

Compiled Reports of Students

-People-

Name of Student: **Cheong Kai Yuan**
Date: **26th July 2018**
Location/item observed: **Buchon Hanok Village**
Challenges in Cities: **Conservation & urban renewal**
Urban Sustainability Pillar: **People**

Discussion:



*Figure 10: Buchon Hanok Village
Source: Author.*

Bukchon Hanok Village is a Korean traditional village in Seoul with hundreds of Hanoks which are Korean traditional housing. It attracts about 300,000 tourists every month. Along with meeting the aim of urban conservation, there is also improved economic activity.



In the past, the traditional housing was used to house the economically marginalized citizens as the affluent flocked into high-rise housing and modern apartments. Hence, many of them were torn down to make way for office buildings and contemporary housing.

*Figure 11: Hanok Exhibition in Bukchon
Source: Author.*

New conservation regulations have been put into place in order to protect the hanoks left after Therefore, the village is designated as a Hanok Conservation Area and it is now a favourite attraction of many visitors from the youths to the tourists. Some have converted the Hanoks into cultural museums and workshops for artisans as an action to preserve the district's history.

Reflections:

Along with the influx of visitors, it is getting more challenging for the traditional village to retain its cultural identity. To cater to these visitors, Hanoks have also been repurposed into fine dining restaurants, guesthouses for tourists, expensive art galleries and upscale boutiques. Similar to Singapore's districts with shop houses, it is difficult to avoid the phenomenon of gentrification. In order to profit more from the urban conservation of these areas, the identity of the traditional housing have been changed to suit the middle class tastes.

Another reason why the influx of visitors was not welcomed is because the Bukchon Hanok Village was never meant to be a tourist destination. It is an actual residential neighbourhood in which many of the citizens reside. The residents often have to deal with the noise and litter from the tourists as well as cases in which they invade the resident's privacy by climbing into the residence to take pictures.



*Figure 12: Signs to remind visitors
Source: Author.*

In this case, there is a trade off between the two urban sustainability pillars – Profit and People. The conservation of the Buchon Hanok Village did bring about profit and tourism in the area. At the same time, the tourists brought about inconvenience to the people living in the houses which impacted the resident's quality of life. The government has been trying to put in effort to reduce the disruption to the residents by having strict visiting hours. However, to really tackle the roots of the problem and satisfy the residents living in the area, the government will have to possibly consider security measures and limit the tourists to only the non-residential or rather, the gentrified part of the village.

References:

Jung D.M., Jung M.H. (2018, May 20). The Korea Times. Bukchon residents protest excessive tourism. [online]

Name of Student: **Dova Ngo Jia Ying**

Date: **27th July 2018**

Location/item observed: **Seoul City Hall/ City Gallery**

Challenges in cities: **Conservation & Urban Renewal**

Urban Sustainability Pillar: **People**

Discussion:

Seoul City Hall was built in 1926 and it was used as an office for the Japanese during Japanese occupation. Upon gaining independence, Korea took over and used it as a City Hall. Seoul City Hall went through a construction and was reborn in 2012 with a new Seoul City Hall building that is connected by a bridge (please see picture below) with the old Seoul City Hall building being converted and use as the Seoul Metropolitan Library.



Source: Author.

As the old Seoul City Hall was built in 1926, the building was built according to European architectural styles. These styles do not symbolise Korea's culture and history. As such, the authority has plans to demolish the old Seoul City Hall and build a new City Hall building with a new modern design to replace the previous structure¹. However, instead of demolition, the old Seoul City Hall building was being conserved and adapted the usage to a library

¹ Seoul City Hall - City Hall in Seoul - Thousand Wonders. Retrieved from <https://www.thousandwonders.net/Seoul+City+Hall>

because the authority heard the voice of the people who requested for the building to be conserved due to its rich history².

The new Seoul City Hall building is an eco-friendly building that is very efficient³. Solar thermal and geothermal were used. The vertical garden named "Green Wall" is a very popular attraction that stretch from 1st floor to 7th floor (*please see picture below*). Species that were planted in the garden helped to minimise contaminants and regulate the temperature of the building.



Source: Author.

Reflection:

It is heartening to know that the Government heard the voice of the people and conserved the old Seoul City Hall building instead of insisting to demolish it. After all, the Seoul City Hall building is a building that is rich in history and it can be used to educate the future generations.

On top of that, I think it is interesting that the Government adapted the use of the building into a library that is open to the public. In this way, it creates a new lease of life for the old Seoul City Hall as it changes to a compatible use. Now, it became a place that can educate the future generation on the history of the building as well as a place (library) to gain more knowledge, further enriching the lives of the people.

² ("Seoul City Hall - City Hall in Seoul - Thousand Wonders", n.d.)

³ Overview of City Hall. (2018). Retrieved from <http://english.seoul.go.kr/get-to-know-us/city-hall/overview-city-hall/seoul-city-hall/>

PUBLIC TRANSPORTATION IN SEOUL

NAME OF STUDENT: RASHID BIN AHMAD YUSOFF

DATE: 24 JULY 2018

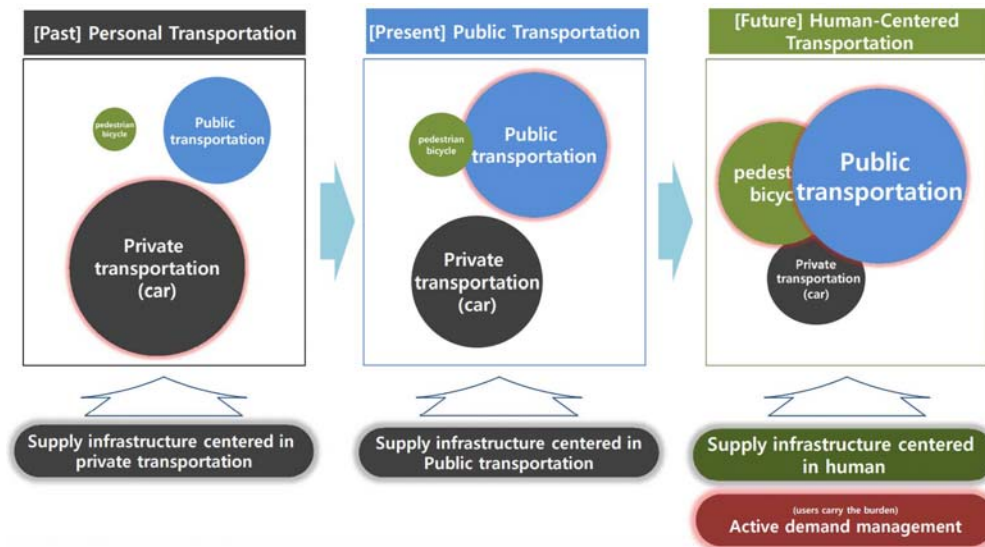


FIG. 1 - SHIFT IN TRAFFIC POLICY PARADIGM THAT PRIORITIZES 'SOCIAL VALUE'

