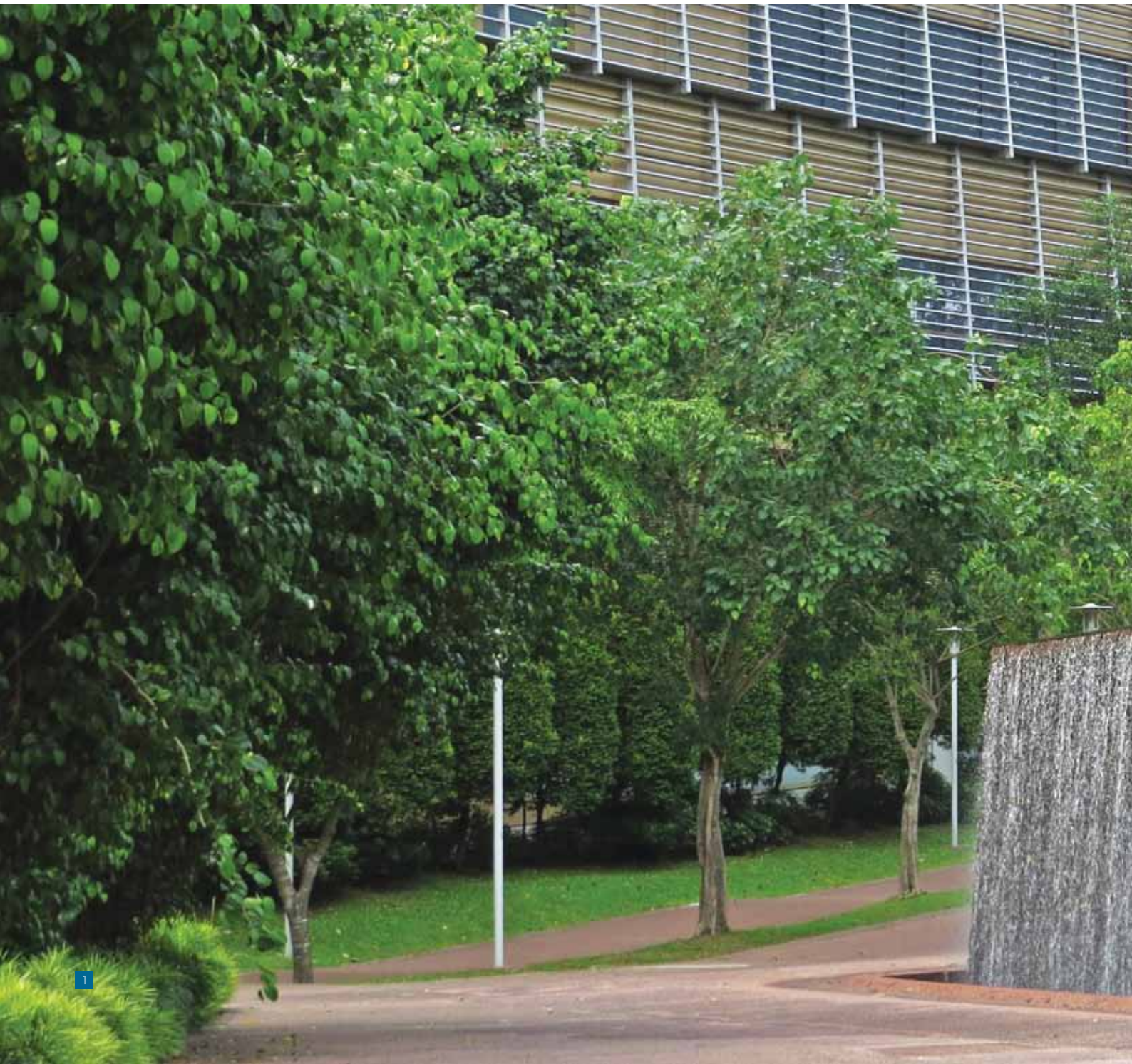


One North Park Phase 1 **EVOLVING A PARK FOR CONNECTIVITY**

Text and images by Henry Steed





PROJECT CREDITS

Location: Between Buona Vista Road and Biopolis, One North, Singapore **Client:** National Parks Board and JTC Corporation
Phase 1 Completion: 2006 **Lead Landscape Architect:** ICN Design International Pte Ltd (formerly Studio Steed Pte Ltd)
Design Landscape Architect: West 8 (The Netherlands) **Civil and Structural Engineer:** CSE Consultants **Mechanical Electrical Engineer:** AUP Consultants Pte Ltd **Quantity Surveyor:** RJ Consultants Pte Ltd **Main and Landscape Contractor:** Toh Kim Bock
Site Area: 16 ha

The most innovative feature in the park master plan is the concept of an “evolutionary park”, whose design is allowed to evolve over time.

