administration offering to help. On August 21,

⁷⁶ According Je Taryung, at the time, “1/3 of the companies were doing well, 1/3 were barely breaking even and the final 1/3 were losing money.”

⁷⁷ GDPC, 2014, 165

⁷⁸ Details are required to assert the extent to which this permitting phase was contentious or not.

⁷⁹ Kwangsik Kim, personal interview. Also see Kim, Kim and Song, 2014, 206.

⁸⁰ Kwangsik Kim, personal interview.

2003, the Seoul Metropolitan Government embraced their proposal to bring in more voices into the discussion, and established the Bus System Reform Citizen Committee (BRCC).⁸¹

This committee consisted of twenty members, all appointed by the mayor. Six were distinguished transport professionals, including Professor Kwangsik Kim, who served as chair. Four members represented non-government organizations: the Network for Green Transport, the YMCA, the Green Consumers Network and the Citizen's Coalition for Economic Justice. Four were local public officials, including two city councilors and a representative of the police department. And four represented the Seoul Bus Transport Association and the Seoul Bus Transport Trade Union.⁸²

The BRCC provided a mantle of social legitimacy for the project, and ultimately overwhelmed neighborhood-level NIMBY pressures.⁸³ While it had no formal authority, it “helped [with] consensus building among various stakeholders in the preparation stage, and was a channel that allowed stakeholders to participate in the decision making process.”⁸⁴ It “played a role in resolving misunderstandings, untangling issues, and forging constructive dialogues with stakeholders.”⁸⁵ Ultimately the bus reform project was implemented citywide without serious social conflict.

A similar strategy was employed to address the claims of retailers operating roughly 60,000 small stores in the Cheonggye stream area,⁸⁶ who feared loss of business during the construction period, and longer-term because of reductions in parking availability and the likely gentrification of some neighborhoods, particularly in the immediate vicinity of the elevated highways to be demolished. The approximately 1,500 street vendors that had stands in the area also feared displacement. On the other hand, nearby property owners were vigorously supportive. They stood to profit handsomely as it became feasible to develop high rise buildings, up to 30 stories in height, along the Cheonggye corridor.

The most difficult challenge was to mitigate damage to the hundreds of small retail merchants who had for long enjoyed low rents, and who were likely to be driven out of business in the short run even if offered opportunities to return following the lengthy construction period. Soon after the Draft Plan was announced, on February 27, the Seoul Metropolitan Government announced it would offer no compensation to merchants for losses incurred during the construction process, and on March 13, stated it would not delay the construction schedule for any reason. These, constraints, imposed by Mayor Lee, were reportedly based on his conviction that merchants who remained in the area would more than be compensated with additional business after the project

⁸¹ According to published work by Kim Gyeng Chui, who at the time was the key official at the Seoul Metropolitan Government working on the bus reform project, “the main purpose of the Bus Reform Committee was to promote the reform project of the bus transport system successfully.” Kim, Kim and Song, 2014, 96

⁸² Members of the BRCC were not compensated financially for their participation. They met twice a month for three years.

⁸³ The fact that the business community (beyond the bus companies) was absent from the Committee is at least interesting. This is a topic we will continue to explore.

⁸⁴ Seoul Development Institute, 2005, 36. The committee met a total of 28 times. (Kim and Dickey, 2006).

⁸⁵ Kim, Kim and Song, 2014, 255.

