

# 3 | A WELL-CONNECTED AND GREEN CITY, OUR ENDEARING HOME

Singapore's airport and sea port are highly ranked internationally. We continue to invest in public infrastructure to improve local and global connectivity, provide affordable homes, and create a liveable environment. We are improving the reliability of our MRT (Mass Rapid Transit) system and lifts in our housing estates. At the same time, we are promoting greater environmental consciousness for a more sustainable future.

## Rejuvenating Our Homes and Surroundings



Supported 11,000 households to live near their parents or children through the Proximity Housing Grant



Allocated \$450 million to co-fund the retrofitting of old lifts through the Lift Enhancement Programme



Announced the Home Improvement Programme for 242,000 flats

## Working towards a Sustainable Environment



Piloting smart shower devices in 10,000 new homes



Improving accessibility of recycling through dual chutes for refuse and recyclables in new HDB blocks



Increasing green spaces with the 36 km Coast-to-Coast Trail and 24 km Rail Corridor

## Improving Connectivity, Locally and Globally



Added cycling networks for nine towns



Completed Tuas West Extension, Downtown Line Stage 3, and re-signalling for North-South and East-West Lines



Maintained strong global connectivity and high international rankings for our airport and port

# ENDEARING HOMES

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In order for Singapore to remain a liveable city, we have continued to build affordable homes and renew our housing estates while ensuring a safe built environment.



## Helping Seniors Age Gracefully

The Enhancement for Active Seniors (EASE) programme helps seniors age-in-place in a safe environment by subsidising elder-friendly home modifications. Those who wish to unlock the value of their Housing & Development Board (HDB) flats to supplement their retirement income can choose from several monetisation options. These include renting out spare bedrooms or taking up the Lease Buyback Scheme if they wish to age-in-place, or right-sizing to a smaller flat and taking up the Silver Housing Bonus.

## Affordable, Adequate, and Quality Homes

In February 2017, the Government increased the CPF Housing Grant for first-timer families buying resale flats, from \$30,000 to \$40,000 for 5-room or larger flats, and to \$50,000 for 4-room or smaller flats. The CPF Housing Grant for first-timer singles buying resale flats was also increased from \$15,000 to \$20,000 for 5-room flats, and to \$25,000 for 4-room or smaller flats. As at December 2017, 8,100 applicants have benefitted from the increased grant. Together with the Additional CPF Housing Grant and enhanced Proximity Housing Grant, first-timer applicants buying resale flats to live with or near their parents can receive up to \$120,000 in housing grants – a 50% increase from 2015.

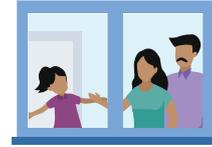
To enable more Singaporeans to own a HDB flat and have a tangible stake in Singapore's progress, we have set aside at least 95% and 85% of 4-room or larger flats in mature and non-mature estates respectively for first-timer families. We are also supporting families in transition on their housing options. From March 2018, divorcees no longer have to wait three years after the end of their marriage to buy subsidised flats if they meet the prevailing eligibility criteria. Second-timer families with young children who have stayed in public rental flats for at least a year can apply for 2-room Flexi flats on shorter leases under the Fresh Start Housing Scheme.

# Building Better Homes for All

## Fresh Start Housing Scheme

Launched in December 2016

- Benefitted **61** families



## Proximity Housing Grant

Launched in August 2015

- Disbursed **\$211 million** to **11,000** households



Enhanced for married/single child and parents in February 2018

Resale Flat Buyers	To Live with Parents/Child	To Live near Parents/Child (within 4 km)
Families	\$30,000	\$20,000
Singles Aged 35 Years and Older	\$15,000	\$10,000

## 2-room Flexi Scheme

Launched in August 2015

- **5,070** seniors have secured short-lease 2-room Flexi flats



## Parenthood Provisional Housing Scheme

Launched in January 2013

- Benefitted about **2,400** families with more than **460** babies born to these families



Increased rental subsidies in April 2017

- **840** households benefitted from lower rental rates

## Enhancement for Active Seniors Programme (EASE)

Launched in July 2012

- Spent **\$50 million** subsidising improvements for more than **163,000** homes to be elder-friendly



