

Around the World in Eight Kilometres: Tracking Sydney’s “City Circle” International Railway Ties

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While many factors shape the urban experience of Sydney today, few projects have had wholesale impact like the City Circle railway. To this day, movement to and through the city is fundamentally shaped by design decisions orchestrated by the project’s chief engineer—J.J.C. Bradfield—a century ago. Much has been written about Bradfield, but little has examined the global influences on Sydney’s City Circle and, in turn, its impact on the urban form of Sydney. Bradfield understood the railway not merely as infrastructure, but as a catalyst for city-making, with both architectural and urban impacts. As such, he looked to distant transport systems to help shape Sydney’s urban railway, and ultimately the city.

A journey on the City Circle traverses six stations and eight kilometres, but easily overlooked on the trip are those global antecedents Bradfield leveraged: models that brought international planning principles and aspirations to Sydney in the inter-war era as post-Federation Australia turned toward eclectic global precedents. As Australia’s first urban rail system, the City Railway laid its tracks upon European and American influences—influences that, in turn, came to shape Australian urban transport planning, policy, and design more generally.

This paper explores unexamined concepts imported across physical and temporal distance, drawing upon archival research of the papers and manuscripts produced by Bradfield following international research trips in 1914 and 1922. As such, the paper provides context and new insights into the influence of global technologies, planning principles, and aesthetic ideas which are still discernible in Sydney’s city-serving railway.

Keywords: JJC Bradfield; Sydney City Railway; public transport; Sydney trains

Every day more than one million journeys are made by train in Sydney, with passengers riding the rails of a network that has its origins more than a century-and-a-half ago.¹ And while many passengers are vexed by the system for a range of reasons—overcrowding, delays, cleanliness—it is not an overstatement to say that the railway keeps Sydney moving. Sydney’s transport network is inseparable from the urban fabric itself; transport has facilitated urban growth, which has in turn fed the expansions of the railway network.²

In December 1926, Sydney heralded the opening of the first section of the “City Railway”—a spur running from the former terminus of suburban service at Central to Museum and St. James stations on the eastern side of the CBD. While the distance traversed was unremarkable, its status as the first underground railway in Australia represented embodied global aspirations of a city battling traffic for international relevancy. The system also represented a triumph over the city’s only viable rival on the continent—it would be sixty years before Melbourne opened a similar system.³

The City Railway—today’s “City Circle”—is an eight-kilometre-long line serving four underground and two elevated stations.⁴ The realised railway is a small component of grand plans devised to link Sydney’s then isolated “Central” Station in the city’s south and the former train terminal at Milsons Point on the North Shore with the urban core of the city, negating the need to transfer to ferry or tram to reach the CBD on a journey from the suburbs (fig. 1). The vision of government engineer John Jacob “Job” Crew (J.J.C.) Bradfield (1867-1943)—realised thanks to consolidated power and access to vast economic resources which allowed Bradfield to wield substantial influence—the railway and Harbour Bridge were key to Sydney’s economic success. With the completion of the bridge in 1932, facilitating the opening of the western portion of the circle, including Town Hall and Wynyard stations, the vision began to take shape. A world war and shifting transport priorities meant it would be another quarter century before the circle was closed at Circular Quay, but even still, Bradfield’s indelible mark on the city would shape much of Sydney’s urban development.⁵

Dr. Bradfield—he earned his PhD from the University of Sydney in 1924 for a thesis on the design and construction of the railway and bridge—worked from 1914-1932 on the development of the City Railway and the coordinated effort of electrification of the suburban lines extending into the hinterlands of Sydney.⁶ Simultaneously, Bradfield was a prolific guest speaker on the

1 “Monthly Opal Trips,” Transport for NSW, accessed February 1, 2019, <https://www.transport.nsw.gov.au/data-and-research/passenger-travel/train-patronage/train-patronage-top-level-chart>.

2 London is the prime example of the interrelationship of transport and city. Many likely navigate London based not on a street map, but rather on the diagrammatic Underground map, which has been co-opted by transport systems the world over, including Sydney. While the City Railway is not as ingrained as London’s, the impact of the system on the urban realm of Sydney is still indisputable.

