

Study shares
new insights on
pedestrian comfort

How data and
technology can tackle
new challenges

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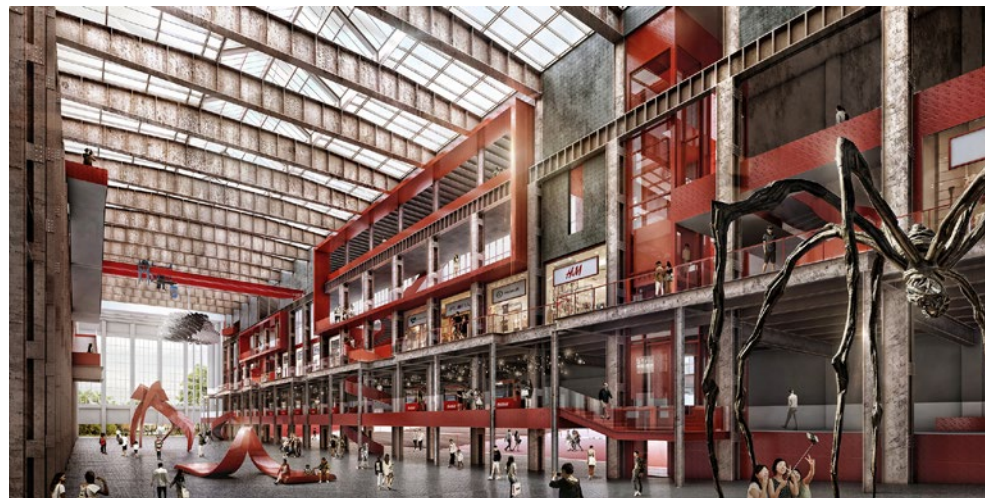
Skyline

Insights into planning
spaces around us

A photograph of a modern urban courtyard. In the foreground, a green lawn is dotted with several colorful plastic chairs in red, white, and blue. People are sitting on these chairs, some looking at their phones. In the background, there are several tall, modern buildings. One building has a distinctive red and blue facade with a grid-like pattern. Another building is dark blue with the word 'CARLTON' visible. The sky is blue with some light clouds. The overall scene is bright and lively, suggesting a well-planned public space.

Why delightful
public places
matter

Skyline



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Cover | This delightful outdoor space at the Tras Link Park created prior to Covid-19 by the placemaking association, Discover Tanjong Pagar, together with stakeholders has enabled people to continue to enjoy the space safely with its moveable chairs.

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The new normal

The ongoing Covid-19 pandemic has shaken up our lives and created a new normal in the way we work, play and move around. While it is a challenging time, it is also a time for reflection in finding new inspiration and opportunities.

At a virtual forum in May 2020 on how data and technologies are shaping future cities, Myrna Bittner, CEO of RUNWITHIT Synthetics sees this new context as an opportunity to “get in front of challenges and to prepare for even more things that we have never seen before”. With the availability of richer data sets and customised tools, urban planners and experts are also finding new ways to anticipate more scenarios and issues upfront and to explore more predictive approaches in creating adaptable systems and networks. Tapping on the right tools and data, planning can also become more precise in determining the optimal scales and distribution of social amenities and services that will ultimately benefit people directly.

Our new normal is also reminding us on the importance of creating more walkable streets and pathways especially around high activity areas and near homes. Researchers from a multidisciplinary study that recently concluded emphasised the need to pay closer attention to pedestrian comfort

and to create delightful walking experiences. Their findings show that Singaporeans are willing to walk longer distances but prefer more direct routes. These insights give us new inspiration on how we can further enhance our walkways.

While our new context has changed the way we use and share our public spaces, it has further reaffirmed their importance. Peter Smith, the CEO of Melbourne's City of Port Philip believes that places are more than just their physical elements. They are where people's memories and experiences are formed. “The best places are those that have a unique abundance of social, cultural and economic elements,” he adds, stressing that we need to keep on creating memorable places and encourage communities to take the lead.

Whether it is about creating adaptable systems and networks, better walkable streets or more endearing spaces, we hope this issue gives you new insights to inspire you to continue to work with and support each other in shaping neighbourhoods around us and in strengthening our social and economic networks.

15 hectares

The size of the Pasir Panjang Power District, a former powerhouse that supplied essential fuel in the push towards industrialisation in the early post-war years. Today, it is part of the Greater Southern Waterfront and will be turned into a vibrant mixed-use lifestyle destination. Architects and students dreamt up fresh ideas in a competition on how to rejuvenate it.

“We spend so much time walking each day but we do not pay enough attention to the quality of our walking experiences even if it is just walking from point A to B.”

Dr Alexander Erath from the Future Cities Laboratory at the Singapore-ETH Centre and other experts are shining the spotlight on pedestrian comfort in a multidisciplinary study. The study seeks to anticipate more accurately the movements of people around train stations to design more comfortable and enjoyable walkways in these areas.

6 km

The length of the key areas from Orchard Road to Singapore River envisioned to have new parks, pathways and public spaces together with lush planting as part of future plans to enhance Orchard Road as a key lifestyle destination.

“Using technologies and data strategically can serve as key enablers for us to boldly envision our future, find effective solutions and adapt quickly to changing needs.”

Huang Zhongwen, Director of URA's Digital Planning Lab and his team have been working actively within URA and across public and private sectors to build up customised tools and insightful data sets to support more robust and holistic planning.

10

The age Japanese architect Kengo Kuma was inspired to create beautiful designs in harmony with the environment. His practice, Kengo Kuma & Associates, in collaboration with local firm K2LD Architects won the international design competition for the design of the future Founders' Memorial.

“A place is not just about its physical aspects, it is also about its social and cultural elements that connect people to places and to one another.”

Placemaking expert Peter Smith, CEO of Melbourne's City of Port Philip, emphasises the importance of creating memorable places. Such places become even more important in challenging times in bringing people together and building social resilience.

What's in a place?

In the midst of evolving challenges and contexts, placemaking expert Peter Smith reminds us on why we need to continue to create and manage memorable places and destinations for people.

Writer **Serene Tng**

Even while the ongoing Covid-19 pandemic is changing the way we use and share public places, it has reaffirmed the important role they play as social/community places in our neighbourhoods.

It fact, it has reinforced the need for even more walkable streets and attractive public spaces as people find relief and inspiration in environments around them and new ways of interacting with each other in a safe manner.

Place and placemaking

“More than just a physical space, a place is defined by the experiences and memories of those who inhabit or access the place. A place is not just about its physical aspects, it is also about its social and cultural elements that connect people to places and to one another,” says Peter Smith, the Chief Executive Officer (CEO) of the City of Port Philip in Melbourne since 2017, who has been leading placemaking efforts for over 25 years in local and federal governments in Australia.

Placemaking efforts by both governments, business owners and community partners to create and manage thriving places has become even more important in challenging times. This is particularly so given that shared public places are where people come together and strong bonds between residents and stakeholders working together can help to strengthen the identity of places and ensure their relevance in the long run.



Above | Peter Smith at the Tras Link Park, Tanjong Pagar. The photograph was taken in January 2020.



The focus on the role of communities in leading and managing places is something that Peter has been championing. The “Splash Adelaide” public space activation programme he initiated in 2011 when he was the CEO of the Adelaide City Council (2008 to 2015) saw not just a transformation of its inner city but resulted in citizens leading placemaking efforts in their neighbourhoods and areas they cared about.

We caught up with Peter Smith when he was in Singapore in January 2020 as one of the speakers at URA's Place Management Seminar. Amidst our ongoing challenges and changing contexts, the insights and experiences that Peter shared with us has continued to remind us on the importance of creating memorable places for people and the significant role of communities in shaping these places together for the future.

How do we understand a physical place and why are places important?

Peter: A physical space may be defined by the walls and boundaries around it but it may have nobody using or inhabiting it.

A place on the other hand is defined by individual and collective memories and experiences. In a way, it is my memory of the physical space and what I did there that defines it as a place.

Places also mean and offer different things for different people. For some, it might be a place to do business and be part of a business community. The place may offer creative value for people to express their creativity, culture and heritage. Or it might be social. It is a place to meet people and to connect with one another. So the physical place is really the plate that supports the dish.

Thus, when you think about placemaking in places around cities, it goes beyond just shaping their physical qualities, it is also about creating social, cultural, economic and environmental sustainability as well.

How has your earlier encounters shaped your understanding of placemaking being a confluence of many elements?

Peter: It was during my first job in the public service that taught me about the need to include a focus on social inclusion in placemaking. I was 27 years old and running a wind surfing school on the north coast of New South Wales. One day, this white van came up with four people who had intellectual disabilities and I spent the day teaching them how to wind surf. The guy who brought them to the school was Mark and he became a friend of mine.

Two weeks later, the van came again and Mark offered me a job. It was to set up homes in the community for people with disabilities and who had been in institutions for years and separated from their families. My job was to help these people integrate back into the community. I took the job and this was where I learnt about the need for a strong inclusion focus in placemaking. We are fortunate in that many of us have access to many things, our families, jobs, public spaces. But if places aren't inclusive, then I think we fail as a society.

My understanding of placemaking deepened when I went to New York many years ago. What impressed me was how it gave public spaces back to its people through the transformation of Times Square. I got to spend time with Tim Tompkins who formed the Times Square Alliance¹, the placemaking group. I learnt that in the 1990s, they almost lost the theatres there because of crime. It was too dangerous for people to go to the theatre. Through the alliance, they started to reinvent the theatre industry and worked with businesses to activate Times Square.

I also learnt that if you focus on just inclusion and social connectivity, then you miss the synergy with other elements such as the economic and

cultural development and the safety aspects. The best places are those that have many of these elements in abundance. It is the unique blend of social, cultural and economic that makes a place memorable.

You led the “Splash Adelaide” space activation programme² that introduced the idea of inexpensive and quick interventions to activate public spaces meaningfully. How did it come about?

Peter: Adelaide at that time was a 9-to-5 town. People go out to the suburbs to live and play and just come into the city for work. When we started thinking about this, we were focusing on just how to activate public spaces and streets in the city centre and how to bring in foot traffic. That was when we started Splash Adelaide.

The programme was the start of conversations and change in establishing a common understanding of what space activation and placemaking meant and what it could do for the community and our city.

How has the programme impacted on people and communities in actively activating public places?

Peter: In the first year of the programme, I remember meeting some young people hanging around at the public squares. They shared that they felt the community didn't understand them. I told them about Splash Adelaide, which was about people like them feeling like they don't have a place in the city and supported their wish to do a zombie walk.

For their first walk, they sought to have 50 friends just walk from a park to another place and eventually end up in a pub on Halloween night. Years later, 10,000 people took part in the event. The support gave these young people more stake in their neighbourhood and the city and inspired others to get involved.

When we started Splash Adelaide, we had put in AUS\$150,000 and encouraged the community to also contribute and co-support events and activities

Above | Times Square in New York. Image credit: NYC Department of Transportation.

¹ The Times Square Alliance was formed in 1992 by Tim Tompkins with the aims of improving and promoting Times Square and cultivating its creativity, energy and edge that has made the area an icon of entertainment, culture and urban life for over a century.
² The Splash Adelaide programme sought to trial and test ideas, foster innovation and streamline processes to enable the community to deliver projects in the city. The programme has given the community a greater sense of ownership and pride in the city and a more engaged focus to initiate and lead projects.

as well. The aim was for the community to also get their skin in the game, for them to take the risk and to also build their capabilities. At the start, events were mostly organised by the city government but later on, communities became more confident and organised many of the activities themselves.

