



## An Academic Approach for the Rail Corridor

# Ideas for a National Mall in Singapore

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Images by NUS MLA Studio  
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### Potentiality

Stretching from the far north to the deep south of the island, the lands occupied by the former Keretapi Tanah Melayu (KTM) railway in Singapore form a virtually uninterrupted strip of 26 kilometres that offers immense potential as a connective element in the urban fabric, both for flora and fauna as well as local communities. It is distinguished by its island-spanning scale, geographic centrality, and variegated secondary growth along its edges that separate the route from the surrounding city, creating the effect of being in another time and place, as many visitors have characterised the experience (Strand 2014). The poetic contrast between the bucolic landscape offered by the route and the highly urbanised context it is nested in has led many to demand its conservation, to serve as a green balm for the city's ills and to preserve a fragment of Singapore's history.

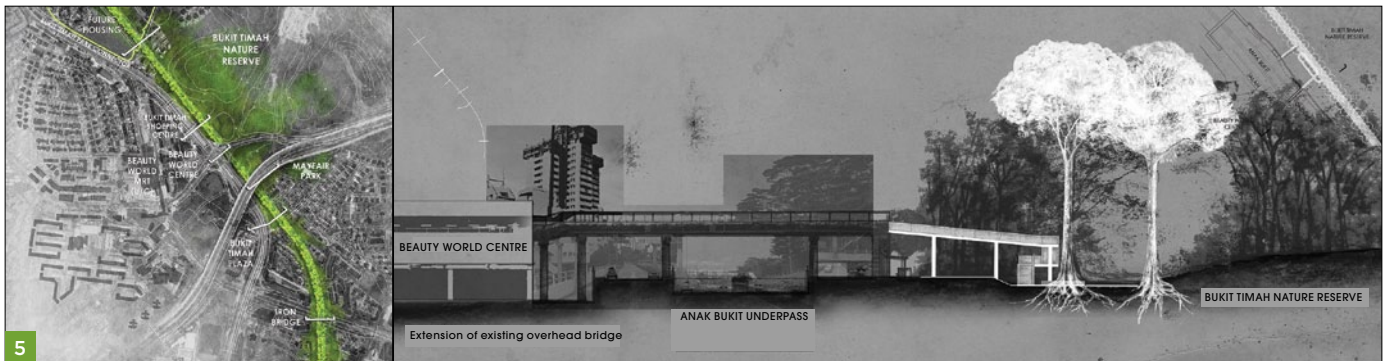
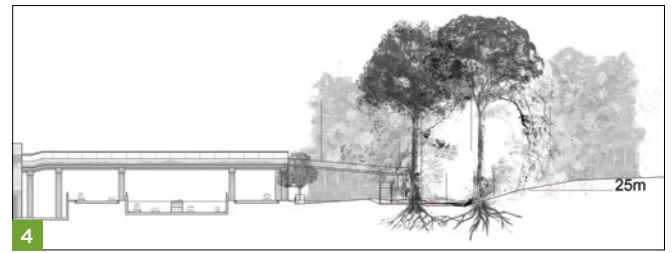
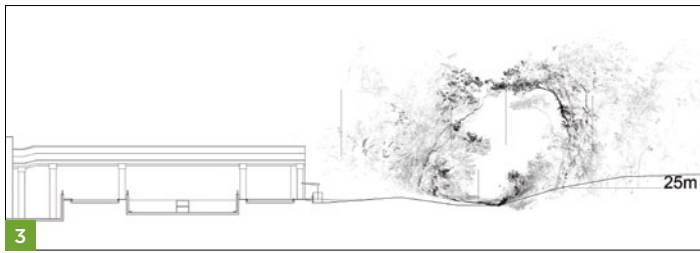
In land-scarce Singapore, the rhetoric of pragmatism serves as strong justification for development over arguments driven by nostalgia. Yet, in a much celebrated triumph for civil groups and local communities, a decision has been made to develop the rail corridor into a “community space” and an “ecological corridor”, according to the recently released competition brief by the Urban Redevelopment Authority (URA) that invited concept plan proposals for the route. As of May 2015, five teams of local and international designers have been shortlisted by URA to proceed to the second stage of the competition.

