Shaping A Master Blueprint

Architects and planners play a key role in shaping our public housing environment.

Easing Into The Golden Years
Enhancing mobility for our elderly

A Concert Of Measures
Bold steps to deliver quality flats

Designing Communities
Bringing the community together
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Planning HDB towns over the years and exciting future developments

Easing Into The Golden Years 14

Ageing gracefully in HDB homes and estates

(On the front cover, from left to right): HDB Senior Planner Shanley Chung, Senior Architect Derek Chik and Planner Shermin Ng.
Aerial photo of Toa Payoh courtesy of Mr Kwek Leng Joo.
Planning Liveable Towns

HDB towns are vibrant and bustling microcosms of Singapore that spell home for more than 80 percent of the resident population.

But now, exciting new plans are astir to lift them to greater heights. The development proposals unveiled for three new housing areas – Bidadari, Tampines North and Punggol Matilda, exemplify the ideals of our housing roadmap to create well-designed, sustainable, and community-centric towns.

Behind the creative planning strategies and efforts are dedicated teams of planners and professionals working in concert. Lending their respective expertise, they have not only helped carve out the townscapes today, but are also moulding that of tomorrow’s.

From town planning to construction of flats and strengthening of community bonds, many hands are involved in making HDB towns the best homes. With each new town, HDB aims to raise the benchmarks for quality and harmonious living.

About ‘Dwellings’

‘Dwellings’ is published by the Housing & Development Board (HDB), Singapore’s public housing authority and a statutory board under the Ministry of National Development.

For over 50 years, HDB has provided quality and affordable public housing for generations of Singaporeans. Currently, more than eight in 10 resident households in Singapore call an HDB flat their home. Through ‘Dwellings’, we want to share how we create the kind of public housing that is uniquely different, and also uniquely Singapore’s.

We also have a website, www.dwellings.sg, where you will find more images and interactive content, and where you can send in your feedback and suggestions.
From towering blocks to open green spaces, Singapore’s public housing towns offer a unique living experience. Thoughtful town planners and architects have shaped these into form and helped to realise the vision of good, green living for Singaporeans.
From the air, HDB towns look like a checkerboard of colours and patterns. The juxtaposition of different building heights and forms interspersed with green spaces create an interesting patchwork topography that belies the artistry behind it.

Since the first public housing master plan was mapped out over 50 years ago, 23 HDB towns have sprung into being. Today, more than 80 percent of the resident population live in these towns.

**Inspired Solutions**

HDB’s town planning approach has evolved over time and achieved significant milestones that have inspired innovative solutions to address housing and habitat needs.

In the 1960s, in the face of a severe housing crunch, the immediate focus was on getting out the largest number of flats in the shortest possible time—it was said that a flat was completed every 45 minutes. Though basic, these early HDB flats were proper homes that came with piped water and electricity.

Wanting to do more, HDB was shaping a master blueprint at the same time to build towns that can cater for all basic needs. Many of the key principles developed then continue to hold sway today, such as the concept of self-sufficiency and hierarchical planning of facilities and the checkerboard juxtaposition of differing densities, heights and forms.

Group Director (Research & Planning) Raymond Toh who has participated in the creation and evolution of several HDB towns explains: “We plan for towns to be a place where residents feel at home in; a place where they can work, live, play and learn in an environment that is both pleasant and well-connected to the rest of Singapore.”

He also points out that planning is a cyclical activity and it does not start nor end with the formulation of master plans for new towns. Older developments also come under scrutiny, to be improved, rejuvenated or redeveloped, to ensure that HDB towns continue to meet the changing needs of residents through enhancing the living environment.

The planning of HDB towns is a continuously evolving process because with every refinement we make to successive generations of HDB towns, we aspire to reach a higher benchmark of quality living, so as to create sustainable and endearing homes for Singaporeans.
Optimal And Self-sufficient
If you choose to visit any of the larger HDB towns, you will be able to find a wide range of facilities such as schools, shops and markets, polyclinics as well as recreational facilities like sports complexes and parks nestled in the midst of the high-rise residential blocks. In some of the towns, light industrial parks providing employment opportunities can also be found fringing the periphery.

Given Singapore's scarcity of land, HDB has made optimal use of the space set aside for public housing. The Research & Planning Group (RPG) has mapped out a Comprehensive New Town Planning approach. With this, they have ensured that land use is optimised so that the majority of residents enjoy the convenience of daily living through an optimal provision of public amenities, infrastructure and facilities.

What this has translated into are towns that are self-sufficient, providing not just residential homes but also a more holistic environment where residents can enjoy a wide range of facilities and amenities that meet their lifestyle needs. In short, a town where they can work, live, play and learn, as pointed out earlier by Raymond.

All these provisions are planned in turn with an eye on the changing demographics and socio-economic transformations taking place. Hence, facilities that meet social needs have also evolved with the times – in recent years, mega malls and nursing homes have sprung up alongside community centres and places of worship.

This comprehensive approach has ensured that each HDB town is able to support its own needs without requiring its residents to commute elsewhere to enjoy the use of day-to-day facilities. The need to travel out of the town is reduced, thus saving time, money and energy. This in turn helps to contribute towards a higher degree of environmental sustainability.

Structured And Vibrant
With so much going on, the planning team has imbued a sense of structure and order to give residents a greater intuitive comprehension of the environment they occupy. A hierarchical approach is used to map out where and how facilities and even road and rail networks should be, to derive their best placement and use.

For example, incoming traffic to the town is filtered from expressways to arterial roads to local access roads and driveways, and finally to car parks. Similarly, parks, commercial facilities and educational facilities within the town are also distributed in a hierarchical manner to better match service provision levels on a town, neighbourhood and precinct basis.

