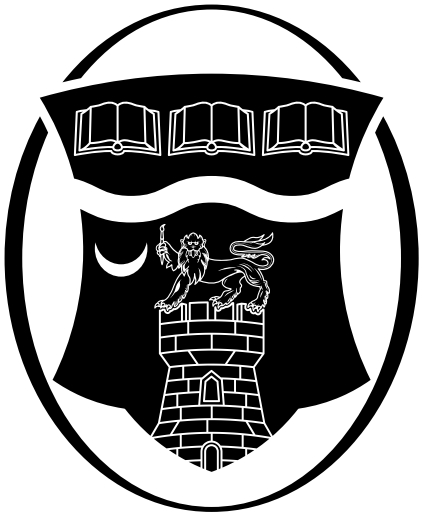
Signals:

Lighting Singapore's Transit Legacy

A Reflective Report submitted in partial fulfilment of the requirements

for the Bachelor of Arts (Hons) in Design Practice



By

Muhammad Al-Hakim bin Dasuki

University of The Arts London &

The Nanyang Academy of Fine Arts, Singapore

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DECLARATION

I, Muhammad Al-Hakim bin Dasuki declare the following Reflective Report titled Signals has neither in whole nor part been submitted for a degree to any other institution.

ACKNOWLEDGEMENT

This project is dedicated towards my three cats, Cantik, Manis & Hitam.

To my parents and family, who formed my worldview.

To friends, colleagues and others, some who has departed beyond this world, who had placed faith in me.

Abstract

One of the key characteristics of humanity is their innate ability to form deep connections—with one another and with the objects and spaces that shape their daily life—creating common identities that endure across generations. This is particularly evident as the idea of the nation-state took root in Europe and across the seas afterwards, where collective state identity emerges naturally through shared experiences like migration and war or is cultivated through national symbols and state narratives. The same principle applies to transit. Throughout history, societies have sought to document and preserve the ways they move, recognizing transport as both a means of progress and a vessel of cultural memory.

Singapore, as a multi-ethnic city-state whose living history dates only to its colonial founding in 1819, has been deliberate in fostering a shared national identity. However, when it comes to transit, Singapore has continuously prioritized efficiency and modernization over heritage, often sacrificing historical elements in the pursuit of progress. This has resulted in a growing sense of patrimonial loss, as the tangible markers of Singapore's past vanish from everyday life.

This report looks into the consequences of this disruption in cultural heritage, the role of design in fostering a sense of identity & belonging, and the potential of heritage placemaking as a tool for public and social history. Ultimately, it advocates for integrating transit heritage into Singapore's mainstream consciousness, recognizing its significance in shaping the nation's collective identity.

Contents

1. Introduction

1.1. Overview of our Transit history

Singapore's story has always been influenced by transit. As part of the Nusantara region, its geographic location became a confluence of trade and migration for the old Singapura Kingdom and later, the fledgling trading outpost that became the British Colony of Singapore.

1819 marked the start of Singapore as we knew it and the beginning of the Singapore story for many of our forefathers, who came to the shores in sampans & ships to settle on this new land. As part of my research into the history of our transportation system, I dived into several academic sources to gain an understanding of our extensive transportation history, from the first hackney carriages that our forefathers rode upon, the advent of rickshaws and trishaws, the mosquito buses of the 30s, the journey leading to the first MRT line, etc. The next 200+ years of Singapore's history have seen the island's development from an outpost to an independent nation to a bustling metropolis, coming hand in hand with the advances of our transit.

The first forms of our land transport came with the humble bullock carts and hackney carriages. These bullock carts, piloted with two water buffaloes at the front, more known in our history books today as the main transport of goods to and from the Singapore River, also served as transport for the common people. Those with more means, such as Merchants and colonial officers, however, would have been able to afford to hire hackney carriages, which are small four-wheeled carriages driven by a horse.

Innovation soon followed. One of the first was the arrival of rickshaws, a Japanese invention, hitting Singapore shores in 1880. This human powered two wheeled cabs were later followed by trishaws, which in comparison are bicycle-powered, which had its heyday during the Japanese Occupation and survived the postwar boom, only to be supplanted by automobiles in the late 50s. These services were soon followed by trams, which started in 1886 with steam-powered trams, which were soon stopped as they were uneconomical and were later replaced with electric trams in 1905, which slowly made way for trolleybuses in the late 30s. Ran by what became Singapore Traction Co., this marked the arrival of automation in Singapore, as soon after, the first automobiles and what was commonly described then as Omnibuses soon after.

Figure 1 – STC AEC 603 Trolleybus, with class segregated seating.

My research indicated that these modified Ford Model T cars, commonly known as mosquito buses, became commonplace in the 1920s and 1930s out of the need for travel within the town and the surrounding rural areas of Singapore as population levels grew. Despite the colonial authorities' disdain towards what was an unregulated industry with little regard to road safety, having to play catch-up and implement regulations to keep these buses in check, such as proper displays of plate numbers and designated bus stops, these buses were popular to the masses as they were meeting the needs of residents at the point and were cheap and affordable. These Mosquito buses were phased out in the mid-1930s by the authorities. Still, their legacy continued long after, as many of these Mosquito bus operators coalesced during their heyday into bus companies and became collectively known as the 'Chinese bus companies,' which played a major role in developing our transit history till the early 1970s.

Post-war, these bus companies, such as the Hock Lee Amalgamated Bus Company, and Singapore Traction Co. were the mainstays of our transit system. However, poor service standards, quality, and working conditions continually dogged the industry until the 1970s, when reforms to the system were spearheaded by the mergers of bus companies and the nationalisation of the Singapore Bus Service (SBS) in 1973, now known as SBS Transit.

