

# SUARA INNOVASI

An Innovative City is a Sustainable City



Culture, Heritage and Sustainability

Reinventing Public Spaces

Public Spaces and Heritage

Low Carbon Cities

# Redesigning the City





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# FOREWORD

Greetings and welcome to the 4th issue of Suara Inovasi.

Our mission is to make Kuala Lumpur and other places livable, sustainable and resilient. Our aim is to foster innovative ideas and applying them as living labs within the city. In this issue we report on our progress in running a food waste composting scheme, the setting up of an urban rooftop garden and building bike stations in Labuan. We also explore public spaces and how they can be used to serve the community. We look at issues such as culture and heritage, public parks, walkability and resilient communities. We also delve into smart cities and low carbon cities.

In our conversations on innovation, a CEO, a youth leader and a programme director share their thoughts with us on how to make a better city.

These are continuing themes for us and that we hope there is something here that triggers thoughts and conversations about what makes a great, livable city.

All of this would not be possible without our partners, and we would like to take this opportunity to thank Think City, InvestKL, Intan Baiduri PPR, the Jeffrey Sachs Centre for Sustainable Development, the Scope Group, LA21, Yayasan Wilayah Persekutuan and many others.

Please do give me feedback on what you think (sk.tang@klcsi.com) and how KLCSI can further its quest to create a sustainable city or how to join us on our journey!



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# Culture, Heritage and Sustainability

Cities are often defined by their culture, whether it is about their colourful past, the iconic landmarks in their built environment or even their sports teams. Fanaticism sometimes plays a part and people take pride in saying that they are from New York or London or any number of cities that boast a certain global identity. If this aspect of a city is so important, it follows that we should preserve the cultural aspects of our cities.

Yet culture, which is so interwoven with heritage, faces a direct assault as urbanisation takes shape through the destruction of old heritage buildings that make way for carbon copy shopping malls and skyscrapers. The adoption of this approach can be partially attributed to the displacement of local cultures by migrant populations who bring in their own cultures. More significantly, it seems that this is also due to the impacts of globalisation whereby modern fads are favoured over historical values and perspectives.

It is worth considering the advantages that culture and heritage offer. Heritage buildings, for instance yield economic and social benefits. In a study carried out by the English Heritage Trust, it was found that an investment of £1 gave a return of 70 percent in local business and tourism income. Heritage locations furthermore improve the way people feel about their cultural identities by nurturing local pride in the area and helping to create a distinct sense of place. They also offer the added benefits of direct and indirect revenue from visitors for services, ancillary F&B and merchandise sale - adding up to a handsome windfall for local inhabitants.

In addition to achieving a better understanding of the history and politics of a society, there are a number of practical lessons to be learnt from heritage and culture. Old buildings are traditionally associated with the preservation of artifacts



and history but it's also important to note that many of them were designed and built in an era when artificial cooling and lighting were absent. Transportation costs for building materials were expensive hence builders in those days made the most of local suppliers and home grown expertise to craft buildings that harmonised with the environment. This is in contrast to the current practice - especially in the tropics - of encasing buildings in glass and pumping them full of cold air and illuminating them with decorative but carbon unfriendly lights.

The orientation of a building (i.e. which way it faces and how it is positioned on a site) affects how it is impacted by the sun or the prevailing winds. Optimum positioning such as facing the long axis east-west to minimise the hot morning and afternoon sun or alignment to the north to receive the direct winter sun, can lead to a more protected, warmer or cooler environment depending on your choice. The selection of building

materials played a key role in temperature control too. In Asia, for example, many old institutional heritage buildings are of stone construction while others are of rendered brick; both materials are light in colour and reflect heat away keeping internal temperatures cool. Blue was a popular colour in the past as it was generally felt to be "cooler".

Passive design features such as overhanging eaves and balconies or verandahs are commonplace in older buildings and provide beautiful reminders of a city's rich past. They also served a key purpose. Overhanging eaves offer shade as well as shelter from rain while balconies and verandahs reduce heat gain and increase ventilation and access to cooling breezes. In hot climates, windows used to be positioned to allow cross ventilation and, where space allowed, open areas and vegetation further helped with cooling the environment. Fans were used to keep air circulated while in older homes in highland

areas, fireplaces were installed to heat up the room during cold evenings. Windows were generally smaller to keep out the heat and many houses had shutters on their windows to keep the sun's glare as well as the rain out. Other climate-related features included high ceilings to allow the air to circulate, wooden, stone or tiled floors to give an indoor cooling effect and "hot rooms" where clothes and other items were stored to avoid the damp.

Throughout Asia, there are many classical examples of climate design such as the sweeping sail-like tebar layar (gable end) of the traditional roofs in southeast Asia used to trap and channel air for internal cooling, the guojielou structures in Southern China offering additional street shading for pedestrians, and the graceful buildings in the Indian sub-continent where narrow vertical ducts and staircase shafts are used for deflecting wind into the building. These and more are examples of where harnessing the elements, rather than countering them, proves to be more effective. The Taj Mahal in Agra is perhaps one of the best known where the siting and alignment of openings and air shafts deliver natural thermal comfort for the visitors who come there to marvel at one of the most distinctive wonders of the world.

There is another argument for preserving old buildings. A new building's lifespan on average must reach 26 years before it can start to break even on energy savings versus invested costs. Even worse, if a building were completely demolished and replaced with a

brand new energy efficient building, it would take 65 years to recover the energy lost in demolishing a building and reconstructing a new one in its place. With the added burden of construction waste - roughly 23 percent of solid waste entering landfills - it seems obvious that there should be a case for conserving existing buildings.

But even with all the evidence stated, a city's obsession with 'progress' still means that old areas are under constant threat of demolition to make way for new developments. With the need for more urban housing and development, governments are faced with the dilemma of how much to preserve and how much to give way to, in order to accommodate the masses wishing to live in their cities. Tackling this issue is complex and not helped by the fact that many laws on preservation are vague and can be easily manipulated. This makes the protection of heritage buildings difficult if you don't know what you are allowed or supposed to protect. Developers have exploited this loophole to the dismay of local communities and the helplessness of authorities. Getting these definitions sorted out would be an important step in any heritage preservation policy.

To do so, land policy must be revisited. Transfer of development rights is one area of key importance. For instance, developers can have the space locations they seek as long as they make good on the original building by refurbishing it or, in some situations, transplanting the building lock stock and

barrel elsewhere. Refurbishment of heritage places can be a viable option if the proposals can be funded through the efforts of both public and private sectors and ultimately managed by the community. Many of the old Peranakan houses in Melaka are successful testimony to this type of partnership arrangement where it has resulted in a growing closely-knit community.

This is however not to say that urbanization is negative. Rather, physical and social progress is essential for cities to be sustainable. It is the nature of progress that is crucial, so that in exploring new innovations we do not lose sight of the culture and history that helped create the city in the first place. Cities thrive on robust and resilient communities so anything that can be preserved that strengthens community spirit is a good thing. This means retaining certain aspects of culture and heritage to promulgate a strong sense of worth amongst citizens. Regulations and good land policy are necessary but these must be linked to long term thinking to get us to the right place in time. [\[1\]](#)





# Reinventing Public Spaces

The close relationship between land and humans is unequivocal. We are bound to our usage of land, whether it is for farming, for housing, for trading or for a host of other essential activities. But are we paying enough attention to the use of space? Has urbanization blinkered us to the underlying cost of development, including human costs?

In the old days when mankind led a nomadic lifestyle, it was possible for groups to literally live off the land by gathering and eating what they needed to survive. Over time, populations converged at settlements and became farmers as it was less stressful than wandering the land and more efficient to plough and till the soil to produce food. These settlements became rural communities, making enough to live on and bartering or trading the remainder. Principles were very simple: one had to respect nature, don't produce what was not needed, work for the betterment of the community and enjoy the basic pleasures of life. No one had to earn money to take a holiday; life was a blend of working hard and knowing when not to do so, usually by following the changes in the seasons.

However as technology replaced animals and laborers to till the land, rural communities split up as individuals migrated to newer and bigger settlements located on the coast where trade and commerce could flourish with ships transporting goods to and from such places around the world. Water was then (and still is) a powerful connector of places. This led to the making of cities. Driven by migration of the masses from rural areas, cities became hubs for economic opportunity and enrichment.

In the 20th century, city planners faced with the challenge of expanding populations leaned towards infrastructure solutions - more people meant more concrete. Identities



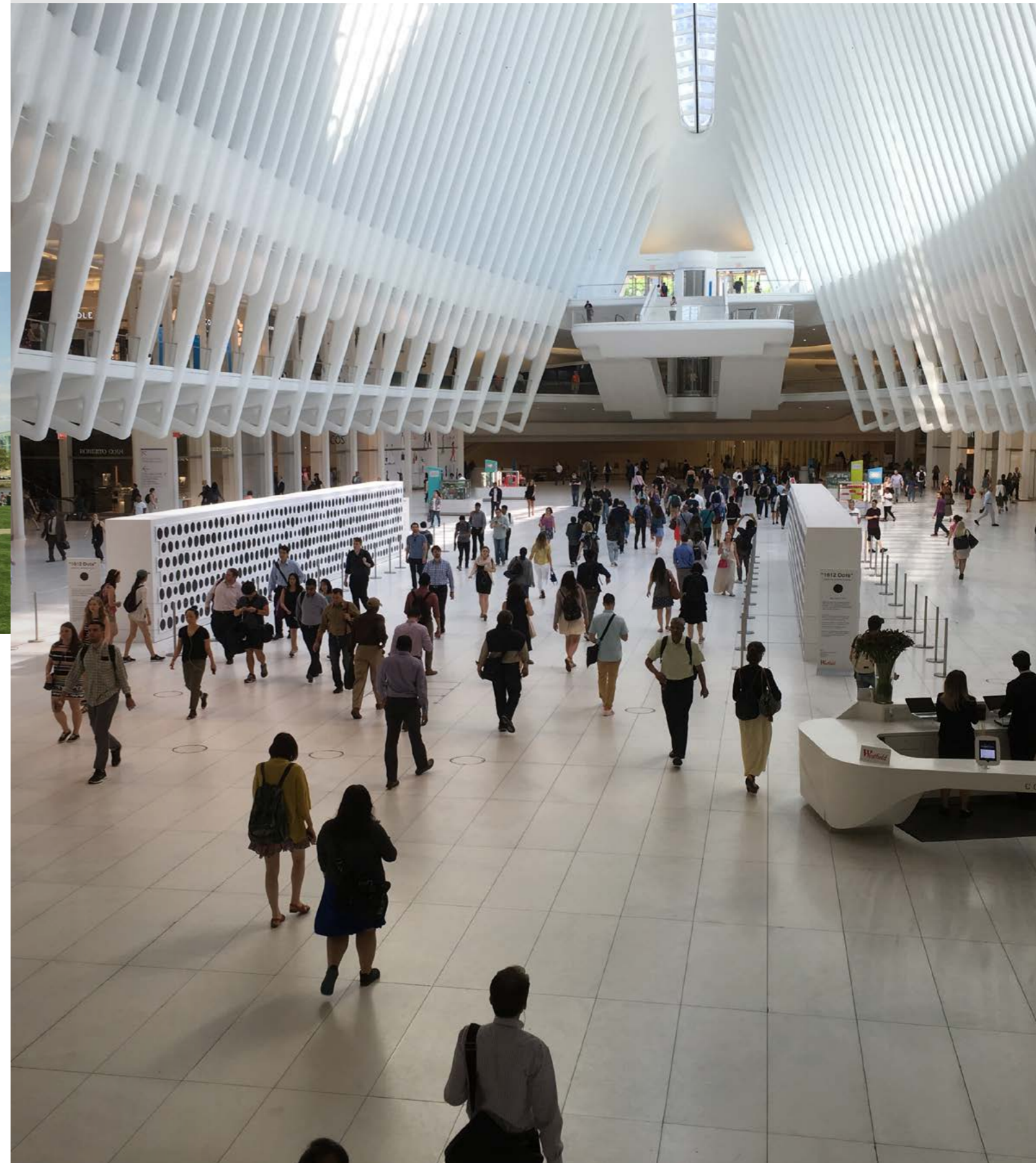
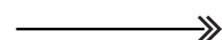
and individualism eroded as brick walls and expressways disconnected communities. As cities expanded, land space became a premium with an accompanying trend to build upwards. Today we live in vertical housing and work in skyscraper offices. To get to work, we sit in traffic jams. In addition, open spaces that we used to take for granted, have become rarities tucked away within concrete mazes and criss-crossed by expressways.