In many of your placemaking efforts, you championed the idea of lighter, quicker, cheaper. Tell us more.

Peter: The aim was for governments and communities to learn together through action. Of the many events and activities organised in activating public spaces, some of them were terrible. But that is good. We learnt what worked and what didn't.

If the outcome you are trying to achieve is building community capabilities to lead and manage a place, then failure should be an acceptable risk to take. Because you can't build capabilities unless people make mistakes and learn from them.

The thing about lighter, quicker, cheaper is that it shows to the community that there is something different happening in that corner. Maybe it's just a little pop-up thing. But it invites the community to have a conversation about that place.

What I have learnt is that any temporary activation is not an end in itself. Activation only creates foot traffic for the time that the activation is on. The challenge is how do you take the energy and the interest from the community that is created by that temporary activation and turn it into a deeper conversation around the community leading placemaking in future.

Zooming out from activation of public spaces to larger precincts, how should we approach placemaking for these areas?

Peter: We should think of the city as a tapas bar. What is appealing about the tapas bar is the idea that you have many small dishes to sample. So if somebody wanted something spicy, you can have a spicy dish. But not everybody wants spicy. If you have children with you, you can pick something that is good for children to eat.

I started to think about the city in that manner. In a way, the city infrastructure is like the restaurant. The menu with dishes are like the places. When we started to think about what were Adelaide's signature dishes, we realised that there were 10,000 students in the city yet there was no place where students could go to then to get cheap drinks and hang out after classes. We also realised that for our office workers, there was not enough attractive places for them to gather for work drinks. So we didn't have an office worker dish or a student dish.

Once we start to think about the dishes that we are missing, then the next step is how do we create these dishes?

In Singapore, if you think about places such as Raffles Place, Marina Bay and Tanjong Pagar – what are their unique dishes? Are they all going to be the same? If that is the case, they will be competing with each other. All places should complement each other and be great places for locals.

In building community capabilities to lead and manage public spaces, what should we pay attention to?

Peter: A physical public space in a way is where citizens relate to and experience the government. It is in this physical space where different aspects of placemaking should converge, whether it is dealing with heritage, planning or sustainability.

But in reality, each of these issues are often managed by different government departments. Various departments may also be carrying out placemaking activities on their own. When the focus is on building community capabilities, the challenge then is in determining what the government can do best and what the community can do. That's the capability that we need to build around places. And placemaking is the great tool to do that.

Today, we tend to have many communities who may expect the government to find every solution. But somehow the government has to step back and say here is a space, how do you want to create it? We have to go from "we will look after you" to "we will create space for you to look after yourself".



Above | Examples of placemaking initiatives over the years, improving the public realm and activating public streets and spaces in areas such as the Singapore River, Tanjong Pagar, Kampong Glam, Serangoon Gardens, Bencoolen and Keong Saik Streets.

Placemaking in Singapore: six things to know

- 1 Since the early efforts of businesses coming together in selected precincts such as Orchard Road and Chinatown in the 1990s, placemaking efforts in Singapore have extended to many more areas across the island. Efforts have gained further momentum especially in the last 10 years, expanding its role and scope in shaping thriving places and bringing communities together.
- 2 Government agencies have been working in close partnership with stakeholders to drive such efforts in key precincts, demonstrating its value and possibilities. One such area is Marina Bay. Proactive placemaking efforts since 2005 have strengthened its distinctive identity, enlivening the public promenade and drawing people in with a year-round calendar of activities.
- 3 Beyond driving placemaking for key precincts, efforts have also focused on the activation of public spaces and streets to promote interaction and vibrancy in partnership with the community. URA and the Housing Development Board's Lively Places Programme provides support for individuals and communities to turn open spaces into lively gathering places and transform streets into active public spaces.
- 4 Initiatives by various placemaking associations over the years have enhanced the identities of key precincts and created benefits for businesses and communities. For example, past events at the Singapore River have brought increased footfall and sales as reported by stakeholders. Active partnerships in other precincts such as Kampong Glam and Little India have also brought out each of their unique charm and brought different communities together.
- 5 While efforts in key precincts had shown encouraging results over time, these had been carried out mainly on a voluntary basis. This is not sustainable in the long run as funding and resources are limited. Thus from 2017, a more formal placemaking model is being tested through the pilot Business Improvement District (BID) programme, which serves to empower businesses and local communities to tailor solutions and enhancements specific to their precincts. Ten precincts have expressed interest to become pilot BIDs with the first (Singapore River One) formed in 2017 and four others forming in 2019 and 2020.
- 6 The strength of a collective community spirit has been evident during the ongoing Covid-19 pandemic, with businesses and communities coming together to help one another, tapping on strong networks and good relationships developed through placemaking over the years, further reinforcing its importance in Singapore.

Cities of the future

How are data and technologies shaping our cities for the future?

Writer **Serene Tng**



With our cities experiencing more rapid changes and with a new normal arising from the ongoing Covid-19 pandemic, how can data and technologies help us to better respond to challenges?

Urban planners, researchers and innovators weigh in on this at an inaugural virtual forum by SGInnovate and URA's Digital Planning Lab on 19 May 2020. We share brief highlights¹ from the session.

How are data and technologies changing the way we plan for our cities?

Zhongwen: Technologies and data have become increasingly significant aspects in our lives. While these are not the solutions for all of our problems, strategic use of these serve as key enablers for us

to boldly envision our future, find effective solutions and adapt quickly to changing needs.

Over the years, we have built up a suite of customised urban tools and developed more insightful data sets in collaboration with our public and private sector partners. We have leveraged on these to help us be more precise and targeted in the way we plan.

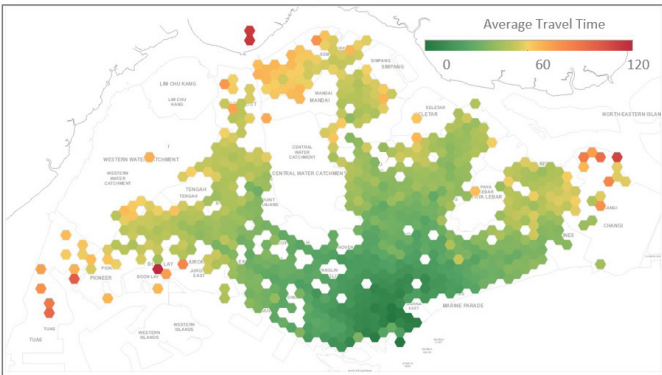
For example, we have refined the way we determine optimal sizes, scales and distribution of new amenities and social facilities and how to repurpose some of these over time. This is done taking into account a wider range of considerations such as changing town demographics, demand and supply indicators and how people use these spaces now and in future.

¹ The sequence of the questions and the Q&A presented have been edited to present a coherent flow and for clarity and brevity.

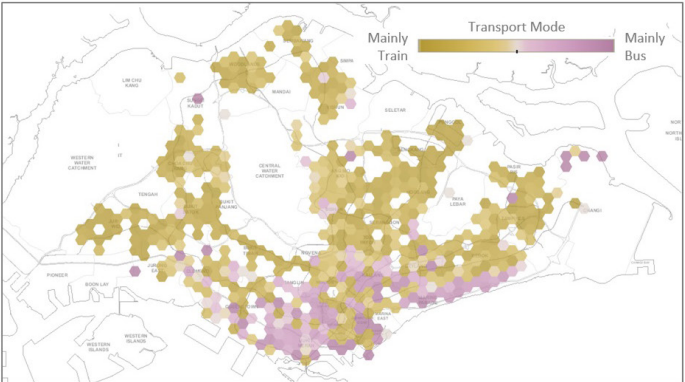
Above | The moderator and speakers at the "PLAN.AI: Imagining Cities of the Future" virtual forum.

Mobility

Analytics by URA to understand different scenarios experienced in the public transport multimodal network.



Average travel time taken to the Central Business District



Public transport share: bus versus train and mixed

Data and technologies have also enabled us to further refine our plans in other areas such as enhancing the accessibility between jobs and homes and our multi-modal transport networks.

Pras: Elaborating further on mobility, with greater accessibility to richer data and the ability to layer these, whether it is about considering incidents happening nearby, including information on braking and acceleration or understanding human behaviours, this can encourage us to go beyond the matching of demand and supply that we often do in how we approach our transport modes. We can consider more wide-ranging dimensions in helping us to better plan and adapt our mobility networks.

Peter: At Surbana Jurong, we work closely with our domain experts to drive data-driven designs. We have a team of Singapore township planners who design and plan refurbishments for upcoming and existing housing estates.

One of the interesting things that we found from using natural language processing to go through thousands of feedback was that an apartment facing the waterfront had up to two times more insect related complaints compared to apartments in the same precinct a few blocks away. Such insights help us to better understand the value and opportunity costs of waterfront developments for example and this can shape the way we design housing estates.

As we move towards more data-driven cities, what are some of the data-related challenges?

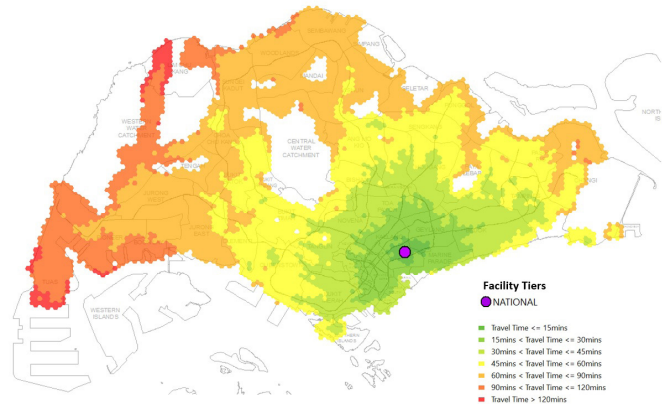
Gopal: One challenge is how to manage and make sense of the volume of data sets that are growing. What we are trying to do at Prowler is to fine tune the models of research in order to be able to handle large volumes of data and be able to explain the key attributes that affect the outcomes.

In terms of data and the technologies around it, there is a lot of research going on. If we can have a breakthrough, then we will be able to handle the volume and philosophy of data and this will determine how we want to push the boundaries in smart-city planning.

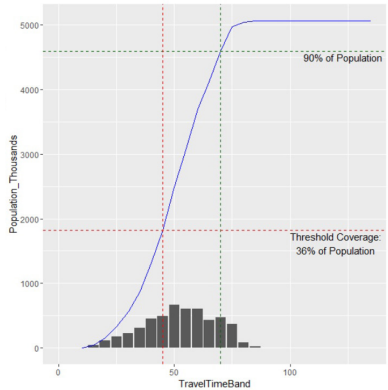
Zhongwen: As urban planners, our work is multi-faceted and we have to consider many different and diverse perspectives and angles. This requires us to assemble a wide range of information and it is often highly laborious to do so. Thus a key challenge will be to find solutions that allow us to search, connect and organise information more efficiently. This will lead to a higher quality of data and information that will enable us to make more holistic evaluations and decisions. The decisions on how we distribute and place services for example will be able to meet more of the personal needs of people and in turn improve the quality of lives.