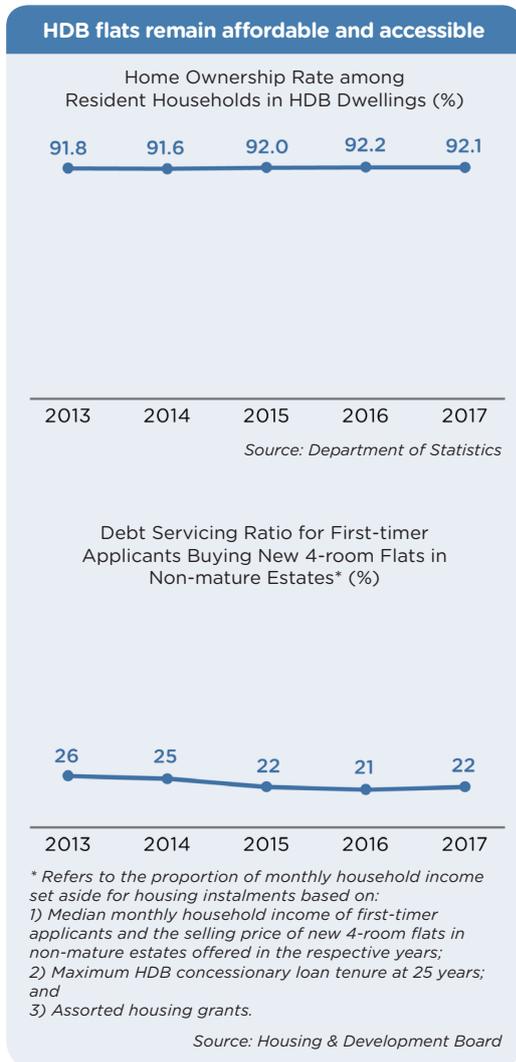
## Lease Buyback Scheme

Launched in March 2009

- Benefitted about **2,500** families



Around 17,000 new flats were launched in 2017, and another 16,000 in 2018. Owners of the 1,100 Sembawang, Sengkang, and Yishun flats launched in November 2018 can expect a shorter waiting time for their flats – around two to three years, instead of the usual four. The waiting time for rental flats has also decreased from four months in 2016 to three months in 2018.



Flat buyers can now access balance flats more quickly with the new Re-Offer of Balance Flats sales mode. Unselected balance flats from previous Sale of Balance Flats exercises are pooled together so applicants have a wider selection of units to choose from. In January 2018, we revamped the HDB portal and simplified the resale transaction process, with all eligibility checks conducted on a single platform instead of across multiple e-services. It now takes about eight weeks instead of 16 weeks to complete a resale transaction, and the number of appointments with HDB has been reduced from two to one.

### A Safe Built Environment

We launched the Home Improvement Programme (HIP) in 2007 to address common maintenance issues related to ageing flats such as spalling concrete. As at December 2017, HIP has been announced for about 242,000 of almost 320,000 eligible flats, and has been completed for about 103,000 flats. We will extend HIP to another 230,000 flats built up to 1997.

After a few incidents of falling aluminium panels and concrete features from HDB flats, we will introduce legislation that requires façades of buildings older than 20 years and taller than 13 metres<sup>10</sup> to be inspected every seven years. This is to ensure that building exteriors remain in good and serviceable condition.

The safety and reliability of lifts in our urbanised, high-rise environment are important. We have allocated \$450 million from 2016 to 2025 to co-fund the retrofitting of old lifts by town councils through the Lift Enhancement Programme. This sum includes \$13 million per year to help them cope with higher lift-related servicing and maintenance costs, and more than \$50 million in 2018 to match half of their quarterly contributions to the Lift Replacement Fund. These have doubled our grant support to town councils. On average, the overall lift breakdown rate has remained stable. Since 2015, there have been around 20 breakdowns per 1,000 public housing lifts annually.

Residents can also conveniently report issues with HDB estate facilities on the OneService mobile application and web portal. As at December 2017, 114,000 residents have registered on the application, reporting 153,000 cases in their estates to help improve operations. For example, supermarkets and bicycle-sharing operators are immediately alerted to retrieve abandoned trolleys and indiscriminately-parked bicycles.

<sup>10</sup> Excludes private landed houses and temporary buildings.

## A Liveable and Smart City

Singapore remains the Asian city with the highest quality of living according to Mercer's annual Quality of Living survey in 2018. The Economist Intelligence Unit's Global Liveability Index 2018 ranked Singapore 11<sup>th</sup> in Asia.

