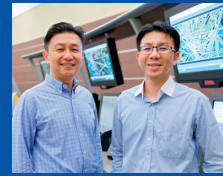




### Promoting Universal Standards

DEVELOPING GLOBAL AVIATION PROFESSIONALS VIA TRAINING



### The Road Ahead

SINGAPORE'S TRANSPORTATION SECTOR PROFESSIONALS ON WHAT PROSPECTS THE FUTURE HOLDS



### For The Common Good

THE WAYS IN WHICH SINGAPORE SHARES THE BENEFITS OF IMPROVED CONNECTIVITY



# Well-Connected & WILLING TO SHARE

How Singapore is lending its expertise in air, sea and land transport management with others, in order to bring down barriers to travel and trade

# Ed's Note

Dear readers,

Given its strategic location along global shipping routes and reputation as a well-run port, Singapore has long been a focal point for the international movement of goods and people. This has resulted in the creation of a sophisticated transport network within the country itself, with smooth connectivity seen as a cornerstone of socio-economic progress.

With today's challenges of an interconnected world as well as a growing population, Singapore's current approach to air, sea and land transport issues is to move goods efficiently and affordably, while driving the economy forward. Read about how this has been done in **A City Well Connected**. Behind every good system are individuals who make things happen. In **The Road Ahead**, professionals involved in the running of Singapore's transport system share their takes on the sector's future.

Our article **For The Common Good** focuses on partnerships that Singapore has entered into with other countries to improve connectivity between states. These range from easing the flow of air traffic and open rail links to stepping up anti-piracy measures at sea.

At the same time, Singapore has been sharing its expertise in transport management. **Promoting Universal Standards** looks at how the Singapore Aviation Academy has been training international aviation professionals in a bid to ensure that all International Civil Aviation Organization member states can enjoy the socio-economic benefits of safe and reliable air transport.

Initiatives such as these and others ultimately have the same goal: to ensure that transportation the world over can be made as safe, cost-efficient and hassle-free as possible. The better the networks and fewer the barriers, the greater the prospects for peace, progress and prosperity. Enjoy your read.

*Teo Lay Cheng*

Director  
Strategic Communications Directorate  
Ministry of Foreign Affairs Singapore



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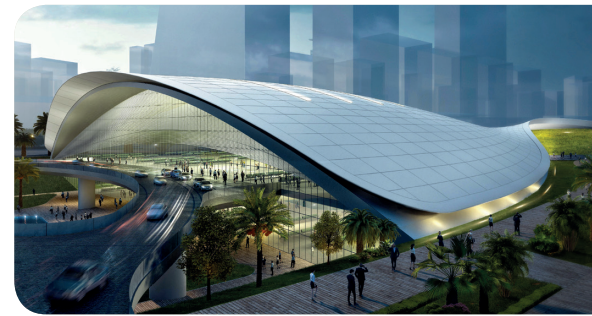
Singapore's efforts in helping to develop generations of global aviation professionals through training.



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Open skies, joint naval patrols and a high-speed rail line are just some of the ways in which Singapore shares the benefits of enhanced connectivity with other states.