Travel demand in and out of Seoul kept skyrocketing as a result of the formation of new satellite cities and the subsequent increase in cars from the metropolitan area in the 1990s. As such, the number of motorists continued to increase, making the traffic situation in Seoul seem like an unsolvable problem. However, the Seoul Metropolitan Government (SMG) worked relentlessly in ensuring that the mass transit including the metro and buses deliver more reliable and pleasant services than cars for its **People** (see Fig. 1). As a result, the ratio of mass transit increased from 62% in 2004 to 64.3% in 2010 due to its policy changes (SMG, 2014).

Expansion of Public Transportation Infrastructure (Exclusive Median Bus Lanes and Construction of Transfer Centers)

For citizens to favour mass transit over cars, the former had to deliver faster and on-time services and easy transfer to the final destination. In view of this, SMG decided to introduce the exclusive median bus lane system while building a number of transfer centers as part of its initiative to improve the entire spectrum of mass transit infrastructure. Following the launch of the median bus lane system in 2004, SMG is running a total length of 115.3km of dedicated bus lanes in 12 Bus Rapid Transit (BRT) corridors (SMG, 2014). The system has enabled buses to run much faster; the operation of transfer centers in four key locations in particular has made it possible for citizens to park their cars in the centers and travel downtown on public transport. As a result, SMG has been able to accommodate most of the citizens' new demand for transportation through mass transit services.

Upgrade of Mass Transit Vehicles

To promote the ridership of public transportation by making the service more convenient, SMG initiated a policy to upgrade the mass transit vehicles while taking various measures to improve the bus stops in order to reduce the time getting on and off the buses. Additionally, eco-friendly buses were introduced to minimize air pollution and various measures were taken to help the vulnerable people use mass transit much more comfortably, for instance, with the operation of low-floor buses. For the past ten years, SMG has put 3,685 low-floor buses into service. For the subway, SMG has installed 848 elevators (292 stations) and 195 wheelchair lifts (86 stations) for the disabled as well as 1,919 escalators (251 stations) designed for the convenience of the general public (SMG, 2014). Currently, 99% of all public buses in Seoul are running on CNG (Compressed Natural Gas). Due to this, air pollution has decreased, and buses have become much quieter. Citizens also find the buses much more comfortable.

**CHALLENGE:
'TRANSPORTATION &
COMMUTING PATTERNS'**

**URBAN SUSTAINABILITY
PILLAR:
'PEOPLE'**

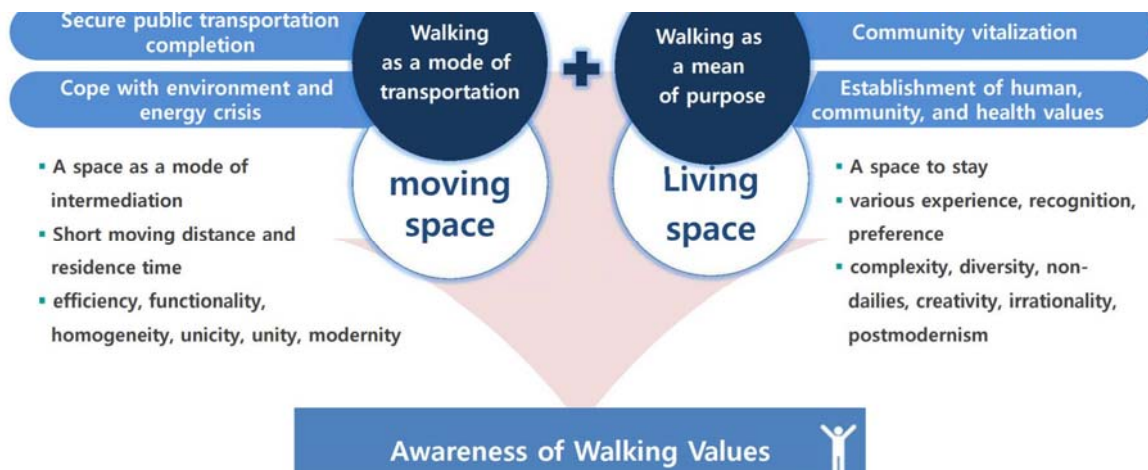


FIG. 2 - NEED FOR PEDESTRIAN POLICY THAT CONSIDERS PEDESTRIAN VALUES

Citizens' Expanded Access to Transportation through IT-based Services

SMG makes sure that citizens get access to mass transit information more easily through its various ICT-based services. It now offers a "path guidance service" designed for pedestrians and cyclists, akin to a navigation system for motorists. Through a free app called "Seoul Transportation Portal," SMG allows citizens to access real-time traffic information on any segment of the roads in the city, arrival times of the metro and buses, locations and fares of parking facilities, and number of public bicycles available.

"Quasi-public Bus Operation System" to Better Serve the Public Interest

The quasi-public bus operation system of Seoul involves the joint management of revenues by bus companies and the municipal government's financial assistance to secure the public nature of mass transit services. SMG began to implement the quasi-public bus operation on 1st July 2004. SMG fully compensates for any financial loss suffered by the bus companies after excluding the actual operation costs. Through this scheme, SMG was able to offer bus services to areas that had been neglected in the past. In fact, the bus ridership rose by 13.5% after the introduction of the quasi-public bus operation system (SMG, 2014). Also, as the city government provided financial assistance, the bus companies' balance sheets and labor conditions improved, leading to higher quality bus services for the citizens.