3 Dr. Don Fraser, “Nomination of the City Railway Sydney as a National Engineering Landmark,” Engineering Heritage Committee, Sydney Division, 1995, 3.

4 A bit of a misnomer as trains cannot traverse the full circle, but proceed inward and outward at the southern end, via Central Station.

5 Throughout this paper, Bradfield is conceptualized as the driving force behind the design and development of the City Railway, building off a range of previously published works focusing on Bradfield’s numerous contributions throughout the course of the project. Bradfield benefitted greatly from the consolidation of power within government at that time, allowing him to command vast sums of money in pursuit of the project, though he was supported by an array of other actors who developed drawings and designs, all overseen by Bradfield.

6 Bradfield earned the University’s first doctorate in engineering and was praised by readers including John Monash. J.J.C. Bradfield, “The City and Suburban Electric Railways and The Sydney Harbour Bridge” (PhD diss., University of Sydney, 1924).

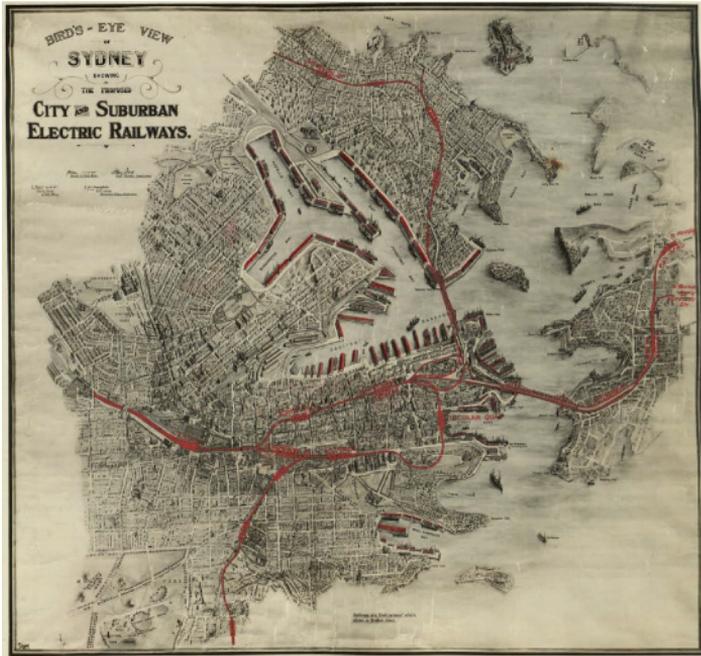


Figure 1. An early drawing of Bradfield's planned lines, with the City Circle and additional circles running to the eastern and western suburbs, reproduced from Bradfield "The City and Suburban Electric Railways and The Sydney Harbour Bridge," 37. Courtesy of Rare Books and Special Collections, University of Sydney Library.

topic and twice spent time traveling abroad on research and procurement trips.⁷ Due to the high-profile nature of the project and its regional impact, Bradfield enjoyed national recognition, earning him appointment as a Companion of the Order of St. Michael and St. George in 1933.⁸ And while he didn't enjoy the universal fame of the likes of Eiffel and Ferris, the *Sydney Mail* reported "in professional circles his name is well known in London, New York, and other big cities."⁹

Within this international context, Bradfield hardly designed in isolation, importing ideas on function and style throughout the design. His professional affiliations as chairman of the local council of the Institute of Civil Engineers and a member of the Town Planning Institute, both based in London, bridged the chasm between Sydney and the Empire.¹⁰ Leveraging connections and local media which covered the transport developments abroad, Bradfield kept abreast of the latest design and technological advancements available in the UK, continental Europe, and the United States.¹¹

Bradfield placed high value on aesthetics and the impact of infrastructure on the visual appeal and liveability of the city, the quality of the customer experience, and the long-term success of the stations. As much as a railway to cater to the needs of Sydney and her citizens, Bradfield had ambitions to leave his mark with "an architectural feature in the sky line of the city."¹²

7 The National Library of Australia holds many of his paper and lectures in its Special Collections, with no fewer than 76 lectures he delivered between 1914 and 1930.

8 "List of New Year Honours," *The Brisbane Courier*, January 2, 1933, 11.