Amenities

Analytics by URA to understand the spatial coverage of amenities within target accessibility distance to determine optimal distribution.



Shortest public transport travel time to any facilities from any point



Coverage across travel time

In using data, we are also highly mindful of privacy issues. We are very careful to ensure that we aggregate the data and it is anonymous. We use data more to pick up general insights and trends. When planners are able to use some of these insights to guide follow-up interventions, it also benefits people directly.

How can technology enhance the way we operate for better sustainability?

Alvin: When we look at maintenance, we want to proactively identify issues before they occur. Thus we are looking at a more predictive enforcement and maintenance approach. All of these point towards being more prudent in the way we resource our operations. Technology can potentially change the way we operate.

How is the new Covid-19 context influencing the way we are looking at our challenges?

Myrna: It is making us recognise that some of our current city systems, modelling and forecasting need to adapt even more to things that we have never seen before. And this is even more critical

now. We also recognise that a lot of things that we want in terms of a better future, we may not have the data around such things yet.

Our current context is actually opening up new opportunities for us to make real advancements and improvements. One example is the massive shift in the grid and how energy is used. There are challenges on how we can better respond to emergencies. People are also becoming their own producers and consumers of power. These are presenting interesting opportunities for us to get in front of challenges and engage with new technologies.

We need to begin to model opportunities that could happen rather than rely on data from things that are happening or have happened.

To watch the full session, go to go.gov.sg/planaforum²

² The moderator and speakers were: Victor Tan, Director, Venture Investing, SGInnovate (Moderator), Huang Zhongwen, Director, Digital Planning Lab, URA, Dr Alvin Chua, Executive Data Scientist, URA, Peter Cai, Head, Applied Data Science, Surbana Jurong, Myrna, CEO and co-founder, RUNWITHIT Synthetics, Gopal Varutharaju, Regional Director, PROWLER.io, Pras Ganesh, Programme Director, Toyota Mobility Foundation and Project Executive Vice President, Corporate Planning, Fleet Business Solutions and Regional External and Public Affairs, Toyota Daihatsu Engineering and Manufacturing.

Where we walk

A multidisciplinary study delves into understanding peoples’ movements around busy train stations to find new ways to make walking more comfortable and enjoyable.

Writers **Jennifer Eveland** and **Serene Tng**



Above | Image credit: Future Cities Laboratory, Singapore-ETH Centre for Global Environmental Sustainability.

Whether we are walking to get groceries or to the nearby bus stop or train station to get somewhere, we are often making snap decisions on the best routes to take each day. In our rush to get out of busy train stations and moving through underpasses, mid-block links and overpasses, we hardly notice how we choose where we walk or what makes us enjoy the walk more.

Yet walking for sheer pleasure, health or to get somewhere is the invisible glue that connects everything in a city’s mobility system, especially in the shift towards a multi-modal transport network.

“We spend so much time walking each day but we do not pay enough attention to the quality of our walking experiences even if it is just walking from point A to B,” says Dr Alexander Erath. He and other experts and urban planners are delving deeper into understanding people’s choices and behaviours on where they choose to walk around high activity areas such as busy train stations in Singapore.

The multidisciplinary study, “Pedestrian comfort in high pedestrian activity areas¹” from September 2017 to mid-2020 sought to enable planners to anticipate more accurately the crowds and movements of people around high-activity areas and to better plan for and design even more comfortable and enjoyable walkways in these areas.

Some of the key leads of the study, Dr Alexander Erath and Dr Michael van Eggermond from the Future Cities Laboratory at the Singapore-ETH Centre, and Dr Bige Tunçer, Associate Professor of Architecture & Sustainable Design at the Singapore University of Technology and Design, share interim insights from the study, talk about design implications for pedestrian pathways in the Covid-19 context and what the ideal pedestrian pathway could look like.

A key focus of the study is on pedestrian comfort. Why is this important?

Alexander: Compared to other transport modes, walking is a terribly slow activity. If we want to get somewhere, we spend quite some time walking. For a typical trip from Tampines to the city centre by public transport for example, about a third of the time is spent walking or waiting.

While walking, we are exposed to the environment such as noise, heat and other elements much more than any other modes of transport. Hence, comfort for those walking becomes more important.

Big: Comfort can mean many things, such as safety and security, thermal comfort, protection from the elements, variability in facades, crowdedness, but it can also contribute to be a certain quality of a city.

Pedestrian paths are public places that serve a number of different purposes. They can also provide social sustainability through opportunities for interaction between individuals from diverse backgrounds.

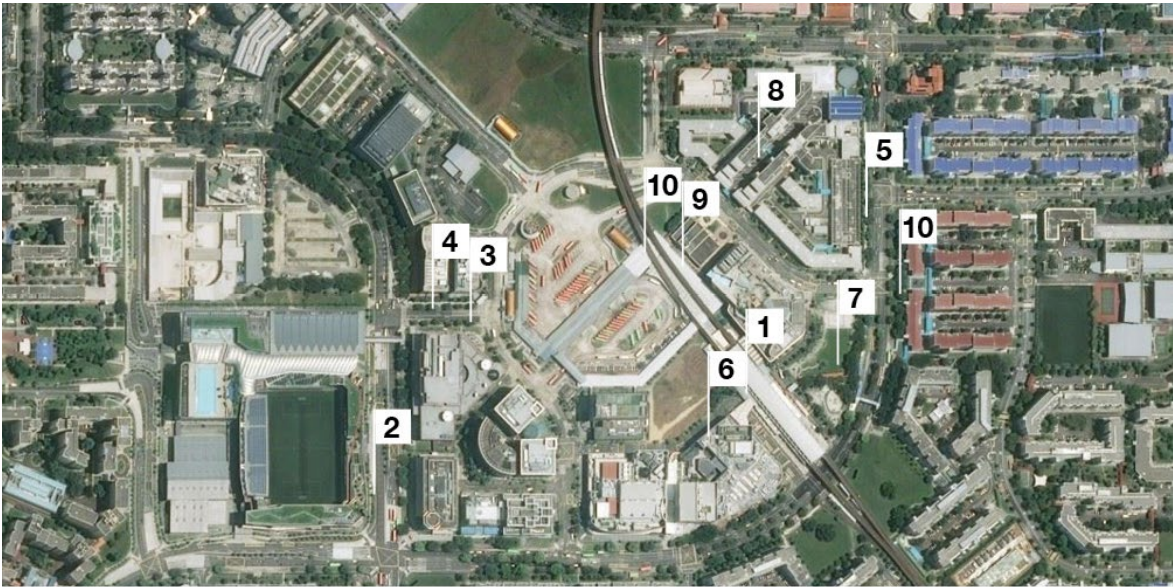
The study focused on the connections surrounding the Orchard, Jurong East, Raffles Place and Tampines train stations. What is your take on the pedestrian walkways around train stations today?

Michael: Singapore’s train stations already provide quite a number of direct routes in supporting large movements of people coming through. In fact, this has been so successful that some of the walkways connecting to train stations become quite busy at certain times of the day.

For some train stations like the one at Raffles Place, the provision of underground walkways is great for the commuter. You can walk for 800 metres underground to get there avoiding traffic interruptions.

¹ The study is undertaken by researchers from the Singapore University of Technology and Design, the Singapore-ETH Centre, the National University of Singapore and the design company AGENCY. Collaborating government agencies are the URA, Housing & Development Board and the Land Transport Authority. This research is supported by the Singapore Ministry of National Development (MND) and the National Research Foundation (NRF), Prime Minister’s Office under the Land and Liveability National Innovation Challenge (L2NIC) Research Programme Award No. L2NICTDF1-2017-1. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the interviewees, and do not reflect the views of MND and NRF, URA and other agencies involved in the study.

TAMPINES CENTRE



1 covered, mixed 2 covered, green 3 open air, green 4 covered, green



5 covered, green 6 covered, wall 7 covered, green 8 open air, mixed



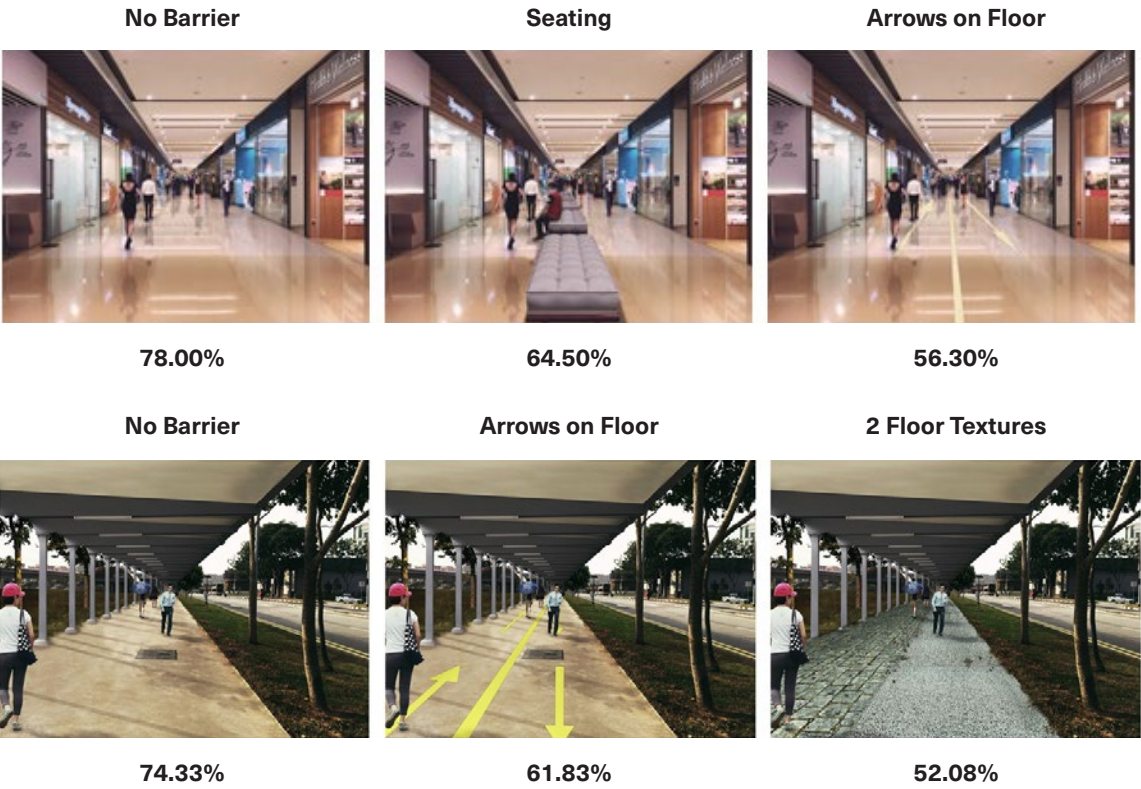
9 covered, retail, wide 10 covered, retail, narrow

Alexander: Just to add to that, I know of the former head of the Swiss Federal Railway company who came to Singapore to learn how mobility hubs are integrated with the surrounding neighborhoods or buildings here and has come away inspired by this experience and is pushing for some of these aspects in Switzerland.

What have you found out so far about people's choices and behaviours on where they choose to walk?