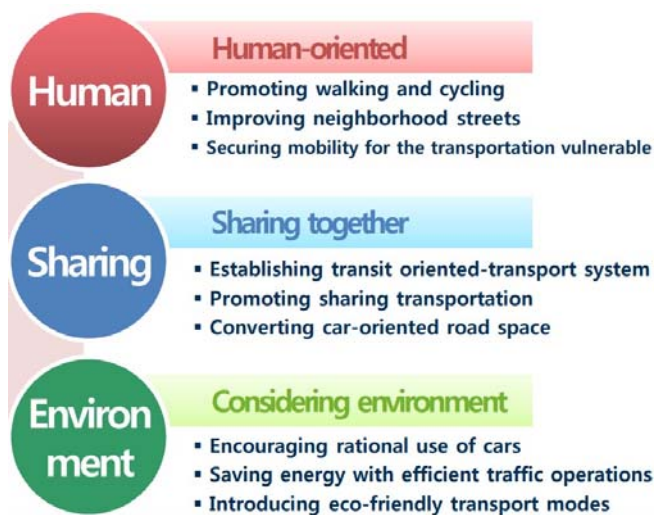


FIG. 3 - NEED FOR HUMAN-ORIENTED, SHARING & ECO-FRIENDLY TRANSPORTATION

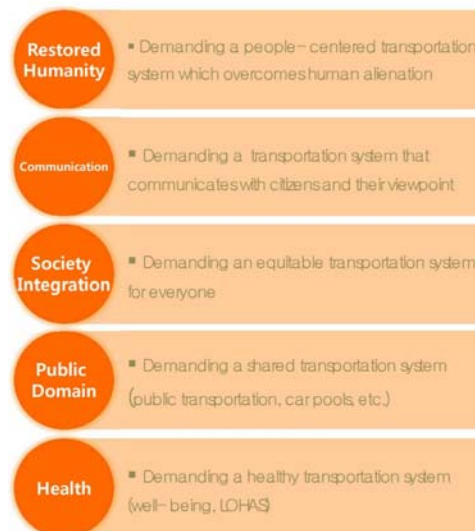


FIG. 4 - DEMANDS FOR AN IMPROVED QUALITY OF LIFE

In essence, transport policies must adopt a broad-brush and fully integrated approach along with great consideration of pedestrian values (see Fig. 2 & 3) (SMG, n.d.). Direct assaults on car ownership will not be effective unless they are matched with a real commitment to public and private investment in the wider transport infrastructure. While overall demand may need to be more closely regulated, policy must also continue to focus on the infrastructural constraints which continue to suppress freedom of movement and promote individualism in the form of car-dependency. Overall, there needs to be a transportation system that values people, communication, equality, sharing and health (see Fig. 4), in countries.

REFERENCES

SMG. (2014). Seoul Public Transportation. *Seoul Metropolitan Government*. Retrieved from <https://citynet-ap.org/wp-content/uploads/2014/06/Seoul-Public-Transportation-English.pdf>

SMG. (n.d.). Seoul Transportation 2030. *Seoul Metropolitan Government*. Retrieved from <https://seoulsolution.kr/sites/default/files/gettoknowus/Seoul%20Transportation%202030.pdf>

Name of Student: **Lem Shih Xian Vina**
Date: **23rd July 2018, Monday**
Location: **Songdo Central Park**
Challenges in Cities: **Concept of place and sense of belonging**
Urban Sustainability Pillar: **People**



Figure 1: Central Park in Songdo
Source: Flickr.

Discussion:

Songdo, being a part of the Incheon Free Economic Zone is designed to be a smart and sustainable city. Strong human ties are vital for the cohesiveness of a city and nation, and the sense of belonging inculcated in individuals is a major contributing factor. In Songdo, we see that there are existing plans in place to build communities, and one of which is the Central Park as seen in Figure 1, this space allows for activities such as cycling and jogging. In the waters, we can see people enjoying through activities such as canoeing, kayaking and taking family boats. Shared spaces like these help to shape community identity and strengthen individuals' sense of belonging through increased interactions. Central Park is unique in a sense that it seems to be the "green lungs" of the city as depicted in Figure 2 below. Spaces are also made to be more pedestrianized through long pedestrian walkways in Central Park, presence of deer garden and bicycle roads. These initiatives increase people's sense of belonging as they are able to interact more with the spaces in their neighborhood with it being more car-free. Other shared spaces include Haedoji Park that is great for kids and Michuhol Park which is more of a cultural park.



Figure 2: Central Park from an aerial view
Source: Author.

Reflection:

It was good to see that amidst the skyscrapers and busy streets, we still see that public spaces such as the Central Park is in place to provide for people living nearby. Walking down Central Park feels really relaxing with beautiful flowers and water streaming by the side. It seems like the park is a great place for people of all ages, with kids seen having fun at the boathouse and also senior citizens enjoying at the seawater foot bath. It is a place for all and a great space for social interactions. However, I feel that Central Park could have been a better recreational area if there were provision of more shelters which can be really useful for hot days, especially during summer. For the time when we were there, 10 minutes into walking made us perspired so much as we couldn't find a spot to seek shelter. It could have been more enjoyable if there were more resting areas for people. I feel that the way to enhancing individual's sense of belonging is to make the living environment a comfortable and convenient one for all. A space where everyone could all benefit from and enjoy in. The idea of a good home to me, apart from adequate infrastructure to support human and business activities, is also one that has good transportation networks, interconnected pathways and green spaces to enhance quality of life.

-Planet-

Name of Student: **Soh Yun Yee**

Item observed: **Conscious recycling efforts**

Challenges in Cities: **Natural resources & urban ecology**

Urban Sustainability Pillar: **Planet**

Discussion:

Amidst the worldwide discourse about climate change and the actions required to combat it, South Korea is probably the first that I see conscious and active recycling efforts coming from the individuals. While commercial activities do generate a significant amount of waste, individuals do too. From the food we eat to things we use, they can all turn into waste and before South Korea began the recycling initiative, the rapid increase in the urban population also saw waste increase in tandem in the 1980s and 1990s. The huge increase in amount of waste has placed pressures on the availability of landfills to meet future waste disposal and generated environmental and health concerns over the toxic gases and groundwater contamination resulting from the landfills (Seoul Solution, 2018). That was when the government began the recycling initiative as an attempt to reduce waste.