MINISTRY OF FOREIGN AFFAIRS  
SINGAPORE

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# A CITY WELL- CONNECTED

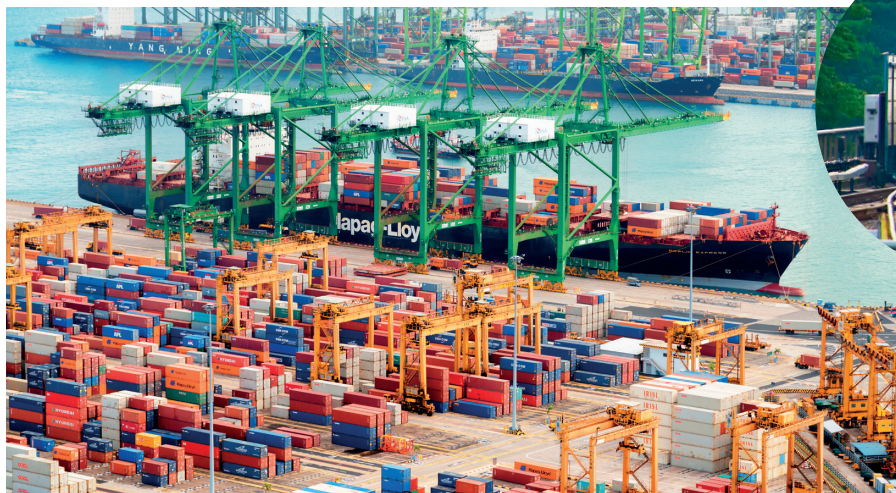


**Singapore's approach to transport moves people and goods efficiently and affordably, while driving the economy forward.**

TEXT BY ASHUTOSH RAVIKRISHNAN

October 2017 marked two major milestones in Singapore's transport history. On 21 October, the final stage of the Downtown Line (DTL) opened to much fanfare. The 34-station line improves connectivity for residents in eastern and western Singapore and is the fifth line in the Republic's Mass Rapid Transit (MRT) network. Ten days later, Changi Airport's Terminal 4 (T4) commenced operations, bringing the air hub's total annual handling capacity to 82 million passengers. Such efforts to continually expand and improve the transport network are critical to a trade-driven economy like Singapore's.

The Government agencies responsible for Singapore's transport network are the Ministry of Transport (MOT) and its four statutory agencies: the Civil Aviation Authority of Singapore (CAAS), the Land Transport Authority (LTA), the Maritime and Port Authority of Singapore (MPA) and the Public Transport Council (PTC). Together, they regulate operators, formulate policies and mitigate Singapore's transport challenges, be it on land, at sea or in the air.



↑ With the opening of T4, Changi Airport's total annual handling capacity will now be 82 million passengers.

← Singapore's MRT network now features five lines, with the latest, the Downtown Line, opening in October 2017.

← The Port of Singapore is the world's largest transshipment hub, with connections to more than 600 global ports.



(LIGHT-TOUCH REGULATION) ALLOWS AN INDUSTRY WHICH IS STILL EVOLVING TO CONTINUE TO INNOVATE AND BENEFIT CONSUMERS WHILE ENSURING THEIR SAFETY.

SECOND MINISTER FOR TRANSPORT  
MR NG CHEE MENG

Passengers disembarking from an MRT train at one of the new Downtown Line stations. Regular fare reviews are conducted to make sure that commuting by train remains affordable.



### RAIL, NOT ROAD

Central to Singapore's approach to land transport is the "rail, not road" policy, which was adopted in the 1980s in response to growing traffic congestion. The Government noted that the proposed MRT system was not just an investment in transport; it would also boost long-term investor confidence in Singapore.

In 1987, the MRT began operations with five stations. It has since grown to an expansive network of more than 140 stations on five lines. The most recent of these, the DTL, was described by Coordinating Minister for Infrastructure and Minister for Transport Mr Khaw Boon Wan as a "game-changer" for residents. But as he noted, its construction posed many challenges. "To build a new rail line in a densely built-up city, the team of LTA engineers had to tease out narrow corridors around existing buildings and infrastructure, and introduce new innovative diversion techniques," he explained, citing the rerouting of the Singapore River as one major engineering challenge. Overcoming such difficulties required collaboration across the Government. As Mr Khaw put it, "LTA could not do this alone."

The MRT network now forms the backbone of Singapore's public transport system. Its reach is bolstered by a Light Rail Transit (LRT) network, which serves lighter transport corridors. By 2030, LTA targets to expand the MRT network to about 360km. This will allow eight in 10 households to live within 10 minutes of a train station – adding to the attractiveness of public transport.

Many Singaporeans are also drawn to public transport because of its low cost. The PTC conducts quarterly fare reviews to ensure that fares remain affordable for all Singaporeans, taking into account energy and manpower costs. Fares for MRT and bus rides currently range between S\$0.77 for journeys up to 3.2km and S\$2.02 for journeys over 40.2km. Concession schemes are also available for groups such as students and the elderly.