At the geographic heart of every HDB town is a Town Centre that functions as the main activity and confluence hub. This is where the larger shops and commercial facilities can be found, and where the train station and bus interchange are located. Further away, smaller shops serving the daily needs of the surrounding residents are sited within the neighbourhood centres and precinct clusters.

The buildings and structures do not just serve a functional purpose, but also bestow an identity unique to each town. Landmark buildings and special architectural features are part of the character-building for the towns and master plans have developed thematic approaches for each town. Such visual cues ensure that towns are visibly and uniquely set apart.

This planning hierarchy has created a very natural flow of movement and activities for residents and visitors to the towns. The layout of neighbourhoods and precincts draws upon this idea as well.
01 Residents have everything they need within their neighbourhood – shops, playgrounds, eating outlets and communal spaces all conveniently located.

02 Meet the planners – (From left to right) Senior Planner Kwan Weiye, Director (Planning Dept 2) Kathleen Goh, Group Director (Research & Planning) Raymond Toh, Deputy Director (Planning Sect 4) Tang Mei Hwang, Deputy Director (Planning Sect 6) Teo Yushan, and Principal Planner Tay Teck Jin.
(Not present in photo) Deputy Director (Planning Sect 3) Lucy Yeo and Senior Planner Seah Ling Ling.

03 Residents get to enjoy many green and open air facilities (Photo courtesy of Ong Beng Teck)
Intimate Clusters
With HDB towns housing some 25,000 to 70,000 residential units each, the towns have to be planned and organised to ensure that the amenities are well spread and distributed. In addition, the large townships need to be structured, so that it is easy for the residents to relate to, and enable them to navigate within the town. Carving up towns into neighbourhoods of 4,000 to 6,000 residential units each, and smaller precincts of 400 to 800 units, has resulted in more intimate clusters of housing, with each well-served by local amenities and facilities.

Over the years, more refinements have been made at the precinct level as the smaller size offers distinct design and planning advantages. As precincts allow the planners and architects to conceive urban design at a more human scale, appropriate urban design guidelines are formulated to shape the living environment. Local precinct facilities such as playgrounds and sports courts, street architecture and landscaping can also help to create a more pleasant environment. These have proved effective in drawing residents out of their flats to utilise these common social spaces.

Evolving
This principle is also being applied to the newer towns emerging in recent years, but adapted and refined to meet the distinct needs and purposes planned for each town and estate. In Punggol, for example, smaller and more intimate residential estates of 1,200 to 2,800 dwelling units, with each sharing a common green, are created based on a new planning concept.

HDB’s creative planning approach, which contrasts high and low-rise developments and differing spatial densities, has resulted in a varied and optimal land use mix. The approach has created towns that are highly liveable. This effect is the checkerboard pattern that you can spy from the sky above.

The next time you fly in or out of Singapore, you can expect to see more interesting variations of the checkerboard. HDB Chief Executive Officer, Dr Cheong Koon Hean, promises more vibrant towns as HDB’s evolving master plans adopt more nuanced responses to the landscape, community and living styles: “The planning of HDB towns is a continuously evolving process because with every refinement we make to successive generations of HDB towns, we aspire to reach a higher benchmark of quality living, so as to create sustainable and endearing homes for Singaporeans.”
CREATING ATTRACTIVE, LIVELY HOMES

HDB recently unveiled plans to open up three housing areas – Bidadari, Tampines North and Punggol Matilda – to meet new housing and growth needs. The planning strategies show how vision and mission can be artfully merged to create highly liveable and attractive homes and environments.

BIDADARI: THE PAST IN THE PRESENT

Bidadari had already been identified for housing and other complementing facilities since 2001. The recent announcement of plans to develop Bidadari has created a buzz of excitement. Bidadari was a sanctuary for those seeking a spot of quiet solitude. Its present rolling green and undulating topography is also a place for avid joggers and strollers, especially after the exhumation of the cemetery a few years ago.

Surrounded by neighbourhoods that are fast shedding their old identities for new ones, there were some concerns about Bidadari losing its history and heritage in the development process. To address such concerns, HDB has been mindful in preserving its heritage in the development proposals.

The vision is to create a tranquil urban oasis for Bidadari, one that fuses its rich past and exciting future, and also taps on its undulating topography. Around this idyllic vision, the planners have developed five key proposals.

Tranquil Urban Oasis

Even as Bidadari becomes urbanised, Bidadari residents will get to enjoy green spaces and scenic parks. The Bidadari Park located at the heart of the estate will form the new, green lung. Mature trees identified by the National Parks Board (NParks) will be retained and integrated into the Park. Green fingers will extend outwards from the Park, connecting to other public spaces and facilities.
Complementing the Bidadari Park will be a linear Greenway traversing the full length of the site. It will weave leisurely through the estate, with commercial and other activity points which will add buzz and liveliness to the place. Residents can cycle, jog, walk, rest, relax and connect with family and friends in a garden-like setting.

**Kaleidoscope Of Memories**

A house once owned by Sultan Abu Bakar of Johore and a public lake built by a philanthropic family are the lesser known facts about Bidadari's past. To evoke memories of its history, a stretch of mature trees lining a vehicular road will be converted into a Heritage Walk lined with storyboards. The storyboards will feature Bidadari's key historical places (e.g. the Memorial Garden, the Bidadari House) and key pioneers who were previously buried at the Bidadari Cemetery (e.g. Dr Lim Boon Keng, Ahmad Bin Ibrahim). The memory of the Alkaff Lake will be re-created within the Bidadari Park. This lake also doubles up as a stormwater retention pond, since the pond is required by the Public Utilities Board (PUB), Singapore's national water agency. With exploratory boards and historical images on the estate's history and personalities displayed at strategic points, the walkway promises an enriching journey back to its nostalgic past.