The point is that people need spaces. Spaces empower people through engagement, interaction, transactions and recreation. A community space breaks down barriers of age, class, religion and other differences. Yet, even though the benefits of open spaces are obvious, we seem to be losing more and more spaces as cities become more urbanized. There are some reasons for this phenomenon. Firstly, the real estate industry has become a competitive market with rich returns for the players who wish to maximize the value of land space and turn this into profits. This has been a key driver for the proliferation of buildings and shrinking public spaces. The other factor is lack of planning or more accurately, lack of enforcement of planning regulations where they exist. In addition, technology has taken over our cities. Streets

that were designed for horses and carriage are hopelessly inadequate for today's automobiles and land has to be taken for expressways; even cities that are 'designed' for automobiles show a dearth of respect for the need to have spaces for human activities.

Urban decay or urban blight occurs when a previously functioning city, or part of a city, falls into disrepair and decrepitude due to deindustrialization, population changes, restructuring, high local unemployment or political disenfranchisement. Urban decay has the opposite effect to development - spaces become available but they are desolate spaces that no one wants, and the sorrow of a city's demise is put on show for all to see starred by empty buildings and condemned houses. Such spaces are socially dangerous to the community because they attract criminal elements, contributing to the volume of disorder.

So we should plan carefully to ensure that we keep sufficient land for public spaces. We should maintain the city fabric even through tough times in order to keep our spaces vibrant and relevant. Barcelona and Perth are two examples of cities which have reinvented their spaces.





### The Gardens of Barcelona

In the 19th century, Barcelona was a teeming, disease-ridden warren of streets, clustered around the port and hemmed in by medieval walls. Life for the working class was grim and short; the average person died before his or her 36th birthday. But through the inspired work of Idelfons Cerdà i Sunyer, a progressive civil engineer, the city was designed with city blocks of identical size wrapped around parks and kitchen gardens forming an urban lattice known as the Eixample.

Cerdà foresaw the needs of modern life and created a template from which the city has evolved to become one of Europe's most vibrant and enticing. Foreseeing the potential of railways, wide streets were built that could handle trains and trams. To help visibility and to allow trams to turn, corners of each block were cut at an angle, creating the graceful chamfered corners which are characteristic of the Eixample.

With city development, tall buildings cut out the light and took up space that was supposed to make Barcelona sanitary and pleasant. The patios inside each block became cluttered with warehouses, garages and offices. However, the green spaces that the Eixample created were retained to become the soul of Barcelona. As part of an effort to make the city greener, over 40 gardens were provided and there are plans to add more, as well as to create a network of pedestrian-only areas.

Today, magnificent modernist buildings flank tree-lined boulevards while vibrant shops offer sleek furniture, elaborate tapas, chic couture and handmade chocolates. There is a patchwork of public gardens and courtyards that offers refuge from the urban rush and an intimate view of everyday Barcelona life. Many of these green spaces have been constructed in recent years from the patios that form the center of each city block, and are reached via narrow passageways or by cutting through buildings. They are the ideal place to pause between the sights of the Eixample, which stretches from the old city to the other parts.

### Perth's Laneways

Perth has undergone significant economic and social growth in recent years. The city is attracting more development and more people than ever. The strong economy coupled with an unparalleled demand for space has created a unique opportunity to improve vibrancy in the city by revitalising an underused and forgotten resource – laneways.

The goal was to improve the contribution that laneways make to the city's economy and vitality while sustaining their traditional physical form. A strategy was developed to preserve distinct and thriving laneways, a stock of diverse, affordable business spaces and good connectivity and permeability.

Many of Perth's laneways are located in prime locations close to busy streets and shopping precincts. Recognizing the potential that laneways offer with their intimate scale, Perth set about transforming them from back alleys full of rubbish, to unique destinations thriving with activity. In the city centre, laneways offer inhabitants safe havens away from vehicles and shelter from the sea breezes. With the city's commercial office stock at full capacity and recent record leasing deals, laneways offered an affordable alternative for niche businesses and much needed night time economies.

Small bars for example are potentially new occupants for the city's laneways. These licensed venues can cultivate a café-style bar culture and offer a wider choice of intimate settings; and a pleasant daytime cafe that morphs into a bar at night. They can also function as meeting places for local businesses. Small bars also act as incentives for people to explore the city and allow the reclamation of underutilised areas. Laneways furthermore are ideal venues for small bars offering live music, comedy or other performing arts suited to 'intimate' environments, where the responsible serving of alcohol is better managed.

Creative Industries (CIs) – software developers, design studios, film makers, and writers – turn innovative ideas into commercial outcomes; their contributions are being increasingly recognised and valued. Over the years most of these businesses have left the City as space become more expensive and harder to find. But today, CI workers are being encouraged and welcomed back into the city. The revitalisation of Perth's laneways supports the growth of CIs by providing a greater reserve of space for CI workers to interact in. Laneways can become the meeting rooms for this industry. Attracting and retaining skilled and talented local people is crucial as these people generate the economic, social and cultural energy vital to Perth's prosperity.

A vital component of cities is their parks. Parks are an expression of public life and they also play a role as economic catalysts. Cities all over the world are revitalizing old parks and working to create places where people feel they belong and where they can connect with others. But refurbishing parks, and even building new ones, is no guarantee of having better parks. As communities strive to meet the burgeoning demand for quality public spaces, it is important to consider whether parks are being created that people are enthusiastic about using - or settling for mediocre parks that just minimally meet people's needs.

The placemaking approach is based on the understanding that utilizing community assets and analyzing user patterns are important tools in guiding design and, in doing so, obtaining ideas for improving a park from the people who know it best, i.e. the residents and workers who use it daily. This process works best when there is cooperation between public officials, park supervisors, planners and other design professionals, management teams, and dedicated citizens.

Successful ideas include:

- A variety of destinations within the park
- Easy pedestrian access
- Connections to surrounding neighborhoods and public transit
- Grass, walkways and trees that invite people to enjoy themselves
- Nighttime movie screenings
- Places for chess and other games
- Outdoor musical performances
- Art markets

An important lesson coming from all these examples is that parks must constantly evolve to continue serving their communities. The flow of ideas about how to make a great public place should not cease once the park is built, or even when the management plan is in place. As more park districts and management entities operate under the belief that re-evaluation should be an ongoing process, a new pattern of parks continually getting better and better serving community needs will emerge. This is gradually replacing the depressing and all-too familiar pattern of parks steadily declining until they are in drastic need of repair and revitalization.

However, we must be careful of thinking that design alone can produce a great place and only focusing on the aesthetic dimension of landscapes. Perfect geometries and symbolic landscapes translated from plan into construction may not be what people want for their public spaces. As a result, places

meant to be edgy and exciting quickly become predictable and monotonous. When parks are designed as objects to behold rather than places that provide a variety of experience, park users find their options narrowed to essentially gazing at artistic flourishes and cities will receive only a fraction of the economic and social benefits that would have accrued.

So how do we make parks and open spaces work? Public security is important. People need spaces of gathering that are free from crime and the threat of personal assault. Spaces need to be safe such that the public can meet without the concern of being attacked, either physically or psychologically. In many ways, this is about respecting public spaces. People must treat public spaces with care and not let them be overrun by vandalism and litter or used as spaces for political diatribes. Anti-social behaviour should be curbed swiftly, hopefully by the communities themselves rather than just through law enforcement.

Physical activity is good. Spontaneity is even better. Nothing beats the exuberance of the human spirit. Dancing is a great outlet to expend energy even for the aged. Rising sports superstars probably learnt their first lessons in football or cricket as toddlers playing in parks. In addition, visitors should be welcomed rather than avoided. Polarization of groups through nationalities, race or religion is unavoidable but those with a genuine interest in learning about others should not be barred from intermingling. Differences should be celebrated not fortified.

In conclusion, open spaces are good for you. But if we are complacent, these will be easily lost to the scourge of urban development. We must be vigilant and protective of our public spaces and not let them disappear or the price to pay will be heavy. [U](#)





# Heritage Walk

Public spaces are where we come together. It is where society truly exists as people see each other and interact. It is where we meet, eat, socialise, explore, and conduct business. Public spaces can be outdoor spaces like parks and squares alternatively they can be libraries, train stations, or markets. The success of public spaces hinges on a few basic principles: they need to be safe, have a comfortable climate, include adequate seating, and importantly, they need to be walkable.

## Walking and Public Spaces

Being able to walk in city spaces allows residents and visitors to engage the city rather than simply observe it. People in cars cannot connect with other people: drivers become invisible and alienated. The knock-on effects of this can be road rage, dissociation, and a lack of community. When we walk in shared spaces we can interact and connect with others. Our children can observe and learn about our society and culture. Our city takes on the faces and characters of the people who live there and those who visit it. It is the people, not the buildings or cars, who make a city.

Public spaces are also where people conduct business. Jalan Alor or Jalan Petaling in Kuala Lumpur, Jonker Street in Melaka, and Lorong Kulit in Penang come alive with pedestrians looking to support local businesses and strike a bargain. Many of these streets are predominantly used by cars but witness a surge in commerce when they are handed back to pedestrians. Streets with broad pavements cater for greater pedestrian traffic and see increased business. There is a clear message to businesses: pavements are better for business than parking.