### The Merits Of COMPETITION

The rise of ride-hailing apps like Uber, Grab and Lyft has been polarising. Commuters welcome the increased travel options, but traditional taxi drivers lament lost revenues. Singapore has sought to mitigate the effects of the private-hire sector by adopting a light-touch approach to regulation. This means policies that improve safety standards, and encourage innovation. These include:

- Licensing and insurance regulations for private-hire cars.
- The easing of regulations on the taxi industry to keep them competitive. For instance, taxi operators are now able to introduce dynamic pricing – a key feature of ride-hailing apps.



## MILESTONES

KEY MOMENTS IN THE HISTORY OF TRANSPORT IN SINGAPORE:

#### 1981

Singapore Airlines flight SQ 101 from Kuala Lumpur touches down at Changi Airport, marking the start of the airport's operations.

#### 1987

The Mass Rapid Transit (MRT) system opens with five stations. The network was introduced to reduce congestion on major roads and expressways.

#### 1998

The Electronic Road Pricing (ERP) system is activated. Based on a pay-as-you-use principle, the initiative charges motorists when they use certain roads during peak hours. A new satellite-based ERP system is expected to be implemented by 2020.



#### 2002

The ez-link card is introduced. The contactless multi-purpose card comes with a stored value that can be used for public transport.

#### 2004

Singapore's first low-cost carrier (LCC), Valuair, takes to the skies. By 2005, two more LCCs were formed to cater to burgeoning demand for air travel.

#### 2012

Plans for the Tuas mega-port are announced. The facility will free up prime land occupied by terminals in the city area and allow for more efficient port operations.



#### 2017

Changi Airport crosses the one-billionth-passenger mark and opens its fourth passenger terminal.



SOURCES: LAND TRANSPORT AUTHORITY, NATIONAL LIBRARY BOARD, THE STRAITS TIMES

## EYE TO THE SKY

Few airports in the world are as well-known as Changi Airport. Much of the air hub's success stems from operator Changi Airport Group (CAG)'s ability to anticipate and manage industry disruptions. In a bid to improve manpower efficiency and productivity, the airport's newest passenger terminal was designed to be fully automated from check-in to boarding. Fitted with nifty features like full-body scanning machines and self-check-in counters, T4 currently serves six airlines, among them Cathay Pacific and Korean Air.

In anticipation of continued growth in air travel in the Asia-Pacific region, CAG is ramping up the capacity of Changi Airport. A fifth terminal is slated to open by the late-2020s, along with a new runway. Together, these facilities will allow the airport to handle 135 million passengers a year. The growth of the aviation sector offers a bright spot in the economy, with CAAS looking to expand the pool of air traffic controllers from the current 400 to about 600 by 2020. The International Air Transport Association predicts that given the increased capacity and demand, aviation could be worth S\$88 billion to Singapore's economy by 2035.



AVIATION COULD BE WORTH S\$88 BILLION A YEAR TO THE SINGAPORE ECONOMY IN 20 YEARS, ACCORDING TO THE INTERNATIONAL AIR TRANSPORT ASSOCIATION.

◆ Changi Airport Terminal 4 was designed as a fully-automated facility, with the aim of achieving greater efficiency in processes such as checking-in and boarding.

## THE WORLD'S PORT OF CALL

The maritime sector is an important driver of Singapore's economy, accounting for seven per cent of its Gross Domestic Product and employing some 170,000 individuals. The importance of the sector isn't a recent phenomenon – as Prime Minister Mr Lee Hsien Loong pointed out, being a free port has been Singapore's raison d'être since the 14<sup>th</sup> century. Today, the Port of Singapore is the world's largest transshipment hub, with connections to more than 600 global ports.

Singapore's strategic location makes it an ideal node for transshipment, which refers to the transfer of containers from one vessel to another vessel bound for its final destination. Currently, just 15 per cent of containers that reach Singapore end their journey here. The rest are shipped to destinations around the world.