Alexander: A surprising finding is that people are willing to walk longer distances, in particular, in the city centre. In an earlier project, we tracked several

Above | Different types of walkways around the Tampines regional centre were identified as part of a survey in the study to understand people's preferences for various walking typologies. Image credit: Pedestrian Comfort in High Pedestrian Activity Areas Study.



people who prefer to walk between places around City Hall and Bugis, which is maybe one kilometre, as compared to taking a bus for two stops.

Even in hot and humid Singapore, there is a significant amount of walking not only to change modes of transport but also just to get from point A to B in the city centre.

From the study, we also find that people would try to find the most direct route to get from point A to B. This means they are more likely to jaywalk across the street than to use the overpass. But we also observed that people value comfort and are willing to take slightly longer routes if they feature greenery, less traffic and shelter from sun and rain. However, since directness is such a paramount factor, there is a limit with regards to influencing people's behaviour to take certain routes. Placing a nice park that is somewhat off the desired walking routes for example won't attract pedestrians that want to get to their destination.

Bige: Another finding is that people consistently do not prefer separators in walkways. Barriers are more acceptable when they have additional functionality such as seating or plants, but people are generally against such obstacles.

We also found that people prefer openness. This is very pronounced in indoor walkways but also outdoors. Participants consistently preferred more visibility, meaning the sides of the pathway is open and not blocked by buildings or trees. It gives us an interesting direction for design recommendations and for possible future studies on how to give this perception of openness.

For many of our train stations, we have to walk through underpasses and enclosed pathways. What specific challenges are there for indoor pathways?

Alexander: A pedestrian walkway should not only be considered as a way to get from A to B but as a

Above | A large number of 300 respondents preferred no barriers for indoor and outdoor walkways in a survey as part of the study to understand people's preferences in the way walkways are designed. Image credit: Pedestrian Comfort in High Pedestrian Activity Areas Study.

public space. Some of the indoor pathways around transport hubs here are managed by the private sector. How then can you ensure that this public space is being used with the public interest in mind?

It makes a huge difference whether you walk along a concrete wall which sometimes happens within access ways to train stations or between train stations and shopping centre office towers. Or whether this is an attractive pedestrian walkway with some cushion zone between the shops and the open walkway where you can sit down and rest without the need to buy something.

Michael: The challenge is how do you quantify attractiveness for an indoor walkway and describe the role of an indoor walkway within a larger network of walkways? It's very hard to make predictions about the future on how will this indoor space be used, by whom and what the functions will be. Will it be a thoroughfare or will it be somewhere people want to linger longer and spend more time? These functions will change over time.

The surroundings of the building will also change. You cannot view the building as just a building itself but you have to think about how it interfaces with its surroundings in future. How can the layout of walkways of this building, which again is part of the city, take into account for what happens around the building, now and in the future?

What do these insights mean for the future design of pedestrian pathways?

Alexander: These insights into understanding people's walking choices and behaviours will help us to think about how best to design people's preferred walking routes in a way that is comfortable, safe and attractive enough for people to walk longer distances.

With such insights together with certain available data such as the density of buildings and how many tenants or office workers are accessing the buildings, you can potentially make certain predictions on how many people would use certain

links or routes around transport modes. This will be helpful to guide efforts on how to make walking along preferred routes even more comfortable. It would also be helpful in the Covid-19 pandemic context to prioritise if changes need to be made to certain pedestrian walkways from a public health perspective.

When redeveloping neighbourhoods or planning new ones, it also has implications not only for designing walkways but also for designing urban neighbourhoods with regards to land use – where you put what types of building uses. For example, providing economic opportunities for small business owners who need pedestrians to walk by.

Does any of this impact how we design for a post-Covid-19 world?

Alexander: In many cities around the world, we see people trying to avoid public transport due to the Covid-19 situation. As a result, we see increasing rates for cycling, but some people are also driving more. To make cycling more attractive, several cities have started to roll out temporary cycling lanes. And as restaurants need more space to serve their customers, cities such as San Francisco have started to allow them to convert on-street parking lots into al fresco areas. The shared experience on how such a reallocation of public space can impact urban liveability could indeed be a mind opener for future planning debates.

Michael: It's not only about how we design for pedestrian comfort, but where. We are now required to spend more time around our homes, so providing pedestrian comfort around these areas is important as well.

Alexander: More than just pedestrian comfort, it is also about the destinations. What can we actually reach within walking distance? Where are the nearby quality public spaces where we can linger around and connect with our neighbours? This is much more important in the long run. In the last 100 years with mass motorisation and efficient public transport systems, we have been able to travel faster and farther away. But we've lost connections to the places that are just in front of our door.



We spend so much time walking each day but we do not pay enough attention to the quality of our walking experiences even if it is just walking from point A to B

In an ideal world, what would pedestrian spaces and walkways look like?

Alexander: They must be interesting, comfortable and relevant in the sense that you can reach the places you want to go but also have a bit of surprise from the unexpected. Of course, you need to get the basics right, for example a continuous walking experience, a direct walk without too much waiting at crosswalks.

In Singapore, there are hundreds of bus stops which don't have a crosswalk nearby. I think we need to consider transport journeys from door to door, and not just starting and ending at bus stops. The pedestrian walkway is part of that journey.

Michael: While collecting data for this project, I had the chance to observe how outdoor walkways support different users at different times, varying

from the early morning to very late at night. These uses include people taking their kids to ride scooters on Orchard Road in the morning, running or walking the dog. A walkway is more than just a transport mode to move people through. How can it support different users at different times of the day?

Bige: The ideal would be a less stressful environment for people who are not completely familiar with their surroundings. A combination of spatial cues, spatial composition and signage to choose the most efficient path and make commuting more pleasant. There will be more continuity, for example floor and wall materials used from building to building. When designers become more aware of design recommendations that will improve the experience for pedestrians, then I think this will improve the environment.

A new kind of monument

Inspired to be an architect at the age of 10 and known for creating architecture that is integrated with nature, Japanese architect Kengo Kuma is excited about his winning design for the Founders' Memorial and hopes to connect with Singaporeans soon.

Writer **Justin Zhuang**

The late Japanese architect Kenzo Tange looms large in the career of architect Kengo Kuma. He was inspired to pursue architecture after his father brought the then 10-year-old to visit the Yoyogi National Gymnasium designed by Tange for the 1964 Summer Olympics in Tokyo.

Over half a century on, the now 66-year-old Kuma was part of a design team who recently completed a new national stadium that will be the centrepiece of Tokyo when the city is scheduled to host the games for a second time in 2021.

In March 2020, Kuma found himself following in the footsteps of Tange again – this time, into Singapore. His practice, Kengo Kuma & Associates, in collaboration with local firm, K2LD Architects, won the international architectural design competition for the design of the future Founders' Memorial.

The memorial seeks to commemorate the values and ideals exemplified by the city-state's late Founding Prime Minister Lee Kuan Yew, its first generation of leaders and other key individuals who contributed to Singapore's early nation-building years.

Above | Architect Kengo Kuma. Image credit: Kengo Kuma & Associates.

Tange was my teacher

In 1970, Mr Lee invited Tange to Singapore to review its urban renewal plans¹. Since then, Tange and his firm have contributed to its modernisation by designing buildings such as One Raffles Place (former OUB Centre) and the Singapore Indoor Stadium, as well as proposing ideas for the development of Marina Bay.

“Tange was my ‘teacher’ and I love his buildings very much. I respect his work in Singapore,” says Kuma. He graduated in architecture from the University of Tokyo where Tange taught, and has also been a professor in his alma mater since 2009.

But while recognising the path trail blazed by Tange, Kuma is also acutely aware of how the times have changed.

“Kenzo Tange did contribute to Singapore’s urban landscape in the 20th century, but I want to shape Singapore’s landscape in the 21st century. We belong to different worlds, different conditions. Our challenges are more complex.”

The ongoing climate crisis requires architects today to rethink the modernist paradigm championed by the likes of Tange, adds Kuma. Since founding his practice in 1990, Kuma has sought to build what he has theorised as “small architecture” or “defeated architecture”. Such buildings are “friendly” to the environment, often by using as much local materials as possible and being sensitive to the site.

Unifying landscape and monument

Kuma’s proposal for the Founders’ Memorial is informed by a similar restraint. A series of organic-formed green slopes will rise from the current 32-hectare Bay East Garden, which is reclaimed land. These forms will be interweaved with the surrounding topography and connected by meandering pathways that lead people through the building to culminate in a visitor centre that is seemingly carved out of the land.

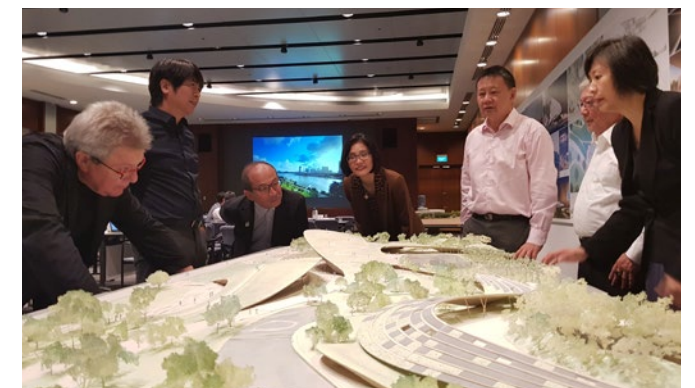
Offering views of Marina Bay and the city skyline, the building consisting of an amphitheatre and galleries will likely be constructed with earth-coloured glass-reinforced fibre concrete and covered by a green roof of tropical landscape.

“When I visited the site for the Memorial, my first idea was to unify the landscape and monument, because the landscape is beautiful set against a stunning bay,” says Kuma. It is this unification of landscape and building that makes the design stand out, creating a “new kind of monument”.

The Chairman of the Memorial’s committee, Lee Tzu Yang, shared in the press release that the “winning design is sensitive and functional, and embodies the spirit and values of Singapore’s founding team of leaders. It is a unique design, incorporating landscape and architecture that brings visitors on a journey of discovery.”

For the project, Kuma read up about the achievements of Singapore’s founding fathers and was impressed by how Lee Kuan Yew, in particular, was not just a politician but a kind of urban designer who overcame Singapore’s lack of land and natural resources. “He and the founding leaders were both idealistic and realistic... thus the memorial we designed reflects both,” he says. “Mr Lee’s philosophy was about [developing Singapore into a] Garden City, and he thought a city of the future should be totally integrated with the environment.”

Although the memorial reflects the spirit and values of the city-state’s founders, it is also designed to allow each new generation of Singaporeans to forge their own paths. As a “living memorial”, where “everybody can come and enjoy the building”, there will be multiple pathways to explore as well as spaces for contemplation filled with natural light and surrounded by beautiful views, creating instagrammable moments too.



Above | From left, a future perspective of the memorial, its location, the amphitheatre as part of the memorial, the Jury Panel mulling over the winning design and the roving exhibition to the public on the shortlisted designs in November 2019. Image credit for perspectives: Kengo Kuma & Associates and K2LD Architects.

¹ “Top architect meets PM Lee”, The Straits Times, 29 December 1970, page 3.