The academic project presented here was initiated in August 2014, during an extended lull in public discussions on the railway lands, following the collective excitement of 2011 and 2012, when the formerly “forbidden land” had been made accessible to the public. Completed by 12 second-year students in the Master of Landscape Architecture (MLA) programme at the National University of Singapore (NUS) during a studio over a semester, this project aimed to revive interest in the outcome of the railway lands and take public discourse to more ambitious levels.<sup>1</sup>

### Academic Approach

In 2012, an NUS MLA team won the first prize for its submission “The Singapore Trail” in URA's Ideas Competition for the Rail Corridor, “Journey of Possibilities”. This second iteration seeks to further push the boundaries of the ideas generated, and the project brief begins with a deliberate act of renaming. Commonly associated words such as “green corridor” or “rail corridor” are descriptive of the site's existing qualities. However—consciously or not—these semantic associations impose limitations on the design vision by projecting something pleasant but rather disconnected and almost passive. Intimate and idyllic, the experience of a ramble through the existing path makes it easy to lose sight of the national scale and strategic position of the railway lands. The project proposed looks beyond the immediate context of the site and considers it in relation to Singapore as a nation. Its vision: a bold masterstroke for a new piece of civic infrastructure that serves as a biodiversity icon and connective element, inducing new social, economic, and political relations in the “City in a Garden”. The project title: The National Mall, Singapore.

In Singapore's context, the term “mall” can be easily misconstrued for the air-conditioned shopping destinations that continue to proliferate on the island. The project title refers not to these retail complexes, but to “a tree-lined, shady, public promenade”, the word's urbanistic and landscape architectural origin. This title revalues and enlarges the project, by alluding to the National Mall in Washington D.C. While countless other design projects have converted former railway grounds and infrastructure into charming parks and green spaces, with oft-cited examples including the High Line in New York and Promenade Plantée in Paris, the unique context of Singapore as a city-state and the extraordinary scale and position of the KTM railway lands call for a different, genuinely lion-hearted approach.



Three key design layers that the project needs to successfully address were identified. The National Mall is conceived (1) as public infrastructure, (2) as a biodiversity icon, and (3) as civic and community space.

**1 As public infrastructure**

Historically a crucial infrastructural link to Malaysia, by serving as an important link for people and goods moving between the two territories, the significance of the former KTM railway had diminished over time as automobiles and airliners became the dominant modes of transport, leading inexorably to its retirement. The residual linear space, efficient and uninterrupted, presents ripe opportunities for the implementation of other forms of infrastructure. This design layer respects the spirit and history of the former railway, taking advantage of its economical form and strategic location to implement highly attractive and functional cyclist and pedestrian infrastructure. This provides an environmentally sound transportation option for commuters in the city.

**2 As biodiversity icon**

Presently, the lands are deeply associated with greenery and biodiversity in the public imagination. When news of the handover was released, the Nature Society Singapore proposed the creation of a Green Corridor along these lands to serve as both a park connector and an ecological link, an idea that remains highly popular with the public. In URA's Ideas Competition, a design concept that returned the lands to primeval jungle with a "Tigers Garden" took one of the top prizes. As one of the most arresting features of the site, the lush greenery is highly valued by visitors and residents alike, and

it possesses great potential for creating important ecological links between several fragmented green patches in the city. With this in mind, it is proposed that the National Mall will also serve as an ecological infrastructure and be developed as a biodiversity icon running through the metropolis, in alignment with the vision of Singapore as a City in a Garden.