But the Port of Singapore's success is not only a result of geography. It also reflects operator Port of Singapore Authority (PSA)'s continued efforts to build a future-ready port. For instance, PSA continues to invest heavily in automation and technology, which mitigate the challenges of growing regional competition and increasingly complex transshipment requirements. Automation has other benefits, among them improved safety and a reduced carbon footprint.

In an effort to increase efficiency, the Port of Singapore will also shift its operations to a new mega-port in Tuas in western Singapore. This will open progressively from 2021. When fully completed in 2040, it will be able to handle up to 65 million twenty-foot equivalent units (TEUs) of cargo a year – more than double what the Port of Singapore handled in 2016. ●



An artist's impression of the new Tuas mega-port.

ON THE 

**9,233km** of roads\*  
used by **956,430** vehicles

**\$36 billion**  
the amount LTA is spending to build  
a car-lite society in Singapore

**2 runways** at Changi Airport,  
serving more than **100 airlines**

The Port of Singapore is connected  
to **600** sea ports in **120**  
countries and territories

**142** MRT and LRT stations,  
used by more than  
**2 million** passengers every day

\*AS OF 2014

SOURCES: MINISTRY OF TRANSPORT, LAND TRANSPORT AUTHORITY, MARITIME AND PORT AUTHORITY OF SINGAPORE, CHANGI AIRPORT GROUP

# PROMOTING UNIVERSAL STANDARDS

**Singapore's efforts in helping to develop generations of global aviation professionals through training.**

The 'No Country Left Behind' (NCLB) Strategy was initiated by the International Civil Aviation Organization (ICAO) in February 2015. Its primary goal is to help ensure that ICAO Standards and Recommended Practices (SARPs) are better harmonised and implemented globally, so that all ICAO Member States can enjoy the significant socio-economic benefits of safe and reliable air transport.

In concert with ICAO's NCLB initiative, and as a firm advocate of human capital development, Singapore is committed to continuing the provision of aviation training for international participants, to assist ICAO Member States in meeting their ICAO requirements as well as the career aspirations of their aviation professionals. Singapore has experienced how suitable and sufficient manpower with the right skills can catalyse civil aviation development.

The Singapore Aviation Academy (SAA), the training arm of the Civil Aviation Authority of Singapore (CAAS), has been providing specialised aviation training for aviation professionals since its establishment in 1958. Its courses offered have expanded in scope and depth over the years to support ICAO Member States and to build up a global community of aviation specialists and leaders. To date, SAA has trained over 110,000 participants from 200 countries and territories.

SAA has been working with the Singapore Cooperation Programme (SCP) since 1992 to provide fellowships for aviation training to developing countries. In addition, Singapore has been awarding fellowships under the Singapore-ICAO Developing Countries Training Programme (DCTP) since 2001. In 2013, scholarships were also added to the DCTP for senior aviation personnel to pursue a professional Diploma in Civil Aviation Management.

## OFFERING OPPORTUNITIES FOR UPGRADING

Apart from the SCP and Singapore-ICAO DCTP, fellowships are also provided for government officials from Member States of the African Civil Aviation Commission, the Latin American Civil Aviation Commission and the Arab Civil Aviation Commission, for various courses at SAA.

Over the years, more than 6,000 fellowships have been awarded to enable aviation professionals from developing countries to pursue skills and competency upgrading at SAA. In recognition of its contributions to global aviation human capital development, SAA was conferred the 34<sup>th</sup> ICAO Edward Warner Award in 2000.



↑ WCACEF 2017 – keynote address by Dr Olumuyiwa Benard Aliu, President of the ICAO Council, on 12 July 2017.

← International participants parading in their ethnic costumes – a tradition of the SAA Cultural Night.



↑ WCACEF 2017 – welcome reception hosted by Mr Lee Hsien Yang, Chairman of CAAS, held at Sky Suites@Equinox Level 69 on 11 July 2017.