9 "Sydney of the Future – An Illuminating Chapter on the City Railway," *Sydney Mail*, May 14, 1924, 16.

10 "Dr. J.J.C. Bradfield – New Degree Awarded," *Sydney Morning Herald*, May 6, 1924, 8.

11 The opening of the London Underground in 1863 enjoyed extensive media coverage in Australia, despite the physical distance. Detailed accounts of the Underground were conveyed to readers with prominently featured articles in newspapers across the country painting compelling images, allowing Australians to visualise, and envy, the advances being made abroad. See also note 26.

12 Stated in one of his earliest lectures, Bradfield indicated his vision for transport development around Circular Quay would leave a lasting urban impression, though his proposal was never realised. J.J.C. Bradfield, "The City and Suburban Electric Railways" (lecture, Institution of Civil Engineers, Royal Society's Rooms, Sydney, October 29, 1915), 9.

Ultimately, the urban fabric of Sydney today, and of course the train stations, owe much to Bradfield. And the network, while not necessarily contributing any skyline-altering architecture (save for the bridge) nevertheless shaped the skyline of Sydney today, if only by providing the infrastructure necessary to allow Sydney's continued growth.

The Engineer and the Planner

While civil engineers are rarely known for architectural proclivities, Bradfield possessed a defining interest in design aesthetics and town planning theory which greatly shaped his work on the City Railway. His interests were stoked, if not fully shaped, by the curriculum at the University of Sydney, where he undertook his bachelor's, master's, and doctoral studies.¹³ In an address to the Sydney University Undergraduates Association in 1924, Bradfield credited his works—including the design of the City Railway—to professors who had influenced him, among them Sir John Sulman—a lecturer of architecture and noted town planner in Australia.¹⁴

For decades, Sulman was a proponent of town planning in Australia, offering the first university lecture on the topic in 1921.¹⁵ Sulman's interest was piqued while visiting Paris in the 1870s, where he was impressed by Haussmann's civic gestures. Sulman would go on to be a proponent for the creation of similarly civic-scaled streets in Sydney, advocating for widened avenues and public green spaces.¹⁶ His desire for openness in the city didn't cease at restructuring the urban heart of Sydney—often at the expense of buildings which would be viewed in hindsight as historic, which he didn't look upon favourably—as he also underscored the need for people to have easy access to open fields and fresh air, invoking Ebenezer Howard's Garden City.¹⁷ Bradfield would have been familiar with Sulman's European-inspired planning principles and his lack of affinity for Sydney's extant form, as the men remained friends following Bradfield's studies.¹⁸ In fact, both men served as executives on the New South Wales state board for the Association of Town Planning and gave papers at the First Australian Town Planning and Housing Conference held in Adelaide in 1917.¹⁹

Prior to Bradfield's involvement in railway design, Sulman had devised schemes for improving transportation in Sydney. In the late 1800s, the State Parliament granted Sulman permission to design a tube railway to link the city with Milsons Point.²⁰ Sulman also devised a grandiose classical design for Belmore

13 Bradfield completed his post-secondary education in Sydney, twice earning the University Gold Medal for his outstanding work.

14 J.J.C. Bradfield, "Sydney's Underground Railway and Harbour Bridge" (lecture, Sydney University Undergraduates Association, Union Hall, May 21, 1924), 1.

15 Sir John Sulman, *An Introduction to the Study of Town Planning in Australia* (Sydney: William Applegate Gullick, 1921).

16 His inspirations were more varied than merely European, referencing design in Buenos Aires in a proposal to widen Williams and Elizabeth streets. Richard Raxworthy, *The Unreasonable Man: The Life and Works of J.J.C. Bradfield* (Sydney: Hale & Iremonger, 1989), 59.

17 Haussmann's destruction of old Paris is a fitting comparison, with Sulman advocating for demolition of Hyde Park Barracks, Darlinghurst Gaol, Victoria Barracks, and Sydney Hospital—today all valued historic buildings. Richard E. Apperly and Peter Reynolds, "Sulman, Sir John (1849-1934)," *Australian Dictionary of Biography*, accessed January 24, 2019, <http://adb.anu.edu.au/biography/sulman-sir-john-8714>. Reference to Howard is found in Sulman, *Town Planning in Australia*, 37.