***Figure 2* – Crowds at a bus stop waiting for buses in 1974**

The 80s and 90s were a revolutionary era for transit for Singaporeans, as better services came hand in hand with innovation and change, from the introduction of air-conditioned buses, bendy and double-decker buses to the opening of the first two Mass Rapid Transit (MRT) train lines, which vastly improved both commuting capacity, ease of access and comfort for commuters. Combined with the introduction of the now iconic SBS red-striped livery, Translink cards and Orange-top bus stop, it has become an era much remembered by Singaporeans as a golden age of public transit in Singapore.

Figure 3 - SBS Leyland Olympian 12 "SuperBus"

Today, Singapore's transit network is a complex system comprising a network of 5,800 buses serving the island amongst the 350 bus service routes every day, which combined with a network of 6 MRT lines with 579 trains provides 7.19 million bus and train rides each day in 2023. In terms of innovation, much progress has been made from the introduction of the contactless smart card system to the recent introduction of electric buses into the system. Of note is the emphasis has been made towards accessibility to all commuters, including the disabled and elderly, with all buses and related infrastructure being made wheelchair accessible and elderly friendly.

1.2. Heritage loss within the Singapore context

After independence, Singapore's desire towards development and progress over everything else has often felt that things like cultural and heritage conservation as luxuries that newly developed countries like Singapore can ill-afford (Blackburn and Tan Peng Hong, 2015), often leading to irrevocable loss to the altar of urban redevelopment.

Reading through several sources, I concluded that building and spatial preservation have been especially under threat as its physicality has often come under pressure and conflict with modernisation and redevelopment, which combined with the constraints of land within our city-state, led to the demolishment of many iconic spaces. This is my conclusion after reading through several on the loss of the Pearl Bank Apartments. Completed in 1976, it was the tallest apartment complex built in the country at that time and representative of the post-war Brutalist and Modernist architectural wave happening in Singapore in that era, which combined with its pioneering usage of space and iconic horseshoe structure became a landmark (Zhuang, 2016). Despite the immense architectural and cultural value that it held, and attempts to conserve the building, it was ultimately demolished in 2020 to make way for a condominium development, which despite promises to honour the legacy marked a loss of Singapore's architectural

heritage. This helps me understand the immense challenges that building and architectural preservation proponents must overcome for their objectives to be accomplished, that even attempts at compromise could ultimately end in failure and loss.

However, it is not all doom and gloom. In *Archiving the Wild, the Wild Archivist: Bukit Brown Cemetery and Singapore's Emerging 'Docu-tivists'* A study by Natalie Pang & Liew Kai Khiun (2014), they highlighted that the upcoming partial destruction of the contested Bukit Brown Cemetry, one of the oldest surviving Chinese Cemetry, has heightened awareness and documentation efforts in that area, reinforcing its significance and status in Singapore's heritage scene. The decision by the state to redevelop the Bukit Brown area prompted civic and activist groups such as *All Things Bukit Brown* to emerge, mobilising volunteers, historians and the public to document, archive and narrate the cemetery's stories and historical importance within which to me highlight the importance of community within any cultural and historical preservation, that despite notions of heritage as a niche purview of experts, the public can contribute immensely to conservation by bringing in their differing skillsets into play.

Figure 4 – Visitors touring Bukit Brown Cemetery

This movement which they term 'docu-tivism,' also helps me understand the inherent value of conservation and preservation, even with physical spaces being altered or disappearing, and how this process of documentation, trails, tours and digital archiving can encourage a wider discourse on the preservation of heritage in Singapore, that even with demolishment of an area of historic value, the responses towards them can be a catalyst towards greater appreciation and engagement towards our historical and cultural heritage.

Another aspect that I looked through is our intangible cultural heritage as the fast progress of change has often posed a significant challenge in keeping these intangible aspects of our local Singapore culture alive. This is most apparent with our Hawker Culture, which came from the confluence of street food hawking by the myriads of immigration populations and the post-war desire to formalise and regulate these

businesses, turning today into a unique melting pot of diverse cultures represented through food under one roof (Tam, 2017). Despite their prominence within Singapore's national and cultural identity, they are under threat from various fronts, ranging from the continual rise of costs of raw goods, increasing expenses devoted to manpower & rent leading towards low-profit margins to the increasing disinterest in the younger generation to engage in what is viewed as a demanding career (Tan, 2021). In reflection, I see now the impact of external factors beyond the control of interested stakeholders can have an impact on diluting and even threatening intangible heritage.

Figure 5 - Patrons at a food centre engaging with an interactive board for the Our SG Hawker Culture travelling exhibition

2. Literature review

2.1. Urban semiotics – how transit identity shaped London's identity

One of the avenues that I looked through in deepening my understanding is urban semiotics. Design and aesthetics have played an important role in shaping not just the physical environments around us but also how we perceive ourselves within the community and the urban environment (Koller, 2008). This is most evident in transit, as its centrality as the medium for commuting for the vast majority of residents, with its vast array of signages, locations, and interior and exterior aesthetics of stations and their vehicle assets, both intentional and otherwise, has manifested beyond mere utilitarian functionality and become a key component of urban semiotics.

As one of the oldest transportation systems in the world, with the first rail line starting operation in 1863, the London Underground and the wider transportation system of buses, trams, river services, and other railways like the Overground, I have discovered how London's Transport network have had and continue to have an outsized impact not only in informing the world as an example of design and aesthetics existing within a transit

system but also in the realm of research literature, where London's underground and its related subject remain one of the top written topics for research literature (W Hook and J Porter, 2022) and a marketable phenomenon.