The pavement is the most basic of public spaces. These allow people to move safely and connect with the city. Pavements are one of the few public amenities which serve everyone in a city – from the wealthiest residents to those that sleep on the streets. Pavements are how we get from our homes to the train station. How we connect our

offices to the gym. How we move from the park to a restaurant. Pavements are the most rudimentary infrastructure and some of the most essential in a city. When we visit the world's most beautiful cities, cities that truly capture the public's imagination: Buenos Aires, Istanbul, Paris, or Osaka – they are incredibly walkable. Tourists visiting these cities happily spend the day walking and exploring the city, engaging the public spaces, supporting local businesses, and absorbing the heritage.

## Walking and Heritage

There is no better way to experience a city than by foot. The idea of going to a historic city and being stuck in a car, unable to touch the sandstone buildings or walk the cobbled streets, is disheartening. When we walk we not only see a city but smell its cafes and hear the businesses as we pass by. We can actively engage and connect with the city, its history, and traditions. It is how tourists learn about a city and how children discover their own culture and heritage.

Malaysian cities have a strong pedestrian heritage. The five foot way is one of the most notable and distinct of these. These pavements provide shelter from the sun and rain while creating a unique atmosphere that is distinctly Southeast Asian. Sadly, many of these passages have been sealed by private owners forcing pedestrians into the road, exposing them not only to the elements but traffic as well. Fortunately, cities like Penang have taken the initiative to re-open the five foot way, beginning with those in George Town.

These pedestrian paths that connect old shop houses provide simple and adequate infrastructure for people who need to move in cities. Their history and heritage span nearly two hundred years. They ought not be merely preserved but should continue to feature in contemporary architecture. A lack of decent covered pavements is one of the reasons people will choose to sit in traffic rather than walk short distances. The threat of rain pushes people behind the wheel rather than taking a seat on the train. If cities are serious about cutting traffic and increasing mobility then pedestrian infrastructure is the first step.

## Heritage as Legacy


Heritage has two aspects: what was left to us by our parents and what we will leave our children. When we look ahead, do we envision a city where residents are condemned to idle in traffic or do we see a city where children can safely walk to school and the elderly can stroll to a park in the afternoon?

In the last 50 years, cities have become obsessed with cars. Globally, Malaysia has the third highest level of car ownership and the highest level of second car ownership (93% and 54% respectively). The consequences are clear: roads have

gotten wider, freeways have carved up cities, dividing neighbourhoods and communities, commuters spend more time in traffic than ever before, and smog has become a major urban issue. The WHO estimates that 1 in 8 global deaths are linked to air pollution. If residents do not actively change their priorities and what they expect from city officials, tomorrow's heritage will not be one we are proud of.

Haze is becoming a bigger issue across Malaysia. Fine particles are referred to as PM2.5 which is known to cause cancer and other ailments. These particles are less than 2.5 microns – that is thirty times smaller than the width of a human hair. These tiny toxins enter our blood stream through our lungs and make us sick. If levels of this pollution continue to increase, Malaysia will face a multitude of problems: from increased sick leave and loss in productivity, falls in tourism revenue, and premature death. Already there are days where Kuala Lumpur has

higher levels of pollution than Beijing – a city infamous for its unbreathable air.

While much of this haze comes from sources outside of the city limits, elevated levels within cities indicates that Malaysia's love affair with cars is contributing to pollution. Choosing to walk and ensuring cities are designed with pedestrians in mind are the first steps in reducing pollution in cities. Pedestrian infrastructure is crucial in facilitating the use of public transport which, ultimately, is the only cure to our dependence on cars and the associated pollution. If residents do not prioritise places to walk, city officials will continue to underrepresent this crucial infrastructure. Going forward, it is essential to plan and provide adequate pavements so that future generations can enjoy a legacy of urban mobility. 

*James Speirs is a research fellow at Think City with an interest in pedestrian infrastructure and low tech solutions.*

## Measuring Walkability

There are many tools to measure walkability in cities. The most well-known is the Pedestrian Environment Review System (PERS) which is “a systematic process to assess the pedestrian environment within a framework that promotes objectivity”. PERS consists of an on-street audit process and a GIS software package to consolidate, map and display results. Facilities are rated according to different parameters such as effective width, dropped kerbs, permeability or personal security as well as disabled access.

Others include:

- **Walk Score:** A walkability index based on the distance to amenities such as grocery stores, schools, parks, libraries, restaurants, and coffee shops. Walk Score's algorithm awards maximum points to amenities within 5 minutes' walk and scores are normalized from 0 to 100.
- **Walkability** is a customizable set of three walk rating indexes with an algorithm that considers factors including street type, intersection complexity, point-of-interest accessibility, population density, freeways and bodies of water.
- **Walkonomics:** A web app that combines open data and crowdsourcing to rate and review the walkability of each street.
- **RateMyStreet:** A website that uses crowdsourcing, Google Maps and a five star rating system to allow users to rate the walkability of their local streets. Users can rate a street using eight different categories: Crossing the street, pavement/sidewalk width, trip hazards, wayfinding, safety from crime, road safety, cleanliness/attractiveness, and disabled peoples' access.





# Low Carbon Cities



The CoP 21 (Conference of Parties) held in Paris at the end of 2015 set a number of commitments for addressing climate change.

Representatives of nations agreed to keep global temperatures below 2.0C (3.6F) above pre-industrial times and “endeavour to limit” them even more to 1.5C, to limit the amount of greenhouse gases emitted by human activity to the same levels that trees, soil and oceans can absorb naturally, beginning at some point between 2050 and 2100, and to review each country’s contribution to cutting emissions every five years as they scale up to the challenge. This agreement has escalated the urgency with which climate change and greenhouse gas emissions have to be tackled. Cities are the main culprits for manmade emissions accounting for almost three quarters of the world’s greenhouse gases. This is not new, but what is alarming is the rate of growth of cities which means that actions must be taken now if we are to achieve CoP 21 goals.

Lowering greenhouse gas emissions or making cities low carbon involves a knowledge of where emissions are coming from in the first place and then setting reduction targets that are practical and feasible. Going low carbon should be the aspiration of every city. It does not require a lot of thought to realise that there are benefits from energy efficiency as well as having the means to control sectors like transport and waste to bring down greenhouse gas emissions. Low carbon cities would, in principle, not just be more efficient but also healthier due to reduction in air pollution and better air quality.

Examples of low carbon initiatives:

- Changwon in South Korea has worked with companies to integrate renewable energy technologies into its projects on waste and transportation.
- Sydney, Australia is running the Better Buildings Partnership (BBP), “a collaborative partnership with Sydney’s leading private commercial building owners committed to assisting the City to meet its Sydney 2030 objectives”.
- Singapore has made water technology a key strategic priority over the last 40 years. It describes itself as a “leading Global Hydro-hub”, with a thriving cluster of about 180 water companies and 26 research centers.
- In 2010, Shenzhen was the first city in China to pilot a carbon trading scheme, collaborating with companies in setting the rules and pricing mechanisms. 636 companies in Shenzhen are included in the system.



For cities to trace this pathway, firstly, sound policy that prohibits and eventually phases out inefficient fossil fuel consuming activities like coal power stations and old motor vehicles must be set in place. Building codes need to be enforced to improve energy efficiency and renewable energy (solar, wind, hydro and others) sources should be promoted. Cities like Copenhagen are well on this route with the majority of the city’s power coming from wind and its extensive cycle network means that cars are rare as people go about their lives reliant on cycling and pedestrianisation in the busier parts of town. The advantages of public transport over private forms further suggests that cities with well-developed public transport systems face less challenges of congestion and valuable spaces being taken up for parking. Curitiba in Brazil is an excellent example of this, as is Singapore. The second imperative is technology. Advances in equipment and materials mean that we can reap the benefit of affordable and efficient facilities that lower our carbon footprint, yet still receive the comfort factors and convenience for our urban lifestyles. Building automation systems manage our offices and homes to optimize the use of electricity throughout the building, ensuring that power is not wasted if facilities are unused. The smart grid was the pipedream of all city technologists to allow separate sources to feed into a smart grid so that users could select green energy from a list of energy sources (including renewables) and pay for this accordingly. The grid was also based on the notion that electric vehicles could feed off it and become mobile energy storage devices for when the energy is in excess of daily household or office needs.

Lastly, investment is needed to bring all this together. A further outcome of CoP21 was a commitment to a finance package incorporating a set of contributions from donor governments to deliver the goal of mobilising USD 100bn from public, private and innovative sources by 2020. In its 2016

report, CDP Cities disclosed that 68% of the cities mentioned in the report have incorporated low carbon sustainability measures into master planning for the city with an aim to secure investment funds to carry these out. The report stated that investment needed in cities into low carbon transport, energy, water, waste and telecommunications infrastructure is estimated at US\$57 trillion between now and 2030 and that investment of this magnitude can only be delivered through collaboration with businesses and investors.

CDP Cities works closely with two other initiatives - the C40 Cities Climate Leadership Group and the Global Compact of Mayors. C40 uses knowledge-sharing and metrics-driven implementation to achieve measurable and meaningful reductions in both greenhouse gas emissions and risks associated with climate change, along with realising the local benefits of these solutions (cleaner air and water, lower energy costs, less traffic congestion, higher quality of life, longer lifespans, green jobs and green businesses). Focusing on megacities, C40 enables the latter to be better prepared for climate change and, wherever possible, to minimize the risk associated with global climate change and reduce or even avoid the health, environmental and economic impacts that could result. Launched in 2014, The Global Compact of Mayors establishes a common platform to capture the impact of cities’ collective actions through standardized measurement of emissions and climate risk, and consistent, public reporting of their efforts. Through the Compact, cities are encouraging direct public and private sector investments in cities by meeting transparent standards that are similar to those followed by national governments.

Other institutions working on low carbon cities are the World Bank’s Low-Carbon, Livable Cities Initiative, which helps rapidly-

growing cities plan for smart, sustainable, green, and inclusive growth. The initiative focuses on diagnostics such as greenhouse gas inventories, tools to evaluate the emission reduction potential of different investments, and standardized climate-smart investment at the city level so that municipal officials are better equipped to put their cities on a low carbon trajectory. The initiative also works with local authorities to help them become “creditworthy” and raise their credit ratings. The Low-Carbon, Livable Cities initiative is supporting the Rio de Janeiro Low Carbon City Development Program which helps the city plan, implement, monitor, and account for low carbon investments and climate change mitigation actions across sectors making the Rio de Janeiro Low-Carbon City Development a pioneering business model that can be disseminated to other cities throughout the world.

Malaysia itself has embarked a low carbon framework to achieve sustainable development that will subsequently reduce carbon emissions. The framework is a national framework and assessment system to guide and assess the development of cities and to support holistic sustainable development in Malaysia. There are four main focus areas - urban environment, urban transport, urban infrastructure and buildings - which are further sub-divided into 13 performance criteria and 35 sub-criteria. The framework has been applied notably in Iskandar city and Petaling Jaya. Looking to the future, cities need to foster better awareness within city governments as to what financing opportunities exist with private investors, and how to access them. In general, private investors view publicly listed corporations as a more reliable investment opportunity. So for governments, partnering with businesses puts cities in a stronger position to attract investors. It is telling that in emerging markets, only 4% of the largest 500 cities in developing countries are deemed credit-worthy by international investors.