18 Worth noting, the two men did have a brief falling out stemming from the design of the City Railway. When Parliament adopted Bradfield's plan, the relationship between the two men seemed to heal. Raxworthy, *Unreasonable Man*, 68.

19 *Official Volume of Proceedings of the First Australian Town Planning and Housing Conference and Exhibition* (Adelaide, October 1917).

20 Apperly and Reynolds, "Sulman."



Figure 2. Sulman's proposal for Belmore Park, with the porte cochère of Central Station at left. Courtesy of F981.1/N, FL457847, Special Collections, State Library of New South Wales.

Park in front of Central Station, involving circular stacked roadways masked by classical colonnades and surrounded by four-storey stone edifices ornamented heavily in styling befitting his “civic aesthetic,” all fronting a well landscaped park boasting an equine statue at its centre in the finest Beaux Arts tradition (fig. 2).²¹ Neither of these proposals came to fruition, but Bradfield’s work in the subsequent decades would build off his mentor’s unrealised plans.

²¹ Sulman, *Town Planning in Australia*, 151.

Such ingrained interest in aesthetics and planning, while unusual for an engineer tasked with a massive infrastructural undertaking of an underground railway and soaring bridge, no doubt was manifest in the realised form of the City Railway. Bradfield, intrigued by the classical aesthetics of the Beaux Arts and a proponent of planning in the City Beautiful pedagogy—which can be traced to Sulman’s influence—would go on to apply the concepts in practice in the subsequent years.

Urban Aesthetics Abroad

Filled with the aesthetic and planning sensibilities of Sulman, Bradfield spent much of his first decade of work with the State in the railway and tramway division, where he was responsible for the design of two dozen never-realised tramway extensions. While the tedious experience left him with little chance to expend his aesthetic creativity, his diligence paid off with appointment as Chief Engineer for the Metropolitan Railway Construction in 1912.²² Tasked by the Minister of Railways to seek out information related to the construction of rail transport in major urban areas, Bradfield was sent abroad in 1914.²³ His six-month itinerary included Chicago, New York, Boston, Philadelphia, London, Paris, and Hamburg. The following year,

²² Raxworthy, *Unreasonable Man*, 56, 62.

²³ “R.M.S. Tahiti, for San Francisco,” *The Sydney Morning Herald*, March 21, 1914.

his findings were presented in a report in the State Parliament, with the railway proposal accepted in mid-1915.²⁴

Before Bradfield, proposals had been put forward for deep tube lines like those being constructed in London (Sulman was a proponent of this), sub-surface lines which utilised an invasive “cut-and-cover” method of construction to locate stations immediately below grade, and even at-grade and elevated schemes to traverse the city. Sydneysiders were familiar with the ongoing debate surrounding the technology to be used for the Sydney railway, with articles on the matter being a constant feature in the city’s publications.²⁵ However, the final form of the system was to be based upon Bradfield’s recommendations after visiting many of the systems featured in the newspaper coverage.

The aesthetic impact of the system on the urban realm was of major concern for Bradfield, with this idea manifesting in his recommendations for the City Railway. In Chicago and New York, Bradfield observed elevated rail networks, characterising these purely infrastructural interventions as a “disappointment” and an “eyesore,” rendering the streets below “gloomy” (fig. 3).²⁶ This experience, coupled with his understanding of technological requirements for deep tube excavation which he observed in London, resulted in his recommendation for Sydney’s City Railway: four sub-surface stations, along with two elevated stations at Circular Quay and Central.²⁷

Based upon his findings, Bradfield vowed “there will be no unsightly overhead steel structures as in New York and Chicago. Where above ground, the railway will be constructed of concrete arches masonry faced ... [and] will be a beautification, not an uglification of the city.”²⁸ Thus, the grand sandstone viaduct fronting Elizabeth Street and Belmore Park came to be—at no small cost. Even with the stone veneer, Bradfield endeavoured

24 J.J.C. Bradfield, *Report on the Proposed Electric Railways for the City of Sydney* (Sydney: William Applegate Gullick, 1916).