We continue to develop new HDB towns. The first batch of HDB flats in Tengah was launched in November 2018 with energy and water conservation features within and outside homes. The pilot deployment of autonomous vehicles for public transport is also set to begin in Tengah from the early 2020s.

We are ensuring that older HDB towns keep up with younger ones. Works have been completed for six estates since the Remaking Our Heartland initiative was launched in 2007, and are in progress for another

three – Toa Payoh, Pasir Ris, and Woodlands. We have also announced 131 Neighbourhood Renewal Programme projects as at December 2017.

New hawker centres are also being built. Of the 20 centres to be ready by 2027, seven have started operations. The latest were Kampung Admiralty, Yishun Park, and Jurong West in 2017, and Pasir Ris Central in 2018.

Through the Active, Beautiful, Clean Waters (ABC Waters) Programme, we continue to transform drains, canals, and reservoirs into clean and beautiful streams, rivers, and lakes that can be used for recreation and communal bonding. Through the enjoyment of these spaces, the public can better appreciate and cherish our precious water resources. As at November 2018, we have opened 40 ABC Waters projects to the public and expect to complete 10 more by 2020.

## SUSTAINING THE HAWKER TRADE



To continue providing affordable food in a clean and hygienic environment, the Hawker Centre 3.0 Committee studied how to better manage hawker centres and encourage new hawkers to join the trade. The Government accepted a set of recommendations by the Committee:

### 1. Supporting new entrants

Aspiring hawkers can attend courses on hawker business management and hawker fare culinary skills, try out being a hawker at pre-fitted incubation stalls for a period of time, and obtain hawker-related information at the One-Stop Information and Service Centre.

### 2. Improving productivity

The Government has set aside \$90 million to improve hawker centre productivity by funding the adoption of initiatives such as centralised dishwashing services, automated tray-return systems, and e-payment options. Cooked food stallholders may also tap on the Hawkers' Productivity Grant to purchase kitchen automation equipment.

### 3. Enhancing hawker centres as social spaces

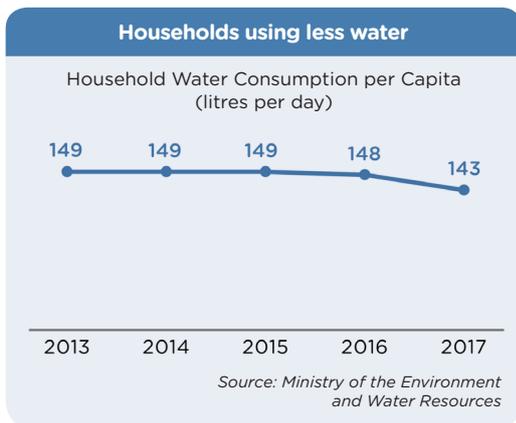
The Vibrant Hawker Centres Programme was launched in June 2017 to encourage the public to organise activities at hawker centres to enhance vibrancy and increase the community's ownership of our hawker centres.

# SUSTAINABLE ENVIRONMENT

We continue to balance environmental considerations with economic development and social inclusion for a sustainable city. This was profiled at the United Nations (UN) High-Level Political Forum in Singapore's first Voluntary National Review of the Sustainable Development Goals in July 2018.

## Ensuring Water Security

Singapore currently uses about 430 million gallons of water daily, enough to fill 782 Olympic-sized swimming pools. While households are using less water, our overall water consumption will increase as our population and economy grow. We need to plan for and ensure a sustainable and high-quality water supply for all Singaporeans.



As our 17 reservoirs are susceptible to the vagaries of weather, the Government has developed weather-resilient water sources:

- With the opening of the Tuas Desalination Plant in June 2018, we now have three desalination plants. Two more, in Marina East and Jurong Island, will be completed by 2020.
- There are currently five NEWater plants across Singapore – the newest at Changi was completed in 2017.

In 2018, we started works for Tuas Nexus, which will integrate used water and solid waste treatment to maximise synergies from water, energy, and waste.



Singapore has been experiencing more frequent and higher intensity rainfall. The ongoing drainage improvement programme is part of our efforts to cope with changes in weather patterns and growing urbanisation. In 2018, we completed the Stamford Diversion Canal and Stamford Detention Tank.

To optimise water usage, water fittings in all new and existing premises undergoing renovation must have at least two ticks under the Mandatory Water Efficiency Labelling Scheme from April 2019. We are also helping eligible families living in HDB flats replace less efficient water closets, taps, and mixers. More efficient water closets can help families save up to five litres of water per flush and lower their water bills by up to 10%. We are also deploying smart shower devices in about 10,000 new HDB homes from 2018 to 2019, after a successful pilot<sup>11</sup> in 2015. These can potentially lower monthly household water bills by about 3%.