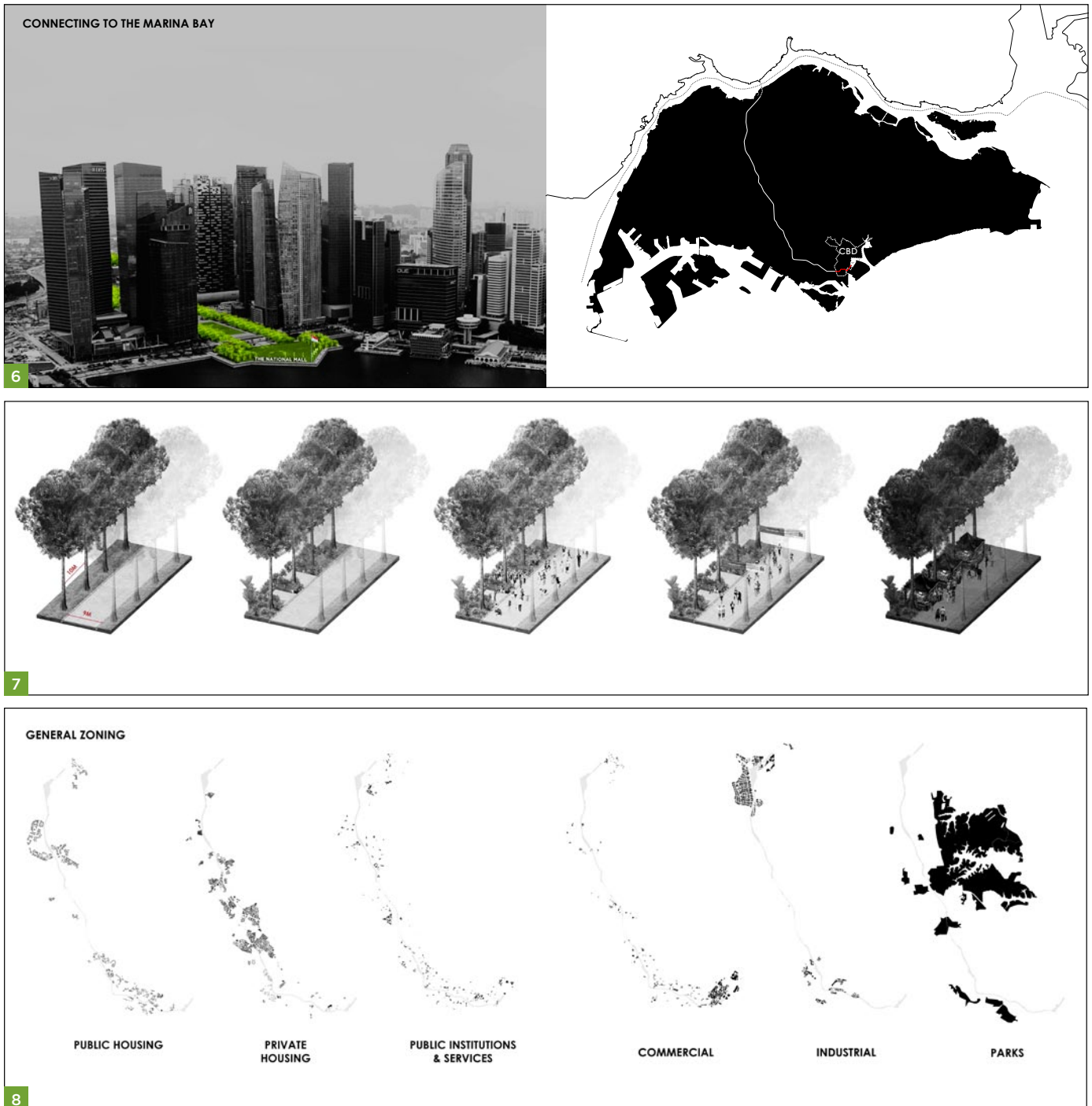
**3 As civic and community space**

The third design layer proposed arises from an analysis of the opportunities that the site presents for addressing certain sociological and urbanistic issues in Singapore. The presence of civic and community spaces, autonomous from political and commercial interests, has long been recognised as critical to the social and cultural vitality of cities globally. With an increasingly diverse population brought about by globalisation and a relatively relaxed open-door policy, the availability of inclusive urban spaces where people, regardless of their race, class, or nationality, are able to meet and associate as equals becomes ever more important for what Lofland (1998) terms the "learning of cosmopolitanism". Though it is presently rather difficult to associate the typical images of a civic space with the railway lands, the amount of interface and friction that the site shares with the city, owing to its form and location, presents tremendous prospects for creating a meaningful stage for public life in Singapore.