⁸⁶ GDPC, 2014, 167. The account in this source is largely based on the three volume “White Paper on Seoul Cheonggye Stream Restoration Project,” published in Korean by the Seoul Metropolitan Government in 2006.

was finished, and on his self imposed tight deadlines for project completion. Tension heightened significantly, and, on April 8, merchants took their discontent to the streets.⁸⁷ Officials in charge of the project had to rely on “unofficial channels” “to communicate in times of fierce confrontation.”⁸⁸ Once construction began, however, a council of merchants was established to facilitate subsequent discussions and try to minimize inconveniences. This council met 17 times throughout the construction process, striking agreements on issues such as improving access to the area (for clients and deliveries), flexible enforcement of parking violations, and most critically, a plan for relocation of merchants desiring to exit the area. Street vendors initially were not invited to participate, “since they were illegally operating.”⁸⁹

Relations with both formal and informal merchants grew increasingly contentious, and on at least one occasion, construction had to be suspended “due to their militant actions.”⁹⁰ The Lee administration stimulated creation of the Citizen’s Committee on Cheonggye Stream Restoration (CCCSR), with 100 members drawn on the one hand from environmental groups and the ranks of academia, and on the other from representatives of organized local vendors, such as the “Task Force for Cheonggye Clothing District” and “Cheonggye Stream Commercial Rights Protection Committee”.⁹¹ The CCCSR analyzed the proposals made by the Restoration Bureau of the city government, in charge of crafting a master plan for the area.

Whenever the project was challenged publicly, high profile supporters rushed to its defense. For example, when several NGO’s criticized the project for lacking “ecological and historical authenticity,”⁹² supporters retorted that even if imperfect the stream restoration would contribute significantly to the “green” agenda. When local politicians accused the administration of investing too much money on this project, supporters replied there would be significant benefits to show for it. For every such critique, a column in support would appear in one or more prominent newspapers.

These Citizen Committees did not focus primarily on neighborhood scale issues -- though these were not neglected -- but rather on the general aims of improving Seoul’s environmental quality and helping make it more competitive internationally. With both the BRCC and the CCCSR, not moving forward was never an option. The mayor, who had appointed both sets of members, monitored their progress closely and instructed his close aides as to what was acceptable and what was not.⁹³ When NIMBY opposition arose, he could count on supporters within the committees to defend the projects. “When the Seoul citizens heard that transportation would be faster and the air would be cleaner, support for the reforms increased”, recalled Mayor Lee, “so even if some bus companies or some merchants opposed the reforms, I used public opinion to make them surrender.”⁹⁴

⁸⁷ GDPC, 2014, 167.

⁸⁸ GDPC, 2014, 175.

⁸⁹ GDPC, 2014, 176.

⁹⁰ Hwang and Park, 2011, 23

⁹¹ Kim, Kim and Song, 2014, 255; and Hwang and Park, 2011, 11

⁹² Cho, 2010, 162.

⁹³ Documentation in progress.

⁹⁴ Lee Myung Bak, personal interview.

DEFUSING INCUMBENT OPPOSITION THROUGH DIALOGUE AND NEGOTIATION

While the Citizen Committees provided democratic support and legitimacy for the projects, Lee and his close associates worked intensely behind closed doors to negotiate direct deals with the 57 companies controlling the 368 bus routes then in operation and with the small commercial interests along the Cheonggyecheon. Lee personally, and his closest aides, “visited bus driver’s union buildings and bus company offices. He explained the meaning of bus reform. He promised not to take away existing permits, to respect existing bus routes, to improve the salary levels of bus drivers. He accepted some of their requests, and also explained why not all requests could be accommodated.”⁹⁵ In his autobiography, Mayor Lee suggests that discussions with representatives of the bus companies “at times led to nothing short of shouting matches and acrimonious finger-pointing.”⁹⁶ Brokering an agreement with the street vendors and local merchants required city government officials to “meet with merchants and their representatives 4000 times.”⁹⁷ While some opposition persisted, it was mostly defused through negotiation.