*Figure 2. Recycling corner/bins at the foot of every apartment in Seoul
Source: Author.*

That is where I was placed in a culture shock when I had to separate my waste from the recyclables to the unrecyclable and even food waste must be separated. The following was interesting as I learnt from a local that specific garbage bags (Domestic waste, food waste) have to be purchased from either a supermarket or convenience store for waste disposal as payment for the purchase would include waste collection fee. Domestic waste refers to all the unrecyclable waste while the recyclables will go into the recycling corner at the foot or 'void deck' of every residential apartment (Figure 2). This recycling effort then further extends to the streets to cafes to fast food restaurants where all bins are also made to facilitate a separation of waste.

The 'pay-as-you-use' system on waste disposal creates a conscious awareness among individuals of the amount of waste created and to be honest, it was the first time in my life that I think twice on even a purchase of a packet of soy milk as not knowing where the waste should go at the recycling corner will be problematic and embarrassing. Though an individual's effort may seem small, the city's conscious efforts beginning from waste separation at home has a great impact on the consumption patterns of individuals in their everyday life. Collectively, the positive impact on the environment is massive.

Reflection:

The recycling initiative seen in Seoul is one that extends beyond conservation of natural resources. It includes a broader goal to deal with environmental and health concerns concerning waste disposal and contamination of land that will result in long lasting implications on safety, sanitation and quality of life of further generations. This discussion comes down to urban sustainability where natural resources consumed today must not compromise the further generations that they may not enjoy what we do today.

This observation and having immersed in this cycle of recycling efforts have got the Singaporean me to also realise that recycling and being more conscious of my consumption patterns for the good of the environment is in fact, not difficult and troublesome at all. We just need a small effort to make it our everyday life and when everyone recognises their role in environmental conservation, making our urban spaces more sustainable will be a much easy feat.

References:

Seoul Solution. (2018). Recycling (Smart Waste Management in Seoul). Retrieved from <https://seoulsolution.kr/en/content/2691>

Name of Student:	Suzanna Faith Ng Yen Fei
Date:	24 July 2018 (Tuesday)
Location/item observed:	Restoration Plans for Cheonggyecheon Stream
Challenges in Cities:	Climate Change and Urban Redevelopment
Urban Sustainability Pillar:	Planet

Discussion:

Background

Cheonggyecheon stream was dated back in 1411 under King Taejong's rule where the natural stream was widened to curb with flooding problem. During the Japanese occupation, "Cheonggyecheon" was nicknamed as the "city's cancer" as the industrialisation era

rapidly degraded the water quality. This resulted in the citizens demanding that the "city's cancer" be eliminated entirely as it was too polluted to be restored. Subsequently, the elevated Cheonggye highway was built above Cheonggye Road with markets and factories springing up along Cheonggye Road which symbolises Seoul's progress and modernisation. However, with the collapse of Seongsu Bridge and Sampoong Department Store in the mid-90s, followed by the Asian Financial Crisis in 1997, it marked the end of the industrialisation period for South Korea.



Fig. 2.1: Cheonggye Road and Elevated Highway
Source: [KCET History & Society](#)

Decisions for Restoration

The elevated highway created unwanted environmental degradation such as air and noise pollution. As the highway saw more than 168,000 cars daily, it created major traffic issues and pollution such that the competitiveness of Gangbuk Centre was eroded and unemployment rate was on the rise. With the extensive aging of the highway, the citizens' outcry for the restoration of the Cheonggyecheon Stream became the top priority.

The main key factors for the restoration of the stream include:

1. Restoration of the natural environment and to improve the quality of life in relation to climate change:
 - The resultant effect of the Cheonggye Road and elevated highway showed that the general pollutant exceeded the Seoul Metropolitan City's average standard while the nitrogen oxide levels exceeded Seoul's air quality standards.
 - Furthermore, out of the carcinogenic volatile organic compounds (VOC), benzene levels were the highest which led to demand for improvements to be made.
2. Restoration of historical and cultural heritage:
 - Due to the construction of the road and the highway, many historical heritage items were buried and there was a need to uncover the roads to retrieve these artefacts.
3. A shift towards sustainable urban redevelopment:
 - There was a need to create historical zones for history education beyond the four walls of the class. It was also necessary for Seoul to create an environmental-friendly city where redevelopment works are not carried out at the expense of sustainable and eco-friendly environment.

Outcomes and Impacts

The restoration of the Cheonggyecheon Stream brought major benefits to both the citizens and the environment. Based on the three main decision criteria towards the restoration of the stream, the outcomes and impacts are listed below:

1. Restoration of the natural environment and to improve the quality of life (climate change):
 - After the restoration of the stream, the general air pollutant concentration declined as compared to the past. Furthermore, temperatures also dropped by 3% to 5% when the stream was restored. Before the restoration of the stream, the average temperature in the area was at least 5°C higher than Seoul's average.

- The presence of water helped to lower the temperature and allowed for natural wind corridor which breathed life into the aquatic plants and trees planted in that area. Citizens can finally take a stroll along the stream and enjoy the new life that the stream has brought into the concrete city jungle (Fig. 2.2).
2. Restoration of historical and cultural heritage:
 - The process of covering and uncovering the road has led to irreversible damage to several historic relics that once lived in the stream. However, the city did what it could and managed to restore as many relics as possible. Despite recovering as many relics as possible, the stream could not be fully replicated to the original.
 3. A shift towards sustainable urban redevelopment:
 - As Seoul advances in being one of the smartest countries in the world, it was vital that the country restore the stream, provide public spaces, and create cultural belt along the stretch of the Cheonggyecheon Stream that is within the ancient Four Gates of the City. These efforts were garnered towards locals and tourists. Furthermore, the cultural belt served as a cornerstone that “teaches” history education beyond the four walls of the class.