Parks, often described as “green lungs”, are designed to provide the city dweller with a place to escape from the hardness of road and building, a place to spend time in fresh air and almost natural surroundings. All over the world, cities have built parks on land that might otherwise be high-value real estate. This economic sacrifice is made because it is clear that parks really do have a beneficial effect on the physical and mental health of the urbanite. Increasingly, everyone is realising that the “green escape” makes us happier and healthier and thus more useful members of the community.

It was with these ideals in mind that a new central park was envisaged for the new district of One North in Singapore. One North stretches from Commonwealth Avenue in the north to the Ayer Rajah Expressway (AYE) in the south. The purpose of creating One North was to turn the sleepy, almost rustic relic of the old army camps there into a vibrant science and technology hub. When fully realised in 2021, One North would become a model technology and business township. This of course would include the new park, which would be integral to the entire development.

The Master Plan

The master plan for the 200-hectare-large One North was done by Zaha Hadid Architects in 2003. Zaha Hadid’s idea was to fold the building masses over the existing hills and valleys as though they were a flexible layer draped over the terrain. The road and pedestrian connections would be sliced through this “mattress” of buildings, connecting each part to the other in a crisscross fashion that the inhabitants of medieval hill-towns would recognise.

Zaha Hadid summed up the concept in the mysterious language of architects: “Realising the avant-garde architect’s dream—of an urban architecture which truly embraces the spatial repertoire and morphology of natural landscape formations—One North takes shape . . . One North generates a strong sense of identity, . . . experienced from the park that stands at the heart of this new quarter. A rich diversity of squares, walkways, thoroughfares, and alleys engender a unique sense of place within the many microenvironments to be

created.”¹ Her message is that traditional forms of urban planning can give way to a more flexible, pliant arrangement that gives creative freedom in both building design and urban landscape.

The master plan greatly stressed the role of a central park, a slender linear strip that passes through the core of One North from north to south. This linear park would be the spine that links all the parts of One North together, but unfortunately it is not continuous. It is divided into 13 segments by roads. Because of the master plan’s unconventional approach to topography, parts of the park would be on steep hills, some with elevations of 20 to 25 metres. Whilst this could provide excellent vantage points, it was not entirely conducive to the easy flow of pedestrian movement and cycle tracks. The outcome was not one park, but many little parks.

This was to be the landscape architect’s challenge.

The Landscape Competition

An international competition was called in 2003 inviting landscape architects to submit designs for the entire central linear park. This would include all 13 segments and the lateral and linear connections to all parts of One North, which are crucial to the master plan’s envisioned “rich diversity of squares, walkways, and thoroughfares”.

Studio Steed Pte Ltd (later to become ICN Design International Pte Ltd in 2004) won the competition and formed a team with West 8 from the Netherlands to design and oversee the construction of One North Park. For Phase 1, the first and largest segment of the park, which covers 3.3 hectares of the total 16 hectares, was completed in 2006.

The Connected Park

ICN Design International’s winning entry for the park focused on the prime element of Zaha Hadid’s plan: connectivity. A park is not just a nice green space to look at. Parks are meant to provide spaces for the healthy recreation of a community and active movement from place to place.



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Despite what the master plan had claimed, any open spaces or long-distance footpaths and cycle tracks were fragmented by the multiple road crossings. This became a key design issue. The landscape plan had to overcome the constant crossing of roads from which the pedestrian routes would suffer. In ICN's landscape plan, design solutions were tailored for each crossing point, including ramps, footbridges, elongated traffic-calming sections, and generous at-grade crossings, with priority given to cyclists and pedestrians.

Lateral connectivity across the park would come from pathways and edge plazas designed to "plug" into the future buildings facing the park, linking building groups on both sides. Important links would connect Biopolis, a key international research and development centre for the biomedical sciences of One North, to the MRT station and bus stops on both sides of the busy North Buona Vista Road. However, to this date, the foot and cycle bridge designed to cross the main road has not been built.

The smallest land parcels in the linear park are little more than pathways and cycle tracks with strips of planting. Others in the central zones are wider and can accommodate recreation, entertainment and outdoor cafes, as well as the path networks.

The Evolutionary Park

The most innovative feature in the park master plan is the concept of an "evolutionary park", whose design is allowed to evolve over time. Clearly the entire park was not going to be built at one time, and many of the land parcels would remain in their existing land-uses for many years. Thus a strategy of "Park Evolution" was formulated by ICN to allow essential parts of the park to be built immediately to realise first a "basic park", complete with final topography, full complement of paths, accesses, future connections, and only a few facilities. Many of the park features would be installed later as One North grows, thus allowing financial commitments to be distributed over time.