**Moving Around With Ease**

Like many of the new towns, Bidadari aims to be a sustainable and well-connected estate. Cycling and walking are encouraged along the green corridors planned for the estate. Getting to other parts of Singapore will also be a breeze, as the transportation options for residents include the nearby Bartley and Woodleigh Mass Rapid Transit (MRT) stations.

**Conducive Public Spaces**

The Town Centre for Bidadari is aptly named the ‘Market Square’, as this is where people tend to gather to shop, dine or commute to their next destination. It will have a public housing development integrated with a bus interchange and community facilities, as well as an integrated mixed development site. Other facilities include precinct shops and communal pavilions which will be strung along the Bidadari Greenway. These facilities will offer a good spread of shopping and activities for residents.

**Distinctive Neighbourhoods**

The topography and landscape have provided excellent opportunities to develop building forms that can respond to the different terrain and site characteristics, thereby moulding distinctive neighbourhoods with unique identities. There will be six distinct neighbourhoods arising from the three different housing forms being explored to lend variety to the landscape of the town: Linear Model, Tower Blocks and Terrace Model.

The first housing parcel in the Alkaff neighbourhood is planned for launch in 2015.
Prior to the opening of Tampines Town in the late 1970s, there were villages, fish farms and barren landscapes of undulating hillocks pockmarked with deep craters left behind by sand quarrying works in the area.

Today, it is a mature, bustling town, with a Town Centre designated as the Regional Centre for the eastern part of Singapore. It is also a proud recipient of the prestigious United Nations World Habitat Award in 1992 for its model town planning blueprint.

And now plans are astir to bring forth a new vibrancy to Tampines Town. A large tract of land to its north will be developed into a flourishing off-shoot to meet new housing and growth needs. This is Tampines North.

**Bud And Bloom**

Tampines Town is named after the Tempinis tree found in the area. Taking inspiration from the botanical origins of the town’s name, the planners had mapped out a leaf-like structure for Tampines Town, with various connectivity networks that represent the veins of the leaf. Tampines North is the natural extension and tip of this leaf structure.

Similar to how the veins of a leaf function, there is a main vein that runs across Tampines Town through the Tampines Regional Centre. A new linear Boulevard Park has been proposed to serve as an extension of this main vein within Tampines North. It will also be the connecting link between Tampines North and the other areas of Tampines Town.

Along this new ‘green shoot’, public spaces and facilities will spring up like blossoming buds and bring new life and activity. It will also lend a fresh interpretation to the interplay of public and residential spaces in the park-like setting dreamed up for Tampines North.
Here’s a look at the key plans.

**Community Boulevard For All**
Two new parks will be built, with the main one named ‘Boulevard Park’ which links Sun Plaza Park to Sungei Api Api. A picturesque proposal for this park is the creation of a ‘Blossoms Walk’ flanked by seasonal flowering trees, similar to the effect of cherry blossom trees overseas, but given a local and distinct identity.

The other park, named ‘Quarry Park’, can serve as a link to the nearby Pasir Ris Town. Its unique feature is the possible re-creation of a quarry pond with an urban sandy beach for residents to enjoy and recall memories of Tampines’ past as a sand quarry area.

**Green Tapestry**
The green fingers extending outwards from the main Boulevard Park will link up the rest of the public spaces to form a green tapestry of interweaving connections. Connectivity, an integral part of the proposals, will be seamless and pleasant with pedestrian and cycling networks weaving through the housing districts.

**Green Living Rooms**
Besides the Boulevard Park, the housing districts in Tampines North will be provided with dedicated local parks with facilities and community spaces that will be built to bring green living nearer to them. Residents can look forward to having green spaces on their doorsteps.

**Lively New Tampines North Hub**
Residents can also expect a mixed development with commercial and residential uses that is integrated with a bus interchange and a plaza square. The main Boulevard Park will pass through this development and bring residents and visitors to the heart of Tampines North.

**Four Thematic Housing Districts**
There will be four housing districts with different themes that will provide excellent opportunities for different designs, so as to foster unique identities.

Housing forms that take advantage of the green views and other site features will be explored. For example, fronting the Boulevard Park, a new form of boulevard housing can be developed to create a unique skyline and streetscape along the Park, and to maximise the views towards the green.
Punggol Matilda is part of HDB’s Punggol Phase 2 plans that will transform the rest of Punggol Town and inject more vibrancy through some exciting developments.

Conceptualised as a waterfront housing district in the master plan unveiled last year, the plans have now moved into its more exciting phase. HDB Building Research Institute (HDB BRI) has drawn up the Urban Design Master Plan for Punggol Matilda and a specific design for one of the parcels that promises to be as serenely charming as its namesake.

Preserved near the Punggol Matilda is an old conserved bungalow named Matilda House. In its heyday, it stood on sprawling lawns that boasted tennis courts, stables, clipped hedges, cultivated plantations, and orchards of mangosteen, durians and rambutans. This grand old house, with timber lattices, louvres and long open verandahs that looked out to the sea, was a dream tropical home built by the Cashin family – one of the first Irish families to settle in Singapore.

Punggol Matilda will echo the charms of its genteel past and continue to offer waterfront views and opportunities for recreational activities, even as it makes way for the development of about 8,000 flats.