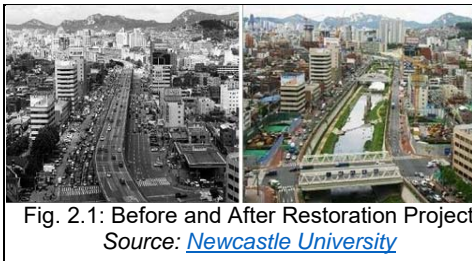


Fig. 2.1: Before and After Restoration Project
Source: [Newcastle University](#)



Fig. 2.2: Left: Cheonggyecheon Stream; Right: Lantern Festival Decoration at Cheonggyecheon Stream
Source: Photo Taken During Site Visit; [Prepare Travel Plans](#)

Reflection:

I am amazed how Seoul managed to “u-turn” back and did their best to restore the stream from a disaster highway that they had created. In Seoul, the citizens were unified as one and demanded that the highway be removed, and the stream be restored. At the end of the day, the government collaborated with the public and the Cheonggyecheon Stream was finally restored. Despite the restoration project being touted as a “failure” because several historic relics were destroyed by the process of filling the stream with cement, and undoing the highway to restore the stream, citizens were still happy that the stream brought life back to the city of Seoul and created some form of relaxation and open space within the city centre.

From this study trip, I learned that the transformation of the stream back to its intended original purpose was key to Seoul’s success in terms of creating a healthier environment as it reduced pollutants caused by vehicles emissions. Additionally, it also directly translates to an eco-friendlier city and more public transit-oriented city where people could take a walk along the stream to get to other parts of Seoul. Furthermore, I learned that it is vital to have a proper committee solely for preservation and conservation so that they can better focus at what they were assigned to as well as weigh the pros and cons of certain projects that needed conservation or preservation.

References:

- Lonsdorf, K. (2011, August 9). *From Freeways to Waterways: What Los Angeles Can Learn From Seoul*. Retrieved from KCET History & Society: <https://www.kcet.org/history-society/from-freeways-to-waterways-what-los-angeles-can-learn-from-seoul>
- Urban SDG Knowledge Platform. (n.d.). *Restoration Plans for Cheonggye Stream and the City Center*. Retrieved from Urban SDG Knowledge Platform: Seoul Metropolitan Government: http://urbansdgplatform.org/profile/profile_caseView_detail.msc?no_case=105
- Seoul Museum of History. (n.d.). *Cheonggyecheon Museum*. Retrieved from Seoul Museum of History: <http://eng.museum.seoul.kr/eng/about/cheongGyeMuse.jsp>
- Seoul Solution. (2015, June 26). *Policies: Restoration Plans for Cheonggye Stream & the City Center (2002 – 2006)*. Retrieved from Seoul Solution: <https://www.seoulsolution.kr/en/content/3519>
- To: *Transport Scotland. Shut the M8 to traffic for a day and let us have a party!* (n.d.). Retrieved from 38 Degrees: <https://you.38degrees.org.uk/petitions/shut-the-m8-to-traffic-for-a-day-and-let-us->

Name of Student: **Sylvia Low Pei Ling**
Date: **25 July 2018, Wednesday**
Location/Item Observed: **Yonsei University – Lecture by Professor Yoon
Disaster management & The Smart City**
Challenges in Cities: **(1) Land use planning & urban sustainability
(8) Climate change & urban development**
Urban Sustainability Pillar: **Planet**

Discussion:

Achieving Urban Resilience in Disaster Management

The lecture by Professor Yoon was particularly interesting as disaster management was not a topic that was never dealt with in depth in our curriculum. The world is suffering from natural disasters in increasing frequencies and intensity due to global warming. Cities, which are densely populated and have high concentration of economic properties, suffer higher levels of economic damage compared to less urbanised areas. As such, this emphasizes on the importance for cities to be equipped with necessary skills and technologies to prepare, prevent, mitigate, and recover from disasters.

At the start of the lecture, the professor mentioned the concept of resilience in disaster management. I believe disaster management is also a key aspect of urban resilience, which is defined as ‘the capacity of individual, institutions, businesses, and systems in a city to survive, adapt and grow no matter what kind of chronic stress or acute shocks experienced.’ (Rockefeller Foundation, 2015)

Seoul - Not so Smart in Disaster Management?

With Seoul being awarded the Lee Kuan Yew World City Prize this year, I imagined Seoul to be the model Smart City with IoT technology infused in all aspects of city planning, especially in urban governance. Seoul may have achieved success in implementing smart technologies into urban regeneration and inclusive city participation, but in the realm of disaster management, success is less evident.

Compared to other cities such as Rio with IoT-based disaster monitoring systems, Seoul's systems consists of a hierarchy of centrally managed systems. These systems consists of various specialized equipment in Rainfall Centers and Control and Observation Centers before creating a signal to the Alert Center as seen in the figure above. Information only becomes available to a citizen when the signal reaches the Alert Center, and I feel that the duration of the alert to reach the citizens could be significantly shortened if it was based on an IoT-based Open Data system.

Reflection:

The lecture on disaster management came an opportune time as news on flash floods in Vietnam and heatwaves in Japan and Korea are rampant on the media. The disaster management framework presented thus intrigued me as I thought about how planning practices can be integrated to reduce vulnerability and increase the capacity of cities to withstand shocks from man-made and natural disasters.

Just like urban planning, disaster management involves a healthy feedback loop from various stakeholders such as citizens, professionals, and institutions to contribute to foreseeing multiple systems failures that can occur during disaster and achieve resilience. Shell's Scenario Planning Report has cited building trust collaboration two of the key factors to achieve ‘Room to Manoeuvre’ scenario as it avoids paralysis and bottlenecks. Seoul has been able to achieve tremendous success in making urban planning as a whole more transparent to their citizens by putting data online on topics like population, transport and education allowing

developers to create useful applications. Therefore I believe disaster management can also be made more transparent with the integration of open source technologies.

Internet of Things for Disaster Management and its Prospects

Many cities already have a disaster monitoring system in place. However, I believe they will benefit greatly from the addition of IoT technologies in the systems simply due to the scalability of the technology. Kim and Shin (2015) has mentioned that South Korea's 'top-down approach for resource allocation and emergency preparedness and recovery cannot be alone be an efficient and effective measure.' Yoon (2014) has also cited the 2011 Seoul Flood to explain how South Korean's centralized approach on disaster management may outwardly appear to but in reality layers of bureaucracy between fragmented agencies are hidden on the local level.