Phase 1

Phase 1 is the *bedrock* of the new park, a foundation on which the park would evolve as the population of park-users grows. For example, with no residential areas yet, there were no children using the park when it first opened. So the play spaces were shaped, path network installed, electricity brought in, and shady trees planted, without play equipment. However, once the demand for play areas eventually appears, the space would be ready for their installation quickly with minimal preparation and reduced costs.

Simple facilities were provided in the first phase of the park. Seating areas, a lookout point on the highest hill, pathways and cycle tracks, shelters, and lighting allow people to walk, jog, cycle, and enjoy the space from day one.

In Phase 1, the design focused on transforming the original steep hill into an accessible and attractive green space with easy, comfortable connections to surrounding buildings, public spaces, and transport hubs. The two ornamental features installed in Phase 1 were the cascading water-wall, which is 80 metres long by 4 metres high, and the hilltop lookout point.

Phase 2

At a later date, Phase 2 would be executed. It comprises the additions of park features, artworks, water features, outdoor catering and recreation facilities, fitness installations, spaces for community events, and commercial outlets.

The design team has prepared complete tender documents for the second phase of the Park. Although the full range of facilities was shown on the Phase 1 master plan, the principle of park evolution meant that facilities and features needed later would be accounted for in a separate second phase and budget.

The final iteration of the park will include a long, cascading water feature from the hilltop to North Buona Vista Road, children's playgrounds, cafés added to ready-made decks, fitness circuits, and new elevated boardwalks. The footbridge linking the park across North Buona Vista Road was also to be done at the second stage. To date, sadly, none of Phase 2 and its features has been implemented.

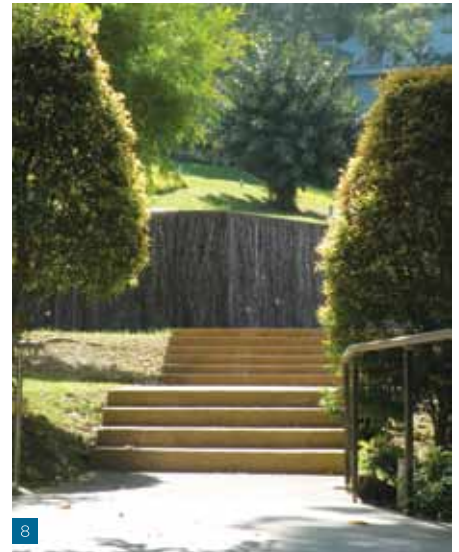
Conservation and Planting Strategy

Zaha Hadid's master plan identified only a small number of existing trees as worthy of retention. This became a planning requirement, which was welcomed by ICN, as so many trees in the mature landscape were being lost to new developments.

Ultimately, ICN conserved a far higher proportion of the magnificent trees in the park zone than those listed. These included the gigantic *Ficus bengalensis* (Bengal Fig) on the highest hilltop, several *Pterocarpus indicus* (Angsana) giants, their younger but large *Ficus religiosa* (Bhodi Tree), and *Syzygium grande* (Sea Jambu). These fine trees now provide welcome shade to the many walkways and seats.



Plans from the original competition showing connections along and across the park and across the dividing roads



1. Each stone in the water-wall's textured surface was bedded in by hand. This "cliff" is integral to the "geology" of the park.

2. The end of this road is the southern tip of One North Park's Phase 1 development. To the right is the unbuilt section that has, since completion of Phase 1 in 2005, remained a wilderness.