<sup>11</sup> During the pilot, the 500 participating households saved about five litres of water per person daily upon receiving real-time information about their water consumption.

## Doing Our Part against Climate Change

The proportion of Singapore's electricity generated using more efficient and cleaner natural gas turbines rose from 74.4% in 2005 to 95.1% in 2017. In tandem, for every kilowatt hour (kWh) of energy generated in 2017, 0.4192 kilogrammes of carbon dioxide (kg CO<sub>2</sub>) were produced – less than the 0.5255 kg CO<sub>2</sub>/kWh in 2005. Electricity generated from solar power has also increased from 33 megawatt peak (MWp) in 2014 to 162 MWp in 2018. We aim to increase this output to 350 MWp by 2020 and to 1 gigawatt peak beyond that.

We will implement a carbon tax from 2019 to provide a uniform and economy-wide price signal on greenhouse gas emissions. The carbon tax rate will be set at \$5 per tonne of carbon dioxide equivalent (tCO<sub>2</sub>e) of greenhouse gas emissions for a five-year transition period, and will be reviewed periodically with a view to increase it to between \$10 and \$15 per tCO<sub>2</sub>e by 2030.

Singapore designated 2018 as the Year of Climate Action to raise public awareness on the need to take individual and collective action against climate change for a sustainable future. As at November 2018, we have received more than 300,000 climate action pledges.

## Ensuring Clean Air and a Healthy Environment for All

To work towards Singapore's air quality targets for 2020, we have tightened emission standards for vehicles and industrial plants. We have also introduced various initiatives and incentives to encourage cleaner vehicles:

- Owners of cars and taxis will receive rebates or pay surcharges under the new Vehicular Emissions Scheme based on the worst-performing pollutant emission, such as carbon monoxide, hydrocarbons, or particulate matter.
- Owners of older and more pollutive motorcycles are given an incentive of up to \$3,500 if they deregister their motorcycles. These motorcycles will be phased out after June 2028.
- Owners of Euro II and III diesel commercial vehicles who switch to cleaner models can enjoy discounted Certificates of Entitlement under the extended Early Turnover Scheme. As at June 2018, more than 37,700 eligible vehicles have benefitted under this scheme.

The smoking prohibition has also been extended to universities, private-hire cars, trishaws, and excursion buses to reduce the public's exposure to tobacco smoke.

Concerted efforts by all stakeholders to curb dengue and control the 2016 Zika outbreak are paying off. The dengue incidence rate reached a three-year low in 2017. 50,000 gravitraps have been deployed island-wide for better mosquito surveillance and the first phase of Project Wolbachia to reduce the *Aedes aegypti* mosquito population has achieved a 50% population-suppression rate at study sites. Rat control efforts have similarly been effective as the number of rat burrows detected in public areas fell by 33% between 2016 and 2017.

## Towards a Zero-waste Nation

Singapore's recycling rate has remained stable at about 60% over the past five years. While the non-domestic recycling rate remained at around 76%, the domestic recycling rate has increased from 19% in 2014 to 21% in 2017.

To make it convenient for households to recycle, we have been providing one recycling bin per block for HDB estates since 2014. From August 2018, existing condominiums are required to do the same. We have also provided dual chutes for refuse and recyclables with throw points on every floor in BTO projects launched since 2014. From April 2018, we have extended this requirement to new non-landed residential developments taller than four storeys.



16% of the food waste generated in 2017 was recycled, an increase from 12% in 2012. A pilot food waste digester in a market and food centre has treated around one tonne of food waste per day since 2016. Food waste digesters will be installed in more hawker centres from 2018.

Singapore produces about 60,000 tonnes of e-waste annually. According to a National Environment Agency study on e-waste, only 6% of this is recycled through e-waste recycling bins provided under voluntary programmes<sup>12</sup>. To improve the e-waste recycling rate, we will charge producers to take greater responsibility for the collection and proper treatment of e-waste under an Extended Producer Responsibility framework by 2021.

### More Green Spaces to Enjoy

We will continue integrating green spaces into our daily lives. By 2030, the green corridor network will be expanded from 310 kilometres (km) to 400 km. With 0.8 hectares of green space per 1,000 residents, 90% of our population will live within a 10-minute walk of a park. Parks, nature areas, and trails will be linked by a network of cycling paths island-wide, including the 36 km Coast-to-Coast Trail and the 24 km Rail Corridor that will be completed by the early 2020s.