PUNGGOL MATILDA: NOSTALGIC WATERFRONT DISTRICT

Distinctive Green Corridors
Running east-west will be three corridors providing easy access to the waterfront. The middle and main corridor, Punggol Field, is in the heart of Punggol Matilda, featuring a pedestrian-friendly streetscape and Urban Verandahs (or a system of continuous covered walkways) on its southern bank providing all weather connectivity to the waterfront.

The other two corridors are ‘green avenues’, meant to introduce more bio-diversity and greenery to the streetscape. HDB has plans to plant more shade trees and lush shrubbery along the street to achieve the desired effect of a tree-lined boulevard. These will be augmented by precinct landscaped forecourts and other common greens fronting the avenues, making the route to the waterfront a pleasant journey whether one walks, jogs or cycles.

Drawing From A Rich Heritage
Many who lived in Punggol in the 1970s may recall not only Matilda House but also the Matilda rubber and coconut plantations located there. These icons of their time have lent not just their names, but also influenced the urban design of the housing developments and public spaces in the new housing district. The tropical architecture of Matilda House and the surrounding landscapes have inspired ideas such as verandahs and colonnaded walkways, open lawns and dense tree groves. These will be used to create a distinct identity linking the new development with its history and heritage.
Seamless Community Spaces

Punggol Matilda is a fine example of how the precinct spaces in residential developments can be creatively employed to meet multiple purposes. Each precinct space has amenities to serve its immediate neighbourhood of residents. All the precincts are so well-connected that residents can easily walk or cycle over to other precincts to meet other residents, enjoy the varied amenities in the different precincts or stroll along the waterfront. This physical closeness aims to encourage the growth of communities.

Likewise, the waterfront location is an integral part of the urban design master plan in bringing the community together. As such, pocket parks and common greens have been planned alongside the waterfront so that residents and visitors can relax and unwind in the convivial atmosphere and catch the breeze. To add to the liveliness, there are plans for a future waterfront shopping centre to serve the needs of residents and offer outdoor event spaces.

From Plans To Reality

Besides drawing up the urban design proposals for Punggol Matilda, HDB will also implement the new form of housing in a development in Punggol Matilda. The project, called ‘The Verandah@Matilda’, is led by HDB’s in-house multi-disciplinary team from HDB BRI. The innovative project designed with landscape deck and hybrid car parks serves to demonstrate the urban design proposals in a real life development.
Growing old gracefully is no longer a catchphrase but a growing reality in HDB estates. A retrofitting programme is now bringing greater ease of movement within the flat for the elderly in our midst.

By the 2030s, Singapore will have a lot more older people. The first cohort of post-war baby boomers turned 65 in 2012. Between now and 2030, over 900,000 baby boomers will be entering their golden years – that is more than a quarter of the current citizen population of 3,285,100.

Well aware of the impact on public housing, where more than eight in 10 resident households live, HDB has taken steps to introduce more elderly-friendly features in the flats and estate surroundings.

The ‘Thoughtware’ Of Ageing
Ageing is more than just getting a pair of reading glasses to read the fine print; it happens even to the best of us. One will discover that there are more things that the body needs help with. Loss of strength and dexterity are common accompaniments of ageing. When finger sensitivity decreases, we need bigger touch buttons to operate everyday items such as lifts. Lever door handles will aid those of us with weaker grips, and we will appreciate level floors and wider doorways should we need to move around in wheelchairs.

01 Elderly-friendly features in and out of the home bring much joy to the elderly residents
Making It EASE-y For The Elderly
EASE was piloted in 2011 in Marine Parade, one of the older HDB estates. The project involved several government agencies, such as the Ministry of Health (MOH), the Ministry of National Development (MND), and the estate’s grassroots representatives. Modifications were carried out to 500 selected flats housing those aged from 75, living alone, and who had a history of falls. The flats were upgraded with elderly-friendly fittings which have been endorsed by the high-level Ministerial Committee on Ageing (MCA).

Trials at two other pilot towns, Kallang/Whampoa and Bukit Merah, proved equally successful and EASE is now an island-wide programme offered to all eligible HDB homes. The EASE package is also offered as an add-on to HDB’s Home Improvement Programme (HIP) to help flat owners resolve common maintenance problems related to ageing flats.

Improvements That Make A Difference
Extensive consultations and feedback helped nail EASE down to three key retrofitting modifications. These are the application of slip-resistant treatment to the toilet and bathroom floor tiles, and where feasible, grab bars within the flat, plus ramps to help negotiate floor level differences.

The Occupational Therapists involved in the pilot project looked into the smallest of details, such as the dimensions and the tactile finishing of grab bars, to where these should be installed for the best use.

Senior Occupational Therapist Chan Kar Lock says, “Perhaps the most important aspect of the grab bar guidelines we considered was the location and position of the grab bars. We did studies and collected data on body measurements of the local elderly. There was a deliberate intention not to provide one-size-fits-all guidelines, but to customise the elevation of the grab bars on the walls to suit different heights. Even so, care was taken to provide a final set of customisable guidelines which are uncomplicated and easy to put into practice.”

The data collected significantly helped to reduce the time spent on deciding the types and locations of improvements. International Universal Design Guidelines were used as references and adopted with modifications to be implemented in HDB flats.
The bars are very helpful, especially in the toilet. He used to rely on the walking stick... quite dangerous when the floor is wet. Now he just needs to hold on to the bar to turn about in the shower or to get up from the toilet seat unaided.

Enhanced Mobility

Residents can choose to install all three or any of the modifications offered. The cost to the citizen households is kept affordable. For residents living in 3-room or smaller flats, they bear as low as five percent of the actual total costs. For HDB rental flats, EASE is fully funded by the government.