In the end, bus companies obtained significant subsidy guarantees, which not only enabled them to remain in business, but also to renovate the majority of their vehicle fleets in only a few years—mostly with South Korean-made Daewoo and Hyundai buses.⁹⁸ Mayor Lee was able to offer an 80% subsidy on the purchase of new, compressed natural gas (CNG) buses (55% paid with central government funds and 25% with funds from city government).⁹⁹ The bus companies also obtained a commitment from Lee that in the event the rationalization of their routes required reducing their fleets, the government would buy their redundant buses, paying USD\$30,000 for each.¹⁰⁰ A broad agreement with representatives of the bus industry was signed on February 4, 2004, following a two day retreat spent negotiating the final details. Major components of this agreement included a guarantee by the Seoul Metropolitan Government to compensate for any operational losses under the new quasi-public system; an extension of the operational licenses of the 57 individual member companies of the Seoul Bus Transport Association; and a public bidding system to award limited contracts to operate ten median lane bus corridors (running 19 different bus routes).¹⁰¹ Six consortiums, all formed by existing operators, competed for these contracts. Four were selected.¹⁰²

⁹⁵ Kwangsik Kim, personal interview.

⁹⁶ Lee, 2011, 260.

⁹⁷ Hwang and Park, 2011, 24.

⁹⁸ Kim Jong-won, Chief of the Seoul Bus Transport Association and principal representative of the 57 different bus operating companies participating in the meetings, and Mayor Lee Myung-bak, signed the “Joint Transport Agreement”.

⁹⁹ Kwangsik Kim, personal interview. The national share was supported by the Democratic Party, as it advanced its environmental agenda.

¹⁰⁰ Kwangsik Kim, personal interview.

¹⁰¹ Kim, Kim and Song, 2014, 156–169.

¹⁰² Kwangsik Kim. Details from this bidding process remain unknown.

A similar process of negotiation cleared remaining merchant opposition to Cheonggyecheon. According to Hwang Ke Yeon, “the city hired a very well experienced public official to lead the negotiating process”¹⁰³ The Mayor’s two constraints -no direct cash compensation to merchants for business lost during construction, and no adjustments to the schedule already set for the project- remained in place. Other than this, the Lee administration relied on the CCCSR and on the Council of Merchants to craft alternatives. Informal vendors, for example, were finally heard, and relocated to a temporary flea market in the old Dongdaemun Stadium for the duration of the construction period.¹⁰⁴ Subsequently, the permanent Seoul Folk Flea Market was established in the vicinity of Gwangjang-dong, the section of the Cheonggyecheon where most vendors previously worked. The Gwangjang food market was similarly redesigned and its occupants retained, and a few permanent stalls were built close to the stream for another subset of street vendors.

The long-term solution adopted by the city for established merchants was to have the SH Corporation, Seoul City’s construction arm, build a new commercial development in the east side Munjeong District. The complex, named “Garden Five,” is a 823,000 square meter mall composed of four interconnected ten-story buildings, housing a cinema, restaurants and rooftop parks, located on top of a highly trafficked subway station. The merchants that so desired were invited to relocate to this facility, reportedly, with the option to buy their space at below market prices to compensate for the disruption of their business and the loss of their rights as tenants. This was apparently critical, since in South Korea there is an extra-legal practice by which new tenants who wish to take over an existing lease must pay a fee to the departing tenant, varying in part with the duration of the outgoing tenant's occupancy. In the Cheonggyecheon neighborhood, many tenants had been in place for more than 25 years, meaning that they were entitled to very substantial compensation if displaced. Only by offering them the possibility of becoming owners of comparable space would they agree to move out. “We provided a solution by giving them access to Garden Five,” concluded Taryung. Approximately 7000 merchants accepted the offer.¹⁰⁵

A closer examination of the subsidy costs for the bus system reform and enhancement, and for development of the Garden 5 complex, is pending, but they were clearly substantial. . The profit guarantees to bus operators were probably decisive politically. Mayor Lee later acknowledged: “This [financial arrangement] did not necessarily follow standard macroeconomic principles. However, I believed that a public transportation system for the public would not be possible under conventional economic theory.”¹⁰⁶

¹⁰³ Hwang and Park, 2011, 24. The name of this official has not been identified.

¹⁰⁴ This Stadium, nonetheless was demolished in 2007, to make room for a new Zaha Hadid “Design Plaza.”