25 National Library records indicate there were more than 100,000 articles relating to the keywords “Sydney underground railway” published in Australia between the opening of the London Underground (noted as “a most complete success” in the *Sydney Morning Herald’s* General Summary from London on March 18, 1863) and Bradfield’s proposal in 1915, highlighting how immersed the people of Australia were in the development of urban rail, the advancement of technologies adopted around the world, and the potential options available for Sydney.

26 J.J.C. Bradfield, “Notes on Existing Lines, Stations, and Passenger Movement in Some of the Principal American Cities” (lecture, Railway Institute, Sydney, May 1, 1917), 7.

27 The decision was not purely aesthetic; topographical conditions, cost considerations, technological limitations, and the selection of a bridge crossing, made the mix of viaducts and sub-surface lines the most appropriate.

28 J.J.C. Bradfield, “The City and Suburban Railways as Outlined for Sydney” (lecture, Sea, Land & Air, December 1, 1921), 13.

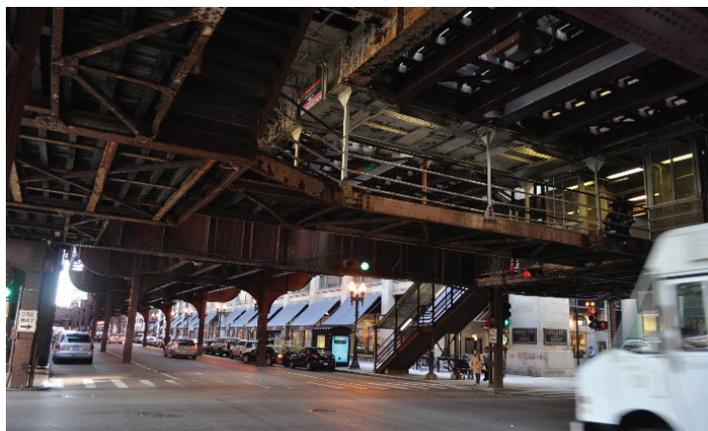


Figure 3. The elevated network of Chicago’s “Loop,” still present today. (Photograph by author, 2013.)

to soften the aesthetic impact of the infrastructure, imploring members of the Institute of Architects to look favourably upon his efforts to beautify the design with a range of native plantings “as a judicious use of Nature’s foliage can be made to screen an Engineer’s shortcomings as well as to enhance any merit there may be in his work.”²⁹

Bradfield’s enchantment with sandstone, however, did not extend to Sydney’s oldest structures. Construction by cut-and-cover was an invasive process, requiring wide-scale resumption, necessitating demolition of some of Sydney’s oldest structures. Bradfield had no qualms about the destruction wrought on the city, sharing the opinion with Sulman that the city’s form was detrimental to long-term potential and “almost as bad as it can be.”³⁰ Further justification framed the project as an opportunity for grand civic expression, with construction of numerous imposing structures, being of course Bradfield’s creations. One, the Commissioners Offices, was to be located above the portals where the railway dives underground (fig. 4). The design was influenced by the City Beautiful movement, with the main entry fronting Goulburn Street set back to provide a great lawn.³¹ The move was heralded by the papers as “a refreshing feature of this part of the city.”³²

Similarly-grand civic gestures were envisioned along viaducts leading to the Harbour Bridge in North Sydney and at Circular Quay—none of which were actually realised.³³ The only surface-level structures to be built in conjunction with the City Railway beyond Central Station were small entry kiosks for Museum and St. James stations. Designed by Charles Coulter, a state government architect,³⁴ though under Bradfield’s supervision, the structures displayed restrained classicism in deference to their surroundings, as Bradfield had observed in New York and Boston.³⁵

29 J.J.C. Bradfield, “Some Notes on the Construction of the City Railway” (lecture, Institute of Architects, Sydney, September 7, 1926), 28.

30 J.J.C. Bradfield, “Notes on the Development of the City of Sydney” (lecture, Town Planning Association, Sydney, May 4, 1921), 2.

31 J.J.C. Bradfield, “The Metropolitan Railways and the Sydney Harbour Bridge” (lecture, Real Estate Institute of N.S.Wales, April 24, 1923), 12.