**Fieldwork**

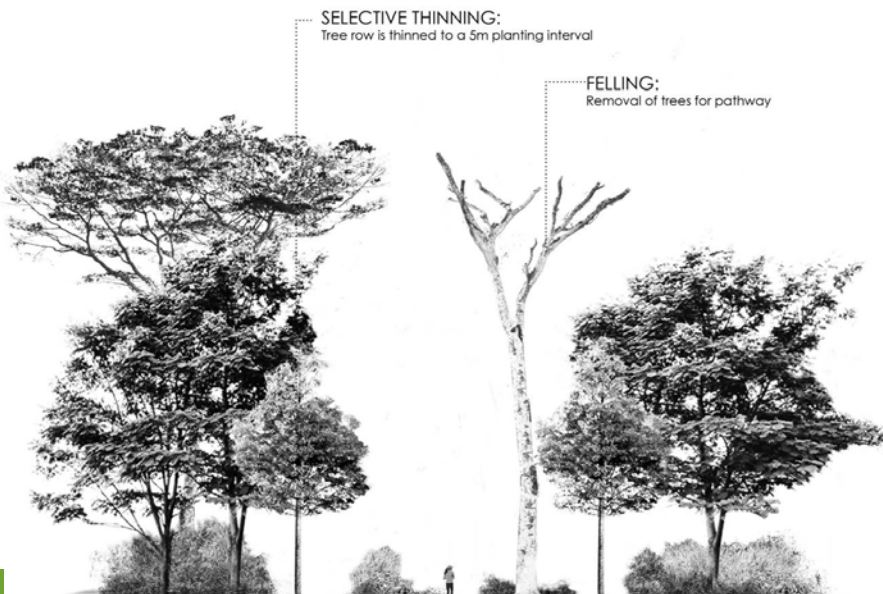
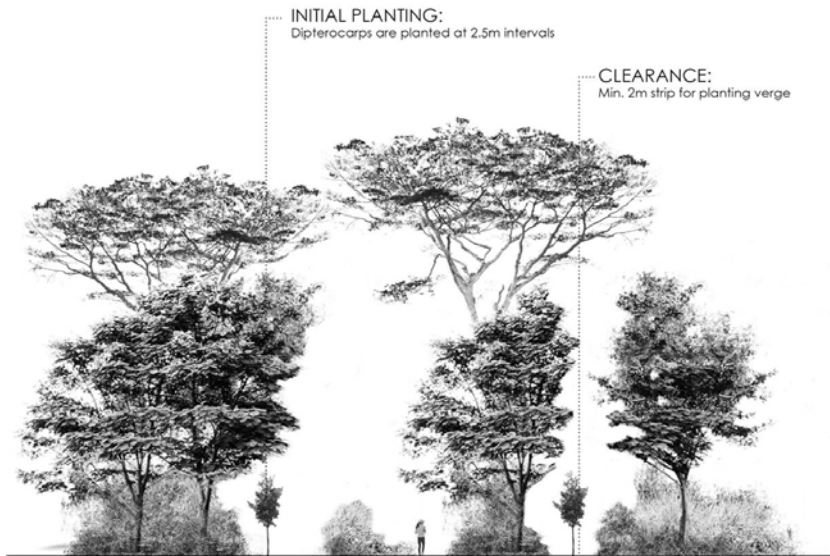
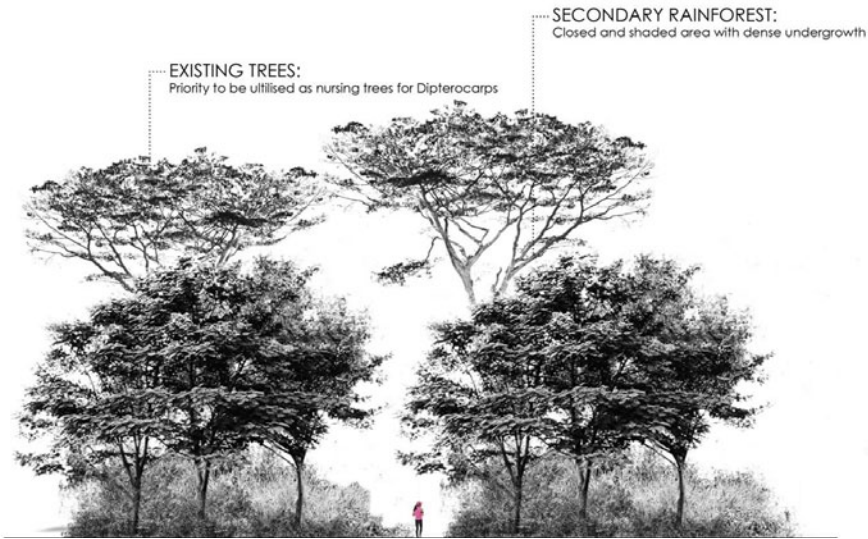
The studio commenced with two weeks of intensive fieldwork, which aimed to provide a detailed and accurate documentation of the site that would later inform the design and representation. Owing to the sheer scale of the landscape that had to be

