

# *The* MOT SG 50 RING

50 FACTS ABOUT MOTORING IN SINGAPORE

BROUGHT TO YOU BY THE AUTOMOBILE ASSOCIATION OF SINGAPORE



AUTOMOBILE ASSOCIATION  
OF SINGAPORE



*The*  
MOTORING  
50

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50 Facts About Motoring in Singapore

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## FOREWORD



2015 IS A SPECIAL YEAR. It marks Singapore's golden jubilee as an independent, sovereign state. We have made great progress as a nation, because of the unity and industry of our people.

As Singapore has grown and prospered, so has the motoring landscape. In the 1960s, there were fewer than 100,000 motor vehicles on our roads. Today we have almost 1,000,000 motor vehicles, and a thriving motoring industry.

Being a small island, we have to prudently use the limited amount of land we have. We have had to make difficult choices to limit vehicle population and usage. The path has not always been smooth, but it would have been much harder but for the steadfast support of industry associations such as AA Singapore. You have provided valuable feedback to help improve our policies.

Looking ahead, it is clear that we have no choice but to continue controlling both vehicle population and usage. We will encourage Singaporeans to switch to public transport by improving and expanding the public transport systems, but there will always be a role for cars in our city.

Disruptive technologies, environmental concerns and changing consumer preferences will reshape the motoring landscape. Already, real-time information is changing the way people move around in cities, and autonomous vehicles are not far off. The motoring industry will need to adapt to these trends, to meet motorists' expectations and social constraints.

I am confident that AA Singapore will continue to play an important role in this evolution of the motoring landscape in Singapore.

Lee Hsien Loong  
Prime Minister of Singapore



## PREFACE



THE AUTOMOBILE ASSOCIATION OF SINGAPORE (AAS) and the Singapore Road Safety Council (SRSC) enjoy a fruitful and long-standing partnership. They have worked closely together on many road-safety awareness campaigns, including the UN Decade of Action for Road Safety, and most recently, the Singapore Road Safety Month in May 2015. Together with the efforts of the Traffic Police, these initiatives have helped keep our roads safe and instil a culture of safer road use amongst motorists.

For the past 50 years, AAS has been at the forefront of many efforts to improve road safety. The Association advocated mandatory seat belts in vehicles and crash helmets for motorcyclists, and the formation of the then-National Safety First Council in 1966 to increase road safety awareness. AAS also provides motorists with useful information and advice on motoring issues, with a focus on road safety.

I congratulate the AAS and SRSC for their joint efforts over the years to enhance road safety. Let us continue with our individual and collective efforts to achieve Safer Roads for Singapore.

Teo Chee Hean  
Deputy Prime Minister & Coordinating Minister For  
National Security & Minister For Home Affairs  
Patron, Singapore Road Safety Council



## INTRODUCTION



THIS YEAR MARKS a significant milestone in the history of modern Singapore. Together with all Singaporeans, we celebrate the 50th anniversary of Singapore's independence. As Singapore's leading motoring association, we felt that it would be fitting to produce a book to celebrate the changes in Singapore's motoring scene.

The first automobile arrived in Singapore in 1896, only a decade after Karl Benz built the Benz Patent-Motorwagen, widely seen as the first modern car. Over the years, the car replaced the bullock cart, the two-wheeled horse carriage, the rickshaw and the trishaw as the main mode of transport in Singapore.

This book celebrates the humble automobile by looking at some of the things and events that a motorist will want to remember or to forget. Between the pages of this book, you will also find personalities, some still remembered, some long forgotten; policies around car ownership and usage such as the much maligned COE; and roads and bridges of historical interest. We also look at issues of great interest to motorists such as parking, flooding and road safety. Road safety has long been of special concern to the AA. That is why the AA has a very close relationship with the Singapore Road Safety Council, working with them on rolling out various road safety initiatives for all road users.

And while we are partial towards the car, this book covers the other major forms of land transportation in Singapore, including buses, trains, even trishaws and the MRT. Land transport is something that touches every one and we recognise that other means of land transport are also very important. We hope you will enjoy reading this book.