¹⁰⁵ Hwang and Park, 2011, 24 and 33. During our field visit in 2014, we observed most stalls and locales in floors 4-10 of the four buildings claimed, but empty. It is likely that the vendors accepted the offer without intending to use the locales. The area surrounding Garden 5 is experiencing rapid growth, and these locales are (or will be) quite valuable.

¹⁰⁶ Lee Myung-bak, personal interview.

FROM MANAGING CONSTRUCTION TO SMART TRANSPORTATION

Lee closely oversaw the Cheonggyecheon highway demolition and stream restoration, drawing on his long experience in construction. He split the contracts among multiple firms so that mid-sized as well as very large firms could bid, so that the performance of the several contractors could be compared, and so as to speed up the project timetable. *(One source interviewed, in charge of the Restoration Project, suggested this was also done to reduce speculation that Lee was favoring one firm in particular.)* However, in the case of buses, the mayor was in new territory. Lee was careful to guarantee capital and operational subsidies only after the companies agreed to yield control of the fare collection mechanism -the previous, incipient fare card was installed and owned by the bus operator association-, and only after he was fully satisfied with the technology put in place to enable the government to monitor and enforce good performance. In the prior system, most passengers paid with cash. Significant sums never reached the bus owners, having been pocketed illegally by the drivers.¹⁰⁷ More generally, public authorities had no reliable measures of system revenue. They had to trust the numbers supplied by bus companies, who of course had strong incentives to cheat. In the new, integrated system, it would be critical for government authorities to minimize both revenue leakage and information asymmetry. Further, a reliable system to track the buses was required, so that the government would only pay for services effectively rendered.

Developing a robust IT backbone to sustain the new system was therefore critical, but an enormous challenge. Lee explained, “[The system developed] in Curitiba was possible in a small city, not in a megacity like Seoul, where eight million people go in and out of the city every day. We could make a plan, but putting it into practice in real life would be very hard. We only succeeded because of the technology.” These required technical capabilities were obtained by enlisting a world-class technology company to develop the smart card, the traffic monitoring and the bus management systems. The Seoul Metropolitan Government elicited bids from IT suppliers, received five proposals, and in October 2003 selected LG, a domestic company that was not only an international leader in the IT industry, but that was also fresh off the heels of a large bus reform project in Bogotá, Colombia. Kim Gyeng Chul later recalled: “LG understood that big data is the business of the future, and that this information would be valuable in 10 years.”¹⁰⁸ In contrast with the Colombian venture, where the local government only contracted for LG’s backend services, Lee required LG to create a new public-private corporation, which came to be known as the Korea Smart Card Company, Ltd. (KSCC).¹⁰⁹ This venture is 34.4% owned by the Seoul Metropolitan Government, a position that gave the mayor a stake in the system design process, without having to be directly in charge.¹¹⁰ In only 9 months, LG developed the new technology at its own expense and installed touch pads at every bus and

¹⁰⁷ Kim Gyeng Chul, personal interview.

¹⁰⁸ Kim Gyeng Chul, interview.

¹⁰⁹ According to XXX, Vice President of XXX at LG, “[Lee] wanted to create a public sector framework [under which] the City of Seoul could have a high level of governance and could have some control over policy decisions. But he still wanted to give the entire responsibility in terms of operational efficiency - operational excellence [to the private sector], to LG.

¹¹⁰ LG representatives, personal interview.

subway entry point in the city, in exchange for roughly 1.5% of all smart card transportation fares collected.¹¹¹