## A WELL-CONNECTED CITY

To remain a well-connected city, we continue to invest in Singapore's public transportation network and its global air, sea, and land linkages. We will also continue to make our transport system more reliable, convenient, and inclusive to make walking, cycling, and riding public transport the preferred ways to travel. This will be done while ensuring the safety of all public path and road users through extensive education and enforcement efforts.

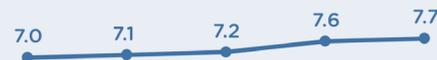


### Towards a Car-lite Nation

The improvements we have made to our Walk Cycle Ride options have increased commuter satisfaction with our public transport system. The percentage of commuters who chose to travel by public transport during peak hours has risen steadily from 63% in 2012 to 68% in 2017. In tandem with improvements to public transport infrastructure, we have progressively reduced the vehicle growth rate (VGR) since 2009 to reduce reliance on private vehicles. In February 2018, we set the VGR for cars and motorcycles at 0%.

#### Public transport users were more satisfied

Customer Satisfaction with Public Transport  
(mean score on a scale of one to ten)



2013 2014 2015 2016 2017

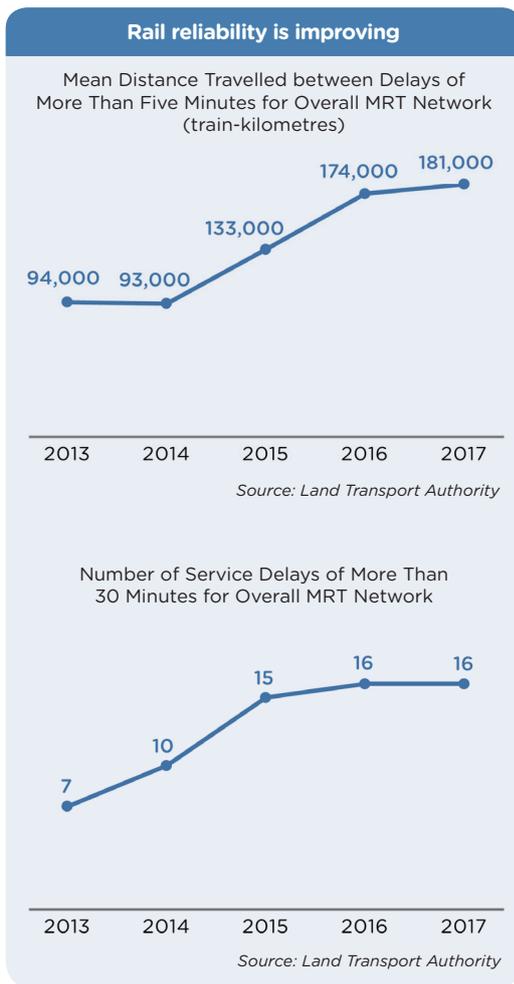
Source: Public Transport Council

<sup>12</sup> Excludes e-waste recycled through business-to-business channels and the informal sector, as well as the blue commingled recycling bins that do not collect e-waste.

As part of the National Cycling Plan announced in 2013, Bedok became Singapore's ninth cycling town in January 2018 with key amenities connected through 17 km of cycling paths. In line with our aim to have cycling path networks in all residential towns by 2030, we will be constructing cycling paths in another six towns over the next five years.

### More Reliable Public Transport

Rail reliability, as measured by mean distance travelled between delays of more than five minutes, is improving and is expected to improve further in 2018.



The Government expects to spend \$4 billion over the next five years to renew rail operating assets. Re-signalling and sleeper and power rail replacement for the North-South and East-West Lines have been completed, while the renewal works for the first-generation trains, power supply, and track circuit systems are ongoing.

Early closure and late opening of stations will continue to provide more engineering hours for preventive maintenance and repairs, and accelerate the renewal of ageing assets. The maintenance workforce has increased by more than 1,500 staff over the past five years, and will be further increased by more than 600 over the next three years.

From 2012 to 2017, we have added 1,000 buses and introduced 80 new or amended routes under the \$1.1 billion Bus Service Enhancement Programme. After transiting to the bus contracting model in September 2016, bus services have become more frequent during peak hours, with scheduled intervals of no more than 15 minutes. More than half of all bus services run at intervals of 10 minutes or less, while feeder services run at shorter intervals of six to eight minutes.