Finally, I want to thank Mr Lee Han Yang and Dr S Chandra Mohan, two members of AA Singapore's General Committee, who have contributed their time and resources to producing this book.

We hope you enjoy reading this book.

Bernard Tay  
President

Automobile Association of Singapore  
Chairman, Singapore Road Safety Council





# ANDERSON BRIDGE

FOR A BRIDGE that is over a 100 years old, Anderson Bridge is looking pretty good. In fact, it looks so good that each year, Anderson Bridge gets to bask in the global spotlight as it forms part of the street circuit of the Singapore Grand Prix.

The 70m long Anderson Bridge spans the Singapore River and connects Empress Place with Collyer Quay. It is named after Governor John Anderson who, somewhat shamelessly, also declared it opened in 1910.

It was built to replace Cavanagh Bridge, which was staggering under the weight of daily traffic. Cavanagh Bridge was supposed to be demolished after Anderson Bridge was built but in the end, the authorities decided to keep it around.

Anderson Bridge also has a grisly wartime past. During the Japanese Occupation, the Japanese would impale the heads of suspected spies on the steel columns of the bridge as a warning to others.





# AREA LICENSING SCHEME

The Area Licensing Scheme was the precursor to today's Electronic Road Pricing system. Both are examples of congestion pricing, where motorists are made to pay extra to drive on particular roads.

The ALS was introduced in June 1975 and ringed off the Central Business District and Orchard Road as a Restricted Zone. In order to enter the restricted zone during peak hours, motorists had to display a paper license on their windscreen that costs \$3 a day or \$60 a month. Auxiliary police from Cisco were assigned to man gantries that marked the Restricted Zone and to take note of vehicles that did not display the required license.

Initially, the restricted hours were between 7.30 am and 9.30 am daily, excluding Sundays and public holidays. Exceptions were made for buses, taxis, motorcycles, commercial vehicles and emergency vehicles. Cars with four passengers were also exempted.

To encourage motorists not to drive into the Restricted Zone, the Government introduced the Park-and-Ride scheme so that motorists could drive to a parking lot outside the city, park for \$10 a month then get shuttled into the CBD on buses for \$20 a month.

The system succeeded in reducing congestion into the city in the morning. On average, 11,363 cars

entered the Restricted Zone in September and October of 1975, compared with 42,790 in March.

However, there were a number of shortcomings with the system. Some motorists would wait at the gantries for the end of the restriction hours before going into the CBD. On rainy days, ALS licences would run out so drivers could only get a receipt to show at the gantry. In the early days, some creative drivers got around the system by driving the wrong way down one-way roads then reversing into roads with the Restricted Zone. To get around paying, some drivers would take advantage of the car pooling exemption. They would pick up passengers just outside the gantry and drop them off just inside and pay them a small fee.

Over time, the system was fine-tuned. Evening peak hours were added in 1989 and in 1994, the ALS was extended to run from 7.30am to 6.30pm. Exemptions for taxis, motorcycles and car pools were lifted by the end of 1989.

From 1995, the scheme was extended to the use of particular roads as well. Known as the Road Pricing Scheme (RPS), motorists required licenses to use the East Coast Parkway, the Central Expressway and the Pan Island Expressway.

The ALS and the RPS were replaced by the ERP system in 1998.

(SEE ALSO ELECTRONIC ROAD PRICING AND PARK AND RIDE)



# AUTOMOBILE ASSOCIATION OF SINGAPORE

THE AUTOMOBILE ASSOCIATION is a leading motoring association in Singapore with more than 83,000 members. It is also a leader in the provision of roadside assistance services in Singapore and offers a free 24-hour service for members that includes towing your stalled car to a workshop if need be. In addition, the AA is a voice for motorists, acting as a bridge between the motoring public and relevant authorities.