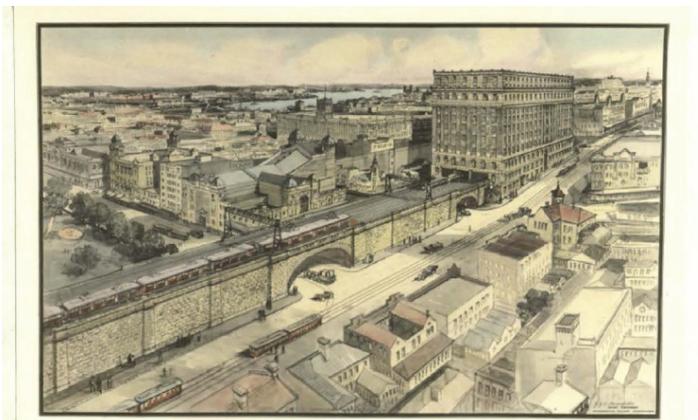
32 “Sydney of the Future,” 16.

33 J.J.C. Bradfield, “The Sydney Harbour Bridge,” *Architecture: Journal of Proceedings of the Institute of Architects of New South Wales* 10, no. 4 (October 1921), 99-102.

34 NSW Government Architect George McRae also contributed to St. James Station, though the extent of his influence on the formal appearance of the station is unclear. The restrained classicism lacks the exuberance of his noteworthy Queen Victoria Building.

35 J.J.C. Bradfield, “The Trend of Modern Railway Development in Thickly Populated Cities” (lecture, Sydney University, July 27, 1917), 21.

Figure 4. Bradfield’s classical proposal for the Commissioners Offices, reproduced from Bradfield “The City and Suburban Electric Railways and The Sydney Harbour Bridge,” 42. Courtesy of Rare Books and Special Collections, University of Sydney Library.



Beyond improving the aesthetics of the city, Bradfield saw the demolition of swaths of some of the oldest residential neighbourhoods in Sydney and North Sydney for the Harbour Bridge approaches as socially beneficial. Coupled with his sense of civic duty to enhance the city's appearance, Bradfield justified the clearance of the "slums" with the benefit of the railway as a social boon for the impoverished who lived in the heart of Sydney. Drawing on models of the garden suburb, displaced urban dwellers would be moved out of the city, allowing the city to take on a more modern appearance and affording citizens access to nature and fresh air, aligning with the models of urban planning Bradfield saw emerging on his trips abroad.³⁶

36 Bradfield, "The Sydney Harbour Bridge," *Architecture*, 101.

His dedication to the creation of new, beautiful buildings and public spaces led him to declare "the aesthetic treatment of all above-ground portions of the City Railway has been carefully considered... [and] the various structures will be in architectural harmony with their surroundings, and all surplus lands will be made into street gardens, or miniature parks."³⁷ Clearly, greenspace had a place in both the garden suburbs and the city. Bradfield's vision stopped at nothing short of solidifying Sydney's role as "the Pearl of the Pacific – the City which appears destined to be the Queen of the Empire"—and his legacy as the mastermind behind *solving* Sydney's transport woes.³⁸

37 J.J.C. Bradfield, "The Transit Problems of Greater Sydney" (lecture, Australian Town Planning Exhibition, Art Gallery, Education Building, Bridge Street Sydney, December 19, 1917), 25.

38 In the same address in London, Bradfield's lack of humility was on full display. He said, "I hope to write history in inefaceable characters of steel and stone." J.J.C. Bradfield, "Sydney: Past, Present and Future" (lecture, Town Planning Institute, London, 1922), 33.

Functionality, Amenity, and Nostalgia

While the emphasis of Bradfield's journeys was to examine technical aspects of railways, he noted that despite modern trappings of power, signalling, and equipment, the systems he encountered were only as successful as their means to handle patronage by design. He wrote, "the railway may not be working to its maximum capacity on account of inadequate access for passengers from streets to platforms, and *vice versa*, and inadequate provision for loading and unloading the trains."³⁹ This observation resonated in Sydney, with the two terminals—Central in the south and Milsons Point in the north—representing pinch-points in peak hour as passengers transferred between modes or continued their journeys on foot.⁴⁰ Easing access between the city and the growing suburbs, with open fields and fresh air played into his Garden City ideals—Bradfield lamented the plight of the urban youth, "forced unfortunately to exist in the closely packed slum areas of the city ... cut off from most of these joys [gardening, fresh air, and sunlight]."⁴¹

39 J.J.C. Bradfield, *Report on the Proposed Electric Railways for the City of Sydney* (Sydney: William Applegate Gullick, 1916), 11.