Elderly residents such as Halimah have found EASE a godsend. “It’s good... it was quite difficult to walk about before. I used to have to walk very carefully and slowly, grabbing the sink whenever I’m in the toilet.”

Well into her 70s, she needs support to move around in her flat. Previously, she grabbed on to anything within reach to get about and this had resulted in a few nasty falls. The grab bars are now there for her to hold on to, providing her family with the assurance that grandma can now move around safely.

Her grandson, Muhammad Luthfi, explains why the family had opted to install all the three modifications. “At times, she doesn’t want to use the walking stick. So we installed the grab bars for her – now there’s a firmer, stronger and safer grip for her to rest her weight on. Before the installation, when she uses the toilet, she holds on to the sink for support which is unsafe as it might not be able to support her weight.”

Another elderly resident giving the thumbs up to EASE is Leong Choy Leong, a stroke patient. His wife, Loh Kwi Yong, is equally pleased and says, “The bars are very helpful, especially in the toilet. He used to rely on the walking stick... quite dangerous when the floor is wet. Now he just needs to hold on to the bar to turn about in the shower or to get up from the toilet seat unaided.”

The enhanced mobility and easy upkeep of the EASE items have made Kwi Yong a strong advocate. “There are many elderly residents here... many came by my flat to look at the EASE items when I first installed them. I think the entire fifth floor have the items now!” she says.
Barrier-free AND Easy

EASE is part of the larger effort to make HDB towns a friendlier and kinder place for all ages as well as the disabled. In the early years of public housing, providing shelter was paramount but today’s focus is on other requirements of quality living.
In The Neighbourhood
As early as the mid 80s, HDB had studied barrier-free design features that could be adapted for the public housing environment. This led to certain design specifications for the neighbourhoods, precincts and blocks to improve access and accessibility to nearby facilities such as markets, shops, and food centres within HDB estates.

To improve overall connectivity within and between precincts, in 2005, a pilot Barrier-Free Accessibility (BFA) programme was started in Bukit Batok East with the Town Council. This provided useful learning points for the programme's subsequent island-wide implementation a year later.

Nearly 7,800 blocks have benefitted from the $23 million BFA programme since its implementation. More ramps, handrails and gradient slopes are now provided to enable seamless travel for the frail and disabled.

Within The Flat
In 2005, HDB also formed a Universal Design (UD) Study Team to improve the user-friendliness of its flat designs. A set of guiding principles was developed based on insights from study trips to Japan and Hong Kong as well as feedback from professional groups and residents.

The UD principles have been incorporated in new flats tendered from July 2006. Wider doorways and ramps for bathroom doorways have enhanced wheelchair mobility within the flat. The reach range for taps, switches, sockets and handles for doors, windows and cabinets are other useful UD features implemented.

HDB has included only the important items that would be difficult or impossible for residents to modify on their own, such as the toilet space and levelling of floor level differences. But provision for future installations of other assistive features such as grab bars has been incorporated in the design. This will allow residents to install them later, thus enabling them to age in place if they so desire.
Balancing housing demand and supply can be a tricky business. The challenge HDB faces in finding an optimal equilibrium is how to meet the demand at a fast enough pace, yet avoid a supply overhang and shoddy quality. A concert of measures has been put in place to ensure we hit the right notes.

A concert of measures

A n HDB flat is a much sought-after address. For those who still have the old image of public housing as run-down accommodation, this revelation may come as a surprise, but not for the majority of Singaporeans who live in them. With new towns that present show flats of the future, and older towns being constantly upgraded and rejuvenated, HDB flats provide value for money, good quality living.

Finding A Better Match

As the developer of these homes, HDB strives to ensure that everyone who qualifies for a public housing flat is able to get one in the shortest possible time. This entails matching demand with supply as optimally as possible and also providing for the timely delivery of the flats.

In earlier years, HDB built flats in advance and relied on a queue system to allocate them. The first-in-first-to-buy approach, which was fine-tuned and modified over the years, served its purpose well. But as economic conditions fluctuated both globally and locally, demand became similarly more volatile. A more responsive and flexible approach was needed.
Why Build-To-Order?
The main drawback of previous allocation systems was their inability to provide an accurate enough gauge of the number of serious purchasers. Many could easily join in or exit the housing queue.

The Build-To-Order (BTO) system was implemented in April 2001 on a pilot basis to see if it could better calibrate supply and demand. It was adopted as the main mode of sale for new HDB flats from December 2002. As new flats will be developed only if there is sufficient take-up for them, it has since helped HDB avoid the situation of a flat oversupply.

It has also given HDB the flexibility to either ramp up its building programme in times of higher demand, or to scale it down when demand tapers off. For flat buyers, there is greater certainty and choice in terms of the timing, location, and flat type. A good variety of flat types spread over different locations also means that different needs and budgets could be met.

Ramping It Up
Rising property prices, propelled by the vibrant economy of recent years, had created a temporary supply and demand imbalance. To meet the pent-up demand, over the past four years from 2009, the building programme for BTO flats has been ramped up dramatically to re-balance the equation. From the 9,000 BTO flats offered in 2009, the numbers grew to 27,000 in 2012. In 2013, about 25,000 BTO flats will be offered for sale.