The ‘T-money’ transit ‘smart card’, which came into use in 2004, was the first geographically-referenced, distance-based transportation payment card of its kind in the world. In addition to facilitating bus and subway transfers and managing fare settlement, it generated data that, within months, transportation planning officials began to mine for the purposes of refining bus routes and schedules, and tweaking transfer locations. The new systems, among other things, enabled implementation of the free transfer policy, keeping track of where passengers paid, how much, and when, and by so doing, eliminating the need to rely on confined bus stations. Taxis are now also equipped with the fare validation equipment (starting 2007), easing transactions for passengers, and generating a log of taxi movement throughout the city. The system provides real time information to users and passengers, letting them know where each public transit vehicle was located at any time and when it would arrive at any station (or bus stop). Further, the card is now accepted by over 50,000 retailers as a debit card to pay for parking, vending machines, museums, theaters, convenience store, etc., and can be integrated with the user’s cellphone device. Government authorities, finally, rely on the bus management system to be able to monitor bus traffic throughout the city, and to vary the amount of bus service to some degree in response to demand.

The government prescribes each bus company's routes and schedules, and only pays a subsidy if authorities decide in each case to operate at a deficit. “Now the [bus companies] don’t race. They keep the schedule given by the city government.”¹¹² The entire system is monitored from the Seoul City Transportation Headquarters, or TOPIS, which is located beneath city hall and serves as a 24-hour command center for all transportation-related issues. From the TOPIS command center, transportation managers can pick up a phone at any time to order additional buses on specific routes or redirect them if necessary.¹¹³ By 2013, The Korea Smart Card Company had installed data collection points, in the form of small touch pads, on each of the city’s 9,000 buses, 15,000 metro gates and 75,000 taxis, with the total system handling an average of 35 million transactions per day (LG brochure, 22).

Initially the card reader system was unstable and many errors occurred, a situation which generated both provider and consumer complaints. Mayor Lee exerted, according to LG executives, significant pressure to get the problems resolved fast. “When you start sitting down with the Mayor every other day, and [know he is] checking the progress and [knows] what sort of issues [are not solved], you start working beyond 11 at night”¹¹⁴

The error rates soon declined sharply, however. Public transit passengers now have the convenience of paying by smart card and obtaining frictionless transfers. All they need to do is tap in and out of vehicles or stations, and the system automatically determines whether the transfer is free (for trips under 10 kilometers), or what the total surcharge should be (price

¹¹¹ LG representatives, interview.

¹¹² Kwangsik Kim, personal interview.

¹¹³ Kim Gyeng Chul, Personal Interview.

¹¹⁴ LG executive, personal interview.

increases slightly for every 5 kilometer increment). The system also allows for two transit trip credits, so that if in a pinch, users can use the system and have the price discounted at a later time, when the user tops up the card again. By the latter half of 2004, 89 percent of passengers were already paying by smart card (as opposed to cash),¹¹⁵ and in 2007, other cities in Korea adopted the same system and began accepting Seoul's card. The bus companies, in turn, no longer lose revenue to driver theft, and are paid promptly.

Outcomes

By the end of the Lee administration in 2006, Seoul had shed much of the infrastructural and service conditions established in the aftermath of the post-Korean war period of economic modernization, all of which prioritized industrial growth over the quality and character of urban conditions. Not only had the elevated highways had been replaced by a beautiful (though, critics have noted, artificial) stream where ducks and fish roam free and where children play; a fury of investment had already begun to transform the urban areas surrounding the demolished highways in ways to privilege urban livability. Most important, the bus system *across all of Seoul* was transformed in ways that served citizen mobility needs while also reinforcing the former objectives of making the city a global leader in producing innovative forms of urban regeneration. Despite the different scales of stakeholder involvement in these outcomes, these multiple projects were intricately linked.

In seeking to facilitate redevelopment of the city's dilapidated central business district, Mayor Lee set out to demolish two major expressways, and to restore Cheonggyecheon Stream, transforming the area into a linear park. Partly as a traffic mitigation measure, Lee announced the reorganization of the city's bus network, including the establishment of bus priority lanes, the replacement of the city's aging bus fleet, fare integration with the subway system, and implementation of the world's first prepaid 'smart card' for use on all modes of local surface transportation (including taxis as well as bus and rail transit). Perhaps unexpectedly, these mitigation measures evaluated by the SDI to help Lee overcome opposition to the Cheonggye corridor redevelopment project led to a much more comprehensive transformation of not only Seoul's public transport network but also of central Seoul, and along the way they laid the foundation for both major real estate gains as well as the increasing export of new transportation technologies, much along the lines of the longstanding Korean pattern of global economic success through innovation and exports.