40 Bradfield, "The City and Suburban Electric Railways," 1.

41 Bradfield, "The Trend of Modern Railway Development in Thickly Populated Cities," 42. During an address as president of the Sydney University Engineering Society, Bradfield extolled the virtues of the town planning movement in Australia; among them, the creation of garden cities. J.J.C. Bradfield, "Sydney University Engineering Society, Presidential Address" (lecture, Sydney University Engineering Society, May 19, 1920), 34-35.

With a population of just over 800,000 in 1916, the metropolitan area was dwarfed by many of the cities Bradfield visited.⁴² However, the difference of scale did not stop him from comparing the formal urban arrangement, and natural restrictions on development, with the likes of New York and Chicago.⁴³ Bradfield also understood that while the population of Sydney was limited, future growth was inevitable—he estimated that the population of Sydney in 1950 would be nearly three million people—and he designed the rail network with the growth in mind.⁴⁴ With an aim of future-proofing the system, and using his knowledge of how cities like New York and Chicago designed their stations to cope with high volumes, Bradfield took cues from what he observed. At Central, St. James, and Museum stations, Bradfield employed sloped corridors rather than stairs where possible to expedite the movement of people, thus giving shape to the stations under Hyde Park.⁴⁵

Another major element of vertical transport in stations—directly impacting the interface of stations with the public domain—which would become a defining characteristic at Wynyard and Town Hall stations was the incorporation of escalators. Bradfield had marvelled at escalators on his journey and in more than two dozen of his lectures following his trip abroad, he espoused the efficiency of “moving stairs,” which he had to explain to his audiences unfamiliar with the technology.⁴⁶ The use of escalators was unprecedented in Australia and was inspired by examples he saw in New York and at Oxford Circus Station in London.⁴⁷ Bradfield noted patrons much preferred the modern escalators over the “old time” stairs.⁴⁸

To accommodate passenger volumes at the largest—and deepest—stations, Bradfield specified escalators for Wynyard and Town Hall stations. Finished in dark varnished Queensland maple casements with kauri pine treads, the “architectural machines” contributed to the warm aesthetic of the stations.⁴⁹ When the escalators were replaced in the 1950s, the Department of Railways New South Wales (the agency administering the state’s railway network at the time) eschewed modern aluminium models (simultaneously being installed at the Inter-War Functionalist Circular Quay Station), instead maintaining wooden treaded escalators—a translation through time of Bradfield’s initial design response which would cement their importance in the eyes of the commuting public. While the 1980s saw removal of wooden escalators in transport systems around the world, Sydneysiders continued to enjoy this link to the past, even as renovations radically reconfigured and restyled

42 J.J.C. Bradfield, “The Transit Problems of Greater Sydney,” in *Official Volume of Proceedings of the First Australian Town Planning and Housing Conference and Exhibition* (Adelaide, October 1917), 68.

43 J.J.C. Bradfield, “Great National Works. Sydney’s Metropolitan Railways and the Harbour Bridge” (lecture, Business Men’s League, Sydney, November 16, 1922).

44 Bradfield’s estimates proved to be grossly over-optimistic—the population in 1950 was just shy of 1.7 million. It would not reach the three million mark until after 1975. Bradfield, “The Transit Problems of Greater Sydney,” 68.

45 That is, St. James and Museum stations. Bradfield, “Great National Works. Sydney’s Metropolitan Railways and the Harbour Bridge,” 10.

46 While seemingly banal today, owing to their ubiquity, escalators were a technological marvel at the time, allowing the railway to meet passenger demands. Australia’s first escalator was unveiled at Mark Foy’s Department store in Sydney in 1909 but was soon removed due to unreliability: “Mark Foy’s New Premises,” *The Sydney Morning Herald*, September 15, 1909, 29; Mark Dunn, *Escalation Sensation: Wooden Escalators at Wynyard and Town Hall Railway Stations* (Sydney: Transport for NSW, March 2017), 14.