Photograph by Ross Fraser McLean & HuftonCrow



Photograph by Takumi Ota



Photograph by Kawasumi Kobayashi Kenji Photograph Office



Photograph by Sergio Lopez

In harmony with nature

Kuma’s goal for bringing architecture and the environment closer is forward-looking, but is actually rooted in the past. Before his Tokyo-based practice grew global, he was forced to find work in rural Japan during the nineties when the country’s economy stagnated. The experience of working with local craftsmen and materials helped him rediscover the values of traditional Japanese architecture.

Over the next two decades, he experimented with these ideas beginning in the small mountain town of Yusuhara, where he used the region’s cedar wood to build a series of fascinating structures ranging from a hotel to the Yusuhara Wooden Bridge Museum. The last, completed in 2010, adds a new gallery to an earlier hotel with a bathhouse that he designed. The extension protrudes from a hillside, and is mostly supported by a tree-like central pillar made from a traditional Japanese technique of stacking pieces of laminated wooden planks at perpendicular angles.

The overall result is striking but also a statement on how tradition can bridge modern architecture and the environment.

He has since successfully exported such an approach outside of Japan. The recently completed V&A Museum Dundee in Scotland takes inspiration from the area’s cliffs on Orkney Islands. Using contemporary parametric design methods, Kuma and his team stacked long slabs of precast concrete at different angles to create what looks like monolithic caves along the waterfront site. Such nature-inspired architecture is what he thinks Japan can contribute to the world.

“Harmony with the environment is the basis of Japanese buildings and gardens,” says Kuma. “Now people are very interested in environmental issues and global warming is a major challenge. The Japanese philosophy and tradition can be a strong tool to address this issue. Our ideas are very much based on traditional Japanese philosophy, but still can be adapted everywhere in the world.”

The Founders’ Memorial is his first major opportunity in Singapore to test out these ideas. His impressions of the city are that it is “exciting” and constantly “changing”, and he is keen for his project to showcase a “new direction in Asian architecture”.

We were miles away from one another, speaking over a video-conference call in April as the world was battling to contain the Covid-19 pandemic. But Kuma was confident this would soon be over and he could start working on the memorial that is scheduled to be completed in 2027.

“After the virus is gone, I want to visit Singapore often and communicate directly with (the people),” he says. “I want to make one strong team with you.”

About the competition and Memorial

Envisioned as an integrated gallery and gardens experience at Bay East in the Marina Bay area, the Founders’ Memorial aims to commemorate how independent Singapore came to be, and inspire Singaporeans to commit themselves to building the nation’s future, together. The international architectural design competition for the Founders’ Memorial was launched in January 2019, attracting 193 submissions from local and foreign firms. Kengo Kuma & Associates and K2LD Architects’ design submission was selected from five shortlisted designs. They will be commissioned to develop the design of the Founders’ Memorial with the National Heritage Board and Gardens by the Bay. The public will continue to be consulted in the development of the detailed building design and the programming concepts over the next few years.

For more information about the Memorial, go to www.foundersmemorial.sg

Above | A range of Kengo Kuma’s works, from left, the V&A Dundee Museum in Scotland, UK, the Yusuhara wooden bridge museum in Kochi, Japan, the Yusuhara Community Library in Kochi, Japan and a chicken coop in Mexico. Image credits: Kengo Kuma & Associates.

Re-imagining Pasir Panjang Power District

Inspired by its size, scale and beauty, architects and students dreamt up fresh ideas on how to rejuvenate the Pasir Panjang Power District for the future.

Writer **Jennifer Eveland**



79 proposals were submitted in the ideas competition inviting fresh ideas from professionals and students to envision the future of the Pasir Panjang Power District. It is the first piece of the Greater Southern Waterfront to be developed in the next five years. The 30-kilometre waterfront stretching from Marina East to Pasir Panjang will be transformed into a new major gateway and location for urban living along Singapore's southern coast progressively over the next 40 to 50 years.

The district was Singapore's former powerhouse, supplying essential power to fuel the push towards industrialisation in the early post-war years. Located at the southern coastline of Singapore, two decommissioned power station buildings ('A' and 'B'), oil and gas tanks and other buildings such as a pump house and a staff apartment block remain on this 15-hectare

site. Vacated in the 1980s, the tranquil waterfront site has the potential to be turned into a vibrant, mixed-use lifestyle destination.

The competition, "Power-Up Pasir Panjang", by URA and the Singapore Land Authority that ran from April to June 2019 sought ideas for a concept master plan to guide the rejuvenation of the entire district and ways to re-purpose the Power Station 'A' while celebrating its heritage. Ten winning entries were exhibited from 13 January to 7 February 2020 together with the other submissions. These contributed to a Request for Information exercise released then to further refine the parameters of the site for future development.

We caught up with five winning teams¹ from the competition on their inspiration and ideas for this former powerhouse.

¹ The ideas from the five winning teams in this feature are selected highlights from their proposals. Descriptions of their ideas have also been edited for clarity and brevity. Images for each winning proposal are from the respective teams.

Preserving the nation's best kept secrets

Category and Prize Participant Re-imagining the Power District (Concept Master Plan); open category second prize
Jonathan Poh, Principal Architect, Provolk Architects

“Even though the site is about 500 metres from the Labrador Park MRT Station, it is relatively obscure. I choose to see this as its key characteristic and want to preserve this as Singapore's best kept secret. I propose to divide the site into five enclaves with differentiated characters, each with transition zones in the form of berms, courtyards and linear parks, offering new discoveries and surprises. By parcellation of the plot in this manner, we also allow for a phased development.” – Jonathan Poh, adapted from the competition submission.



What drew you to the site?

Jonathan: I was blown away by the beautiful red-brick facade and flared columns at the entrance. What struck me was also its proximity to the sea, the views it offered, the copious amount of space and the apartment block on the hill beside the power station.

Tell us more about some of your ideas.

Jonathan: Being by the sea and flanked by higher grounds, a key concern for the district was the rising flood levels. This is similar to other heritage areas such as Dakota Crescent where the modern buildings were built below our national minimum platform level. Thus the idea of activated raised sea berms was proposed to mitigate future rising sea levels and simultaneously linking the higher ground where the apartment block is located on the western flank to the seafront on the eastern side. These berms can help carve out a sea front park fronting the sea.

Another idea was to parcel out the land into zones as it would be challenging to offer such a large site for development under a 30-year lease. With the parcellation, we could phase development, focusing on key areas first and offering these spaces to local designers.

How do you envision the public experiencing the spaces?

Jonathan: I believe that these spaces should be given back to the people and enjoyed by everyone because these were the bricks that our forefathers laid. They represent the grit and determination of our nation. People will be inspired by the sheer mass and beauty of the red-brick power station structure and can carve out new experiences and memories for themselves as they walk through the new public spaces created outside and inside of the existing buildings.

Merging Scapes

Category and Prize Participant

Re-imagining the Power District (Concept Master Plan); tertiary category first prize
Hendriko Teguh Sangkanparan, Nur Fadhilah Binte Nordin, Sally Tan and Lun Ci Min, Singapore University of Technology and Design



“Water is a powerful player. It is a vital resource fundamental for our survival. Water supply in Singapore will always be a challenge and national imperative for us. Therefore, in this district, the primary design concept is to shape the way we utilise water by integrating water into the urban landscape – creating new synergy between land and water, transforming the site into a coastal waterfront tightly integrated with its water resources.” – the team, adapted from the competition submission.

What drew you to the site?

The team: We were fascinated by the sheer size and the striking quality of the power station complex, multiple supporting metal tanks and large steel structures preserved in time. This offers a huge opportunity for the site to be driven by ecology or nature. Its location near future residential developments and the Mapletree Business City also lends itself to being a potential community hub in future.

Why is water featured strongly in your proposal?

The team: As the site is located along the coast, we saw a huge potential to incorporate water into our proposal. Water supply has always been a national imperative in Singapore, so we wanted to rethink how water plays a part in town planning. It became a strategy to create synergy between the urban landscape and its inhabitants.

You see the sea level rise as an opportunity.

The team: With the annual rise in sea level, more defensive interventions such as sea walls, gabions, and break water are implemented. This may not be sustainable. Our proposal instead embraces sea level change by creating spaces that adapt to and welcomes sea level transformations, inviting spontaneous activities that make the littoral edges not only useful but engaging.

How do you envision the public experiencing the spaces?

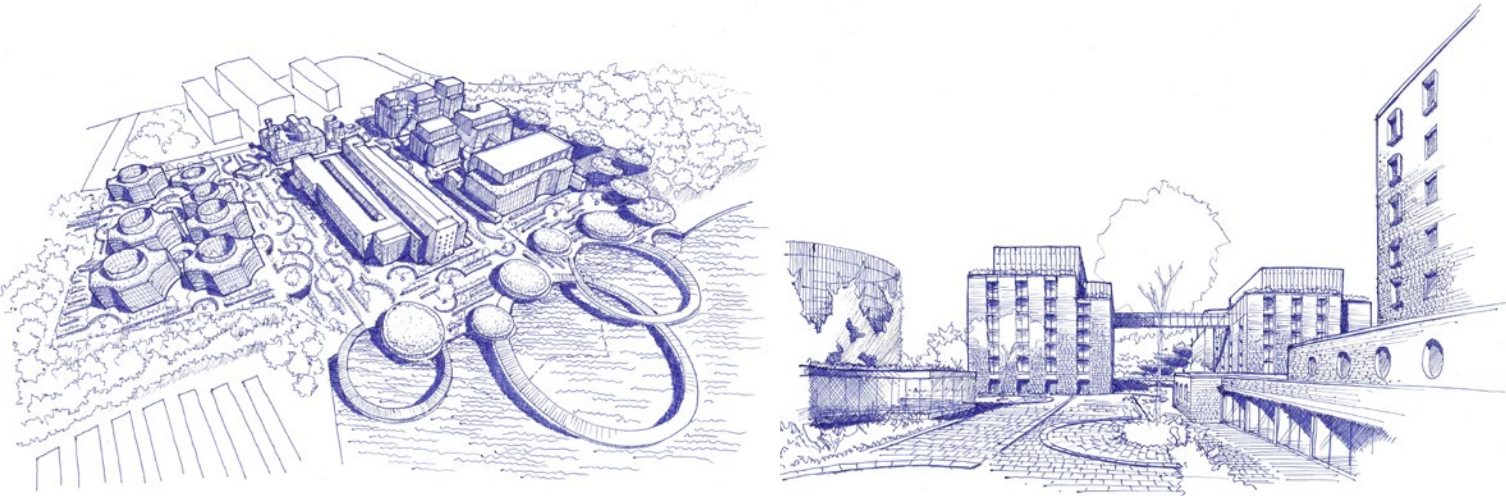
The team: We hope to show people how their actions relate to nature and water sustainability and show through first-hand experience on how the idea of sustainability can be considered in the design of our physical spaces. With vehicular access limited to the fringes, the site and activities within are intimate to the human scale so pedestrians can explore and enjoy the place at a slower pace.

Green erosion

Category and Prize Participant

Re-imagining the Power District (Concept Master Plan); open category third prize
Charles Wee, Design Principal & Director, CJWA Architects

“We begin by engaging the two landscapes, draping an imaginary green blanket to descend, infiltrate and erode into the site. This green blanket also reaches the northern part of the site, spilling over into the proposed linear green to connect back to the main spine of the park connector network. The existing structures are mostly primary shapes, with which we composed the figure ground to make the site compact and tight with allowances for voids. The materiality of the entire district is proposed to be unified and limited by a few select materials, applied throughout to ensure a distinct identity in one look.” – Charles Wee, adapted from the competition submission.