Meeting the challenge will require conventional means of collaboration, like city governments setting strong policy, businesses developing new technologies and investors providing financial support for infrastructure projects. But new means of collaboration will also be needed; investors can support cities not just through financing debt and infrastructure, but also by investing in start-up companies that are based in cities. Investors can also fund companies that count urban consumers as their main customers and can provide strong influence on determining green lifestyles. These new types of collaboration may be indirect—but they are no less important than traditional methods. 



# Building Resilient Communities

Communities face many challenges from both natural and man-made hazards. To deal with shocks (typhoons, earthquakes and flooding) and stresses (droughts, heatwaves and poor air quality), it is necessary to build resilience.

Resilience is defined by the United Nations as “the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.” Under the Hyogo Framework, hazards are of “natural origin and related environmental and technological hazards and risks.” Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. Building resilience in communities is necessary for inhabitants, who are given less or no choice but to be exposed to hazardous conditions e.g. living on a flood plain or exposed to earthquakes and typhoons.

Based on the UN’s Global Assessment Report, the annual average losses in the built environment associated with acute events such as earthquakes, tsunamis, floods, tropical cyclones and volcanic ash are already in the order of US\$314 billion. This figure would be higher if the impact of chronic events, such as droughts, temperature variations and agricultural damage, are considered. Such losses are reflected in loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, and environmental damage.

## Independent Bodies

To address the need to build resilience, there are a number of independent organizations that have attempted to come up with solutions. The Post Carbon Institute offers a grounding of community resilience science based on six foundations of people, systems-thinking, adaptability, transformability,

sustainability and courage. The Institute for Social and Environmental Transition uses a Climate Resilience Framework as a conceptual framework for assessing vulnerabilities and risk, identifying resilience strategies and creating an open, inclusive learning process to identify specific measures and processes that can address the uncertainties of climate change through action and implementation. In research on disaster prevention carried out in 2012, Global Humanitarian Assistance, a non-governmental organization, estimates that US\$3.7 billion for disaster risk reduction out of US\$363 billion development aid goes to the top 40 humanitarian recipients. Therefore US\$1 out of every US\$100 spent on aid is for reducing disaster risk. This shows how countries are under-resourced in setting up prevention measures which are a key component of resilience.

The Sendai Disaster Framework was developed in 2015 to provide guidelines on how to build resilience to address these issues. The Disaster Resilience Scorecard is a tool based on the 10 Essentials of Disaster Preparedness modified according to the Sendai Framework.

### These ten essentials are:

- **Essential 1:** Organize for Resilience
- **Essential 2:** Identify, Understand and Use Current and Future Risk Scenarios
- **Essential 3:** Strengthen Financial Capacity for Resilience
- **Essential 4:** Pursue Resilient Urban Development
- **Essential 5:** Safeguard Natural Buffers to Enhance the Protective Functions Offered by Natural Ecosystems
- **Essential 6:** Strengthen Institutional Capacity for Resilience
- **Essential 7:** Increase societal and cultural resilience
- **Essential 8:** Increase Infrastructure Resilience
- **Essential 9:** Ensure Effective Disaster Response
- **Essential 10:** Expedite Recovery and Build Back Better

## Resilience Scorecard

The Disaster Resilience Scorecard developed by AECOM and IBM and launched in April 2014 was designed to quantifiably measure resilience performance. The Scorecard supports target setting and prioritizes action and is investments-based. One of the many advantages of the Scorecard is that it highlights the connections between the many different aspects of disaster resilience and the responsible parties, while also identifying gaps in plans and provisions. Issues that the Scorecard addresses include growing populations that put pressure on land and services, diversion of resources from local programmes to suit national needs, weak governance, lack of engagement with stakeholders, inadequate water and energy resource management, decline of eco-systems due to human activities and ageing infrastructure and unsafe building stock, and lack of coordinated emergency response services.

Building resilient communities needs to take place across different sectors. Governments must focus on prevention rather than reacting to disasters. This is best done through planning for disasters and translating national policy objectives into goals for local level. Institutional structures to support work on disaster preparedness are essential especially issues like climate change which impacts across different agency jurisdiction. Local authorities should conduct risk and hazard assessments in addition to the customary tasks of land use planning and maintaining physical infrastructure. Last but not least, vulnerable groups should be clearly identified. This is no easy task given the migration patterns in urban cities but the poor and the marginalized like women and elderly should be singled out for disaster protection.

The private sector should treat disasters as business threats and look to ways that promulgate business continuity and protect the community. Often critical infrastructure like water, electricity, telecommunications and fuel are in the hands of private operators.



These players have essential roles in building resilience and should not neglect their obligations to keep neighbourhoods going.

## Pilot Project

In a pilot project in New Orleans, US, the disaster preparedness and resilience of 200 businesses was assessed after the Hurricane Katrina disaster. This provided an indication of the state of small businesses, which are an integral part of communities. The survey asked business participants on previous disaster history, their awareness of potential disasters and impacts, and their disaster preparedness, including how they would respond during a specific disaster scenario, as well as their ability to recover and build back better. Broadly speaking, several overarching themes emerged from analysis of survey responses such as high vulnerability, low levels of disaster preparedness and lack of disaster risk reduction awareness. Useful tips arising from the survey are that businesses should:

- Understand their local, unique risk profile
- Have a written emergency plan that is regularly reviewed with employees
- Elevate critical equipment and files
- Develop an evacuation plan and define criteria to evacuate
- Back-up electronic data, and keep at a separate location
- Consider backup systems for power and water
- Join a Neighborhood Group

Correspondingly, at a city community level, government can support small businesses by providing resilience information to all new businesses as part of their Business Registration Process, developing emergency plan “templates” to businesses, establishing a no- or low-interest loan program for businesses to fund preparedness actions and maintaining a supply of backup power systems for distribution within the community as needed. It is worth noting that much of the investment for improvement needs to come

from the private sector as it has a vested interest in preservation of communities. This is an important theme that needs to be promulgated as the public sector is generally constrained in its spending and resources. The ARISE initiative set up by the United Nations has a goal to create risk-resilient communities by energizing the private sector in collaboration with the public sector and other stakeholders to deliver on the targets of the Sendai Framework.

Communities themselves must develop resilience characteristics through capacity building. Leadership in communities has been further highlighted as an essential component of building resilience. Oxfam, a non-governmental organization, has developed a theme cross-cutting approach to building resilience for communities in developing countries involving saving lives, sustainable food and fair sharing of natural resources. Recognizing the need for maintaining continuity, the UK government has set out guidelines to improving the resilience of critical infrastructure and essential services based on the principles underpinning infrastructure resilience; advice is provided on risk assessment for natural hazards, standards of resilience, corporate governance, information sharing and the role for economic regulators. However, resilience often comes by living through experience of disasters and the need for self-preservation. Working with government, emergency preparedness measures are established over time like evacuation drills and protective measures.

The best arrangement though is to avoid settling in hazard-prone areas but sometimes populations have to live there due to economic and social circumstances such as unequal access to land, lack of education, job insecurity, power relations, laws that are not conducive to entrepreneurship and lack of finance. Urban slums are good examples of these types of situations, which are at risk

especially from climate related disasters like flooding although rural populations can be affected by typhoons and tsunamis as well.

When disaster strikes, the immediate concerns are the number of people injured or dead, damage to property and infrastructure and economic losses. But longer-term issues exist such as disruption to communities, loss of livelihoods, lack of access to sanitation and healthcare to recover and destruction of assets. Building shelter therefore should not just be driven by immediate need but also consideration of longer term recovery. In general, a ‘build back better’ approach is advocated so that a community spirit can be fostered or rebuilt (often involving the role of home-makers like women) and so that local culture and tradition can be preserved. In doing so, it is key to ensure that livelihoods are restored as quickly as possible.

In conclusion, resilience is vital for the sustainability of communities. Building resilience is necessary for communities who are exposed to hazardous conditions. There are useful tools to enable them to build resilience, but can be difficult to apply without professional assistance in terms of objectivity and prioritization. However, these can be used as a snapshot of the level of preparedness and risk assessment which would be valuable in identifying the gaps in resilience and in producing an investment roadmap for the future.

Importantly, the different sectors must work closely together especially the private sector. This is an important step towards achieving effectiveness, as the private sector has different but possibly complementary resources and skills to local agencies. It is in the interests of the private sector to not just depend on public resources but to invest in resilience building of their own. This would be an imperative in future building community resilience. [U](#)



# Designing the Smart City

Imagine a future with driverless cars, which you can summon on your smartphone to whisk you off to places you want to go or robotic arms that serve you genetically synthesized milkshakes at your local diner and even unmanned drones that deliver packages to your doorstep as well as smart clothing that monitors your pulse and blood sugar level to remind you of the right medication to take as your body gets older and frailer.