BESIDES TRAINING COURSES, SAA ALSO PROVIDES ACTIVE DIALOGUE AMONG AVIATION LEADERS THROUGH ITS VARIOUS LEADERSHIP PROGRAMMES. THESE FACILITATE THE EXCHANGE OF KNOWLEDGE AND IDEAS AMONG POLICY MAKERS AND INDUSTRY LEADERS, AS THEY TOUCH ON CURRENT AND FUTURE ISSUES.



## On A Learning Journey

**MR MOHAMMAD MAGHAIREH**

Director, Air Transport and International Relations,  
Jordan Civil Aviation Regulatory Commission

Attended the Civil Aviation Management  
Programme from 30 October - 10 November 2017

Mohammad, who plays a major role in the strategic legal field as Director of Air Transport & International Relations, looks to SAA to arm himself for this journey of improvement. Thus far, he rates his learning journey at SAA as “extremely brilliant”. “I maximise my knowledge, acquire awareness in how I deal with unique business cases and improve my methods of research and analysis,” he said, adding, “I would also like to mention the priceless benefit of meeting new people from the aviation community.”

↑ Participants on the fortnightly cultural tour, enjoying Singapore's attractions.

In 2014, SAA was among the first few training centres to be designated an ICAO Regional Training Centre of Excellence (RTCE). As an RTCE, SAA will lead the development and delivery of competency-based ICAO training courses to uplift the professional qualifications of aviation personnel.

Besides training courses, SAA also promotes active dialogue among aviation leaders through its leadership programmes such as the World Civil Aviation Chief Executives Forum, Civil Aviation Chief Executives Programme and Aviation Leaders Programme in Public Policy. These facilitate the exchange of knowledge and ideas among policy makers and industry leaders, as they touch on current and future issues.

More than just a place to learn the latest in aviation best practices, SAA is also where participants forge long-lasting friendships. Since 1994, SAA has been organising the annual Cultural Night for participants to experience Singapore's culture and promote camaraderie among participants. Cultural tours are also organised on a fortnightly basis, for international participants to bond outside the classroom while exploring the sights and sounds of Singapore. SAA also actively engages its ever-increasing pool of international alumni through newsletters, online platforms and overseas alumni gatherings. ●





Mr Huang Shao Fei, Director of the Land Transport Authority (LTA)'s Innovation & Smart Mobility Office.

PROFESSIONALS INVOLVED IN THE SMOOTH RUNNING OF SINGAPORE'S TRANSPORT SYSTEM SHARE THEIR TAKES ON THE SECTOR'S FUTURE.

TEXT BY ASHUTOSH RAVIKRISHNAN

### DRIVEN BY DATA

In 2016, more than seven million trips were made every day on buses and Mass Rapid Transit (MRT) trains, Singapore's main modes of public transport. But as Mr Huang Shao Fei, Director of the Land Transport Authority (LTA)'s Innovation & Smart Mobility Office, points out, there's a lot more data than just ridership figures that can be analysed from each trip.

Each trip gives insights into shifting transport needs and patterns. "Advanced analytics of this data can help create a safer, and more inclusive and cost-effective land transport system," notes Mr Huang, who leads a team of 10 data scientists and four data engineers.



LTA IS RESPONSIBLE FOR PLANNING, BUILDING AND MAINTAINING SINGAPORE'S LAND TRANSPORT INFRASTRUCTURE.

Take senior citizens and commuters with special needs, who often require dedicated infrastructure such as wheelchair ramps and lifts at overpasses. "Origin and destination data from journeys can help transport planners better determine how to make public transport more accessible to such commuters," says Mr Huang, 43. Wheelchair-accessible buses can also be deployed on services that require them more.

Despite the obvious advantages of a data-driven land transport system, Mr Huang admits that there have been some challenges in implementing such a system. "We had to ensure that our insights were relevant to issues faced on the ground – otherwise, our work would have little impact," he explains. To overcome this, Mr Huang's team often rolled up their sleeves and went on-site to determine critical issues. "The experience allowed us to appreciate the operational and environmental constraints of our analyses, and make more relevant recommendations."