47 Bradfield, “The Transit Problems of Greater Sydney,” lecture, 17.

48 Bradfield, “The Trend of Modern Railway Development in Thickly Populated Cities,” 22.

49 Sydney Trains, “Escalation Sensation,” 22–24.



Figure 5. Wynyard's wooden escalators, reimagined today as art. (Artwork installation by Chris Fox, Interloop, (2017). Photograph by author, 2019.)

the station itself.⁵⁰ The technology, manifest in the aesthetics of the engineered object, was so entrenched in the identity of Wynyard, that when the wooden escalators were finally replaced with modern aluminium models in 2017, the old escalators were transformed into art, translating the functional heritage of 85 years, bridging not only culture, but time (fig. 5).⁵¹

Another aspect of circulation that Bradfield noted from London—and emulated in Sydney—was the use of segregated corridors for station ingress and egress, expediting passage for patrons by minimising collision points.⁵² While the segregated portals are no longer used as intended, signage in Museum Station hints at the former arrangement which moved passengers from platform to public domain for years after opening.

To ease the passenger journey further, Bradfield devised that the interior of stations would be utilitarian in aesthetic, in deference to their purpose, but still present classical flourishes and materials aimed at passenger convenience and comfort. Station walls were uniformly finished with cream tiles which were durable and easy to clean, capped in distinctive coloured tiles, with each station bearing a different colour to permit instant identification of a destination while onboard an arriving train.⁵³ The colours were also applied to roundel signage—co-opted from the London Underground—which visually united the underground network with its big brother in the motherland and created a tangible parallel to a system Sydneysiders had grown to admire, and aspired to emulate, through the years of media coverage (fig. 6).⁵⁴

50 Precipitated by a deadly fire at Kings Cross in London.

51 Sydney Trains, “Escalation Sensation,” 44–51.

52 J.J.C. Bradfield, “The City and Suburban Electric Railways,” 14.

53 Removed during unsympathetic renovations throughout the years, these motifs have been reinstalled in the stations with recent renovations—red at Museum, green at St. James, blue at Wynyard, and yellow at Town Hall.

54 Sydney's system was far from the only, or first, system to utilise the roundel (without permission, no less). The iconic symbol adopted by the amalgamated transport companies in London around the turn of the 20th century can be found around the world. See Christian Wolmar, *The Subterranean Railway* (London: Atlantic Books, 2005) and David Lawrence, *A logo for London: The London Transport Bar and Circle* (London: Laurence King Publishing, 2013).



Figure 6. Museum Station retains much of its original design including the coloured tile banding, London's co-opted roundel, and dedicated exit signage. (Photograph by author, 2019.)

Full Circle

Bradfield's City Railway is a tangible manifestation of a period in Sydney's designed history defined by importation of international understanding about urban form and transportation's role in shaping the city. Ideas of style and functionality from Europe and the United States, coupled with ideas on aesthetics gleaned from Sulman's teachings on the Beaux Arts and town planning, shaped the system and in turn the city, giving Sydney greenspace and classical edifices scattered through the CBD. Bradfield's borrowing of technological innovation, especially from London and New York, yielded station configurations which have served ever-expanding patronage for nine decades and are ingrained in the movement of countless commuters daily.

The confluence of extensive media coverage of transport solutions globally and the growing aspirations of Sydney as a contender among the cities of the world, led to the unprecedented investment and acceptance of large-scale city interruption for more than a decade in order to create Australia's first urban underground railway. While the construction of the system was a burden on the city, the ultimate result of its development was the solidified supremacy of Sydney on the continent for nearly a century. The lessons of vision and tenacity, driven by the desire to interweave transport into the urban realm, are telling of the impact of distant precedents and the timelessness of Bradfield's solutions.

The City Railway introduced Sydneysiders to a form of transport they had read about for decades in newspaper accounts from abroad, the physical realisation of ideas transmitted to

Australians across distance through media accounts both before and during Bradfield's exploratory sojourns. The stations, a fusion of utility and restrained aesthetic classicism, captivated Sydneysiders upon their opening, and today allow Sydneysiders to look back across time and distance with a journey of just eight kilometres.