From my research analysis, I concluded that it was the influence of Frank Pick, who Mark Burry argued in his essay '*Innovation Through Appropriation and Adaptation*', that had played a crucial role in turning the Underground into such an iconic part of London. In his role as publicity officer and later, Chief Executive of London Transport, and as ardent believer in the arts and craft movement, he identified and engaged talented artists and architects of his generation in creating various aspects of the Underground, from commissioning Edward Johnston to create a typeface for the system, which resulted both the now famous Johnston sans-serif type and the Iconic Underground Roundel logo, his collaboration with Charles Holden, which produced many modernist styled Underground stations such as Piccadilly Circus (Burry, 2013), and with Henry Beck, whose Underground Map has become not just another iconic symbol of London but laid down the basis of Transit cartography ever since.

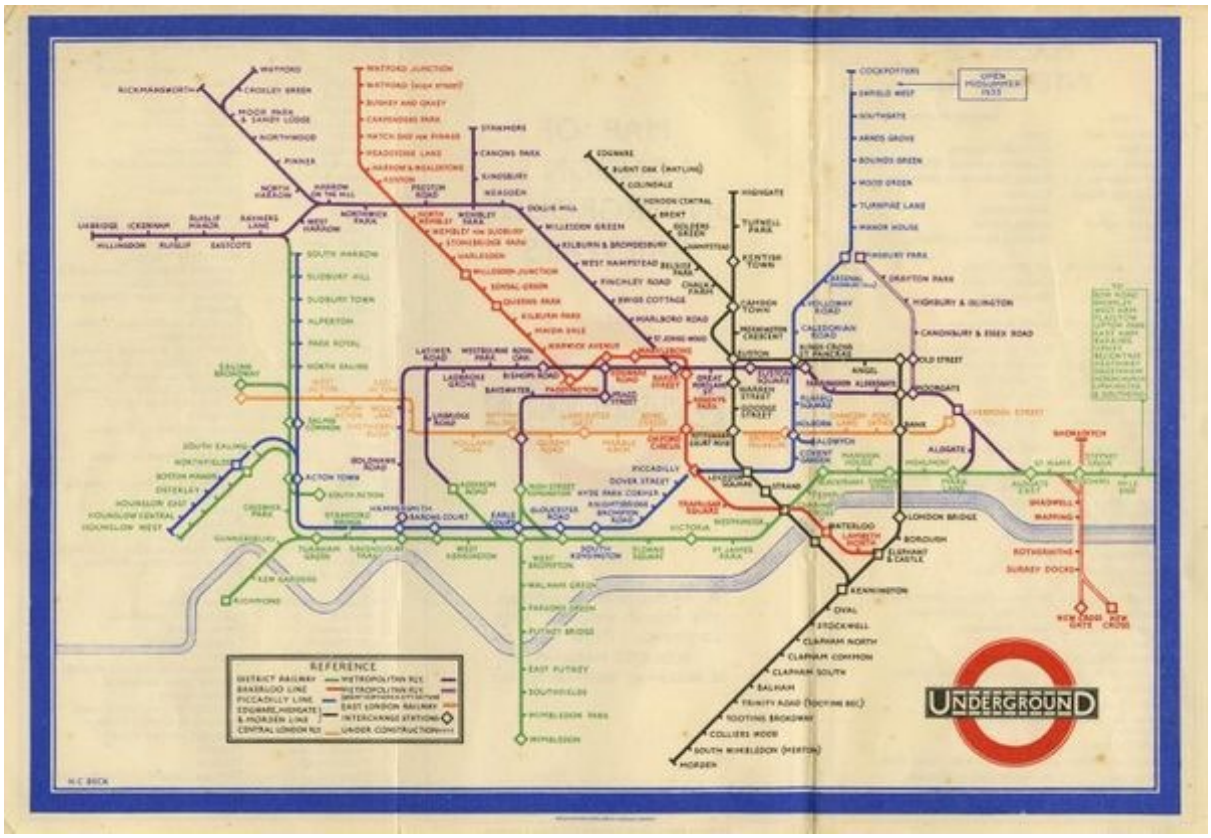

Figure 6 - Original 1933 Tube map by Henry Beck

Oneof the more subtle influences of Frank Pick beyond design identity are his engagement of the arts with the Underground through the poster design program. Started in 1908, the engagement of artists such as xxx to design posters to engage with the commuters became a catalyst in viewing train stations beyond a mere nexus of transport, but also one of communication and the art, enriching the spatial identity and connection with Londoners (Paul, 2023). From posters advertising landmarks near stations to service posters, the unique way artists were given free hand to create under

Frank Pick is the forebear of the many art in transit programmes now existing around the world, now beyond posters and into the walls and surrounding environments, as argued by Amelia Taylor-Hochberg in her article 'The Art of Public Service' (Taylor-Hochberg, 2017).

In reflection, it highlights to me the importance that design plays in forming urban identities, especially through transit systems and how down the line, the inspired usage of creative talent turned London's transit system into an essential component of urban pride and connection. It also helps me understand how even early on, elements of placemaking have already found their roots within London's underground system and that spaces within the transit system can be used beyond commercial and wayfinding means, but also for artistic intent.

Moving forward, I will take into consideration urban semiotics and the wider design lexicon that has existed within our transport network from the past till present and consider how to re-imagine their usage within my project outcome as they may hold important memories and a sense of identity towards my target audience. I would also take into consideration how these lexicons play into placemaking, especially in the past and how their application then can inform me better in terms of execution.

2.2. Loss of Patrimony: The Japanese experience

Patrimonial loss refers to the erosion or disappearance of cultural heritage, encompassing both tangible elements such as architecture, artefacts, and historical sites and intangible aspects, including traditions, rituals, and collective memory. This is especially acute when it comes to societies where extreme changes to the demographics happened due to consequences such as war, genocide, migration or other factors. Japan, an ancient nation that is immensely rooted in culture and heritage, has faced numerous challenges from many fronts in this regard, from urbanisation, constant natural disasters, and Destruction brought by World War II to the current demographic crisis facing the country.