What drew you to the site?

Charles: I was impressed with the scale and robustness of the structures. Like a formation, the structures commanded a significant presence on the waterfront. Set between two verdant hills is a fertile valley nestled in between, it made me ponder about the connections and possibilities within.

One of your ideas is an immersion of green spaces.

Charles: I was inspired by the hilly greens on both sides of the site and envisioned these greens blending in with the site to create a form of urban overgrowth, blurring the distinction between the nearby park connector and the site. Taking this idea further, a 'green blanket' is proposed as a form of a garden superimposed on the whole site, filling the open spaces. It stretches and mediates the height disparity with the two hills through stepped platforms; it also extends out to the coast, creating a seamless integration of public spaces set in nature.

You suggested the materiality of the site be limited by a few materials.

Charles: Walking around the site, what caught my eye was the prevalence of brick on the buildings. I wanted to retain this and expound on this as a unifying motif, to create an emotive experience for users. Materials, patterns and combinations of these evoke certain feelings and memories in people's minds. I thought that the imagery and texture of brick and steel can make the place memorable and distinct.

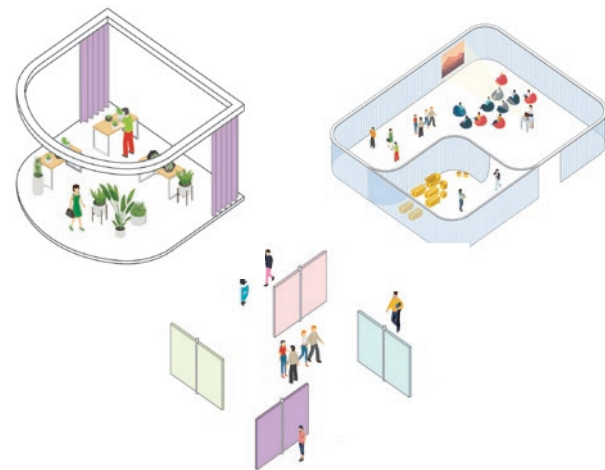
How do you envision the public experiencing the spaces?

Charles: I envision users to be exploring and enjoying the many different flexible and adaptable vibrant spaces with great excitement and wonder. It should be at the heart of its occupants, with the common vision of serving (and hopefully exceeding) their varied intents and purposes.

Myrios

Category and Prize Participant

Re-purposing the historic Power Station A; tertiary category second prize
Chui Yee Chin and Yany Chan Ziqi, National University of Singapore



“Much of Pasir Panjang’s industrial past has been defined by the use of heavy machinery and tools. We propose to re-think the creative spaces that focuses on people. Colourful sound-proofing fabric can provide a flexible and fun way to define the spaces for activities at different scales while keeping the large volumes of the two halls open. The buzz of the turbine and boiler halls echoes the myriad of colours and activities at the Pasir Panjang container terminal and the translucent characteristic of the fabric offers a spectacle to the users who might be transiting through the space.” – the team, adapted from competition submission.

What drew you to the site?

The team: Spatially, its large volume and the strong linearity of the Power Station A was the most striking. Having the opportunity to reopen and shape the experiences of this unfamiliar chapter of Singapore’s history to a generation of younger Singaporeans is an untapped potential we were excited to explore.

You have proposed many open, flexible and mixed use spaces.

The team: We drew on our own experiences in sharing different kinds of interactive spaces, putting ourselves in the shoes of users to figure out which kind of spaces would be best for fostering interaction amongst them, and thinking about the types of spaces we wish to see in Singapore.

One of our greatest challenges was figuring out how the power station’s large volume could be filled with something

as intimate as interactions between people without feeling intimidating. Our approach created different zones to accommodate different levels of interaction and break down the monumentality of the area. Locating smaller programmes in the large open area will still allow people to appreciate the broader sense of festivities.

How do you envision the public experiencing the spaces?

The team: Fields of work are becoming increasingly integrated and inter-connected. Interactions with people with different specialisations will allow us to deepen our knowledge about different subjects and develop more well-rounded and innovative ideas. We chose programmes which were collaborative such as learning, performance, exhibition and start-up spaces.

Spaces defined by the colourful fabric on the ground floor and the open and giant steps provide for interactions at different scales – from intimate discussion bubbles to small group breakout and flexible learning spaces.

Re:interpret & Re:generate

Category and Prize Participant

Re-purposing the historic Power Station A; professional category special mention
Swee Yew Yong (Formwerkz Architects), Dang Bao Bao (AWP Architects) and
Stephan Shen Yi Zhe (ID Architects)

“Taking inspiration from the past strategic role of the Power Station A in generating the city’s power resources, our proposal aims to breathe new life into the building while restoring the significance of the station. The re-interpreted power station can be used as a Creative Industries Hub where talented artists and designers are invited to work and collaborate together. The demolished chimneys can be brought back in the form of two residential towers to accommodate visitors/creative professionals, contributing to the flow of creative professionals in powering creativity to the station.” – the team, adapted from competition submission.

What drew you to the site?

The team: The building looked old and abandoned, yet, at the same time there was something very charming about the brick facade and the interior steel structure. What intrigued us was the challenge of how to open up this brick box without damaging too much of its original facade/building structure.

A key aspect of your proposal is to use the building as a creative hub.

The team: There are interesting similarities between the processes of generating electricity and creative works. Both are products of an IPO (input-process-output) model, requiring “fuel” to initiate production, and both critical to the progress of Singapore. The old and new are reflected in the spatial organisation of our design. The previously demolished chimneys, where fuel was burnt, are residential towers for short-term stay. The boiler house, where water was heated to produce steam, is a co-working studio space for artists. The turbine hall, where electricity was generated, is an exhibition hall for collaborative works. The flow of creative professionals is the fuel which is being constantly depleted and replenished, “empowering” the neighbourhood through exciting exhibition events.

How do you envision the public experiencing the spaces?

The team: As a creative industries hub, the building’s primary access should be open and inviting. We proposed to lower the building’s external pavement and remove part of the facade to create an open plaza through which visitors enter the turbine hall and art exhibition space. As this facade was the former electrical output location, visitors will symbolically carry their inspiration with them as they enter and leave.



Green oasis

Stroll through and savour an array of new parks, pathways and public spaces from Orchard to Singapore River in future.

Writer **Serene Tng**

From walking through flowers in the heart of the city, catching a glimpse of early Singapore on a historic hill, to taking on family play adventures at nature gardens and enjoying new public and green spaces by the Singapore River, there will be more reasons to linger longer in town.

These are part of the ongoing plans to enhance Orchard Road as a lifestyle destination and to 'bring back the orchard' as unveiled in February 2020 by URA and the National Parks Board.

Singapore's signature street is envisioned to be transformed into a lush green corridor with the introduction of new green spaces and lush planting. It will form part of a six-kilometre green corridor linking Singapore Botanic Gardens, Istana, Fort Canning Park and Singapore River.

Lush planting

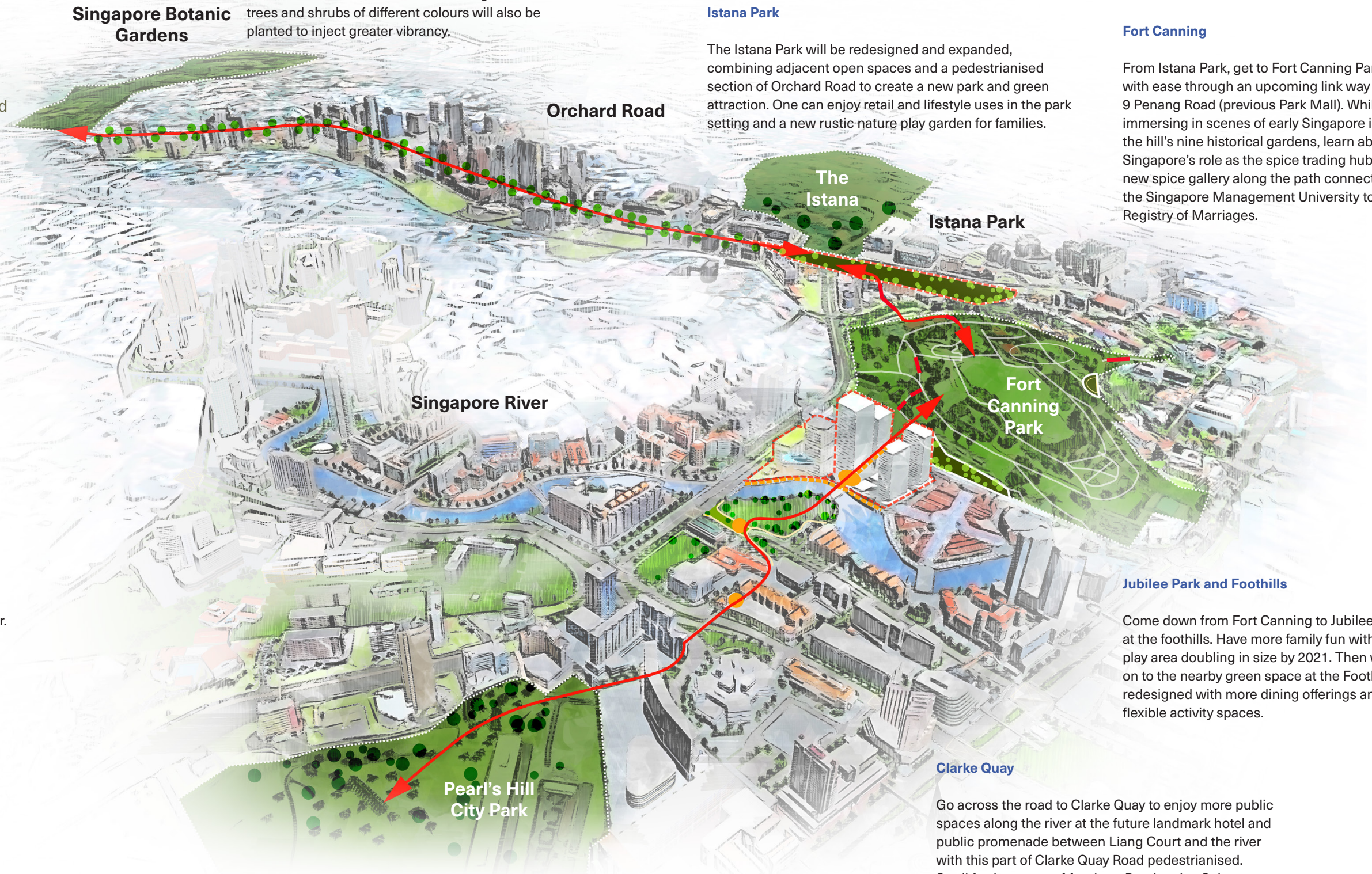
Nestled between the Singapore Botanic Gardens and Fort Canning Park, Orchard Road used to have fruit orchards and nutmeg plantations. There are plans to re-plant some of these that used to be in the area to showcase its natural heritage. Different trees and shrubs of different colours will also be planted to inject greater vibrancy.