The causality of these multi-scaled outcomes is complex. On July 1, 2004, a full year before the Cheonggyecheon Restoration Project was complete and open to the public, the city's fragmented bus system was already being transformed into a quasi-public, centralized entity, in which the government controlled the assignment of bus routes, established bus schedules, and determined fares, while private, regulated companies own and operate the buses. The companies are

¹¹⁵ Seoul Development Institute, 2005.

compensated per vehicle-kilometer instead of per passenger trip, and receive significant subsidies from the local government. The new smart card system manages 35 million transactions per day, and provides government authorities with real time information to monitor and administer the system. The T Money smart card is now being exported outside Korea, with the city of Seoul set to reap part of the benefits as a stockholder of the KSCC. In 2008, the KSCC implemented T Money in Auckland and Wellington, New Zealand, and in 2011 in Kuala Lumpur, Malaysia. In Seoul, the entire route network has been overhauled, and now has a well-defined trunk and feeder system. Frequencies have increased, despite a reduction in the size of the bus fleet. Users are able to transfer between buses and the subways at no additional charge, and can buy monthly tickets at a substantial discount from the per-trip fare. And the bus companies, even those previously operating in low patronage routes, have been profitable.

The local government originally considered charging 50% of the price of a regular fare for transfers. The administration was keenly worried about the levels of subsidy that would be required, and indeed one of its key motivations to intervene in the bus system was to prevent continuing cost increases to the government to sustain bus services. Nonetheless, the Mayor decided to implement a free transfer policy. His team concluded that increasing ridership would be a better way to hold down subsidy requirements than increasing fares (beyond a small increment negotiated with bus operators, from \$0.70 to 0.80 USD). As it turns out, this strategy worked, at last partly. Bus ridership has indeed increased very significantly, from 3.9 million passengers per day in 2003 (pre-reform) to 4.6 million passengers per day in 2010.¹¹⁶ This has not come at the expense of the subway, as the number of trips using that mode has also increased in this period. However, the bus system deficit covered by Seoul Metropolitan Government subsidies has also continued to increase, from approximately US\$139 million in 2003 (pre-reform), to \$222 million in 2005, \$290 million in 2009 and (by an estimated) \$362 million in 2010.¹¹⁷ Part of the explanation for this, according to the published assessment of Professor Kwang Sik Kim, is that the bus deficit is now also accounting for capital investments in enhanced bus infrastructure. However, details of such a claim remain an important area for investigation.

The bus lane network increased from 219 to 380 km, with 86 km of the improved system being median lane exclusive bus corridors. Among the corridors built, three facilitated access to the central area of Cheonggyecheon, including the originally proposed Dobong Mia corridor (northeast to downtown) and the Cheonho-Hajeong corridor (east to downtown). Travel speed by bus increased notably throughout the city, in some cases even doubling -- in the Dobong-Mia corridor, for example, from 11 km/hr to 22 km/hr.¹¹⁸ Passenger capacity in these corridors increased by a factor of six, and schedules became far more reliable.¹¹⁹ The system also became much more legible. A clearer route hierarchy was established, with buses color and number-

¹¹⁶ Kim, Cheon and Lim, 2011, 727.

¹¹⁷ Kim, Cheon and Lim, 2011, 727. Seoul Development Institute, 2005, 27.

¹¹⁸ Seoul Development Institute, 2005, 27.

¹¹⁹ 131 *commuter* bus companies, which service trips between the suburbs and the farthest subway stations were not included in the integrated system. According to Kwansik Kim, their exclusion was due to financial considerations. "For the small amount of service they were giving, they would not really contribute to the larger integration and they would be costly".

coded for easier identification. Passengers could rely on their cellphones or electronic boards at stations to know exactly how long it would be for the next bus.