From my reading, one of the major contributors to this phenomenon of patrimonial loss in Japan is the rapid advance of urbanisation and modernisation of the country, which has taken its toll on the cultural and historical landscape of its cities. A recent case of note has been the Meiji Jingu Gaien redevelopment project. Started by the Tokyo Metropolitan government, its aim is to redevelop the western-styled garden outside the Meiji Shrine, famed for its Ginko trees, to revitalise the area with new facilities including new stadiums and hotels (Exum, 2023). However, the project has drawn significant criticism and protests by Tokyo residents and experts for the lack of public consultation, environmental concerns with a reduction in green space to the proposed razing and replacement of the historic Meiji Jingu Stadium, which is Japan's second oldest Baseball stadium and cultural landmark for many Japanese baseball fans (Jozuka et al., 2023).

In this regard, The Science Council of Japan's report titled 'The Recommendations for Improvement and Harmonization of Meiji Jingu Gaien and the New National Stadium'

provides me with an overview of the issues and opportunities that can come with changing the landscape of the Meiji Jingu area. Whilst the proposal was concerning the Tokyo National Stadium that was being rebuilt for the 2020 Tokyo Olympic Games, the stadium's location within the same Meiji Jingsu Gaien area and the similar uproar at the proposed stadium concept, which was dropped after budgetary concerns, highlights the tensions between modernisation and preservation of cultural heritage within urban settings. The report brought up the potential loss of historic trees, landscapes and visual connection if the proposed new stadium was constructed, overshadowing the area's connection with the Meiji period, and diminishing its role as a site of national identity and memory. This parallels with the issues of patrimonial loss as urban development has the potential to recklessly push away the historical context that had been cultivated over time, helping me understand deeper the key components that help constitute patrimonial loss.

The report's emphasis on the need for thoughtful urban planning that balances the due respect for historical landscapes whilst accommodating the needs of contemporary society was also helpful. Their proposals to mitigate loss show me that progress and change shouldn't necessarily come into conflict with the existing cultural-historical context. Rather, change should come inclusive of these contexts, which can lead to further enhancement of liveability and environment.

As a country that sits on the frontline of both the Pacific Ring of Fire and the Monsoon trough, Japan's heritage has been always at risk from natural disasters such as earthquakes, tsunamis and typhoons. This has been highlighted in recent times by the 2011 Great East Japan Earthquake and Tsunami, which brought Immense damage to numerous cultural and historic sites throughout the Tohoku region, with one notable example being the total destruction of the Takata Pine Forest, a pine grove on the seashore of Rikuzentakata city, dating back to the 17th century, which was swept away by the Tsunami (ICOMOS Japan, 2011). In response to this, the Japanese government has responded with extensive restoration projects in collaboration with UNESCO and private organisations, whilst also implementing measures to mitigate future disaster risks to these sites. Even so, communities that were impacted by the disaster continue to struggle with dislocation years afterwards, and therefore, their intangible cultural heritage, many of them centuries old, remains at risk of extinction (Takahashi, Sakamoto and Iijima, 2022).

Figure 7 - Miracle Pine Tree, the sole survivor from the Takata Pine Forest

The realm of Intangible cultural heritage, such as traditional performing arts, is also at risk due to declining interest among younger generations. Kabuki theatre, a centuries-old form of stylized drama that started in the Edo period, has seen increasingly dwindling audiences and fewer young actors willing to commit to its demanding training essential to becoming a Kabuki actor. However, organizations like the Shochiku Company and the National Theatre of Japan have promoted Kabuki through outreach programs and digital platforms, making performances accessible to global audiences through streaming services and subtitled productions (The Yomiuri Shimbun, 2021). This adaptation showcases Japan's commitment to preserving its heritage in a modernized world.

Despite these efforts, however, the loss of patrimony has had profound effects on Japanese society, especially among the younger generation. As many of the traditional touchstones of Japanese culture disappear, there is an increasing sense of cultural rootlessness amongst its youth, particularly those raised within urban centres. Studies have shown that the disconnection from longstanding customs and narratives has contributed to a decline in participation in traditional practices such as festivals and artistic trades (Sugimura, 2020). Many young people today find themselves caught between inherited cultural expectations and the globalised realities of contemporary Japanese society, leading to a sense of marginalisation and disorientation (Norasakkunkit, Uchida and Toivonen, 2012). This erosion of cultural grounding has only been exacerbated by rapid urbanisation, which has played a role in dislocating communities from their historical and cultural roots (Ye, Chen and Long, 2023).

In reflection, the Japanese experience of patrimonial loss highlights to me the variety of challenges that any society faces when it comes to this issue. Even a country that prides itself on its cultural heritage often struggles to preserve aspects of its culture from effects that are beyond its control and some that are a consequence of its own drive for development and changing tastes.

2.3. Placemaking as social history

As part of my study, I also investigated Placemaking and its effects towards public understanding of history. From my reading, Placemaking as an urban planning concept arose in the 1970s from the works of Jane Jacobs and William H. Whyte, who challenged conventional urban planning concepts at the time and advocated a human-scale approach towards urban planning, emphasising community involvement and local identity as key drivers towards creating liveability within urban centres. By integrating cultural heritage into urban planning and public spaces, placemaking helps foster a deeper engagement with history by redefining how communities interact with their surroundings. The effects of placemaking on historical understanding can be observed in various global contexts where heritage trails, adaptive reuse of transit infrastructure, and community-led initiatives have transformed public consciousness towards their history.