Figure 5: 2011 Seoul Flood

Source: <https://www.bbc.co.uk/news/world-asia-pacific-14315181>

Therefore, I believe this presents opportunities to integrate IoT technologies in disaster management. Firstly, an IoT-based system significantly increases the accessibility to information regarding disaster monitoring to all citizens. It is possible to install 'Never Die Network' based on specialized Wireless network current IoT-based systems that are able maintains their signaling functions even in events of a disaster. Such a network is contrasted with traditional specialized equipment that have higher chances of failing due to damage.

Next, IoT-systems are also proven to have a better processing power compared to conventional disaster management systems. The integration of decision-making systems through Artificial Intelligence (AI) and storage enhancement technologies such as Data Lake will reduce the time in between various phases of disaster management. In addition, information accuracy may also be enhanced as AI systems delve in to Machine Learning to learn how various disasters affect localized areas by picking up on specific indicators and data points that may be overlooked by current researchers. This can help to further the understanding on disaster occurrences and change the way disaster management is executed.

But I also concede to the challenges faced by planners to integrate IoT system into disaster management. Firstly, the creation of a IoT-based network is heavily based on programming expertise which conventional planners may not possess. Programmers, vice versa, may not have a strong understanding of the cities' complex systems to create a sound monitoring network. Next, installing a city-scale IoT infrastructure is a huge challenge both physically and financially. The professor mentioned that only 10% of the local government's budget is dedicated to disaster management, and I believe many municipalities will hesitate to commit a chunk of this budget to an IoT network. Moreover, as the advancement of Big Data is still ongoing, local governments are unlikely to commit to such a heavy expenditure without knowing the full extent of its benefits.

I stand by my belief that IoT, which allows seamless interconnection among heterogeneous devices with diverse functionality, is a viable solution for disaster management. However, for local governments to achieve the full potential of IoT in disaster management, it may be more appropriate to wait a few years when the technology presents itself to be sufficiently mature to be worth investing in.

-Profit-

Name of Student:	Belle Teo Jie Yu
Date:	25.07.2018
Location/item observed:	Seoullo 7017 Skypark
Challenges in Cities:	New urbanism & urban design
Urban Sustainability Pillar:	Profit

Discussion & Reflection:

New urbanism is an urban design movement which promotes environmentally friendly habits by creating walkable neighbourhoods. It has been an emerging new global standard for urban development. Much have moved away from the time where wide roads and fast traffic were regarded as key elements to assess a city's competitiveness. Today, urban planners prioritise pedestrian, addressing pedestrian safety, comfortability and connectivity for walking. Similarly, Seoul is in line with these global efforts. Seoul Metropolitan Government has developed and implemented policies to make Seoul more walkable and to achieve urban regeneration through this.

Seoullo 7017 Skypark is the starting signal for walking city Seoul. The Seoul Station Overpass was constructed in 1970 to connect the east and west of Seoul. It symbolised the rapid growth of the economy as Korea went through nationwide industrialisation. However, the overpass posed as a safety threat as it aged over the years. As such, Seoul decided to transform the overpass into a city-wide park with a skywalk instead of entirely tearing it down in 2017. Its name aptly captures the overpass as a symbol of industrialisation in Seoul in 1970 and overtime changed its use to achieve sustainability in 2017. This 1,024m long elevated pedestrian walkway officially opened on 20 May 2017. Echoing the concept of New York's High Line park, this pedestrian road now provides the right to walk to its citizens. As of 25 Jul 2018, 11 million visitors have visited it.¹

Given that motor vehicles are the largest source of air pollutants in South Korea cities, converting the overpass to being pedestrian-friendly has positively impacted the environment. Carbon emissions decreased, reducing the impacts of climate change. Additionally, the entire overpass has been dotted with 24,085 trees and consist of 228 plant species that is supported by artificial ground. In view of UN Sustainable Development Goals, Seoullo 7017 Skypark brought back biodiversity artificially. Overall it has been a wonderful green addition to Seoul downtown. This addition is critical as the lack of greenery in Seoul causes heat to build up in the city, which worsens the effects of climate change.

However, there are tensions between planet and profit objectives. Consultation with stakeholders indicated that merchants in Nangdaenum market were initially reluctant as most were afraid that business would be affected without direct car access via the overpass. In fact, the feasibility studies done were not supportive of the overpass transformation. Subsequently, local businesses have been affected. Owners of handmade shoe selling stores on the street by Yeomcheon Bridge have been opposing the Seoullo 7017 project due to decline in sales. Since the overpass was converted to a human-centric pass, there has been a substantial increase in cars using Yeomcheon Bridge which prevents delivery trucks and customers from stopping on the road side.²

¹ I.Seoul.U book. Seoul Metropolitan Government (2017)

² Jackson, B. (2017). Seoullo 7017: Urban Asset or Misjudged Vanity Project?. Retrieved from <https://www.koreaexpose.com/seoullo-urban-asset-vanity-project/>



Fig 1. Seoulo 7017 Connecting Different Places in Seoul
Source: Seoulo 7017 Skypark Presentation Slides

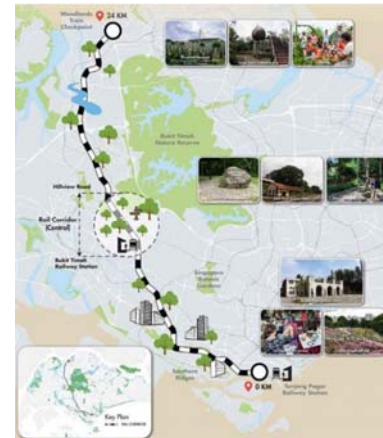


Fig 2. Rail Corridor Plan
Source: International Business Times

Despite impacting on certain areas, Seoulo 7017 Skypark now serves as a transportation centre of Seoul station, connecting nearby tourist attractions such as Sungnyemun Gate, Myeongdong and Namdaemun Market (Fig 1). According to The Seoul Institute, there has been an increase in visitors in commercial district since its conversion, revitalising the surrounding commercial areas. For example, there has been increased footfall of approximately 38.8% to Namdaemun Market.³ The impact of Seoulo 7017 Skypark illustrates a concept of real estate regarding how areas with transport stops benefits economically while the areas that are by-passed will slowly fade. Hence, Seoul Metropolitan Government needs to step up to prevent the dreams of the shoemakers from being destroyed. Given that it has only been one year since the opening of Seoulo 7017, it remains to see how Seoulo 7017 Skypark evolves and whether local businesses survive its impact.