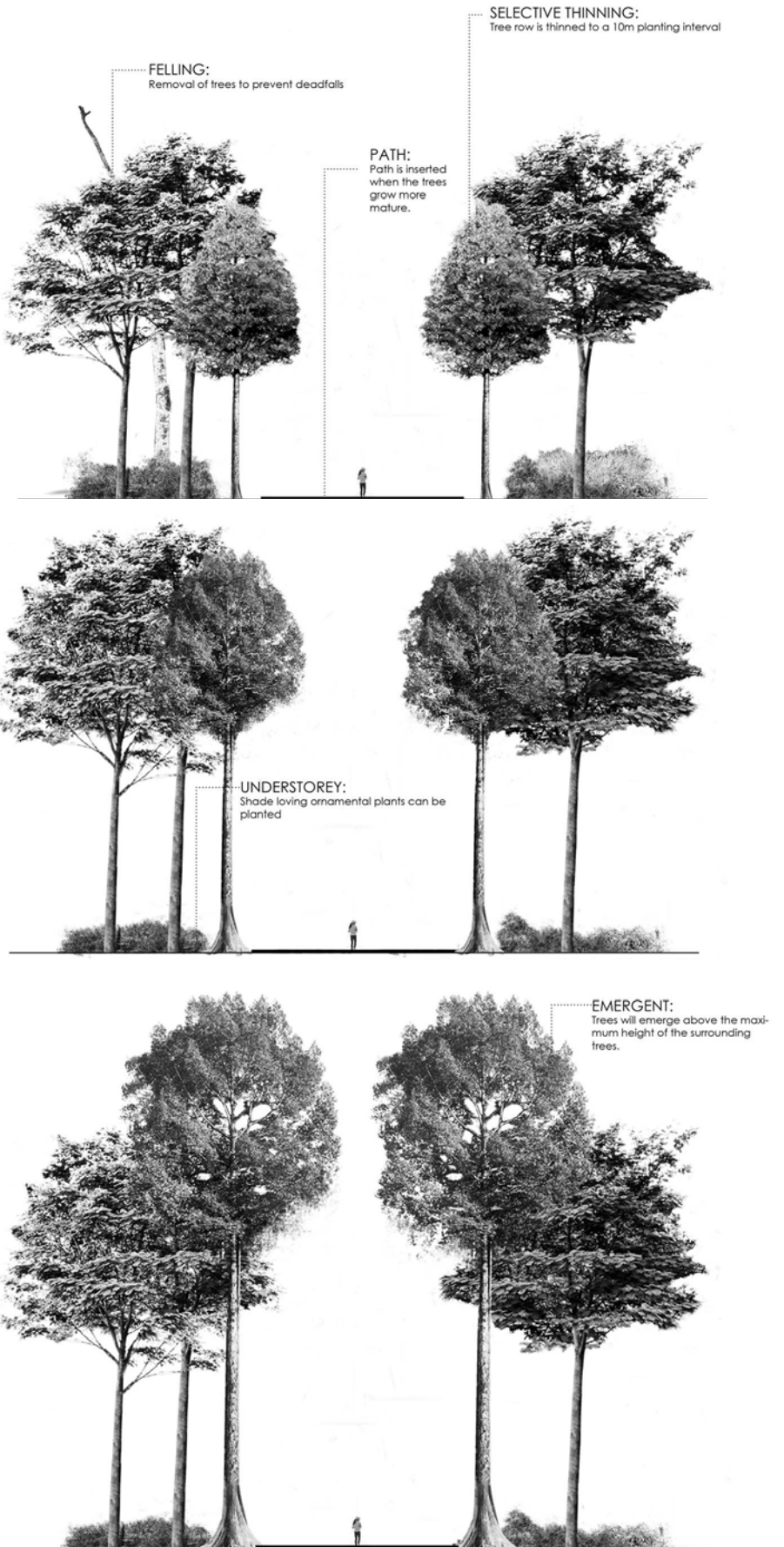




1. A bold initial vision was proposed to turn the project into something more than a very long park connector.
2. The project's emblem shows the central location of the railway line and its nationwide dimension (Image: Feng Yuanqiu).
3. A black-and-white point cloud section from a terrestrial scan placed in a schematic section drawing of the site.