Part of my research analysis goes beyond the realm of transit and into the wider challenges of placemaking and memory. Ciraj Rassool's '*Community Museums, Memory Politics, and Social Transformation in South Africa*' provides a crucial insight into how institutions like museums function as spaces for both placemaking and public history within the context of post-apartheid South Africa. His analysis of District Six Museum, located in Cape Town and one of the first community museums in South Africa, highlights the roles that these institutions play in shaping collective memories, challenging historical narratives and fostering community transformation.

In reflection, this highlights to me how placemaking as a concept that goes beyond the conventional notion of museums, reclaims and reinterprets space through historical and cultural narratives. His argument that in South Africa, these community museums are active sites of memories where history is continuously negotiated, challenged and expressed, helps express clearly my own core beliefs that transit heritage has to be embodied within public spaces, whether through trails, signages etc. elements of placemaking that legitimatises public memory and fosters a sense of identity.

Figure 8 – Balcony View of the District Six Museum main room

Furthermore, Rassol's emphasis that the success of community museums lies more upon their ability to engage their community and foster social transformation than being a mere repository of the past helps me understand that placemaking cannot be confined to nostalgia or passive memorialisation. However, it has to serve as a dynamic platform for contemporary dialogues on mobility, urban change and cultural continuity within Singapore's transit landscape, which I will take into account for my project execution.

3. Creative Insights & Theory Application

3.1. Hypothesis to intent: Challenging solastalgia

Taking into account the academic insights that I have sought throughout my research, I have concluded that Singapore's transit history has always been a living narrative, one that carries not just people but also stories, emotions, and a sense of identity that is unique to Singaporeans. While today's system of MRTs, modern electric buses and metallic bus stops is a model of efficiency, I do question the seemingly prevailing view of transit as something functional and utilitarian. Instead, I see our transit network as a vibrant thread woven into the wider tapestry that creates a Singaporean identity within our hearts.

Reflecting on our past – from the bullock carts, mosquito buses and hot Albion buses of yesteryear, every journey made was an intimate encounter with Singapore's evolving soul. These modes of transport were more than just vehicles; they were a mobile stage where everyday lives unfolded, community bonds were created, and the notions of being Singaporean-ness were first grown. However, as the relentless pace of modernisation continues to reshape our urban landscapes, much of this lived heritage risks being lost. This continuous reshaping of our urban identity leads to profound solastalgia, deep-seated mourning for a transit past that connected us not just to destinations but also to our collective memories.

By reducing transit to nothing more than just a means of commuting, we overlook the potential that it holds as cornerstone of the Singaporean identity. Thus, my project aims to challenge solastalgia by pushing by reimagining active transit spaces with elements of the past, infusing them with designs, motifs and other paraphernalia that defined transit in the past to create a conversational space, paralleling transit in the past with the commuting of today.

3.2. Action forward – Project Execution

With all the research and insights considered, I am proposing a heritage bus lane that primarily covers a section of the central and civic districts of Singapore. This is because of the much deeper history that this area has, being the focal point of what was then Singapore town. I decided to focus primarily on the history of tram and bus commuting as my research and analysis indicate that they have much less coverage of these aspects of heritage.

This bus lane will primarily be divided into three sections, that cover three different era of commuting:

1. Trams and Trolleybus (Starting off at Tanjong Pagar Railway station at Keppel Road up till Anson road)

2.50s-70s (Robinson Road up portion of Parliament Place)

3.80s-90s (The rest of the roads within the Civic district)

The route is chosen partly as one of the tram lines ran through this section of the road, providing a sense of continuity from the past till the present.