Mr Huang, who has been with LTA for nine years, envisions a land transport system that thrives amid digital disruption. "I think we are not very far off from achieving this – the public transport landscape continues to be vibrant and innovative." And there are more possibilities on the horizon, ushered in by the prevalence of the Internet of Things\*. To make the most of these opportunities, Mr Huang advises his fellow land transport planners and policymakers to "remain open-minded and stay agile!"

# THE ROAD AHEAD







WE CAN GROW AIR TRAFFIC,  
BUT WE CANNOT GROW THE  
AIRSPACE. SO THE ONLY WAY  
FORWARD IS TO INTELLIGENTLY  
USE PROCEDURES AND  
TECHNOLOGY TO GROW  
AIRSPACE CAPACITY SAFELY.

MR VINCENT HWA, DEPUTY CHIEF AIR TRAFFIC CONTROL OFFICER (OPERATIONS), CIVIL AVIATION AUTHORITY OF SINGAPORE



## All In A Day's Work

MR VINCENT HWA, 47, is CAAS' Deputy Chief Air Traffic Control Officer (Operations). He shares a typical day at work:

**Our days begin** with us reading the latest instruction circulars and safety information, and acquainting ourselves with prevailing traffic situations and weather reports.

**The biggest misconception about our job** is that flights take off and land in a routine and predictable sequence every day. This couldn't be further from the truth, especially in Singapore, where thunderstorms can form rapidly and enshroud the airport and airspace in a matter of minutes. In such situations, we assist pilots to fly safely away from bad weather.

**I was inspired to join CAAS** in the early 1990s, when I was serving my National Service (Singapore's military conscription system). My bunkmates and I would often listen to radio broadcasts with an old transistor radio. From time to time, there would be incomplete transmissions of air traffic messages. These stirred my interest in the profession and when I chanced upon a recruitment advertisement, I decided to give it a go.

## CLEARED FOR TAKE-OFF

"At Changi Airport, air traffic controllers currently handle about 68 aircraft movements an hour; as traffic intensifies, we expect them to handle more than 100 movements an hour," explains Mr Tan Yean Guan, the Civil Aviation Authority of Singapore (CAAS)'s Deputy Chief Air Traffic Control Officer (Planning). To prepare for the growing number of flights expected to depart and arrive at the air hub, CAAS is growing its pool of air traffic controllers. Beyond growing the talent pool, the agency is also building up the capabilities of controllers to handle the increase in air traffic safely and efficiently.

"One way of preparing for the increased air traffic is through a series of High Intensity Runway Operations training for controllers. This will help controllers transition from the current two-runway, four-terminal operations to the three-runway, five-terminal operations that will kick-off at Changi by the late-2020s.

Efforts to upskill controllers are complemented by CAAS' regular investments in technology, such as the Long Range Radar and Display System. "In the last few years, CAAS has also progressed from a buyer of technology to researching and developing Air Traffic Management solutions for Singapore and the Asia-Pacific region," adds Mr Tan, pointing to CAAS' efforts to grow Singapore into a Centre of Excellence for Air Traffic Management.

↑ Mr Vincent Hwa (left) and Mr Tan Yean Guan, from the Civil Aviation Authority of Singapore (CAAS).

## CHARTING A COURSE FORWARD

With his weathered skin and golden-brown tan, it's no surprise that Mr Ang Kim Chye has spent many a day on the sunny docks of the Port of Singapore. "I've been working here for more than 40 years," the 62-year-old tells *Experience Singapore*. He joined the Port of Singapore Authority (PSA) as a trainee technician in 1976. Since then, Mr Ang has availed himself of the career development initiatives offered by PSA to climb the ranks. He is now a Senior Manager at the organisation.