The increased volumes are intended to help specific groups of buyers. In 2011 and 2012, the focus was on assisting first-timer buyers secure a home. In 2012, the focus shifted to helping second-time BTO flat buyers, while still maintaining priority for first-time buyers. In the earlier part of 2013, new policies were announced during the government’s annual Budget Debate to help other groups get one step closer to their housing dream: more second-timers, singles, and also elderly.
Many of the difficulties HDB has to overcome are not always directly controllable. Top among HDB’s concerns is the industry’s capacity to absorb stretched demands created by the booming property market, as this would naturally create situations of supply and manpower shortages.

Overcoming Challenges
There will be some years between the time BTO flat buyers book their flat to the time they receive the keys to their new home. During this interval, there is a lot of work to be done, from planning and timely provision of supporting infrastructure and utility services, to galvanising construction resources for the various ongoing projects. In 2013, HDB is managing a huge volume of some 181,300 dwelling units under construction or upgrading works at any one time.

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There are also other roadblocks that could derail the progress to the deadlines. From time to time, certain BTO project sites pose terrain challenges and limitations such as poor soil conditions, unforeseen additional earth works, proximity to a railway protection zone, or a combination of these factors. These considerations add to the standard construction process and lengthen the waiting time for flat buyers.
And sometimes speed bumps emerge at the start, forcing HDB architects to quickly work out innovative design solutions. When a 12-metre level difference across the Senja Gateway site in Bukit Panjang threatened barrier-free accessibility within the precinct and beyond, HDB Senior Architect Yew Wei Jun and her design team planned for an unconventional multi-storey car park to be tucked into the slope to bridge the steep drop. The lift incorporated within the car park will facilitate ease of movement for future residents and negate the need to build extensive ramps, therefore freeing up space for greenery.

With larger developments, HDB's main challenge is to work with the planners and providers of services and infrastructure to ensure a seamless integration. Any unforeseen technical or capacity delays could translate into major rescheduling of the work processes, and therefore impact on the development time.

More challenging would be developing infill sites within the mature estates and towns. With residents’ daily lives affected by ongoing construction work, good project management is essential to make sure that the inconveniences do not unsettle them unduly. And with the public more vocal now in voicing their views, the work schedules of BTO projects in infill sites could be disrupted because of design and other alterations to accommodate valid concerns. This is why early engagement with the various stakeholder groups is mounted to help address any queries and disquiet.

"As the new BTO blocks would be interspersed within an estate of older blocks, we are mindful to minimise disamenities to existing residents. HDB makes a concerted effort to design and position the new blocks sensitively, to provide reasonable views and reduce nuisances to those already living there," Wei Jun explains.
“We have taken bold steps to better our turnaround time,” says Deputy Director (Development & Construction Productivity Section 2), Lim Chuen Huei. “Ultimately, our goal is to raise construction productivity by 20 to 25 percent by 2020,” he adds.

Yet these moves are not at the expense of quality. “Despite the larger number of building sites to manage, some of them with new design features and needing complex construction methods, we remain committed to maintaining a high quality of flats across the board,” says Deputy Director (Building Construction Management Section 1), Tan Eng Seng.

And serving to uphold quality standards even as they race against the clock in helping building consultants and contractors meet inspection and handover deadlines are HDB Project Directors like Engineers Muhammed Firdaus and Tee Huey Yi. “Good working relationships with industry partners help greatly as these would reduce errors and miscommunications,” they say.

On a broader note, to help achieve smooth implementation and delivery, the Building Group has incorporated new methods, speeded up work, shortened processes, resolved issues upstream and reviewed every related activity for optimal results. This holistic approach is encapsulated in the HDB Productivity Framework, which has been adopted to drive productivity at the pre-construction, construction and post-construction stages, so as to meet the ramped-up demand for homes.
Research And Development
Away from the worksite, innovative solutions and technology are being leveraged, and HDB Building Research Institute (HDB BRI) is looking into improving precast production. Currently in the research stage, with this technological advancement, HDB BRI will be able to develop precast components that are designed not only to achieve ease of production and construction, but also facilitate mechanisation and automation of the production process. HDB can look forward to increasing the production productivity of precast components by 35 percent. By carrying out research like this, HDB is able to build up a deep cache of knowledge and abilities, which it will then share with the wider industry.

“As the largest precast construction implementer in the country, we are able to positively impact the industry with improvements to our designs. Furthermore, we are sharing our accumulated knowledge and expertise with the local precasters, benefitting the building industry as a whole,” says Deputy Director (Building Research), Wong Swee Khian.

The use of software like CAD/CAM is also being employed to integrate production processes into the manufacturing process, enabling HDB to steer the precast industry to a higher level of production efficiency.

Design Productivity
The design process for BTO projects can be simplified considerably with more design standardisation being employed. While improving productivity, care is taken to ensure that design integrity is not compromised. By sharing good design and detailing practices with the appointed consultants, less time is spent re-inventing the wheel.

The appointment of consultants via the Quality-Fee selection Method (QFM), a competitive selection method that takes into account both the quality criteria and fee proposals, is also being increasingly employed to inject better design variety.
Pre-Construction And Construction

• Advancing Works
As site preparation works and related activities take time, the Building Group has advanced the planning process and secured early approvals where needed. The lead time it buys will help them manage more effectively issues that crop up, especially for sites that require extensive earthworks, rock blasting or other measures needed to ready the ground for actual development work.

• Clearance House
The ramped-up BTO programme has resulted in a significant increase in the number of planning consultations. To speed things up, HDB has formed a ‘Clearance House’ to initiate inter-agency discussions to resolve any delays or difficulties encountered involving the appointed consultants and other public agencies.

• Managing Industry Resources
The strain on the construction industry with the ramped-up BTO programme and private sector projects is also evident. HDB therefore actively monitors key construction resources such as precast floor slabs and wall systems to ensure steady supply of these.