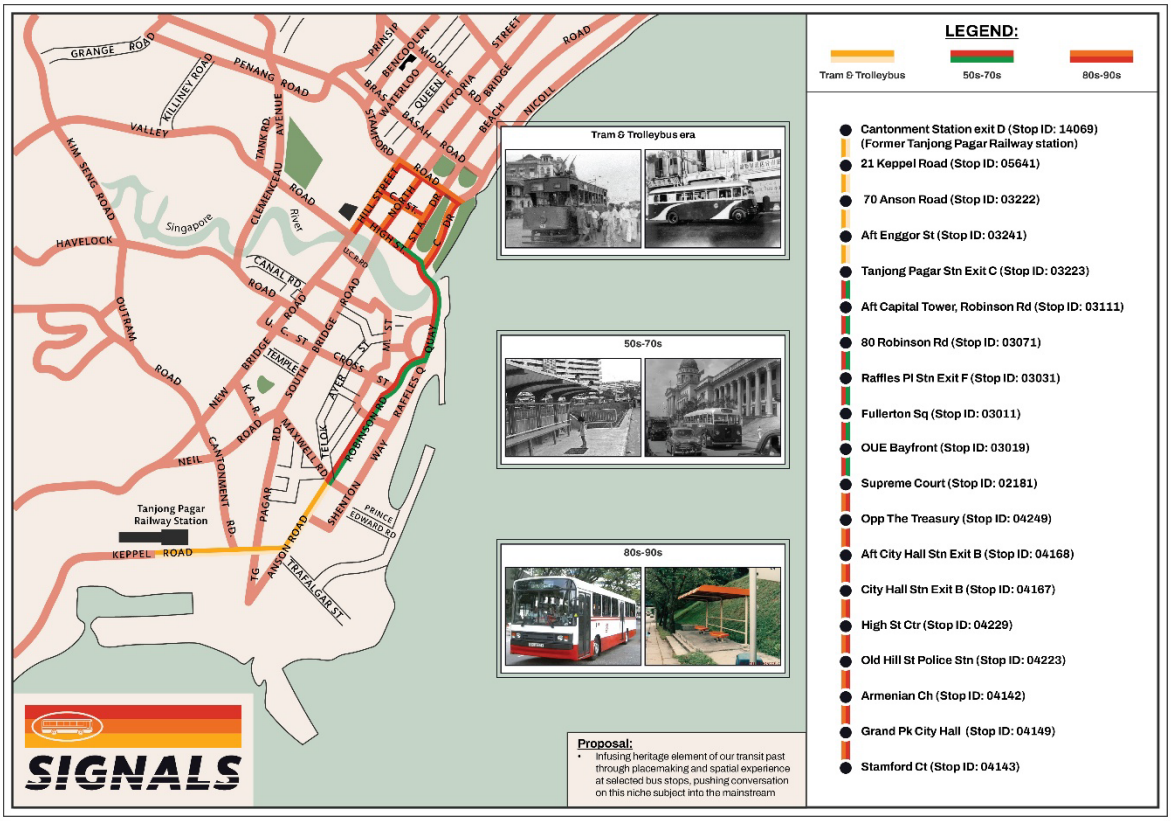

Figure 9 – Map Overview of the heritage bus lane

This takes into account the breadth of historical research that I have conducted, providing a concise overview whilst allowing a digestible, manageable storyline for the audience to understand.

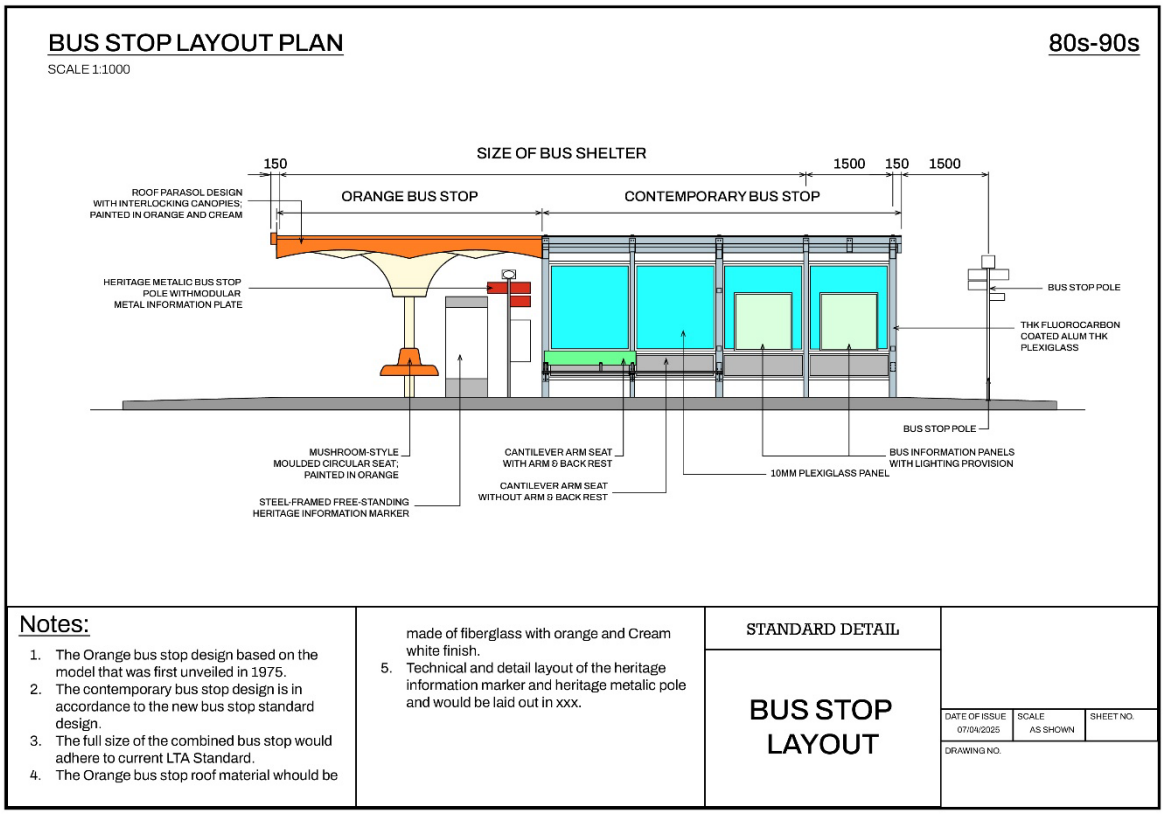

Figure 10 – Layout plan for one of the modified bus stops.

The main aspect of this project would be placemaking within bus stops that fall under the heritage bus lane. I chose the physical medium of bus stops as my primary mode of placemaking as they provide continuity between the past and present, and despite the changes in terms of materials, visuals and aesthetics, their primary purpose of providing shelter, information and a point of commute has been ever constant. This is in concert with my assessment of Ciraj Rassool's report earlier that emphasises the need for heritage to go beyond the walls of institutions and become active participants of the community around them, turning normal physical space into an avenue of discursive design. By engaging my primary audience where they are commuting, I'm opening up a conversation with them by providing them with a comparison from the present till the past, using commonalities to engage them rather than them engaging with the past through partitions and enclosed glasses.

Part of my placemaking engagement also includes infusing design elements of past transit commutes such as signages, livery, tickets etc. within the confines of these bus stops and even buses plying through the streets, allowing commuters and visitors to engage with these objects as part of their everyday life. This echoes my insight into urban semiotics and how the identity of transit helps reinforce urban identities through their pervasive use and also with how best to engage patrimonial loss, by ensuring that historical context is being taken into account even with progress in sight.

4. Summary Reflection

This research and reflective process has been an interesting process that challenges the conventional assumption that I have towards heritage and placemaking, allowing myself to go beyond the cave and re-examine my project through different angles.