"I am proud to say that I played a part in the Port of Singapore's phenomenal transformation. This transformation was driven by technology; PSA has always been an early and strong adopter of tech developments. As engineers, we should recognise that the waves of technological advancement are unstoppable and we have to upgrade ourselves to be able to support new software and hardware.

The most memorable moment of my career so far was when I was honoured with The Efficiency Medal (Pingat Berkebolehan) in 1987. I felt a great sense of achievement and was very happy to be recognised for the contributions I made. Although I'm 62 this year, I still feel that I can still bring value to the team. To do this, I choose to keep myself relevant through upskilling courses offered by PSA.

I believe the Port's upcoming move to Tuas is a good thing. The consolidation will increase synergy and improve our productivity, helping us remain competitive and meet changing requirements from our customers." ●

\*The Internet of Things is a system of connected devices, machines and appliances, each equipped with a unique IP address. This allows these objects to collect, analyse, transfer and react to data.

◆ Mr Ang Kim Chye, Senior Manager at PSA.



Photos: Eric Chun, Kelvin Chia, Chee Yan



Joining Hands

# FOR THE COMMON GOOD

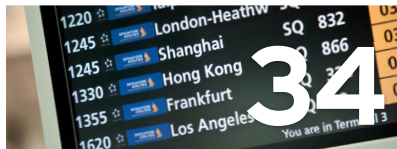


## Open skies, joint naval patrols and a high-speed rail line are just some of the ways in which Singapore shares the benefits of enhanced connectivity with other states.

TEXT BY ASHUTOSH RAVIKRISHNAN

Standing inside the departure hall at one of the terminals of Singapore's Changi Airport can be a dizzying experience. Every 90 seconds, an aircraft takes off or lands, linking the Republic with 380 cities in about 90 countries and territories. The sheer volume of air traffic that passes through the island is no fluke – it is the result of the Civil Aviation Authority of Singapore (CAAS)'s liberal aviation policy.

As part of this policy, CAAS has inked air services agreements with more than 130 countries and territories, making it a breeze for passengers and goods to cross borders. These agreements include about 60 Open Skies Agreements (OSAs), which allow carriers to operate any number of flights between signatory states, as well as onwards to a third country. This way, airlines can operate commercially-viable routes without restrictions on capacity, frequency, aircraft type and schedule. The most recent OSA was formalised between Singapore and Armenia in July 2017.



The number of foreign carriers that Singapore Airlines has partnered through codeshare agreements. These give passengers the convenience of enhanced frequencies and a greater choice of destinations.

Source: Singapore Airlines



↑ The 23<sup>rd</sup> ASEAN Transport Ministers Meeting, and associated meetings with ASEAN Dialogue Partners China, Japan and South Korea discussed ways to bolster regional connectivity.

Beyond these bilateral agreements, Singapore is also a member of several regional and global multilateral aviation agreements, among them the Multilateral Agreement on the Liberalization of International Air Transportation and the Association of Southeast Asian Nations (ASEAN)'s Multilateral Agreement on the Full Liberalisation of Air Freight Services.

### POSITIVE PASSAGES

As Coordinating Minister for Infrastructure and Minister for Transport Mr Khaw Boon Wan noted at this year's ASEAN Transport Ministers Meeting (ATM), such partnerships are a boon for both consumers and businesses. "(Aviation agreements) enable the greater movement of people and goods, benefiting our economies and businesses, and expanding tourism," he said. Held annually, the ATM brings together transport policymakers and professionals from the 10 ASEAN Member States. Associated meetings were also held with representatives from China, Japan and South Korea.

Collaborations with regional partners are also common in land transport. The most notable of these is an agreement between the Malaysian and Singaporean governments to construct the Kuala Lumpur-Singapore High Speed Rail link by 2026. The project will cut travel time between the two capitals by car from four hours to 90 minutes. Proposed stations within peninsular Malaysia will also strengthen tourism and infrastructure in several Malaysian states, among them Johor and Malacca.