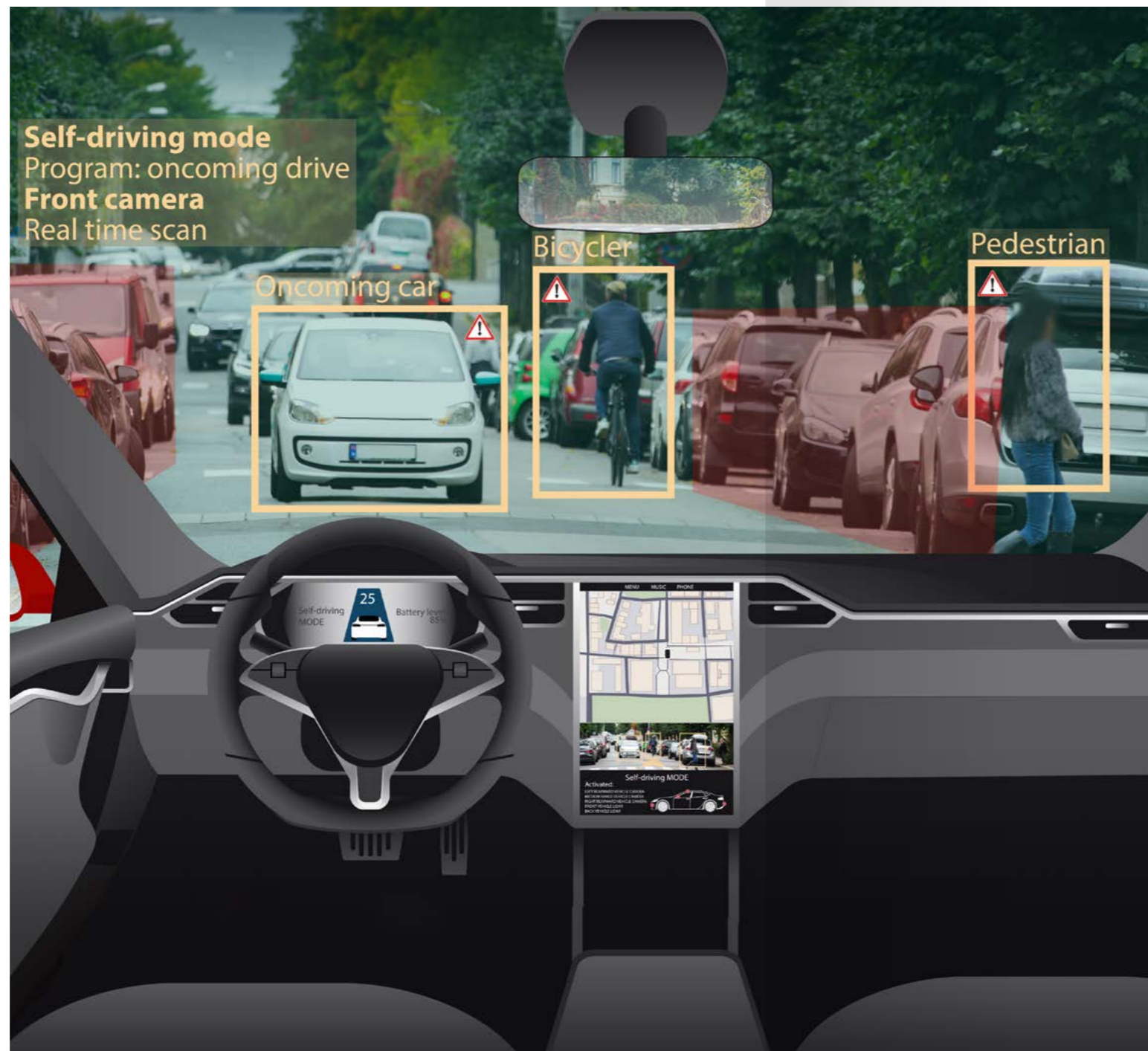
These and a host of other gadgets are already here or soon will be, if you believe the rhetoric of smart city prophets. In his book, *Physics of the Future*, Michio Kaku, physicist extraordinaire explains: "By 2100, our destiny is to become like the gods we once worshipped and feared. But our tools will not be magic wands and potions but the science of computers, nanotechnology, artificial intelligence, biotechnology, and most of all, the quantum theory."

Is this the unwinding path that urban cities and lives are going down?

## Cities for Communities

Cities are derived from communities, which in turn are composed of people. People have feelings; feelings of want, belonging, affection, greed and compassion. All of these serve to make us unique but technology has a long way to addressing our desires and aspirations.

Understanding some of these needs goes a long way towards designing cities of the future. People firstly need to feel safe. For public spaces, surveillance systems reduce the risk of crime but authorities must first work with citizens to focus on the right priorities. Should more money be spent on terrorist attack prone areas like airports or on simple measures to prevent purse snatching or bad road behaviour?



To deal with this problem, we should look at two parts of our psychological make up. Education is important to inculcate the right behaviour for the young, to condemn anti-social and damaging habits at the start, to teach them right from wrong and to produce better citizens in the long term. Reinforcing these with a sense of belonging to their community gives people feelings of ownership that this is their city. This in turn reduces vandalism and littering and should, in principle, lower petty crime rates.

Making cities affordable helps as well – urban living costs like housing, education, travel and food need to be affordable to get buy-in from citizens, who in turn should be gainfully employed in jobs deliberately created to generate economic prosperity.

Even though we are all selfish by nature, it is still possible to leverage on this behaviour by providing benefits like improved healthcare and well-being so that the average person will adopt more considerate behaviour and be less likely to disrupt public order.

Lastly, in a city with hard and sometimes cold infrastructure, people become isolated. Connecting individuals and communities across social networks helps but so do physical means such as footpaths, walkways and public spaces. In designing cities, let alone smart ones, we must be cognizant of the fact that all the smart gadgets in the world mean nothing if people are deprived of company, security, places to live in and products and services that they can afford and have access to.

## Opening Up

So how do we transform cities for people? Having more open spaces are a good start. There is a technique known as crime prevention through environmental design or CPTED, which despite its long enunciation is a clever method of using a combination of landscaping and strategically located assistance stations to offer members of the public safe passage with no areas for luckless criminals to lurk in.

We need to encourage more life-based projects like urban farms and re-use of resources like food waste and water, using what is popularly termed the 'living lab' approach to testbed new ideas and technologies so that proof of concept can be established under minimal risk situations. Getting citizens out of buildings into the open has the added benefit of making a city healthier. Jobs are crucial too so growing more entrepreneurs and start-ups is a welcome thing. In addition, in the not so distant future, there will be new models of spending where we don't have to own things such as houses and cars but we lease them and have the option to switch as our age and physical requirements change. With less need to own private vehicles, we can have fewer roads and we can commute to work through a choice of taking clean efficient public transport, sharing driverless Uber cars with one another or even walking or cycling in footpaths and bike lanes that have supplanted forbidding highways.

## People Matter

In the current uncertain world of populist politics, we should embrace new technologies but in doing so we should not discard the values of humanity that have shaped us as a civilized species. Social innovation is a phrase coined not so recently about the way businesses can do good and still make money. Companies will have a softer approach to society looking for business opportunities in ways that encourage poverty alleviation, inclusiveness and helping the less-abled. If technology can help us shift the paradigm of consumeristic self-destruction living towards a model of green and positive living, that can only augur well for smart cities.

It is true money cannot buy us happiness, nor can technology alone create it. But technology can go a long way to improving the quality of life if it is applied with the thought that people do actually matter in the end.



# INNOVATIVE VIEWPOINTS

## URBAN VISION



Datuk Zainal Amanshah, CEO, InvestKL

### Please introduce yourself

I was appointed Chief Executive Office of InvestKL in 2011. InvestKL is tasked by the Malaysian Government to attract 100 of the world's largest multinationals to invest in the Greater Kuala Lumpur by 2020.

I have more than 22 years of experience in the private sector and 4 years in Government and have held senior positions in multinationals, Malaysian companies, start-ups and now, InvestKL. Prior to joining InvestKL, I was the Group CEO of REDtone, a Malaysian public listed telecommunications provider where I was also one of the company's founders.

In the course of my career, I have familiarised himself with many industries such as banking, insurance, oil & gas, automotive and manufacturing. I am also well versed with the public sector especially with regards to foreign investment. I sit in the Investment Committee under MITI

and PEMANDU, the Greater KL Steering Committee and Pemudah-DBKL Steering Committee.

I graduated with a Bachelor of Science (Electronic Engineering) from the University of Kent, United Kingdom in 1989 and have attended several Executive Programs, namely the Harvard Premier Business Management Program Malaysia in 2007 and the Wharton School of Finance Program in Malaysia. I am a member of Vistage Malaysia, a premier CEO development organisation, the KLBC (Kuala Lumpur Business Club)

### What is 'sustainability' to you?

Looking at sustainability from a city investment promotion perspective, a sustainable urban development is when a city is performing well from a business perspective, social, environmental and economic sustainability that represents the

health and wealth of a city for the present and the future.

Sustainable elements include transport infrastructure (rail, air and traffic congestion), GDP per capita, connectivity in terms of mobile and broadband access.

This is combined with environmental aspects such as waste management, energy and green space as well as sustainability in terms of quality of life which includes level of education, income equality and demographics.

### What are the main sustainability-related issues facing Malaysians?

Malaysia overall and Greater KL specifically is urbanising in a rapid rate and there are challenges towards urban development. The following come to mind:

- Flooding in Kuala Lumpur whenever there is a heavy downpour, especially in the City Centre. The SMART tunnel is a good sustainable solution.

- Poor water quality of city rivers
- Sinkholes in some areas in the City Centre
- The encroachment of development has, in most cases, made the forest areas no longer sustainable as self-contained habitats for indigenous species.
- Pollution and air quality - the main sources of air pollution in the City are open burning, emission from motor vehicles and construction work, together with a minor contribution from industries in the fringe areas of the City. The deterioration of air quality can be a serious hazard to human health leading to respiratory diseases as well as a reduction in visibility.

### How can innovation help Malaysia's sustainable development?

Sustainability is the cornerstone for the development of a modern economy. It is essential as with development comes the need for better liveability.

InvestKL is mandated to bring 100 MNCs by 2020 and we are on track towards achieving the goal with 64 MNCs to date. We continue to push for high value investments that will have a multiplier effect on the local economy and sustainability aspects.

One good example is AECOM which is currently involved in some of the more iconic developments in Malaysia including the Klang Valley Mass Rapid Transit project and the River of Life project in Greater KL. The country is able to leverage on AECOM's worldwide expertise and knowledge about sustainability.

This is one good example of how MNCs that are based here contribute back to Malaysia via transfer of knowledge and innovation-know how.

AECOM's role in Malaysia is also one of nation building where the multinational company, while capitalising on business avenues in the country, intends to create, enhance and sustain the world's built, natural and social environments.

InvestKL applaud the establishment of the Kuala Lumpur Centre for Sustainable Innovation (KLCSI), a centre of excellence for the advancement of sustainable urban developments in Malaysia - a JV between AECOM and Yayasan Wilayah Persekutuan (Federal Territory Foundation).

This cooperative model between the local government and MNC provides a replicable way for the private and public sectors to drive practical, sustainable solutions related to urban development.

### Are we doing enough to meet sustainable growth needs?

We acknowledge that a lot need to be done but there have been a good progress since towards achieving a truly sustainable development. Malaysia has made several official commitments to sustainable development. It has pledged a 40 percent reduction in carbon emissions per unit of gross domestic product by 2020. While reiterating its commitment at the Rio Summit in 1992 to keep at least 50 percent of the nation's landmass under forest cover. Building on its reputation as an exporter of solar products, Malaysia also aspires to become the hub of green technology in Southeast Asia.

### How can education play a key part?

Education directly affects sustainability plans in the following three areas:

1. **Implementation.** An educated citizenry is vital to implementing informed and sustainable development. In fact, a national sustainability plan can be enhanced or limited by the level of education attained by the country's citizens. Nations with high illiteracy rates and unskilled workforces have fewer development options. An educated workforce is key to moving beyond an extractive and agricultural economy.
2. **Decision making.** Good community-based decisions - which will affect social, economic, and environmental well-being - also depend on educated citizens. Development options, especially "greener" development options, expand as education increases. For example Citizens can act to protect their communities by analysing reports and data that address community issues and helping shape a community response.
3. **Quality of life.** Education is also central to improving quality of life. Education raises the economic status of families, improves life conditions, lowers infant mortality, and improves the educational attainment of the next generation, thereby raising the next generation's chances for economic and social well-being. Improved education holds both individual and national implications.

### What kind of a legacy do we want to leave for the younger generation, and how do we achieve that?

Development today must not undermine the development and environment needs of present and future generations. Everyone is entitled to a healthy and productive life in harmony with nature.