4. Insertion of projected dipterocarp species in the form of drawings and of contextual information in form of photography.

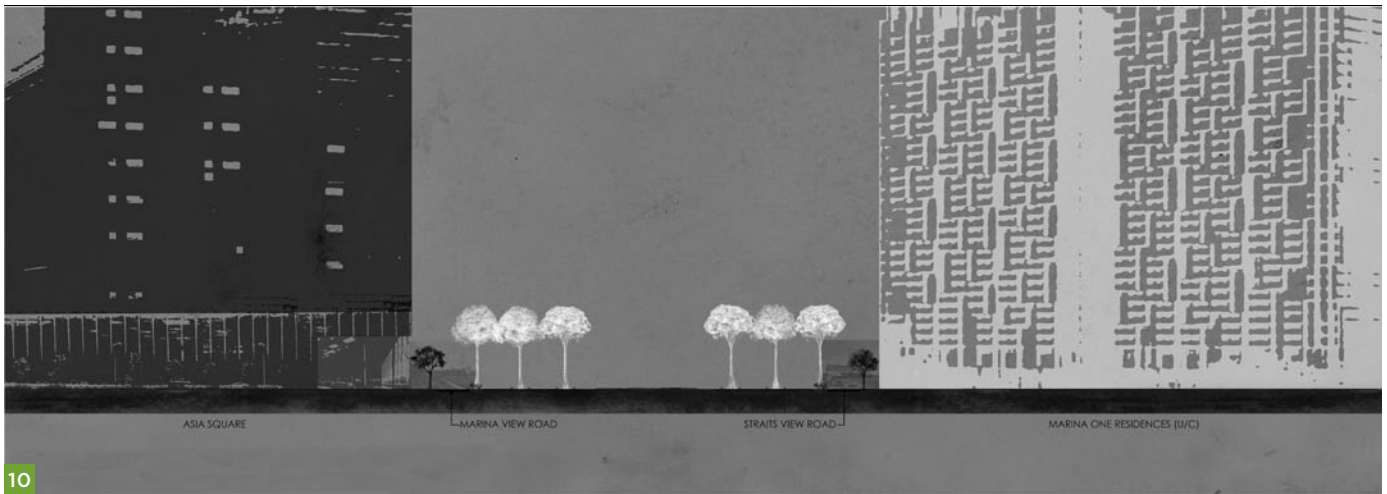
5. Example of a final cross section with an artistic charcoal finish applied in reference to plan.
6. Aerial perspective of National Mall extending to the Promontory.
7. Changing activities and scenarios that can be accommodated.
8. Land uses within one kilometre from the railway lands.