When the Cheonggyecheon Stream opened to the public on September 2005, the project became an instant international success.¹²⁰ “After its opening, the stream in fact became one of the major tourist attractions in the city, and more than 120 million visitors reportedly visited Cheonggyecheon through 2010, with some 20% of them being foreigners.”¹²¹ Land values in the central area generally increased sharply after the highway demolition and stream restoration, with many of the sub-districts in the close vicinity of the Cheonggyecheon, such as Hwanghak, or Sinsae, becoming places of intensive urban development. The sub-districts directly abutting the stream also experienced a rapid appreciation trend. Comparing property values from 2000 to 2009, Kristen Hunter found price increases in all 8 sub-districts, such as Sewoon North (176%), Sewoon South (159%), Wangsimni North (138%) and Wangsimni South (206%). This value increase reflects an increase of up to four times the Seoul Real Estate Appreciation Baseline estimated by the same author.¹²² Further, the intensity of real estate transactions in the area also accelerated, with 327 properties sold between 2005 and 2010, compared to only 47 between 2000 and 2004.¹²³ According to Professor Kee Yeon Hwang, “businesses are booming and real estate prices are skyrocketing... eventually, this restoration project will provide the opportunity of transforming Seoul into the hub city of North East Asia and an international finance center.” And while conservationists and environmentalists continue to debate the authenticity or the stream restoration,¹²⁴ they also had reason to take pride in the project. A thermal image taken in July 27, 2005 showed that average temperatures in the Cheonggyecheon were 3.6 degree celsius lower than in nearby streets.¹²⁵

Only months after completing his term in June 2006, Lee Myung bak announced his candidacy for the presidency of South Korea, and in October 2007 he was elected with nearly double the votes of his nearest competitor. In blazing the trail of mayoralty to national leadership, Lee set a global trend that President Joko “Jokowi” Widodo of Indonesia, Prime Minister Recep Tayyip Turkey, and others would soon follow.¹²⁶ Moreover, he established an important precedent for transformative leadership at the urban scale by operationalizing his ambitious vision of a new urban and transport landscape for downtown Seoul through a set of program interventions and political strategies. Obtaining authorization from the National Government and from the National Assembly for financing and permitting, Mayor Lee adeptly leveraged public funds to facilitate private investment to save public resources and expedite system improvements. At the city level, he aligned the incentives of local officials with his vision of the Cheonggyecheon project and reorganized the transportation bureaucracy to better support bus system overhaul, while combining the SDI’s urban policy and planning research with the technical specialization and expertise partly embodied by the Transportation Improvement Task Force to reimagine the future

¹²⁰ The total price tag reached 387 billion Korean Won (roughly \$336 Million USD) (W.B. Kim 162).

¹²¹ Kriznik, 2011

¹²² Kristen Hunter’s work is featured in Rowe, 2010, 230-245.

¹²³ Ibid, 234.

¹²⁴ See, for example, Cho 2010.

¹²⁵ KOTI powerpoint

¹²⁶ See, for example <http://www.ft.com/cms/s/0/1501ac4e-11a2-11e4-a17a-00144feabdc0.html#axzz3p7A6TV3w>

of Seoul's bus system. In the face of organized opposition from bus operators and property owners, Lee expanded the pilot citywide to afford greater room for both programmatic and political maneuver. Where the administration's formation of various Citizen Committees provided democratic support and legitimacy for the projects, its sustained dialogue and negotiation with bus industry representatives and established merchants defused public conflict and overcame policy impasse. Hence as impressive as Seoul's public mass transit system, Cheonggyecheon Stream Restoration, and regeneration of *Gangbuk* are, the quality and nature of Lee's political and civic leadership appear as critical and resounding as these outcomes.