In order to achieve sustainable development, environmental protection should constitute an integral part of the development process, and cannot be considered in isolation from it. Eradicating poverty and reducing disparities in living standards are essential to achieve sustainable development and meet the needs of the majority of people. The need to conserve, protect and restore the health and integrity of the Earth's ecosystem. Reduce and eliminate unsustainable patterns of production and consumption, and promote appropriate demographic policies. Environmental issues are best handled with the participation of all concerned citizens. Relevant agencies to facilitate and encourage public awareness and participation by making environmental information widely available.

### How do you see Malaysia in 10 & 20 years' time and beyond?

Zoom into Kuala Lumpur angle - Kuala Lumpur has been ranked 19th as most economically-sustainable city in the world by global design and consultancy firm, Arcadis in their annual "Sustainable Cities Index 2016" report. The recognition is based on the country's on-going strong performances in various sectors and projects as well as collective effort by various parties to transform KL into an attractive, sustainable, world-class economic hub. In the longer term, the government has set a goal to transform Kuala Lumpur into one of the top 20 most livable cities in the world by 2020, one that appeals to both residents and tourists alike. Specific large projects are being implemented to improve Kuala Lumpur's ranking, ranging from the 118 Tower to KL-Singapore High Speed Rail, the Tun Razak Exchange and the River of Life. More than 70 percent of Malaysia's population live in urban areas, and the total population is projected to reach 38.6 million in 2040, according to the Department of Statistics Malaysia. Achieving sustainable urban and economic growth while building a livable metropolis ranks high on the agenda for Greater KL. [U](#)



# ENABLING SUSTAINABLE BEHAVIOUR



Lee Jia Ping, Programme Director  
KL and Corporate Communications  
Head, Think City

## Please introduce yourself

I have a background in brand consulting, communications and theatre arts. I came into this line of work in 2008 when I was called to help create a brand for Georgetown as it went into UNESCO World Cultural Heritage site listing. We needed to see what was needed to be done to Georgetown after the listing and see opportunities to regenerate the area. In 2014, Think city after its 3-4 year remit to stimulate growth in Georgetown did an impact study and found encouraging results in terms of economic impact, job creation, tourism and the local arts scene. With all of that we were tasked to expand nationally. I was asked to continue looking at the brand to make it more international and sustainable.

## What is 'sustainability' to you?

For me it covers a few things. First, the approach towards sustainability is important. You have to plan for it and not just hope for the best. The planning levers for us goes from the bottom up which means engaging people who are directly involved in the project. If people are involved, they are more likely to buy in and then take ownership of it during the lifespan of the project. For example if we rejuvenate a park, we would ask stakeholders what they want to see in it.

The second important aspect is how we involve them in taking care of the project or to get them to become co-investors. In the post-build phase it is important to understand the guidelines we have set in terms of maintenance and safety. And when it comes to long term maintenance, even though citizens tend to think it is the local council's job, really each one of us does have to play a role.

For stakeholders, we need to ensure that places we develop are constantly being used in the intended ways. The correct use of it ensures sustainability. Spaces that are void tend to be filled by some body, and if they are not managed, the wrong crowds may occupy them.

## What are the main sustainability-related issues facing Malaysians?

Our day-to-day behaviours create issues for ourselves. For example if you head downtown you will find some places littered with rubbish, some areas where cars are parked on top of sidewalks on the wrong side of the road and motorbikes traveling on five foot ways. We have designed the city for cars and as a result there is little room for non-vehicular traffic. That's why people retreat into malls because the public realm is no longer friendly.

A lack of enforcement contributes to some of these problems. The city and citizens has enabled bad behavior. For example, if someone double or triple parks we automatically look for a sticky note on the windscreen containing the owner's phone numbers and give them a call to move their cars. All of this signals acceptance of such poor behavior.

We have come to a stage where citizens need to decide what they want. If we choose cars, then we will find that our air will become more polluted.

In essence we do not have enough advocates of sustainable development and more voices need to come out from the ground up. We need to see what our needs are and find a balance and not just cater to the wishes of one or two groups of people, even though their needs are valid. We need solutions that are fair and humane to all.

## How can innovation help Malaysia's sustainable development?

I think what we need to return to good old fashioned values in a way that is relevant to this context. That means caring for people around you, including your neighbors or even strangers, as well as the environment but using the technology and tools of today. For me that would be an innovation by itself!

We have been embracing technology but have dropped some sense of humanity. We

like to talk about personal boundaries, although to many of us this means being able to interact with our smart gadgets in peace without human interference. So we need innovation that removes the disconnect or the 'bubbles'. Being disconnected from people and society does lead to various social challenges. So if you could create a programme that connects communities, bringing people together to solve problems and to look out for one another, that would be a step forward.

## Are we doing enough to meet sustainable growth needs?

From what I have read, at the rate that we are consuming as a species we need the equivalent of 3 planets to feed off. We are consuming like there's no tomorrow and everyone only thinks about their own comforts. We need to start adopting behaviours that are sustainable.

Part of what Think City does is to facilitate platforms for citizens to speak up and be more proactive. We create programs where we can identify gaps in what communities need. Recently, we had a meeting with LA 21 of DBKL and the residents of Lucky Garden, Bangsar about adopting underutilized land for urban farming. Another one of our projects is in Batu Road school in KL, where we are funding a garden where we teach kids how to grow food.

These help the people to get in touch with nature and appreciate where their food comes from and more importantly from a sustainability perspective it helps people learn how to feed themselves well through access to healthy food.

## How can education play a key part?

I think that there needs to be a change in school extra-curricular activities. We still teach in very conventional ways even though times have changed so much. I believe we should start teaching kids about sustainability, about financial acumen and about connecting with nature as core subjects along with the others. Subjects

like geography could be expanded to cover things like food sustainability. We should teach kids on how to ensure that they prosper with proper savings and how much families need to sustain financially. If not, we are in danger of hurtling into a scary future where there are unemployed youths and where a big percentage of men are not employed which in turn can lead to various social issues. We don't need to revamp everything right away but we should look at the education system to add elements that are relevant. I think that would be a quick win as it's easier to make these small changes.

At the higher level we also work with DBKL to support them in terms of training, providing capacity building programmes and introducing best practices using real life cases such as using a site in the city to study and practice what they have learned. This helps ensure everyone understands new concepts.

## What kind of a legacy do we want to leave for the younger generation, and how do we achieve that?

If you look at how the world is running today, it is all about disenfranchised people speaking up. They all want their voices to be heard. How do we nurture respect of differences of opinions and not shut them down just because they don't match yours? Everyone's views are valid in their own context so we need to respect those values as long as they are not hurting or harming others. So I feel we should leave a legacy where people are more open to conversations with those who are different from them, finding ways to meet them and discover a commonality.

## How do you see Malaysia in 10 & 20 years' time and beyond?

I am hoping that young students of today as they grow in voice will become the champions of the connected world - in terms of human connection, and not just wi-fi! If we allow the youths of the next generation

to grow this way, with guidance, I think the future is bright. If we ignore them, then we really are in danger.

I would also like to see people who provide service to others work for the people and not just give lip service. In DBKL I see a very dedicated group of people who work long hours ensure the city is sustainable. But KL is growing at such a fast rate that the citizens need to step up too.

## What can we learn from others? And what can we share with them?

We have the ability to adapt, more than many other societies. Malaysians get comfortable very quickly as we are used to multi-cultural environments. It doesn't matter where we are, we do not have to worry about differences in cultures because it is ingrained in us. The understanding and respect of others is important. What we can learn more of is that we need to understand context when applying new ideas. We need to be able to take the best from our learnings overseas and marry them with the needs of our own communities. Otherwise they become failures. As we know the creative economy is the next wave in economic trends but riding this trend by creating new infrastructure won't work if we introduce things without understanding the local context. For example are we building sufficient pipelines to create new entrepreneurs who will utilise the infrastructure?

On a personal level, I am conscious of my consumption of daily essentials although we need to have enough of things like recycling bins. We should make it easy for people to recycle because if people get the concept, it makes it more efficient for the downstream service providers to sort and recycle garbage. On the other hand I think I could do better by cycling more instead of driving everywhere although I do drive a hybrid car!



# OUR YOUTH ARE OUR FUTURE

## Please introduce yourself and your background.

My name is Jasmin Irisha Jim Ilham. I have just recently graduated from the University of Nottingham Malaysia Campus (UNMC) with a degree in environmental science. I have always been interested in urban issues and climate change so my degree is particularly relevant. During my time at UNMC, I am pleased to say that one of my biggest achievements was setting up the UNMC Bicycle Project to offer alternative sustainable transportation to the university community. At the moment I am working as a research assistant at the Universiti Sains Malaysia.

I am also a member of the Malaysian Youth Delegation (MYD) to the United Nations Framework Convention on Climate Change (UNFCCC) conference. In 2016, I went to Marrakesh for the 22nd Conference of Parties (COP22), the world's platform for tackling climate change. Since then, I have been involved in training new youth members for the delegation and organizing outreach programmes for the public to make them more aware of the threats posed to our planet by climate change. This is important as addressing the problem is not all about climate science, rather there are other aspects like climate policy, communication and journalism to be considered as well.

## Why did you pick climate as your area to focus on?

I recall when I was at school I produced a video on climate change to explain why floods happen and the link to cutting down trees. This left a big impression on my life.

## So, as a young person, tell us what does 'sustainability' mean to you?

Sustainability is such a broad area as it includes almost everything like biodiversity, air, water, conservation and so on. My definition of sustainability though is being able to preserve what you have now. It's about intergenerational equity so that our grandchildren can experience what we experience. I remember a long time ago

when my grandfather used to work with the Forest Research Institute of Malaysia (FRIM), I used to visit the forest and I felt that the temperature was so cool then. Now the same area is experiencing much higher temperatures. That's change for you. Plus, think how this will feel for my grandchildren when they grow up!

## What do you think are the main sustainability-related issues facing Malaysians?

I think the main one facing us is having to grow up in a city landscape. There has been a huge shift in development where forests have been replaced by concrete jungles. They say you should be able to get acclimatized to this but I disagree. We should not just accept the loss in natural resources and put up with issues like traffic and others. But the thing is that people used to living in cities don't notice these problems, however those living outside cities tend to be more aware. We all have to be alert to the challenges caused by urbanization.

## KLCSI is focused on using innovation as a way of resolving some of the issues faced by cities. In your opinion, how can innovation help Malaysia's sustainable development?

We live in a period of technology advancement so anything that reduces carbon emissions or improves on green performance is welcomed. This may come as a surprise to you but I think young people, who many assume are accustomed to new technology, are actually quite technology detached. Urban dwellers obviously are more exposed but there is still a digital divide within rural populations. We need to overcome this divide to really enable innovation to make us more sustainable.

## The face of cities has been transformed by infrastructure. Is this good or bad for sustainability?

I am a strong believer in public systems and I also support any infrastructure that encourages more pedestrianization and cycling. We are far too reliant on cars and we must make the conscious break from

this if we are to be sustainable. I know many environmentalists are critical of infrastructure as they believe this defaces the cityscape and encourages more pollution, but infrastructure is ok provided it follows the principles of sustainable development. Green buildings, green roofs and upcycling are all part of sustainable infrastructure. Green cities can exist, provided we apply integrated design. We cannot run away from concrete jungles but we can adapt by preserving urban green spaces and applying proper planning to land use.