Istana Park

The Istana Park will be redesigned and expanded, combining adjacent open spaces and a pedestrianised section of Orchard Road to create a new park and green attraction. One can enjoy retail and lifestyle uses in the park setting and a new rustic nature play garden for families.

Fort Canning

From Istana Park, get to Fort Canning Park with ease through an upcoming link way at 9 Penang Road (previous Park Mall). While immersing in scenes of early Singapore in the hill's nine historical gardens, learn about Singapore's role as the spice trading hub in a new spice gallery along the path connecting the Singapore Management University to the Registry of Marriages.



Less is more

From the Maldives to Congo, architect Rudy Taslim believes in creating beautiful spaces for local communities.

Writer **Justin Zhuang**



Rudy Taslim started his firm, Genesis Architects, in 2014 wanting to create beautiful spaces for local communities. Working across diverse scales and geographies, he believes this has enriched the multi-disciplinary firm's approach to designing for different communities, adapting to a range of cultures and contexts.

He reflects on some of his experiences working overseas – reinventing how design is documented for builders and leveraging on a community solution when building schools in Congo. On one lesson learnt, Rudy says: “In regions like Africa, you often have to strip everything to its raw, purest form... I learnt that...less can be more.”

What is it about the practice of architecture that drives you?

Rudy: Since I was young, I've always been intrigued by the ability to create and curate beautiful spaces. With every completed project, I witness the transformative power of design: whether it is a simple renovation of a derelict interior space, or a brand new community school building. The way in which well-designed spaces can positively impact lives brings a great sense of satisfaction to me.

From master planning to architecture, interiors and community development, you have worked across a wide range of scales.

Rudy: Architecture and design is becoming compartmentalised with the increasing fields of specialisation. I see architecture as fluid, and I've always been interested in a cross-pollination of ideas. This became one of the guiding directions when I started the firm.

What are the benefits and challenges of working across different scales and geographies?

Rudy: We become nimbler, and the team gets to hone different skills and grow professionally. The most important thing is we acquire a versatile thought paradigm. Architects think in a certain way, and engineers in another. So, when we deal with projects of different types and complexities, we acquire interchangeable lenses to investigate a project. More often than not, this helps us produce unusual and innovative work.

It is a double-edged sword as we are constantly forced to think out of the box. For example, we can be dealing with how a sea plane would land on the Maldives today, and tomorrow, we are confronted with pedagogical options for the design of a school for the visually impaired. It is important to know a bit of everything. We can rely on specialists, but our understanding of many things allows us to serve our clients better. It is a challenge that can be seen as an opportunity.

You have worked on many projects overseas. How did this come about?

Rudy: It started when I went to Africa in 2013 and experienced what the locals go through day to day. That was when I decided I wanted to use my skills to make a positive contribution to their built environment. The journey hasn't been easy, but it has been most fulfilling. It also landed other opportunities to work on commercial projects elsewhere in the world.

Do you approach overseas projects differently?

Rudy: One of the things we are conscious about is being adaptable. What works in Singapore may not elsewhere. Understanding culture and context is absolutely paramount in cross-cultural practice. Sometimes we have to be very sensitive to what is acceptable and even possible with the available materials and technologies.

In the Democratic Republic of Congo, we worked with builders who were illiterate and overcame this by re-inventing the way we document design. Instead of technical drawings, we issued a set of infographics (like what you would get buying a flat pack from IKEA) so they could understand how to assemble the different parts of the building.

How else have you worked with the community?

Rudy: Building relationships is the first order of the day. With trust and rapport, we are able to get past the cultural barriers and focus on designing something meaningful for the community. One of the best ways to ensure longevity and relevance of our buildings is through community involvement and ownership.

In a prototype school we designed in Congo, we were faced with the unavailability of bricks and a high cost of delivering them. We discovered the region has lots of volcanic rocks and hence conceptualised building facades that are made of gabion walls built by the community. The men would fashion cages out of metal rods, and they would be filled with stones gathered by the women and children. Thus, we solved a design problem using a community solution.



What are the challenges of working overseas?

Rudy: Singapore is a well-structured and efficient society with high industry standards. It is something that we take for granted. In some countries that I work in, we face a lot of disruptions brought about by inefficiency, corruption, political instability, and even bouts of natural disasters and community diseases.

But in Singapore, we sometimes complicate the way we do things. When we operate in regions like Africa, you often have to strip everything to its raw, purest form, whether it is your intentions or execution. One thing I learnt from working overseas is that less can be more.

How is the practice of architecture evolving?

Rudy: In Singapore, the Board of Architects is making it possible for architects to be registered in ASEAN and the Asia-Pacific, so the doors are opening for cross-cultural and global practices.

Another trend is the increasing use of technology in our built environment. With augmented reality and virtual reality, our clients can have an immersive experience of the space before it is built.

Technologies such as BIM (Building Information Modelling) are also increasing our productivity, accuracy and experience. These reinforce the fact that learning is a lifelong journey for an architect.



Learning from play

How are children learning from outside the classroom? Architect Kee Jing Zhi explores the evolving design of early learning spaces.

Writer **Justin Zhuang**

Sharing a common passion and way of working, architects Kee Jing Zhi, Chen Kian Khiong and Tan Kian Teck came together to start their firm, Freight Architects, in 2013. Developing a strong collaborative environment and synergy between different specialists, the firm has worked on a range of projects, from homes, resorts, industrial buildings to childcare centres.

Over the years, the firm has designed five childcare centres of varying sizes and scope. One of its founders, Kee, delves into some of the interesting childcare centres they have worked on and how early learning spaces have evolved from walled up classrooms in void decks to outdoor “picnic” classes.

Above | From the top, an aerial perspective of the Resort Island in Maldives (where Genesis Architects is carrying out master planning/hospitality design work), Rudy briefing school teachers and students in Congo and with children from the local village in Rwanda. Image credits: Genesis Architects.

Above | The ribbon trail in the Radin Mas Childcare Centre breaks the distinction between outdoor and indoor learning spaces and creates a natural sanctuary for children to wander and play. Photography by Darren Soh. Image credits: Freight Architects.



Above | The Sengkang Riverside Park Childcare Centre and one of its interiors. A first of its kind to integrate a childcare centre within a park, the building features openings to maximise natural daylight and allow for cross ventilation, blurring indoor and outdoor spaces. Photography by Darren Soh. Image credits: Freight Architects.

How did the three of you come together to start your firm?

Kee: All three of us have been connected through our universities and work. When we came together, we realise we share a common passion and way of working.

We love the process of giving definition to space and meaning through placemaking. We also enjoy collaborating with each other and with many different stakeholders and seeing how users benefit from the spaces we design.

How did you get involved in designing childcare centres?

Kee: We initially started by designing childcare centres in void decks for various operators. But over time, because of changes in public housing design, there were not many rectilinear void decks with large floor plates to house childcare centres. For more efficient resource planning, the Early Childhood Development Agency started creating larger learning centres to consolidate its resources, spreading these centres across a few point blocks.

We were fortunate to be involved in this early wave. One of our first was a two-storey lightweight structure we designed in 2016 for a childcare centre on top of a multi-storey carpark at Edgefield Plains in Punggol.

Any unusual childcare centres that you have worked on?

Kee: The Sengkang Riverside Childcare Centre that we worked on in 2018 was a fenceless childcare centre integrated in a public park. It was a chance to develop a new typology for learning. The public could roam in the vicinity of the facility, while the operator could develop a more outdoor-centric curriculum. They have classes in the indoor atrium park as well as “picnic” classes in the park and community garden.

The project was a mindset shift not just for us but also the operators and the various agencies involved. Everyone has become more confident in exploring new typologies and sites for childcare centre designs.

How has the design of childcare spaces evolved?

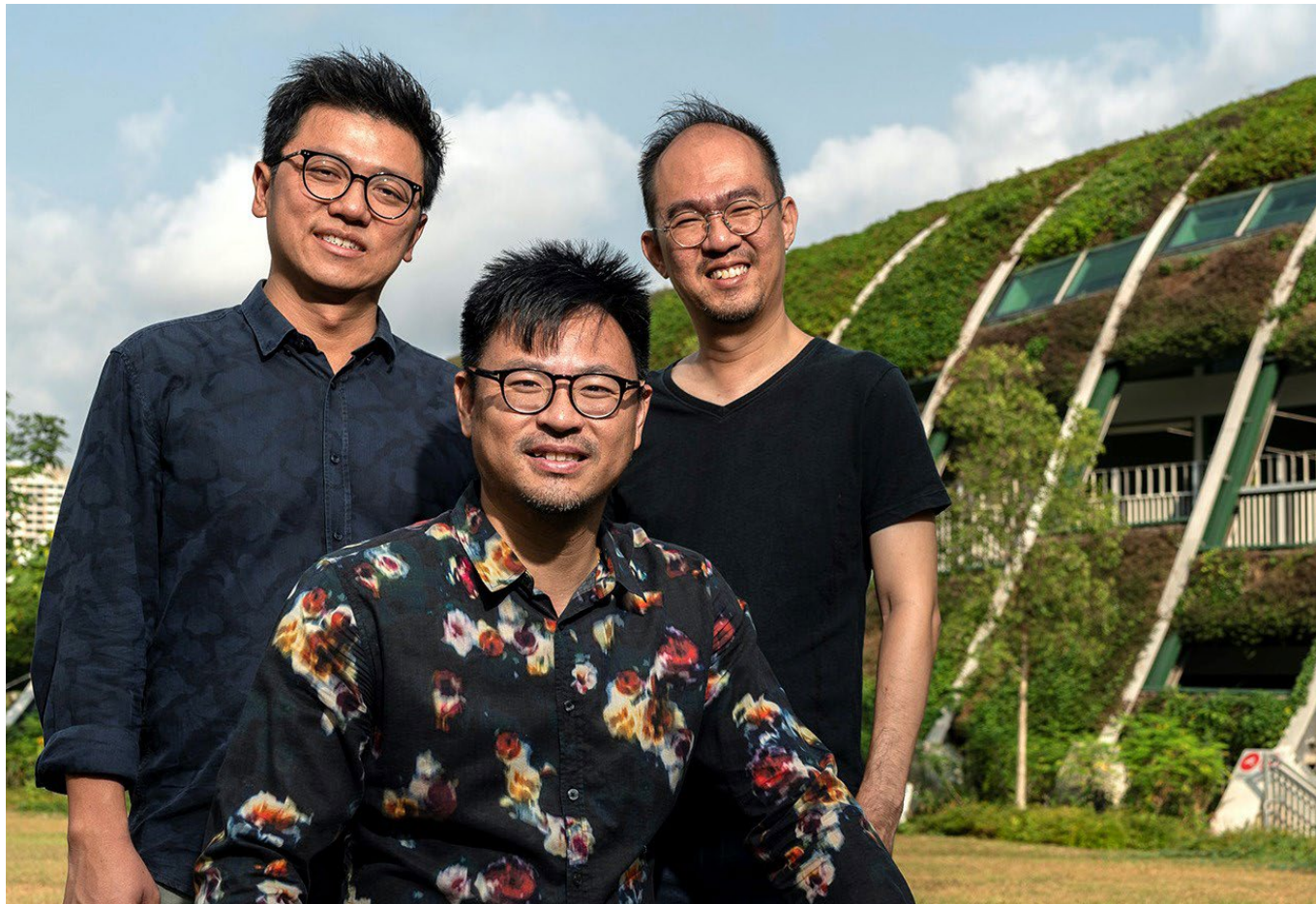
Kee: Traditionally, childcare centres are located at void decks in the heartlands. Most activities are confined indoors and children have limited time outdoors at the local playground. With the shift in early learning from curriculum-based to “learning from play”, we start to imagine new spaces and ways for children to learn outdoors. While classrooms remain for traditional learning, there is more emphasis to bring children out of them too.