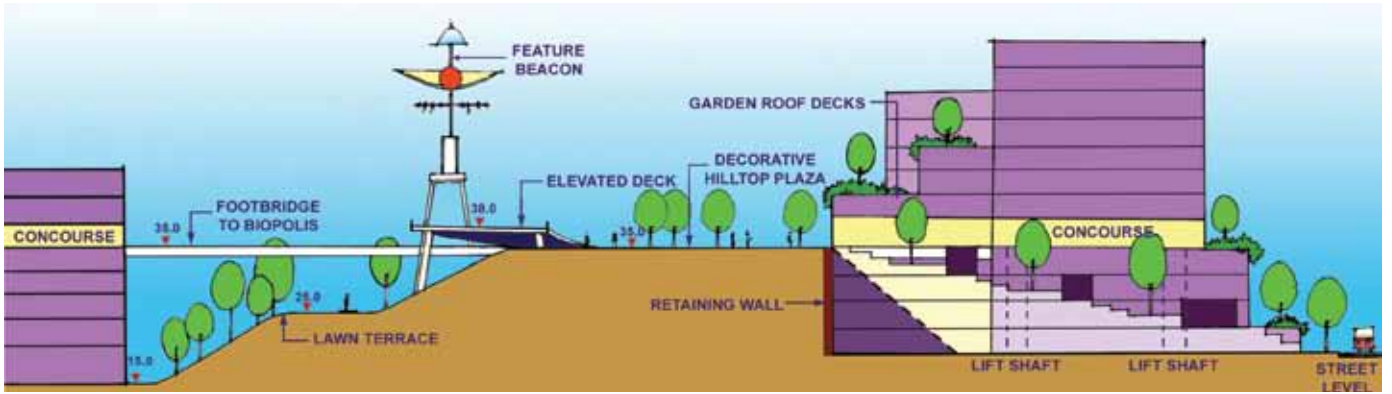
3. The view from the hilltop's lookout point.

5. The pathway winds between groups of conserved trees to the café terrace deck, lookout point, activity lawns, and future children's play park.

6. One of five *Sterculia foetida* trees planted to replace the original giant which fell in a storm during construction works.

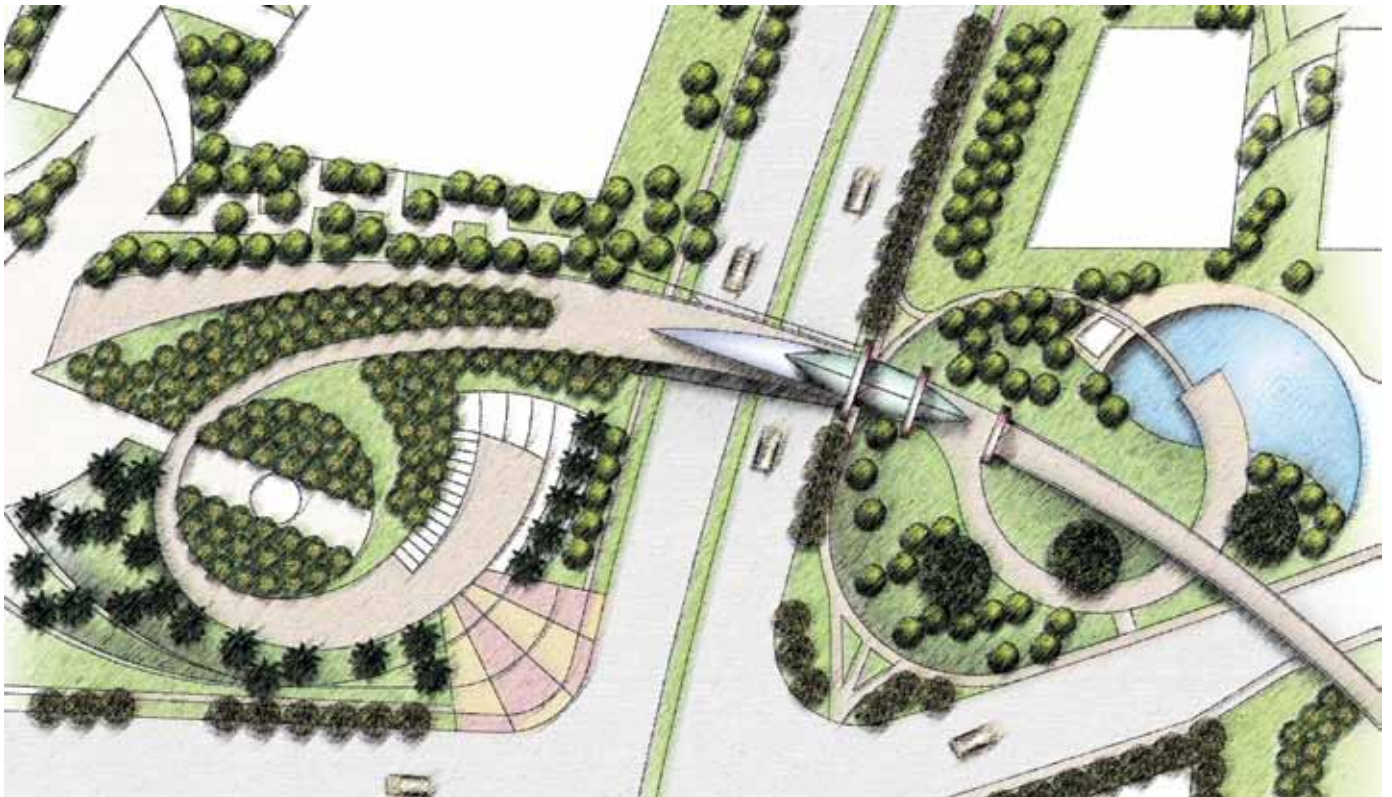
7. After the long climb to the top of the hill, the lookout platform is a welcome rest-point. All paths have alternative steps and ramps for more accessibility.