Similarly, plans are in place to convert the Railway Corridor at Tanjong Pagar railway station into a linear park in Singapore, which would be nearly 10 times longer than New York High line (Fig 2). It connects many green spaces and is similar to nature park. This environmental intervention promotes walking and cycling. Additionally, by preserving the flora and fauna, it mitigates the effect of fragmentation of Singapore's nature reserves. While achieving environmental objectives, it has a positive impact on tourism. Potential economic benefits can be made such as increase in nearby property value and attracting top talent due to quality living environment.⁴ While retaining the railway corridor as a green corridor might not be the highest and best use, at least most of environment and economic objectives are in line in Singapore's case. One recommendation would be to link the rail corridor to exits in commercial areas. This could perhaps provide some economic benefits similar to Seoulo 7017 Skypark case.

Overall, I feel that Seoulo 7017 Skypark is an urban asset. Finding nature in Seoul is almost impossible, moving towards walkable urbanism is therefore the right way going forward. Not only does it have environmental benefits, with careful planning, such movement can be profitable as well.

Footnotes:

1. I.Seoul.U book. Seoul Metropolitan Government (2017).
2. Jackson, B. (2017). Seoulo 7017: Urban Asset or Misjudged Vanity Project?. Retrieved

³ Seoulo 7017 Skypark Presentation Slides

⁴ About | The Green Corridor | Singapore . Show Your Support . Spread the Message . Share Your Stories. (2018). Retrieved from <http://www.thegreencorridor.org/about/>

from <https://www.koreaexpose.com/seoullo-urban-asset-variety-project/>

3. Seoullo 7017 Skypark Presentation Slides.

4. About | The Green Corridor | Singapore . Show Your Support . Spread the Message . Share Your Stories. (2018). Retrieved from <http://www.thegreencorridor.org/about/>

Name of Student: **Janice Chin Li Ping**

Location/item observed:
Incheon Free Economic Zone (ifez)

Challenges in Cities:
Economic Development & Smart Cities

Urban Sustainability Pillar:
Profit- Economic sustainability



Source: Author.

Discussion:

With the vision to become the first successful model of a sustainable Smart City in the world, IFEZ continually work to create new growth engines to enhance the competitiveness of Korea. We had the privilege to see and hear for ourselves the exciting works that have been done and will be done in the near future.



Source: Author.

IFEZ implements Smart City measures at Songdo Industrial District 5 and 7. It is a long run urban project that offers smart city services of different aspects of Information and Communication Technology as well as various highly advanced technologies to create a new value for the city.

The image above was taken when we visited the control room. The main screen is huge and it showed many small screens of different areas in Songdo Industrial District 5 and 7 that have smart features installed. Some Smart City infrastructures include security cameras, speeding alarm system, traffic information collection CCTV etc.

Today, IFEZ is running a range of businesses to become a major Northeast Asian hub. It has made investments to acquire advanced infrastructure, tapping on the advantage of its geographical location where an airport and a harbour coexist. These are positive movements towards economic sustainability because IFEZ is becoming a global gateway open to expansion and continually expanding in all directions.

Reflection:

I am particularly drawn by the words below “Green Smart City ifez” which read “Passion & Pride”. I feel that City Planning is never just about the grids and lines of planning or how

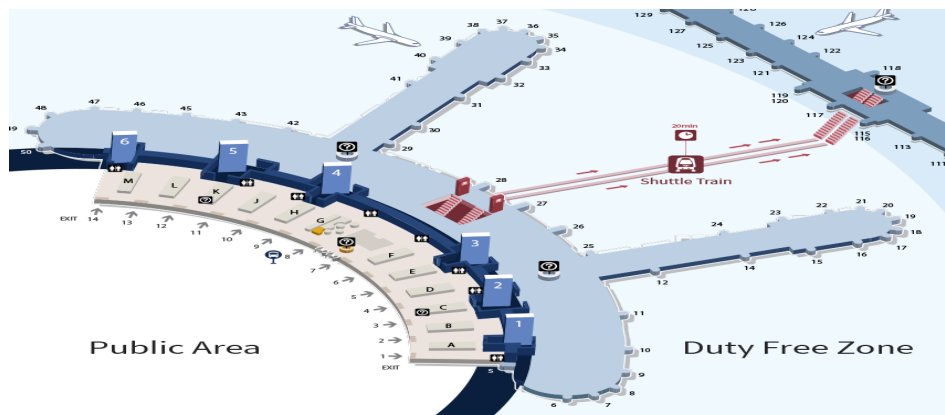
long-sighted a planner should be to project unforeseen circumstances. It requires undying passion from every planner to pull through each project and to take pride in both the successes and challenges. Passion and Pride are words that carry deep meaning. For them to be integrated into vision and mission of Seoul's ambition to be a Smart City, I feel inspired by their commitment and I cannot be more excited to see how amazing things will get in this country.



Source: Son Janghyuk John – <http://blog.daum.net/cognos57>

Fun Discovery:

Geomancy, also known as “Feng Shui” is actually observed in Korea! This discovery is so fascinating to me because I always thought that *Feng Shui* is only closely observed by Chinese. During the tour led by the team at Incheon International Airport Corporation, the guide mentioned that boarding gates in Terminal 1 run from numbers 1 to 50. However, numbers like 4, 13, 44 are missed out because when we pronounce them in mandarin, they sound like the words ‘death’ or ‘separation’. In many context, these numbers are deemed as inauspicious and people usually avoid any association with them. For instance, unit numbers of houses that read 4, 13 or 44 are usually harder to sell compared to those that have the number 8 in it. Try looking for the missing boarding gates 4,13 and 44 in the image below!