### More Convenient and Inclusive Travel

As part of our vision for eight in ten households to be within a 10-minute walk to one of the 270 MRT stations on the 360 km rail network, we have:

- Opened Stage 3 of the Downtown Line (DTL) in 2017;
- Extended the East-West Line to Tuas West in 2017;
- Started construction on the Thomson-East Coast Line (TEL), North East Line Extension, DTL3 Extension, and Circle Line 6 (CCL6);
- Gazetted the seventh MRT line, Jurong Region Line; and
- Started planning for the Cross Island Line.

## INTEGRATED FOUR-IN-ONE EAST COAST RAIL/BUS DEPOT

Work on the \$3.2 billion integrated depot started in 2016. The depot will have a total stabling capacity of 220 trains and 760 buses. The integration will result in land savings of 44 hectares – equivalent to about 60 football fields – and cost savings of about \$2 billion as compared to if four depots were built separately.

Since April 2017, families travelling with children can board public buses with open strollers. Stations along TEL and CCL6 will have family-friendly facilities such as child-sized toilets and diaper-changing counters when they open in 2019 and 2025 respectively.



Individuals with special needs will have priority boarding at all MRT stations by 2019, and at all bus interchanges and Integrated Transport Hubs by 2021. Seniors and persons with disabilities can tap their concession cards at more than 300 traffic lights for additional time to cross the road.

By 2022, more than 100 pedestrian overhead bridges at MRT stations, bus interchanges, hospitals, and clinics will have lifts to help the elderly and less ambulant get around more easily. We are also building wider footpaths (1.8 metres) so that wheelchairs can pass each other safely. With 200 km of sheltered walkways completed in September 2018, commuters can now enjoy more convenient connections to nearby public transport nodes.

About 1.8 million concession cards were issued to seniors aged 60 years and older; primary, secondary, and tertiary students; full-time National Servicemen; workers under the Workfare Income Supplement Scheme; and persons with disabilities. These give discounts of up to 50% off regular adult public transport fares. The Taxi Subsidy Scheme was revised in 2017 to support up to 80% of the travel cost by persons with disabilities, instead of 50%. The scheme was also extended to private-hire cars.

## Globally Connected

Singapore is working to enhance cross-border connectivity with Malaysia at land checkpoints and through bilateral connectivity projects such as the Kuala Lumpur-Singapore High Speed Rail and Johor Bahru-Singapore Rapid Transit System Link (RTS Link). In 2018, both countries signed the RTS Link Bilateral Agreement. The Johor Bahru-Singapore RTS Link, when completed by 2024, can carry up to 10,000 passengers per hour in each direction. This will ease congestion at our existing land checkpoints. Commuters will also enjoy a convenient travelling experience with the co-located Customs, Immigration, and Quarantine facilities at both stations in Woodlands North and Bukit Chagar.

Singapore remains the world's top international maritime centre according to the Xinhua-Baltic Exchange International Shipping Centre Development Index 2018 and Menon Economics' Leading Maritime Capitals of the World Report 2017. We have been ranked 1<sup>st</sup> for the efficiency of seaport services in the World Economic Forum's Global Competitiveness Report 2018. The maritime sector contributes 7% of Singapore's GDP and supports more than 170,000 jobs. Our port handled 33.7 million twenty-foot equivalent units (TEUs) of containers in 2017.

Changi Airport was awarded the Skytrax Best Airport award for the sixth consecutive year in 2018, handling a record 62.2 million passengers and 2.13 million tonnes of airfreight throughput in 2017. The opening of Terminal 4 in October 2017 and the expansion of Terminal 1 in 2019 will bring the airport's capacity to 85 million passengers per annum.

# List of Abbreviations

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<b>APIs</b>	Application Programming Interfaces
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>BTO</b>	Build-To-Order
<b>CPF</b>	Central Provident Fund
<b>FY</b>	Financial Year
<b>GDP</b>	Gross Domestic Product
<b>IMH</b>	Institute of Mental Health
<b>IoT</b>	Internet of Things
<b>MRT</b>	Mass Rapid Transit
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PR</b>	Permanent Resident
<b>RTS Link</b>	Rapid Transit System Link
<b>R&amp;D</b>	Research & Development
<b>SMEs</b>	Small and Medium Enterprises
<b>UN</b>	United Nations

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