9. Proposed succession planting strategy.





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documented, the approaches taken were experimental, as the studio sought to pioneer effective ways to document the full 26 kilometres within the timeframe. The maxim was to capture all design information deemed necessary in situ, operating on foot and carrying all applied equipment during fieldwork (Rekittke et al., 2015). Each of the 12 students had been equipped with a backpack, which contained a GoPro action camera set inclusive of accessories. Two students operated a terrestrial laser scanner and a handheld global navigation satellite system for the geo-referencing of the scanned data. The aim of the fieldwork mission was the systematic visual collection of the diverse characteristics of tropical vegetation along both sides of the railway track. Recognising that this vegetated buffer makes the project site unique and generates a calming, almost surreal landscape experience, the studio group was challenged to integrate the abundance and complexity of the existent vegetation structure into the design outcome. For this purpose, the site was recorded via a complete photographic shooting of the entire trail from a stroller's perspective as well as a representative terrain scan of 2.5 kilometres of the trail. A complete terrain scan would have demanded too much time.

### Design Work

The project area was portioned into 48 cross sections, inviting the viewer to stride the entire distance of the project. While the studio focused on the trail as the core element of the National Mall, all relevant details of the surroundings on both sides of the trail were included into the sections. They show future projects according to the current URA Master Plan (URA 2014), as well as the most relevant existent land use elements like residential, public, and commercial buildings and facilities, viaducts,

flyovers, overhead bridges, existent park connectors, and so on. At the beginning of the cross-sectional work, the students curiously used everything but the original field material. A breakthrough came when the group, which had carried out the terrain scan, was virtually forced into the utilisation of the gathered data. When a black-and-white point cloud section—a kind of perspective package made of series-connected cross-sectional slices of the terrain scan—was placed in a schematic section drawing of the site, suddenly the creative and aesthetic potential of the fieldwork material emerged (See Fig. 3 to 5). The beautiful contrast of the organic landscape scan with the straight-lined architectural environment is regarded as much more than an aesthetic effect (Rekittke et al., 2015). The richness and complexity of the existing vegetation layer—a narrow but unbuilt stretch of beautifully vegetated land in the otherwise rather bleak city context—is appreciated as a main argument for the proposed National Mall. In order to transform the railway lands into the proposed National Mall, a series of key design studies and interventions were made.

### Connecting to Marina Bay

The strong linearity of the site places emphasis on the potential nodes that it can connect. The design process began by reconsidering the terminus of the line, which is currently at Tanjong Pagar Railway Station. While the station is an outstanding work of architecture of significant historical value, a more strategic terminal for the National Mall is proposed at the Promontory, overlooking the Marina Bay. The first design act thus extends the line to connect to the heart of Singapore's Central Business District (CBD) (See Fig. 6). To accomplish this, the pedestrianisation of certain smaller roads and



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10. Major connection to the Promontory. Formal landscape is adopted at the Marina Bay terminus of the National Mall, presently the Promontory.

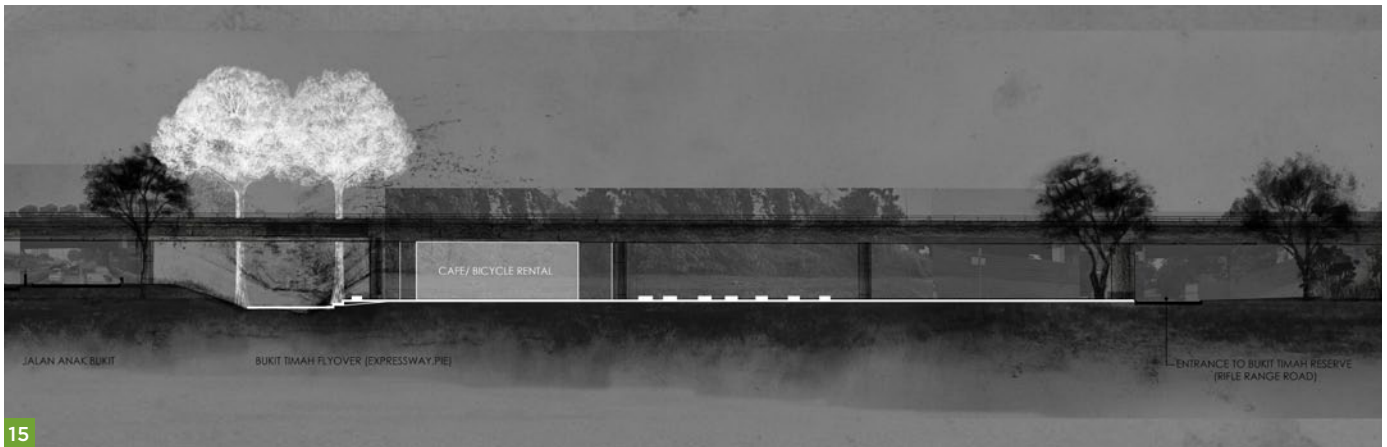
11. Merging space with Commonwealth Park that serves the residents of Clementi nearby. The ex-railway lands are opened up as a public space. The green curtain between those living in the public housing estates and those living in the Black and White bungalows is lifted, and residents are offered the opportunity to interact.