The AA is a member of the Federation Internationale de l'Automobile (FIA). The FIA represents the motoring interests of

over 100 million members of 200 member associations in 120 countries. Under the umbrella of the FIA, the member clubs offer a wide range of services to each other's members. This means that AA members also enjoy motoring privileges when they drive overseas.

## THE ORIGINS

The AA has a long and proud history that dates back to close to 110 years. It was set up in 1907 as a club for motorcar owners. Back then, it was called the Singapore Automobile Club and its early members included the Sultan of Johor.

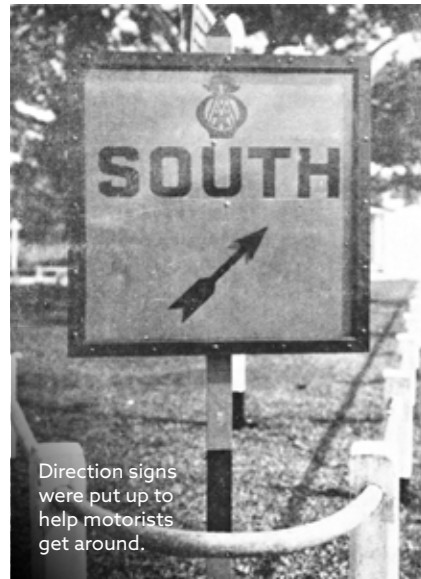
As a club, it was active in shaping policies and legislation around cars. Cars were a new phenomenon on the streets of early 20th century Singapore. The AA helped to draft the Traction Engines and Motor Cars Ordinance of 1911 and was represented on the Government's Standing Advisory Traffic Committee that was formed in 1927.

It also looked out for ways to improve motoring in Singapore. In 1911 and 1912, members of the club went around identifying



dangerous corners and the club paid to put up signs around town warning motorists about those corners. In the 1920s, it put up road signs to alert drivers about level crossings, bends and schools. In 1935, the AA started putting up direction signs in Singapore, Yong Peng and Ayer Hitam so that drivers knew which directions were north and south.

The club was an early advocate for better parking facilities, especially in Raffles Place. As early as 1923, it was engaged in correspondence with the Municipality about how parking there was “unduly congested, and that motorcars should not be allowed to park all day alongside the office in Collyer Quay.” In 1932, it set up car sentries outside places of amusement and later in that decade, started a valet parking service at Raffles Place and Clifford Pier for members.



Direction signs were put up to help motorists get around.

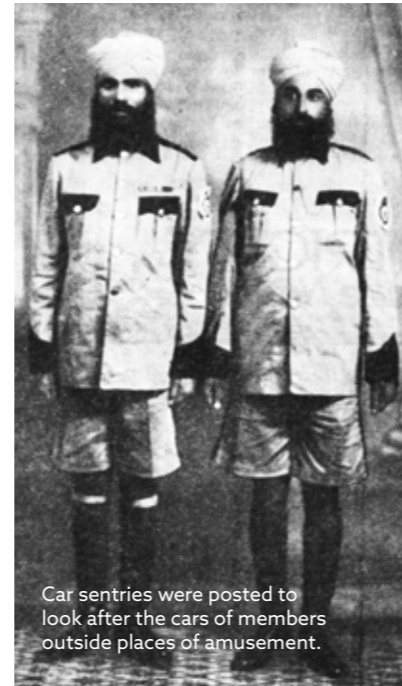


Road scouts on bicycles patrolled roads in the early years in Malaya.

### A MERGER TO FORM THE AUTOMOBILE ASSOCIATION OF MALAYA

In 1932, the SAC joined with other motoring related clubs and associations in Malaya to form the Automobile Association of Malaya and the SAC became the Singapore and Johor branch of the AAM. This continued until 1952 when it left the AAM to form the AA in Singapore.

Breakdown services began in the 1930s. The first recorded service was set up in 1933 by the Penang and Kedah branch of the AAM, which sent out road scouts on bicycles to see if members needed help. In 1937, the Singapore and Johor branch of AAM had a road scout on a motorcycle with sidecar. The road scout patrolled between Johor Baru



Car sentries were posted to look after the cars of members outside places of amusement.

and Ayer Hitam and on alternate days, Johor Baru and Kota Tinggi.