Many times, I struggle to form a cohesive idea throughout my project, often reliant on bits and pieces of beliefs that reinforce themselves rather than allowing myself to go deeper and understand the theories that are at play within my project. By diving into notions such as urban semiotics and the interrelation between it and transit systems, understanding the challenges of patrimonial loss, its effects and the efforts being made to mitigate it, combined with the issue of placemaking and how museums and related institutions use them in conjunction to their heritage collection to open conversations and challenge conventional narrative within their communities, it equips me with a set of tools to help develop and create a north star that guided me towards my outcome.

The time I have spent researching and exploring has helped me understand the many considerations that I have to take into account for my project on public transportation, its history, and the people involved in it. This has broadened my scope and allowed me to enhance my project direction accordingly.

It also highlights to me the increasing complexity of issues such as museum curation, where the notion of preservation and continuing heritage means looking beyond the traditional norms and standards of the past and into newer ways to engage audiences in heritage preservation, which is my aim.

Thus I part ways from this essay that sums up my aspiration not just for my project but also my earnest belief in the importance of keeping our heritage alive, that: *Tradition is not the worship of ashes, but the preservation of the flame* – Gustav Mahler.

List of Figures

Reference list

Reference list

A Meow Cat (2024). *Charting our history*. [online] SG Transport Critic. Available at: https://sgtransportcritic.wordpress.com/2024/02/06/charting-our-history/ [Accessed 11 Dec. 2024].

Blackburn, K. and Tan Peng Hong, A. (2015). The Emergence of Heritage Conservation in Singapore and the Preservation of Monuments Board (1958-76). *Southeast Asian Studies*, [online] 4(2), pp.341–364. doi:https://doi.org/10.20495/seas.4.2_341.

Burry, M. (2013). Design and Society: Innovation Through Appropriation and Adaptation. *Architectural Design*, [online] 83(1), pp.24–33. Available at: https://www.academia.edu/25539381/Design_and_Society_Innovation_Through_Appropriation_and_Adaptation [Accessed 21 Feb. 2025].

Chuan, T.Y. (2014). *End of the road for Toyota Crown cabs after 32 years*. [online] The Straits Times. Available at: https://www.straitstimes.com/singapore/transport/end-of-the-road-for-toyota-crown-cabs-after-32-years [Accessed 12 Dec. 2024].

Divall, C. (2003). Transport Museums: Another Kind of Historiography. *The Journal of Transport History*, 24(2), pp.259–265. doi:https://doi.org/10.7227/tjth.24.2.8.

Elsasser, K.T. (2011). History of Transport Museums. *IATM Journal*, [online] 29. Available at: https://www.academia.edu/12306855/History_of_Transport_Museums [Accessed 12 Dec. 2024].

Exum, A.O. (2023). What to know about the Meiji Jingu Gaien redevelopment plan. *The Japan Times*. [online] 6 Nov. Available at:

https://www.japantimes.co.jp/news/2023/11/06/japan/explainer/jingu-gaien-redevelopment-explainer/ [Accessed 27 Mar. 2025].

Government Team of Officials (GTO) (1974). *Management and Operations of Singapore Bus Service LTD*.

ICOMOS Japan (2011). *The Great East Japan Earthquake Report on the Damage to the Cultural Heritage*. [online] *Icomos*. Available at: https://www.icomos.org/public/risk/2011/ICOMOS_Japan_%20201103_earthquake_reports_20110331.pdf [Accessed 26 Mar. 2025].

Ishikawa, M. (2015). *The Recommendations for Improvement and Harmonization of Meiji Jingu Gaien and the New National Stadium*. [online] Available at: https://www.chuo-u.ac.jp/english/news/2015/08/59163/ [Accessed 4 Apr. 2025].

Jozuka, E., Annio, F., Toi, S. and Campisi, D. (2023). 'Like building skyscrapers in Central Park': Tokyo redevelopment plan sparks protests. *CNN*. [online] 3 Oct. Available at: https://edition.cnn.com/style/tokyo-jingu-gaien-redevelopment-project-hnk-intl/index.html [Accessed 27 Mar. 2025].

Justin , O.G.-X. (2021). *Doors, seats and map displays from 1990s MRT train to be preserved by National Museum*. [online] CNA. Available at: https://www.channelnewsasia.com/singapore/mrt-train-preservation-national-heritage-board-museum-4504246 [Accessed 11 Dec. 2024].

Koller, V. (2008). 'The world in one city': Semiotic and cognitive aspects of city branding. *Branding Political Entities in a Globalised World*, 7(3), pp.431–450. doi:https://doi.org/10.1075/jlp.7.3.05kol.

Lau, J. (2025). *Singapore's hawker culture faces revolution, because locals 'don't want this job'*. [online] South China Morning Post. Available at: https://www.scmp.com/week-asia/economics/article/3296151/singapores-hawker-culture-faces-revolution-because-locals-dont-want-job?utm_source=chatgpt.com [Accessed 19 Feb. 2025].

Michael, M.E. (2023). *New travel-themed exhibition lets visitors experience S'pore as a tourist destination over the years*. [online] The Straits Times. Available at: https://www.straitstimes.com/singapore/new-travel-themed-exhibition-lets-visitors-experience-s-pore-as-a-tourist-destination-over-the-years [Accessed 12 Dec. 2024].

Noble, W. (2023). *How London Underground Became The Coolest Brand In The World*. [online] Londonist. Available at: https://londonist.com/london/transport/tfl-cool-brand-story [Accessed 20 Feb. 2025].

Norasakkunkit, V., Uchida, Y. and Toivonen, T. (2012). Caught Between Culture, Society, and Globalization: Youth Marginalization in Post-industrial Japan. *Social and Personality*

Psychology Compass, 6(5), pp.361–378. doi:https://doi.org/10.1111/j.1751-9004.2012.00436.x.