12. Visualisation of a pasar malam ("night market") scene at the National Mall.

13. Access along Holland Road with a rest shelter under the bridge. The National Mall runs through the present backyard of many residential estates.

14. Visualisation of an everyday scene at the National Mall featuring cyclists, joggers, pedestrians, and hawkers.





bringing other sections of roads underground are proposed. Such a move lends enormous symbolic power to the line, by connecting the CBD in the south with residential areas in the middle and the industrial zone at the north of the island. A direct infrastructural connection to the business core of the city can then be established, making cycling to work a truly viable option for commuters.

#### Creating a shady promenade

The success of the project as a public gathering space and popular cycling route would also depend on the comfort and pleasure that it is able to offer. Early on in the project, the studio had made it a priority to create shade by planting trees along the path after experiencing the heat of the currently highly exposed route. Careful studies of tree forms and canopies were made, and a feasible successional planting strategy (Schulte and Schöne 1996) was proposed to achieve this vision (See Fig. 9). The rows of columnar dipterocarpus trees proposed stand as a formal marker of the space, in stark contrast to wild and luxuriant secondary growth.


#### Determining dimensions

Another key concern was the dimensions of the main path, as it had to be wide enough to accommodate the activities envisioned, without removing too much of the existing greenery. A number of studies on the appropriate path width was done and examined in relation to the space available on site. The studio ultimately settled on a path width of approximately nine metres, narrowing and widening as required at certain areas. Such a width allows the proposed National Mall to function as not only a conveying structure, but also a public space where activities may take place (See Fig. 7).

#### Anticipating activities

As a single connected element passing through an immense variety of urban conditions (See Fig. 8), the proposed National Mall has to serve a variety of purposes and respond

to different site contexts in order to become successful. A total of 48 sections, each representing a unique site context or scenario, were carefully chosen for detailed design work. A few selected design areas in Marina Bay (See Fig. 10), Clementi (See Fig. 11 and 12), Holland Road (See Fig. 13 and 14), Bukit Timah (see Fig. 15 to 18), and the North have been illustrated in the article at hand.

The handover of the railway lands provides an outstanding opportunity for highly meaningful urban and landscape interventions. It is hoped that the ideas and approaches published here further highlight the beauty and unique potential the site offers. 

<sup>1</sup> The project was completed during a NUS MLA Studio tutored by Jörg Rekittke. The studio comprised Goh Weixiang, Feng Yuanqiu, Xu Haohui, Hu Zhijie, Kow Xiao Jun, Loh Peiqi, Xu Lanjun, Wan Jing, Chow Zhaoyu Jaden, Uraivan Songmunstaporn, Zhang Shangyu, and Xu Yan.

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15. Viaduct space as a rest shelter and for community activities with access to Bukit Timah Nature Reserve. The National Mall runs beneath several underpasses, which may be used as rest areas and potential commercial spaces.

16. Visualisation of a rainy day at the National Mall under a flyover. A bike rental station and advertising space is proposed.

17. Connection at an abandoned pedestrian bridge to connect users to a view of the Singapore Quarry. The National Mall connects to various trails in the Central Catchment Nature Reserve.

18. Visualisation of a city marathon, passing by the nature reserves, held at the National Mall.