Source: Source: Incheon Airport Website - https://www.airport.kr/ap_cnt/en/dep/route/t1/exi_t1.do

References:

Incheon Free Economic Zone. (2018) *Investment Projects*. Retrieved from <http://www.ifez.go.kr/eng/>

DAY 1 – 'SEOUL' SMART

Incheon Airport. (2018) *Airport Facilities*. Retrieved from <https://www.airport.kr/ap/en/svc/getFacilityMain.do>

Name of Student: Mok Zhuang Ying
Date: 24/5/18 (Tuesday)
Location/item observed: Radian City Concept in Seoul
Challenge in cities: New Urbanism and Urban design
Urban sustainability pillar: Profit

Discussion:

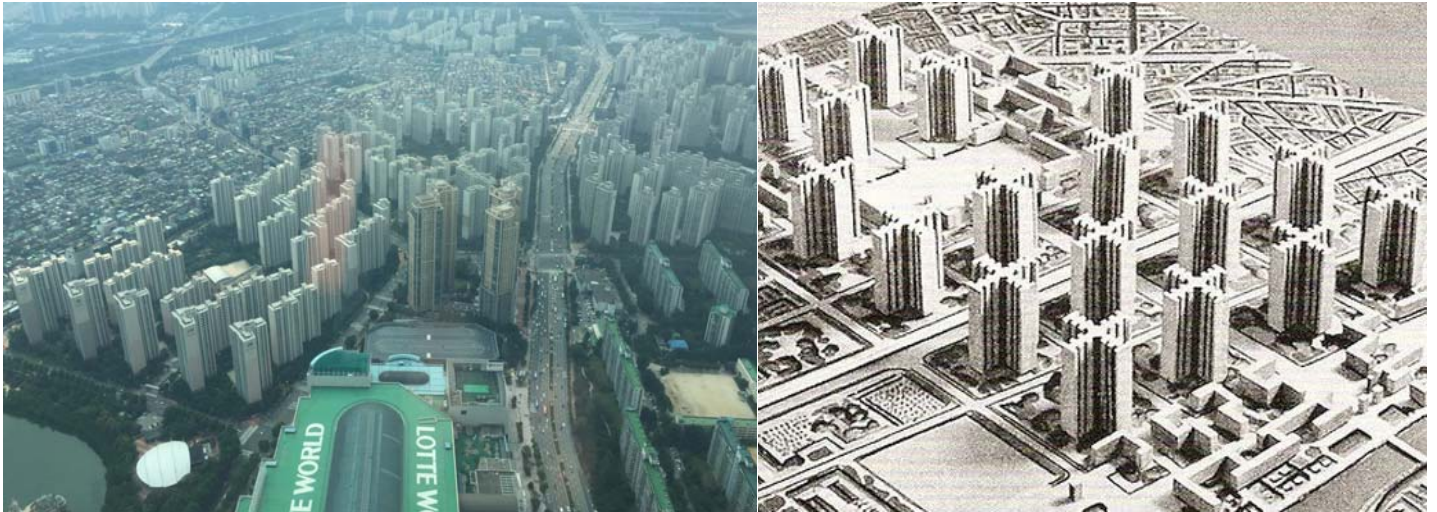


Figure 1: Bird-eye view of Seoul's city from Seoul's Skytower (left) and Le Cobusier's famous Radian City (Right)

Le Cobusier Radian city concept stood up starkly against the backdrop of Seoul's city. As much as I am amazed by the city skyline, I could not help be to feel intimidated by the uniform and aesthetically unpleasant architecture. It reminds me so much of Hong Kong's High-rise apartments.



Figure 2: More uniform high-rise along Han river (left) and abundance of free land observed during the bus ride (Right)

What struck me most was the fact that there are more of such buildings on the outskirts of the city. In fact, they can be spotted anywhere at random plots of land and they are not near any major transport nodes or commercial development. This came as a surprise as I always thought that urban land rent theory says that only when buildings are closer to a major transport or commercial hubs, prices goes up and hence building height will go up as well. Interestingly, this does not entirely apply to Seoul. In fact, the building height can go as high as 50 storeys (taller than Singapore average building height of 13 – 15). This means that they have many pinnacle @ duxton all over Seoul!

In addition, there are many empty plots of land everywhere, including so many other low-medium rise building in most expensive part of the city such as Gangnam and Myeongdong. This got me wondering, with such abundance of land, why did the developers choose to build such daunting high-rise everywhere?

Reflection:

After consulting Professor Lee, I realised that it is because height and FAR regulations tend to be less tight in newly developed or less urbanized areas while it is more difficult to loose regulations in already built-up areas. Intuitively, profit-driven developers would rather choose to maximise the plot ratio by building as many units as they can. This explains why the units launched are so small as we have seen in the show flat at Aster.

Professor Lee has also taught us before that land is a scarce resource in Korea. The ownership structure (freehold for all land) makes it hard for developers to lobby and consolidate all the lands together to buy and develop. As a result, whenever they get the chance to build within a plot of land, they would naturally maximise their profit.

I realised that the strategy of selling as many units as possible is also a trend we observed in Singapore. During my internship, I learnt that development in the core central region such as Martin Modern are selling by what they called *Quantum*. Precisely because of quantum selling that they are forgoing Quality such as construction or material quality because it makes more money sense to sell more units of high price. My supervisor also taught me that because of quantum selling, that en bloc activities are rampant because en bloc developments have the potential to create more units compared through redevelopment. This is why we see Shunfu Ville creating more than a 1,206 units in Jade Scape from its previous 358 units.

Nonetheless, this got me wondering if the people really fancy living in large-scale development that lack vibrancy and diversity. Jan Gehl has once talked about human scale – a concept that promotes ground and storey-level communication that makes a city liveable. Nonetheless, it is losing its place as urbanisation takes place rapidly and profit-driven developers tossing away human touch on our urban landscape.

In fact, we are seeing more urban sprawl happening in many cities like Malaysia, Korea, The Philippines, Australia and even in the European countries. Many people would think that urban sprawl is bad for the people and city is always the place to be.

But with urban sprawl still unresolved and in fact rising at a rapid rate, have urban planners ever thought that it could be because people inherently, don't like to live in cities that are losing human touch?