We explored this new typology with the PAP Community Foundation in their childcare centre in Radin Mas. It is an adaptive re-use of a former secondary school building into a childcare centre. We worked closely with the pedagogy team to create spaces to match the revamped curriculum that emphasises on outdoor play and learning.

They identified many activity areas that can be outdoors and reworked their curriculum for this. Our strategy was to string these pockets of spaces together to form a big biophilic playscape and we used an orange ribbon linkway to connect them with the main classroom building.

What other kinds of projects would you like to pursue more of?

Kee: We are very interested in designing for the public realm, particularly social spaces such as community centres, integrated clubs and hospitality projects. We are also keen to collaborate with government agencies and research firms to create new types of social spaces that cater to the new economy.



For instance, the gig economy has changed how businesses and non-governmental organisations operate and relate to spaces. Big spaces for congregation may now be broken down and linked in a network of inter-dependent spaces. This is especially relevant after the Covid-19 pandemic when social distancing has become a new normal.

How do you see the role of architects evolving?

Kee: Architecture is a mixture of technical knowledge, site work experiences, artistic inspirations as well as sociological understanding. It is becoming too complex to be mastered by one person or even a team. Projects are also no longer just a singular entity, but often described as nodes in an urban network.

Our roles and knowledge will have to expand outside of architecture. Architects need to understand even more about finance, economics, sciences, cultures, technologies, artificial intelligence, lifestyles, contexts and more. We will need to learn how to collaborate with different disciplines, and not be limited by just architecture knowledge of buildability and construction.

Working with each other

For over two decades, architect Ko Shiou Hee has explored the realms of collaboration to create spaces that evoke vivid imaginations and contribute to larger landscapes.

Writer **Justin Zhuang**

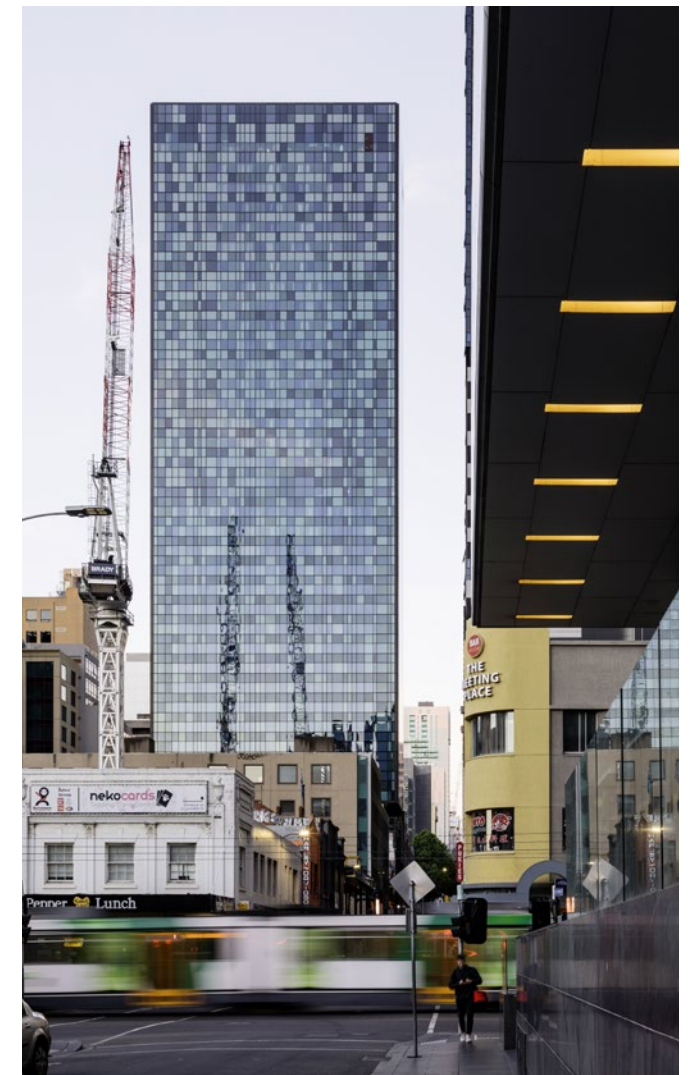
Beyond providing shelter, “architecture is an expression of our understanding of the world,” says architect Ko Shiou Hee. He has spent the last 20 years exploring the sense and sensibility of the built form in creating spaces that evoke emotions and within where the human spirit can thrive.

He started K2LD Architects in 2000 together with partners, architects David Lee and Ben Teng Choon Aik, which has offices in Singapore and Melbourne and a diverse portfolio across the Asia Pacific region. A critical aspect about designing spaces is collaborating with clients, communities and even competitors.

From the Founders’ Memorial to residential projects and schools, Shiou Hee talks about the value of collaboration, how it deepens the architectural practice and enriches the design of spaces.

What fascinates you about being an architect?

Shiou Hee: I’ve always thought that architecture can transform our environment: it provides shelter for the needy and also inspires people by capturing a slice of nature. I like the challenge of accomplishing a difficult task. Many elements must come together – site opportunity, economic affordability, client’s vision, good builders – before we have a chance of creating great architecture that is worthy of our labour of love.



Above | The three co-founders of Freight Architects, from left, Kee Jing Zhi together with Chen Kian Khiong and Tan Kian Teck. Image credits: Freight Architects.

Above | The Ibis & Novotel Hotel development at 399 Little Lionsdale Street in Melbourne, Australia. Photography by Trevor Mein. Image credits: K2LD Architects.



Over the years, K2LD has worked with other architects on various projects. What drives this collaborative approach?

Shiou Hee: Whenever architects receive a project, there is always a boundary called your site. Most of the time, for commercial projects, we only look at the site and our own self-interest and there tends to be little interaction between architects.

In 2003, I watched *A Beautiful Mind*, a film about the American mathematician John Nash who contributed to the creation of “Game Theory”. It is about creating a structure where the success of one person’s choice depends on the choices of others. At that point, a Chinese developer approached me to work on a development¹ but I was afraid to go to China alone as my firm did not have enough manpower. So, I suggested working together with other architects from Singapore. It was a win-win for all the architects.

We later realised that such a collaboration was also good for the developer because there was variety in the development and he could market how cosmopolitan Singapore architects are.

What are the benefits and challenges of collaboration?

Shiou Hee: We widen our scope and understanding of architecture because we are exposed to different practices. For the Founders’ Memorial, we are working with an international team who each bring in very different perspectives. Having lived and worked in the US and Japan, I also find it beneficial to have experienced different cultures. My clients ask why my lighting design is so different from others. It’s because I lived in Japan where they see light differently.

Above | The Golden Square Primary School in Victoria, Australia (Photography by Jonathan Wherrett) and the Dalvey Estate (next page at the top).
Image credits: K2LD Architects.

¹ The development was the Huafa Ecovilla project in Zhongshan, Guangdong. K2LD led a group of five Singapore architects in 2004 for this project. K2LD went on to lead another two collaborative projects. In 2009, five architects were invited to each design a good class bungalows in the Lien Villa Collective at Holland Park. In 2015, K2LD was commissioned by the Dalvey Estate family to lead a group of architects for a real estate development project comprising seven houses.



The challenge is the same as having a conversation with somebody else. We each have our own perspectives so there is a process of understanding, especially with different languages, backgrounds and even accents.

The design of the Founders' Memorial was awarded to Kengo Kuma & Associates in collaboration with K2LD. As a Singaporean, what does this opportunity mean to you?

Shiou Hee: We are very honoured and excited to be collaborating with Kengo Kuma on this eight-year journey. We share the common vision that the memorial should emerge out of the garden, and the design is meant to engage the users unlike a typical monumental object.

Even though I have experienced some of the early struggles of nation-building, it was still hugely

educational to understand further the tremendous challenges our founders faced. This memorial will inform our future generations not to take for granted our achievements and also be a repository of collective memories in turning the impossible into many possibilities.

K2LD's collaborative nature extended to working with students to design the Golden Square Primary School (2016) in Victoria, Australia. What was the process like?

Shiou Hee: The project came out of the merger of two schools within two different pockets of the same township. We conducted extensive workshops with staff, parents and students to get both communities on the same page and align on the brief. It consisted of both analytical and emotional exercises to understand the practical agendas as well as the unspoken ones. So often we find that

architects ignore mood and feel, but schools are very emotional places as they involve drama, making friends and even understanding social boundaries.

We involved the students because they will be the ones who have to eat, breathe and live in the building every day. It is one thing to provide a facility that people go to, but quite another to create one that people want to be in.

What did you learn about designing with the community?

Shiou Hee: We believe in the power of listening and to strategise. It is no longer enough to perform the classic roles of an architect. At the end of the day, people only know what they know, so the architect has to be able to guide and offer solutions.

Emotional intelligence is incredibly important. Designing a school means learning to engage with people from all walks of life. We cannot be dismissive, instead we must push creativity and relate on an everyday level.

Narratives are powerful too. On completion of the school, the principal asked the kids why they were so happy to be in it. Even though it had been over six years, they repeated the story they had developed with us at the beginning – that of the tree house and how it made them feel.

We recognise that everyone communicates and understands things in different ways. To communicate our vision, we must use a whole range of tools, from benchmark images to models, sketches, written descriptions, 3D renders and site visits.

How will the role of architects evolve in the future?

Shiou Hee: Architects are predestined to adapt to the future as human lives and activities evolve. Technologies, materials and construction methods also continually change. We need to create spaces that are flexible and adaptable for the future.



The increasing ease of communication and variety of media platforms also requires architects to collaborate much more with our clients. As they get exposed to better design, it will also raise the bar and push us to be better designers.

What kind of projects would K2LD like to pursue more of?

Shiou Hee: I would like to pursue more public projects, like schools and civic buildings. We have completed schools in China and Australia where we created new spatial paradigms in response to new teaching pedagogies. We are excited to explore the design of schools for the future.

With the Covid-19 pandemic, we are also trying to imagine how humans will use spaces and connect in the future. We hope people realise how important the real world and nature is. It is not for us to sit in front of the computer and imagine architecture in a two-dimensional flat screen.

AUDE Space

Genesis Architects, Freight Architects and K2LD Architects' works were part of the "Pushing Boundaries: from Interiors to Masterplans" exhibition held at the URA Centre from February 2020. The AUDE Space is a dedicated platform that seeks to inspire good architecture and design in Singapore as part of URA's Architecture & Urban Design Excellence (AUDE) programme. To minimise the spread of Covid-19, the URA Centre is closed until further notice. For more information about the programme, go to go.gov.sg/aude

Above | The Lien Villa Estate (Photography by Patrick Bingham Hall) and Ko Shiou Kee (first on the right) together with Directors, Ben Tang and David Lee and other staff from K2LD Architects (next page at the top). Image credits: K2LD Architects.