8. One of the connections to Biopolis, where the afternoon light brings one from a place of work to a place of relaxation.



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Hilltop section with beacon, showing the original concept for making the hilly topography accessible



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A design for the pathway and cycle track crossing North Buona Vista Road that has not been built

Sadly, a major loss was the magnificent buttress-rooted *Sterculia foetida* (Kelumpang). Being perched on the edge of a steep slope, it was blown over in a storm. To compensate for the loss, ICN planted five more Kelumpang trees near the old tree's position, and already they are growing to a significant size. This is the approach to conservation: retain big trees however difficult it is to do so, and if even one is eventually lost, replant more young trees to replace the original.

The planting strategy builds on the framework of conserved trees, especially the Banyans. The theme was to create different "Ficus" experiences along the length of the Park. The magnificent *Ficus* genus would be completely at home at One North Park where there is ample room to grow. Ficus varieties are scattered throughout, in copses, groves, and rows, all steadily growing and casting more shade every year.

Decorative patterns of ground cover with vibrant colours are planted on the slopes facing Biopolis Drive, creating a striking image. Groves of fragrant Frangipani were planted along the cycle track to add colour and a sensory dimension to the park's ambience.

Pathway Design

Walking in fresh air is one of the best forms of exercise, and parks must be great places to walk. Building pathways onto steep hills to allow wheelchair and pram access is, however, never easy. It was important for all to be able to reach the summit of One North Park's hill, some 25 metres above North Buona Vista Road.

An "easy path" from the south was possible, but would inconvenience anyone approaching from the north with a half-kilometre detour. So ramped pathways and staircases were constructed on the steep north side, winding steadily up the hill at comfortable gradients. The pathway and cycle track design focused on amenable gradients, winding between the abundant trees planted everywhere. The reward is the lookout platform located under the giant Bengal fig at the very peak of the hill. Here visitors can rest in the constant breeze, sitting on one of West 8's signature benches.

Beside the new NTU Alumni Club, whose top storey rises much higher than the peak, there is a café terrace deck (with no café yet) and space provided for a large children's play zone. There is also a provision for an escalator to link Biopolis to the hilltop.


Construction Constraints

The park is the primary route for the large-diameter chilled water pipes of One North's district cooling system. However, the park's steep hill is much higher than the pipes to be accommodated, so a massive trench had to be dug along the entire length of the park and then backfilled to fit a new landform. Today, no one would know what feats of coordination allowed such heavy engineering to be made invisible.

Equally complex coordination was the Biopolis basement's construction. Instead of using a diaphragm wall to form its underground structures, the contractors excavated deeply into the base of the park's hill, allowing them to build upwards from the basement level. Ultimately this had to be filled, compacted, and established as a new hill-form to match the park's designed topography. Today, one would never know such huge engineering had ever been done.

Future of One North Park

To date, there has been no coherent development of the entire One North Park. The primary weakness of Zaha Hadid's master plan for the park was the severance of the 13 parcels by roads, which contradicted the concept of connectivity. As One North is heavily dominated by wide roads, the pedestrian and cyclist finds himself or herself at a major disadvantage. Developers of land parcels adjacent to park segments are expected to design and pay for the segment opposite them, which produces ad hoc spaces without any overall coherence or unifying character with the linear park.

This is a fate familiar to many master plans. Often, parts are taken on board when convenient and the rest quietly dropped. New developments such as One North that intended to be cohesive become fragmented and incoherent, with their forms dictated by roads. The vision of a green and healthy "lung" for residents and occupants of One North to walk freely from one place to another is thus constrained, and the flow of its young and exciting tech-savvy inhabitants is deterred by the little red man at the traffic lights. 

1 See Architect's Statement by Zaha Hadid Architects, "One North Masterplan", accessed May 20, 2014, <http://www.zaha-hadid.com/masterplans/one-north-masterplan/>.



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11. The steep slope alongside the entry road to Biopolis is a colourful landscape tapestry and a location for sculptures and signage.

12. The theme of *Ficus* trees extends to the southern end of the park.

13. Groves of *Ficus microcarpa* varieties line the paths and hillsides making a dynamic scene.