DRAFT

References

- Bae, C.-H. C., & Richardson, H. W. (2011). *Regional and urban policy and planning on the Korean peninsula*. Cheltenham, U.K.: Edward Elgar.
- Cervero, R., & Kang, C. D. (2011). Bus Rapid Transit Impacts on Land Uses and Land Values in Seoul, Korea. *Transport Policy*, 18 (1).
- Cheong Gye Cheon Museum. (2011). *Cheong Gye Cheon Museum*. Seoul, Korea.
- Cho, Myung-Rae (2010). “The Politics of Urban Nature Restoration: The Case of Cheonggyecheon Restoration in Seoul, Korea”, *International Development Planning Review*, 32 (2): 145–165. doi:10.3828/idpr.2010.05
- GDPC. (2014). *Conflict Cases of National Projects in Korea: Analysis and Implications*. Dongan, Korea: Korea Research Institute for Human Settlements.
- Hwang, K. Y., & Park, K. (2011). *Cheonggyecheon Restoration Project: Building a human-oriented greenway in Seoul*. Seoul, Korea.: KOTI.
- Hyeon Park, “Transport Infrastructure Development in Korea: Role of Public Institutions.” Powerpoint presentation at the IADB, Washington, DC. May 13, 2014.
- Kang, Y. i. (1995). The development of urban bus regulatory policy in Korea reviewed. *Transport Reviews*, 15(4), 357-370. doi: 10.1080/01441649508716925
- Kane, Daniel (2003). “Culture Clash”, *Asian Wall Street Journal*, 11.7.2003.
- Kihl, Y. W. (2005). *Transforming Korean politics : democracy, reform, and culture*. Armonk, N.Y.: M.E. Sharpe.
- Kim, Gyeng Chul. Korea's Challenges for Public Transport Reform: Key Success Factors. Seoul: Korea Transport Institute, 5 June 2014. Powerpoint.
- Kim, K. S., & Dickey, J. (2006). Role of urban governance in the process of bus system reform in Seoul. *Habitat International*, 30(4), 1035-1046.
- Kim, K. S., “Seoul’s Bus Reform: Issue and Solution.” Seoul Transport Education and Culture Center. Powerpoint presentation. July 10, 2014.
- Kim, K. S., & Gallent, N. (1998). Transport issues and policies in Seoul: an exploration. *Transport Reviews*, 18(1), 83-99. doi: 10.1080/01441649808717001
- Kim, K., Cheon, S.-h., & Lim, S.-j. (2011). Performance assessment of bus transport reform in Seoul. *Transportation*, 38(5), 719-735. doi: 10.1007/s11116-011-9330-4
- Kim, K. S., Kim G.C. & Song Seok-Hwi (2014). *Conflict Management and Governance in the Transport Sector in Korea*. Seoul, Korea.: KOTI
- Kim, K. S., and Gyeng Chul Kim. *Bus System Reform in Korea*. Vol. 1. Seoul: Korea Transport Institute, 2012. Print.
- Kriznik, Blaz (2011). *Selling Global Seoul: Competitive Urban Policy and Symbolic Reconstruction of Cities*.

Revija Za Sociologiju, 41(3), 291-313.

Lee, Myung-bak. *The Uncharted Path: An Autobiography*. Naperville, IL: Source, 2011. Print.

Lerner, J. (2014). *Urban Acupuncture*. Washington: Island Press.

Oh, J. K.-c. (1999). *Korean politics : the quest for democratization and economic development*. Ithaca, N.Y.: Cornell University Press.

Rowe, P. G. (Ed) with Kim, S.-H., Jung, S.-H. (2010). *A city and its stream : an appraisal of the Cheonggyecheon restoration project and its environs in Seoul, South Korea*. Cambridge, MA: Harvard University Graduate School of Design.

Seoul Development Institute (2005). *Toward better public transport: Experiences and achievements of Seoul*.

Seoul Metropolitan Government (2006). *Seoul, a Clean and Attractive Global City*. Seoul: Seoul Metropolitan Government.

DRAFT