At the project implementation level, it has implemented an Enterprise Risk Management technique where dialogues help prepare the contractor and suppliers on upcoming building programmes. Hence, the main contractors can anticipate possible shortfalls and take mitigating steps. Regular sharing sessions of best practices in project planning, management and construction also help build industry knowledge.

Over the years, various systems have been put in place to track project timelines and quality. Where necessary, contractors are required to carry out work demonstrations and set up samples before embarking on mass production, to ascertain that high quality standards are met.

The Sweetest Note
With thousands of flats to deliver, the sheer scale and scope of the ramped-up BTO programme presents a myriad of challenges. From technical, technological to construction and materials management, public sentiments and even the weather, many things can go wrong despite the best efforts.

In light of this, HDB’s concert of measures will help it handle any possible derailment to ensure smooth completion. The sound of keys opening the door to a brand new BTO flat within the scheduled time will ring in the sweetest note – not only to every new home owner, but also for the entire body of dedicated staff and workers racing against time to deliver the spanking new BTO flats!
It is easy to get lost in the city – and maybe in the HDB heartland too, where more than 80 percent of Singapore’s resident population live in high-rise homes. But careful crafting of space and policies has ensured that inhabitants of HDB towns get connected and bonded to the larger community. And playing a major role to foster stronger neighbourly ties is HDB’s Community Relations Group.
Urban dwellers who have read the beloved classic, ‘Alice in Wonderland’, can easily identify with the protagonist’s bewilderment when she tumbled down the rabbit hole into a confusing quagmire of events and characters. Living in the city or in any high-rise, high-density community can create a sense of disconnect similar to Alice’s, despite being surrounded by crowds of people and constant activity.

Well aware of the alienation that high-rise living can breed, HDB’s planning and policies embrace community connectedness. Breathing spaces are designed to draw residents out of their flat and into the open green outdoors. And if you look up-close at how the blocks are laid out and linked up, you will see that they are designed to ‘encourage’ neighbours to bump into each other in the many shared common spaces.

These ‘accidental’ meetings along the connecting corridors, walkways and precinct parks and playgrounds have helped many a resident to become friends. But of course, more than just fortuitous encounters are needed to light the spark that will grow into a blazing community flame.

Apart from the physical elements, a lot more is being done today to strengthen community togetherness. The recent formation of HDB’s Community Relations Group (CRG) in 2009 has mapped out the software of community building for the heartland towns.

An Ideal
A comprehensive framework has been designed to foster a stronger sense of community through sustained, meaningful programmes that involve residents and various public and private sector agencies. What this eventually seeks to build are vibrant neighbourhoods of responsible, caring and trusting communities where neighbours become almost like family members.
“An ideal home is more than just its attractive physical attributes and nearness to amenities,” she notes. “Friendly and helpful neighbours become more important if a house is to be a home. One of the many ways to achieve this is to create opportunities for residents to get to know one another better through meaningful community events and activities. We hope these will spur them on to create the vibrant communities themselves. By this we will know whether we have succeeded – when the combustion becomes spontaneous.”

Social Software
It can seem a herculean task. The HDB population demographics show a diverse group – residents come from all walks of life and different ethnic and cultural backgrounds. This suggests division rather than unity. However, the common values that the population shares as Singaporeans override whatever inherent cleavages there may be.

“The challenge before us is finding more common grounds for residents to connect and feel a part of and also encouraging new conversations and relationships to take place,” says Group Director (Community Relations) Lau Chay Yean, who helms HDB’s community building efforts. “As community building involves many different aspects, what we are trying to do first is to start several initiatives that allow different groups to gel together, both within their respective groups and across groups.”

Amidst the increasing diversity in the HDB heartland, HDB organises programmes to bring residents closer through various outreach programmes tailored to search for similarities among the differences and the diversity. So at one end of the spectrum, there are outreach programmes to the youths to mould life-changing behaviours and attitudes towards the community. “We hope not only to infuse positive feelings about community building in the young, but also that they may be positive examples of goodness to those around them – their friends, families and neighbours,” says Chay Yean.
On the other end of the spectrum are programmes geared towards nurturing new communities being formed in the newly completed HDB blocks and precincts. Events such as welcome parties and completion ceremonies have drawn positive responses from the participants.

Then there are programmes that cut across age and group boundaries, such as the Good Neighbour Award and the SHINE Movement. Both aim at encouraging neighbours to carry out kind and thoughtful acts for one another, in small and big ways. By celebrating good deeds among neighbours, a catalytic effect is born.

Overarching all these are programmes that seek to find a higher meeting ground through art and other shared heritage and memories that appeal to residents’ sense of identity and place, helping to anchor them to their town and home.

Heading towards the ultimate goal of building up a community with self-initiated residents that will take ownership of their own community, programmes are oriented to get them involved from the start through consultative engagement.

“From these seemingly different ‘patchwork’ of programmes addressing specific needs, what you will eventually get to see is a coalescing of activities that subscribe to the vision of a successful community,” explains Chay Yean.
**Partnerships**

An important indicator and contributor to community well-being is the strength of the relationships among those who live together. In this regard, HDB is pioneering what could possibly be a whole new field in community mobilisation and engagement, but it has also chosen to work with experts and practitioners in the field to refine the process and shape new directions.

During HDB’s Community Week 2013, an annual highlight, it signed a Research Collaboration Agreement (RCA) with the National University of Singapore’s (NUS) Centre for Sustainable Asian Cities and the Department of Sociology to study the impact of the built environment on community bonding. Design principles distilled from the study are likely to be incorporated into future housing and upgrading plans.