## Cities are going to get bigger in the future as we become more urbanized. Do you think we are facing up to this challenge? Are we doing enough to meet sustainable growth needs?

Talking as a young person involved in community work, I think we should work bottom up if we are looking for sustainable growth. One area is to work with schoolchildren. There are lots of opportunities to be hands-on with them and educate them to be future responsible citizens. Another important group is social enterprises. They are very aware of the social and environmental issues caused by urbanization and they know how to turn them into business opportunities. At a personal level, I believe we should adopt good and sustainable behaviours. For instance, I bring my own coffee flask when I buy coffee. This has saved numerous paper cups and reduced waste. Such small actions can have a butterfly effect and lead to bigger impacts down the line if everyone followed suit.

I try to influence others through my actions. When I came back from Marrakesh, I saw a big opportunity to use what I had learnt to train and teach others so that the next generation of youth leaders could be well-informed and prepared for future challenges. Talking of COP22 at Marrakesh, I found the whole experience quite fascinating. Coming from a science background I could follow the IPCC technical discussion but the policy side was a real eye-opener. I believe attending one COP is not enough, the process of negotiation is never ending and always evolving! There is always something new to learn.

## What is Malaysia's role in COP 22?

People are critical of Malaysia's role in climate change and say we don't do enough. Actually our representatives at the COP discussions are well-respected by other delegates and we have very good negotiators. I do think though more youth should be involved as we represent the future. This doesn't have to be at a high level, and we can still make our voices heard at community, city or kampong level. We talk about leaving a legacy for the younger generation. You are the younger generation. What would you like to see on this planet as you grow older, and how do we achieve that?

I see legacy works both ways. What can young people do for the older generation? We have to be more proactive and vocal if we are heading in the same direction. For example, composting is a natural and beneficial process and we should encourage this. Both the young and the old can learn from each other on this.

## How do you see Malaysia in 10 & 20 years' time and beyond?


I hope it will be better than now [laughs]! We have the Sustainable Development Goals (SDGs) to be delivered by 2030. These are a good way of aligning the future. I hope that companies will be able to incorporate the SDGs into what they do. My wish is for a lower carbon future. I also wish that people would preserve more of what we have like heritage buildings – if only walls could talk we would have some interesting stories from these buildings.

I have been involved in Malaysia's TN 50 youth movement discussions. I was surprised at the definition of 'youth' as there were some people in their 30s and 40s in the movement still considered 'youths'! But I think that the definition strictly doesn't matter, we all have to share a common vision for our future.

## What can we learn from others? And what can we share with them?

I found out that you don't have to go far to learn. As a developing nation, we should look at ourselves first and not blindly take

lessons from developed nations. We have a lot of local knowledge like biodiversity and others. We are the world's twelfth most biodiverse country. Places like Sabah, Sarawak and Pahang are rich treasure troves of knowledge. I am not saying we shouldn't go abroad to learn, but there is so much here that we have already that will bring us far.

Thank you. 



Jasmin Irisha Jim Ilham



# LIVING LAB UPDATES

## Around Labuan on Two Wheels

Cycling is not an activity that is new to the community of Labuan. The locals are very supportive of cycling activities on the island as it is the perfect location for a refreshing ride. The island is naturally beautiful with the ground generally flat enough for cycling, the traffic only busy during peak hours and offers several historic spots to check out. Therefore, one of the best ways to appreciate the relaxed vibe of this island is to cycle around it.

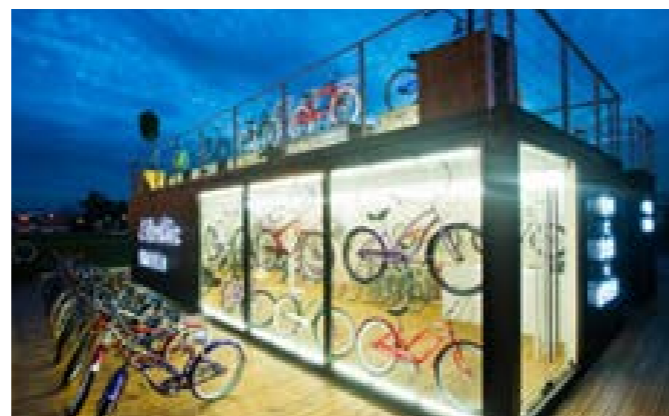
Currently there is limited infrastructure for cyclists but with plenty of room to improve without the need for high investments. During one of KLCSI's visit to the island, we found that only certain parts that are closer to the central of Labuan, Victoria city, have dedicated bicycle lanes which at times are not properly connected. Bike rentals are offered on a small scale here, especially by those in the tourism business like hotels and homestays. That pretty much summarizes the cycling facilities on this island.



*Bike stations in the US: There are plenty of examples of Bike stations. They come in various sizes and shapes. Some are extensive, some simple enough to serve their purpose. Bike stations are popular in the US and are sometimes designed to enhance the aesthetic value of the urban settings.*

KLCSI carried out an outreach programme on cycling last October 2016 and we were able to understand the challenges faced by local cyclists. One of the major concerns raised was the lack of facilities. Bike lanes and bike pumps were mentioned the most. Other concerns mentioned are unpredictable or unsuitable weather conditions, poor road conditions, a lack of street lights, fear of stray animals and inconsiderate drivers. Though some cyclists expressed the thrill of cycling in the rain, some less enthusiastic ones expressed their wish of having sheltered pit stops. The climate is also be considered too hot for some.

An innovative solution is to offer an infrastructure that could address as many problems mentioned above. In the US, plenty of bike stations are provided to increase the comfort and convenience of cycling. These bike stations are equipped with various facilities like showers, bike pumps, bike storage and more.

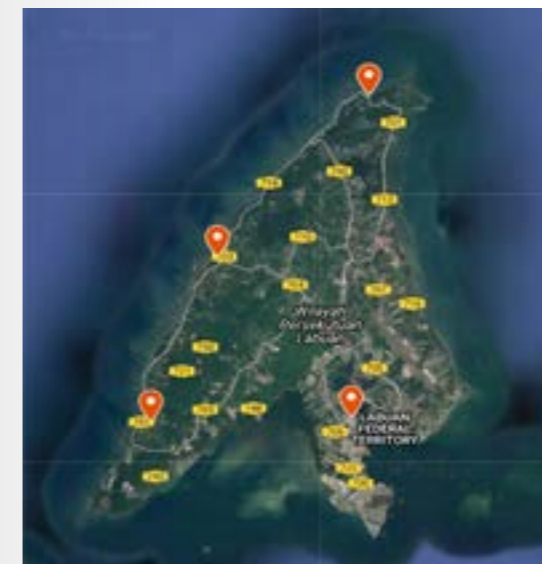


KLCSI is proposing a similar model with as many sustainable elements as possible depending on suitability. A small fee will be charged for each facility used.



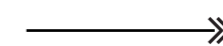
*A double-storey version of the current bike station prototype: KLCSI is currently designing a prototype to be used as a pilot. This model has a simple design as a solution to a cost-effective approach. Solar panels are proposed to be fitted onto rooftop. Recycled cargo containers are also used as a sustainable practice.*

The bike station could also act as a cycling hub which contains workstations and offers workshops or educational programmes. The facilities proposed in this prototype include showers, bike pumps, workstations, bike storage, bike rental, F&B and more. The sustainable elements of this bike station include the use of good quality recycled cargo containers and possibly solar panels.



*Proposed locations of bike stations: From top, middle, bottom right and bottom left: Palm Beach Resort, Taman Damai Peace Park, Universiti Malaysia Sabah Labuan International Campus and Patau-Patau Water Village 2. The stations are positioned in a way that encourages the cyclists to ride around the island.*

KLCSI is still developing this project and welcome any parties who are interested in collaborating.





## Food Waste Recycling

Malaysia is known to be a food haven. In general, the food here is not only delicious, it could also be found cheaply and easily. Therefore the coffee shops, restaurants, stalls and 'mamak' place are frequented by every demographic group from teenagers to senior citizens. The food industry is an important component of in the tourism sector as foreigners often remember Malaysia for the good food that we have.

Research done by Solid Waste Corporation Management (SW Corp) shows that the amount of food, not including food scraps, thrown away by the average households daily can be used to feed millions. Food wastage starts from the process of preparation, production and eventually consumption whereby 20% of the wastage is good enough to feed 2.2 million mouths three times a day.

While it is important to educate the public, the food waste that is being thrown away can be used intelligently rather than sending it to the landfills. With the amount of food waste that ends up in the landfills, space is being taken up and the atmosphere is being polluted due to greenhouse gas emissions from the organic wastes.

Compost is a soil-like substance that results from the decomposition of organic matter through natural processes caused by microorganism activity and this happens everywhere. For example, anyone who takes a stroll through a forest would find perfectly healthy fallen leaves on the soil. Just slightly deeper in the soil lies old and slightly fragmented leaves. Deeper still one would find soil that is dark and crumbly. This end material is compost and it is a natural fertilizer for plants.

KLCSI conducted a survey at PPR Intan Baiduri in 2015 and found that as much as 81% of the residents discard food waste at least once a day. It is also found that 45% of the residents preferred to have someone to pick up the waste from their doorsteps. Meanwhile 55% are willing to dispose their waste to the supplied bins themselves.

Following that KLCSI has carried out a small composting study at PPR Intan Baiduri. KLCSI gave a briefing to the community of PPR Intan Baiduri on the 8th of April 2017 to educate them on waste segregation. The briefing was effective as the collected waste that is considered acceptable turned out to be higher than expected. However the amount of participation is low. The test ran from 13th April to 26th April and the collected waste weighed 82.5kg.

The resulting compost will be given to the residents as fertilizer for an urban farm planned by the committee there. KLCSI is currently running the second trial which started at the beginning of May.



Collected waste was transported to composting facility in University Malaya.



Special 'compostable' bags obtained from Cardia Bioplastics was used instead of ordinary plastic bags for this pilot study. To compost freshly collected food waste, it is mixed with a ready compost pile to hasten the process of decomposition.





## Urban Rooftop Garden

In the Klang Valley, the ever increasing development of malls and high rises means more and more areas are being urbanized, leaving very little and fragmented space for nature. This concrete-driven phenomenon has given a whole different meaning to the phrase 'get outside and enjoy the outdoors'.