Ong, S.F. (2023). Singapore HeritageFest 2023: Visit bus and train depots, learn Indian and Malay martial arts. *The Straits Times*. [online] 19 Apr. Available at: https://www.straitstimes.com/life/arts/singapore-heritagefest-2023-visit-bus-and-train-depots-learn-indian-and-malay-martial-arts [Accessed 12 Dec. 2024].

Paul, D. (2023). *Art Beneath Our Feet: Learning From London's Transit Art Program - The Eno Center for Transportation*. [online] The Eno Center for Transportation. Available at: https://enotrans.org/article/art-beneath-our-feet-learning-from-londons-transit-art-program/ [Accessed 22 Feb. 2025].

Rasool, C. (2006). Community Museums, Memory Politics, and Social Transformation in South Africa: In: I. Karp, C.A. Kratz, L. Szwaja, T. Ybarra-Frausto, G. Buntinx, B. Kirshenblatt-Gimblett and C. Rasool, eds., *Museum Frictions: Public Cultures/Global Transformations*. [online] Duke University Press, pp.286–321. doi:https://doi.org/10.2307/j.ctv11cw1hd.20.

Roots.sg (n.d.). *The History and Evolution of Hawker Culture of Singapore*. [online] Roots.gov.sg. Available at: https://www.roots.gov.sg/stories-landing/stories/Serving-Up-a-Legacy [Accessed 19 Feb. 2025].

Sato, M. (2006). Transportation Museum in Tokyo and railway heritage conservation. *Japan Railway & Transport Review*, [online] (43). Available at: https://www.ejrcf.or.jp/jrtr/jrtr43_44/pdf/f06_sat.pdf [Accessed 12 Dec. 2024].

Schmucki, B. (2009). Museum review - New insights, new approaches: the London Transport Museum. *The Journal of Transport History*, 30(2).

Sermcheep, A. (2020). *London Transport posters: from publicity materials to museum exhibits*. [Phd] Available at: https://figshare.le.ac.uk/articles/thesis/London_Transport_posters_from_publicity_materials_to_museum_exhibits/14230118?file=26854676 [Accessed 12 Dec. 2024].

Sola, T. (1999). Redefining collecting. In: *Museums and the future of collecting*. London: Routledge, pp.250–260.

Sugimura, K. (2020). Adolescent Identity Development in Japan. *Child Development Perspectives*, 14(2), pp.71–77. doi:https://doi.org/10.1111/cdep.12359.

Takahashi, M., Sakamoto, Y. and Iijima, K. (2022). 2011 disaster threatens to end age-old cultural practices. *The Asahi Shimbun*. [online] 24 Feb. Available at: https://www.asahi.com/ajw/articles/14556651 [Accessed 27 Mar. 2025].

Tam, A. (2017). Singapore Hawker Centers: Origins, Identity, Authenticity, and Distinction. *Gastronomica*, [online] 17(1), pp.44–55. Available at: https://www.jstor.org/stable/26362418 [Accessed 19 Feb. 2025].

Tan Zhe Kai, K. and Jia Wei, K. (2024). *Cooking or Cooked: The Future of Singapore's Hawker Culture*. [online] lkyspp.nus.edu.sg. Available at: https://lkyspp.nus.edu.sg/gia/article/cooking-or-cooked-the-future-of-singapore-s-hawker-culture [Accessed 19 Feb. 2025].

Tan, A. (2021). *Can Singapore Keep Its Precious Hawker Culture Alive?* [online] thediplomat.com. Available at: https://thediplomat.com/2021/01/can-singapore-keep-its-precious-hawker-culture-alive/ [Accessed 19 Feb. 2025].

Taylor-Hochberg, A. (2017). The Art of Public Service. *Places Journal*, [online] (2017). doi:https://doi.org/10.22269/171212.

Teo, E. (2019). *Jalan Singapura : 700 years of movement in Singapore*. Singapore: Marshall Cavendish Editions.

The Straits Times (1971). *Mass rapid transit system a must*. [online] Nlb.gov.sg. Available at: https://eresources.nlb.gov.sg/newspapers/Digitised/Article/straitstimes19710126-1.2.59 [Accessed 12 Dec. 2024].

The Straits Times (1987). *Singapore steps into new era of public transport as the first SMRT trains roll today*. [online] Nlb.gov.sg. Available at: https://eresources.nlb.gov.sg/newspapers/digitised/article/stoverseas19871107-1.2.2.1?qt=mrt&q=mrt [Accessed 12 Dec. 2024].

The Yomiuri Shimbun (2021). *Kabuki goes digital to expand audience base*. [online] Yomiuri.co.jp. Available at: https://japannews.yomiuri.co.jp/culture/kabuki-noh-rakugo/20210325-77793/ [Accessed 15 Apr. 2025].

W Hook, D. and J Porter, S. (2022). *The Secret (Research) Life of the London Underground*. [online] Digital Science. Available at: https://www.digital-science.com/blog/2022/05/secret-research-life-of-london-underground/ [Accessed 21 Feb. 2025].

Warren, J.F. (2003). *Rickshaw Coolie*. NUS Press.

Ye, L., Chen, Y. and Long, Y. (2023). Exploring the Relationship between Urbanization and Ikization. *Sustainability*, [online] 15(12), p.9622. doi:https://doi.org/10.3390/su15129622.

Zhang, S. (2023). *California railroad museum ceremony highlights often-overlooked efforts of Chinese workers*. [online] Sacramento Bee. Available at: https://www.sacbee.com/news/local/article276676336.html [Accessed 13 Dec. 2024].

Zhuang, J. (2016). Saving Pearl Bank Apartments. *Biblioasia*, [online] 12(3), pp.13–16. Available at: https://biblioasia.nlb.gov.sg/vol-12/issue-3/oct-dec-2016/saving-pearl-bank-apt/ [Accessed 20 Feb. 2025].