In addition to rail links, the region will also see enhanced bus connectivity, following an agreement signed by ASEAN Transport Ministers to facilitate cross-border transport by bus, be it for business or leisure. Such an agreement is especially important in the ASEAN region, as nine of the 10 Member States share a land border or crossing with at least one other state.



WE ARE MINDFUL THAT TRANSPORT IS A CRITICAL ENABLER OF OUR ECONOMIC DEVELOPMENT.  
WE WILL CONTINUE TO WORK CLOSELY TOGETHER TO EXPAND OUR TRANSPORT LINKS  
AND CONNECTIVITY, WHILE ENSURING SAFETY, SECURITY AND EFFICIENCY.

MR KHAW BOON WAN, COORDINATING MINISTER FOR INFRASTRUCTURE AND MINISTER FOR TRANSPORT, SPEAKING AT THE 23<sup>RD</sup> ASEAN TRANSPORT MINISTERS MEETING



↑ An artist's impression of the future HSR terminus designed by architecture firm Farrells. The eventual design may differ.

### SHARED VULNERABILITIES

Partnerships in transport have benefits beyond a strengthened economy. They are also critical for the safety and security of passengers and goods. Take the Straits of Malacca and Singapore, through which almost half of the world's total annual seaborne trade tonnage and 70 per cent of Asia's oil imports pass. These goods attract pirates to the sea lanes. In 2015, over 100 incidents of piracy and theft were reported in these waters. This made them some of the most dangerous shipping lanes that year, according to Oceans Beyond Piracy, an independent observer.

But tides have since changed, thanks to the Malacca Straits Patrol, a tripartite effort spearheaded by the authorities of Singapore, Malaysia and Indonesia. Launched in 2004, it involved stepped-up naval patrols and greater intelligence-sharing. The initiative was subsequently expanded to include Thailand's authorities and also encompass air surveillance. The expanded measures have helped safeguard the waters, with just one incident reported in the first half of 2016.

At the opening ceremony of the International Maritime Defence Exhibition and Conference Asia in 2017, Minister for Defence Mr Ng Eng Hen stressed that such multinational efforts were key to ensuring safe passage for vessels. "Transnational threats from terrorism, piracy, the illegal smuggling of weapons of mass destruction, drugs and human trafficking cannot be addressed adequately by any one country, no matter how well-resourced and capable their security assets," he said.

Similar cooperation is also necessary to manage unintended incidents in the air. In this vein, the authorities regulating aircraft accident investigations in ASEAN Member States and their counterparts from China signed a memorandum of understanding at this year's ATM. The partnership promotes the sharing of investigation facilities, equipment and expertise to support aircraft accident investigations. ●

Photos: Ministry of Transport, Land Transport Authority, Changi Airports International, Ministry of Defence, Getty Images, Shutterstock



↑ Singapore's and Malaysia's defence forces work together to get an overview of the situation at sea.

## GLOBAL EXCELLENCE

Acclaimed as the world's best airport by travellers and industry veterans\*, **CHANGI AIRPORT** is a leader in service and operational excellence. Changi Airports International, a wholly-owned subsidiary of operator Changi Airport Group, has introduced the Changi style of aviation excellence to more than 50 airports in more than 20 countries. Notable airports that have benefited from CAI's expertise include Tom Jobim International Airport in Rio de Janeiro and Vladivostok International Airport in the Russian Far East.

"Knowledge-sharing enables us to uplift airport industry standards," explains CAI spokesperson Ms Teo Lay Cheng. She adds that today's airports must meet the needs of an increasingly sophisticated and discerning cohort of travellers. "Besides operational and service efficiency, travellers also seek variety, novelty and value for money in retail and F&B options, and an ambience that highlights a host country or city's uniqueness."



↑ Departure hall at Sochi International Airport, Russia.



→ Duty-free area at Tom Jobim International Airport, Brazil.

\*Changi Airport was voted the World's Best Airport by air travellers at the 2017 World Airport Awards for the fifth year running.



↑ The Malacca Straits Patrol protects the waters of the region from piracy.

The Port of Singapore  
is the world's largest  
transshipment hub.