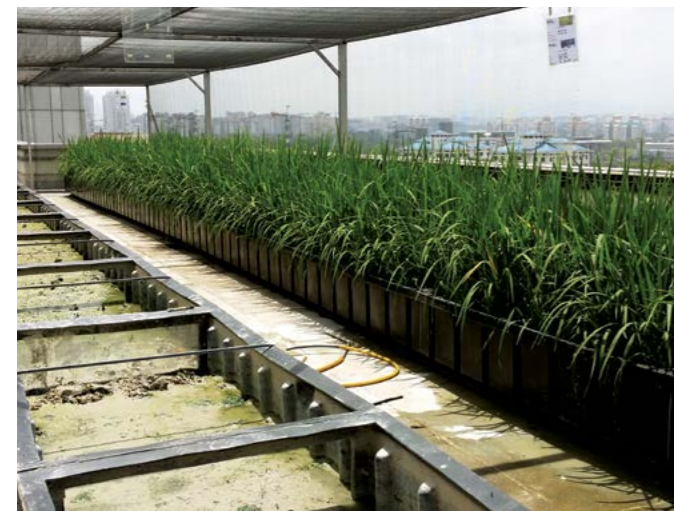
One of the current urban trends is to literally green cities through urban farming, which is to grow crops either indoors or on any underutilized space. This idea is just beginning to be recognized by both the community as well as the local authorities. The Ministry of Urban Wellbeing, Housing and Local Government announced the introduction of the concept in low housing programmes starting with PPR Lembah Subang Satu as the pilot this year. At the same time, more and more passionate locals - young and old - are coming up with new initiatives to fast track urban farming for their own communities. Check out Urban, Rooftop and Vertical Farming Association, A Little Farm on The Hill, Eats, Shoots & Roots, Ecocentric Transitions and CityFarm to learn more about urban farming.

Looking out from the KLCSI office, one will not miss the sight of highways, the Klang River and rooftops among some fragmented greenery. Most of the time, rooftops are not used for any purpose beyond housing water reservoirs and chiller units. In some cases, these spaces are unsightly due to scant maintenance. There are also plenty of other unused spaces like those areas under electric pylons and flyovers. Why not, then, enliven these spaces with urban farms or gardens?

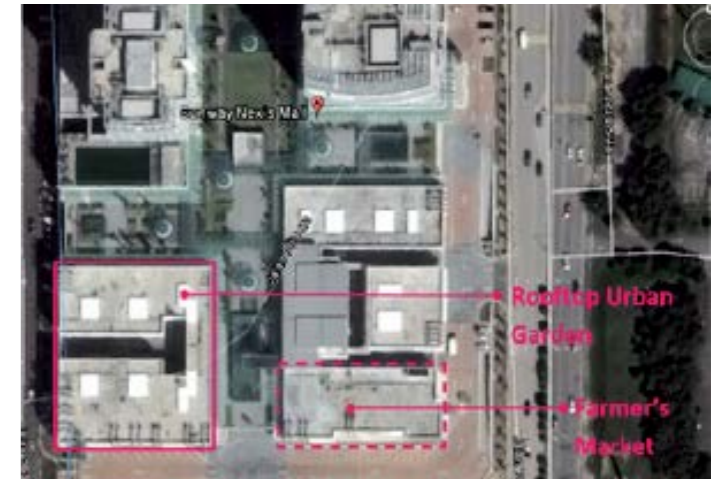
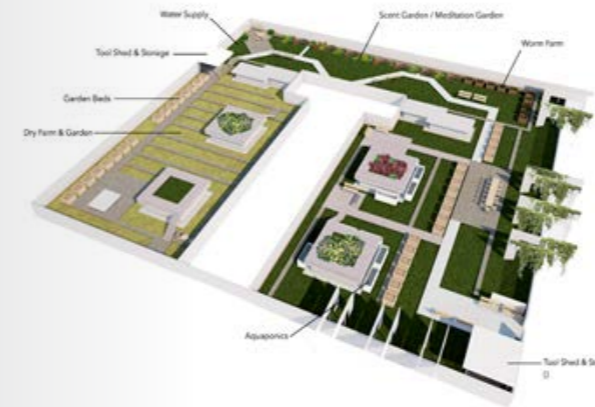
Currently KLCSI is looking at developing urban gardens on rooftops of commercial buildings. We have identified a potential location at Sunway Nexis mall which has an underutilized rooftop. The design proposed by KLCSI will serve several purposes. It will have a worm farm which will be used to compost organic wastes collected from commercial activities within the building. The resulting compost will be used as fertilizer for a vegetable farm and a scent garden. There will also be several spots for activities like meditation or yoga. Last but not least, there will also be an aquaponic system whereby plants and fish are grown together as a self-sustaining ecosystem.



Urban garden concept proposed by KLCSI. The use of the entire space for crops will increase economic value meanwhile growing flowers will create a public space that will attract visitors.




The current garden only consists of grasses and is surrounded by several shop lots.



Aerial view of Sunway Nexis Mall shows plenty of unused space.

Depending on request and suitability, the space could be used entirely for crops which could be harvested and sold at a proposed nearby farmer's market or to the restaurants within the shopping mall. KLCSI also plans to involve senior citizens and toddlers in the tending of the crops. The idea of involving the elderly and toddlers is not random. KLCSI has been researching and had discussed with related parties the idea of intergenerational daycare in Malaysia.

An intergenerational daycare center would be a place that offers daycare facilities for both retired citizens and toddlers. We are currently considering if Sunway Nexis Mall, among several other locations, would be a good location for such a daycare. 



# NADI KOTA



### Low Carbon KL

KLCSI presented at the KL Low Carbon Forum, an initiative to bring Kuala Lumpur's greenhouse gas (GHG) emissions in line with or better than the national reduction targets. KLCSI covered aspects of green transport and the impact this might have on GHG levels.



### Selangor Smart State

The Selangor State Government has an ambitious plan to apply smart initiatives to transform the state. KLCSI is on the advisory committee supporting the state government.



### Sustainable Township

KLCSI is one of the strategic partners of the Jeffrey Sachs Sustainable Development Centre sponsored by Sunway. This important initiatives aims to turn the township into a sustainable and livable dwelling for its inhabitants.



### Global Entrepreneurs Community

The Global Entrepreneurs Community event held at KL Convention Centre brought together entrepreneurs from across the region. KLCSI facilitated a workshop looking at urban farming amongst other sustainable initiatives



### Labuan Incinerator

Labuan Island houses many sustainability projects. This is the site of a disused incinerator, one of the waste initiatives that the island considered previously.



### Public Realm

KLCSI assisted AECOM in hosting the Harvard Graduate School of Design in Kuala Lumpur to come up with innovative ideas on redesigning the city's public realm



### Rooftop Garden

Our two bright team members show their community spirit in the Kota Damansara urban rooftop garden initiative. The rooftop garden idea is based on the concept of inter-generational learning embedded with social, environmental and economic aspects. The goal is to show people living in the city that they can grow their own food in small spaces by utilizing rooftop open spaces.



### ASLI Smart Cities Summit

KLCSI presented at the ASLI summit talking about the challenges for smart design and the need to recognize people's wants



### CETDEM

KLCSI presented on Eco-Mobility at this forum which also featured Gurmit Singh, the legendary eco-champion



### None Wasted

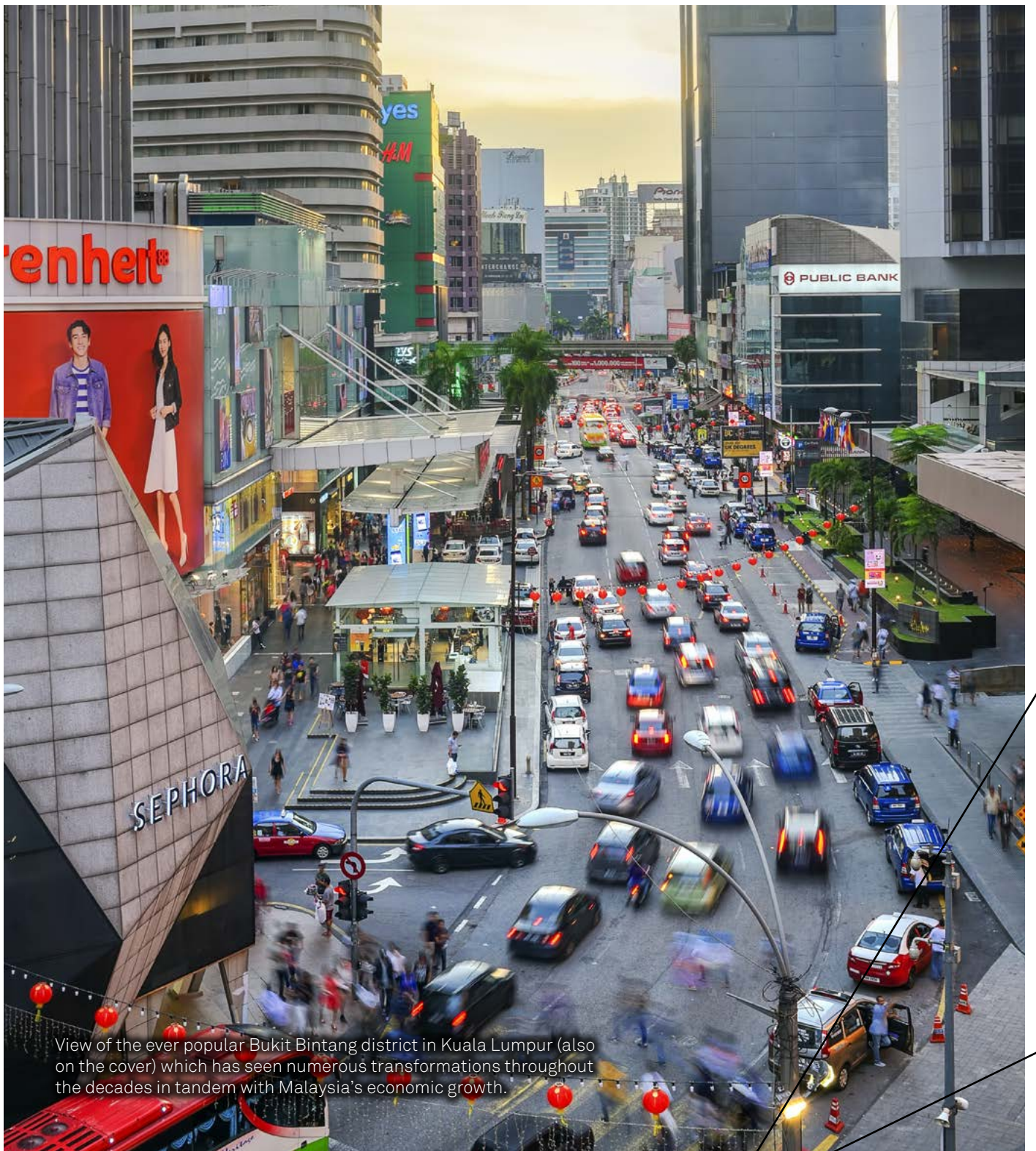
KLCSI briefed the Intan Baiduri community on how to separate food waste and the usage of compostable bags



### Football

KLCSI are proud sponsors of the Intan Baiduri community football team which competed in the PPR knockout championship





View of the ever popular Bukit Bintang district in Kuala Lumpur (also on the cover) which has seen numerous transformations throughout the decades in tandem with Malaysia's economic growth.