HDB also organised the Community Building Seminar with the National Volunteer and Philanthropy Centre (NVPC) as co-host. Apart from the presentations by field experts, walks to three HDB neighbourhoods were held. The participants, who came from government and private agencies and learning institutions, were positive in their responses. Pascal Paul from Beyond Social Services, says, “I have been doing community work all along. But it is only today that I realise, from the walks, that community building is very different. We need to be more observant to build communities. Even a small sign can mean a lot of things and has many implications.”

**Unifying Ground**

The framework and programmes HDB has set in place – and the fresh insights it is gathering – may well turn out to be new defining landmarks in community building. But for now, it has set its sights on being practical and pragmatic – doing what it takes to allow HDB residents space and opportunity to engage authentically, and to build their future upon a solid base.

Indeed, residents who have been involved in one way or another, whether it is in giving feedback on the design, types and location of communal facilities and spaces in their precinct, or how a certain activity is to be carried out, feel a stronger sense of connection.

What HDB is beginning to see is a growing sense of ownership among residents, nascent no doubt, over their community space. When residents are more engaged with the people around them, they grow more respectful of differences and diversity and will actively seek out common, unifying ground. More tolerant, inclusive and caring communities will naturally follow in the wake.
Guided by the Community Bonding Framework, HDB’s approach to community building also embraces a fun side to it to help residents connect in an enjoyable way.

The programmes offer something for everyone for most of the time, and culminate in an annual highlight, the ‘HDB Community Week’.

Celebrate LIFE!
The theme for the HDB Community Week 2013 revolved around the celebrative spirit of the community. ‘Celebrating LIFE in the Heartlands’ emphasises the importance of the software of community building, with the acronym LIFE representing the desirable values of heartland living:

L – Let’s be considerate neighbours
I – It’s my town
F – Friends next door
E – Eco@Home

The Community Week Exhibition featured three segments: the Celebrating LIFE in the Heartlands Photography Exhibition; Celebrating Neighbourliness Exhibition and Celebrating LIFE Exhibition.

Winning Shots
A total of 3,500 entries poured in for the Heartlands Photography Exhibition meant to capture the joy of living in the HDB heartland. Oei Geok Baw, the first prize winner in the open category, reminisces, “The scene of a family running across the pond reminds me of kampong (village) days when children roam around freely, so I captured it on camera. Today, we only need to take a stroll around our HDB heartland and we will be able to find beautiful scenes and scenery and appreciate the integration of greenery and infrastructure.”
Winner of the first prize for the youth category, Lim Yu Cheng, feels as strongly about his heartland home. Through his winning picture, he hopes to convey the idea that “HDB towns are a vital part of everyone’s lives and we should appreciate our surroundings and neighbours.”

Reaping Sweet Fruit
The Celebrating Neighbourliness and LIFE Exhibitions featured stories and examples of how residents had contributed to a friendlier and more positive living environment. And reflecting the sweet fruit of neighbourliness, a mini showcase of the harvest from the various community gardens at HDB estates, from leafy greens, orchids, to exquisite bonsai plants, greeted visitors to the exhibition with their greenery, colour and scent.

Mile High Views
Amidst the colourful exhibits of community life, four impressive aerial shots of HDB towns stood out. Contributed by avid photographer, Mr Kwek Leng Joo, the photographs provide rare glimpses of the HDB landscape from the sky.

Explaining why he went the extra mile for the aerial photography which required him to shoot miles above in a charted helicopter, he says, “People and architecture have always been close to my heart, perhaps due to the nature of my work as a developer. It is interesting to note how people and their lifestyle, as well as heritage, impact on the cityscape. This, to a large extent, has inspired me to capture aerial shots of Bishan, Toa Payoh and Tanjong Pagar to showcase their distinct character and features.”
Engaging The Young And Young At Heart
HDB has also reached out to the young to promote gracious and harmonious living in HDB towns. The Heartland Youthora! is a key event bringing students together to set up exhibition booths and projects that showcase their inventive ideas that can help bring residents together. This year, there were 18 booths competing for the best initiative.

The students and HDB residents also enjoyed an opportunity to further explore different parts of Singapore through the Amazing Heartland Race – a fun-filled activity to discover the distinctive features of the towns they live in.

Heartland Talks
Two heartland public talks targeted at the elderly and first-time homebuyers were held as part of the line-up of activities for the HDB Community Week. The talks provided useful information on how their HDB flat could help supplement their retirement income and things to look out for when buying and financing an HDB flat.

New Collaborations
This year’s HDB Community Week also featured two major collaborations. One was a research collaboration with the NUS Centre for Sustainable Asian Cities and the Department of Sociology to study the impact of the built environment on community bonding. The other was the inaugural Community Building Seminar co-hosted with NVPC to share and seed new ideas on community building.

The Close Of A Successful Event
The Straits Vista @ Marsiling Welcome Party not only marked the close of the key events for the HDB Community Week, it also provided opportunities for residents to make new friends and familiarise themselves with their new homes through fun and games. “CRG’s events and activities are meant to be convenient avenues for residents in the community to get to know one another. We hope that the new relationships formed can blossom into long lasting friendships,” says Deputy Director (Programmes), Olivia Mok.

Scan to read about HDB’s community bonding programmes such as the Good Neighbour Award, Heartland Ambassadors, and more.
Contributions
We envision ‘Dwellings’ to be a platform for the sharing of ideas, works and projects that promote and advance quality and sustainable housing. We welcome written contributions from all who share a keen interest in housing and habitats, whether you are an academic, industry practitioner or professional.

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