### REBUILDING AFTER THE WAR

The AA in Singapore recovered quickly after the Japanese Occupation ended. In 1946, the AA revived itself and one of the first things it did was to set up a breakdown service in Singapore. Since then, the AA has been constantly upgrading and improving its breakdown service. In the 1950s, it bought repair vans and started a radio service so that it could get in touch with recovery vehicles on the road. The 1960s saw it adding Land Rovers for towing stalled cars. Over the following decades, new recovery vehicles were added, including a short lived electric van. In 2002, it became the first breakdown service in Singapore to use GPS and Computer Aided Dispatch to send out its repair vans.

In 1987, it was the default organisation to call if your car broke down on the expressway and you had to use the public phones there. In the 1990s, the AA's



The AA's original premises in River Valley.



The old house in River Valley was torn down and replaced by a new building.

subsidiary, AutoSwift Recovery, won government contracts to provide recovery services on expressways.

Apart from breakdown services, the AA has worked to help motorists on many issues. After the war, it restarted its valet parking service at Raffles Place and Clifford Pier. Given the severe shortage of parking in the city, it lobbied for many years to get the government to build a multi-storey carpark in Market Street. They finally succeeded in the early 1960s and the eight-storey carpark was finally opened in 1964. The AA continued putting up direction signs and flood alert signs in the 1950s and it was a voice for road safety in Singapore as well. In 1966, five members of the AA joined the newly inaugurated National Safety First Council.

To help members get better insurance deals, the AA started up its own insurance company, Malayan Motor and General Underwriters, in 1955. Today, its successor is the AAS Insurance Agency, a fully-owned subsidiary of the AA.

### SHAPING TRANSPORT LEGISLATION

The AA continued to play a role in shaping policies regarding motoring in Singapore. In the late 1980s, as the Government was preparing to put out a new transport policy to manage the car population, the AA conducted surveys and research which it submitted to the Government. It argued, unsuccessfully, for the policies to be based on car usage rather than car ownership. It did manage to help fine-tune policies on the weekend car scheme and it successfully persuaded the Government to make



The AA's current premises in GB Point.



Certificates of Entitlement non-transferable. The AA continues to be a bridge between motorists and the government today.

Apart from the serious business of shaping legislation, selling insurance, and helping out stranded motorists, the AA is also a social club, organising activities for its members. In the late 1970s, the AA began organising driving trips abroad, the first one being a trip to Pattaya in 1979. AA Autoventure continues to be popular with members. In 2014, AA Autoventure, in partnership with Prime Travel, organised a 30-day fly-drive, bringing a convoy across Japan. In November 2014, a 44-car convoy set off to Penang and Hat Yai on a six-day trip for the Lianhe Wanbao Makan Trail.

The AA is also the sole authorised agent to issue International Driving Permits (IDP) and Carnet de Passengers En Douane (CPD) in Singapore.

# BENJAMIN SHEARES BRIDGE

THESE DAYS, most motorists take the Benjamin Sheares Bridge for granted as they speed over it en route to Changi Airport or heading into the city from the east. However, when it was first opened in September 1981, it was viewed, rightly, as an engineering marvel.

Some 1.8km long, the bridge spans two rivers, the Kallang River as well as the Singapore River and it links Marina Bay with East Coast Parkway. It is named after Singapore's first president, and before it was opened, was regularly referred to as the East Coast Parkway Viaduct (a much less glamorous name).

Building the dual, four-lane Sheares bridge, as it is sometimes known, involved some 46,000 cubic m of concrete, 8,400 tonnes of reinforcement bars and 22,000 tonnes of asphalt premix.

One of the challenges of building the bridge was that it had to accommodate the

shipbuilding and ship repair industry that had made its home in the Kallang River basin. That is why the segment over the Kallang River is 29m high; to accommodate tall ships going into and out of Kallang River basin. Over the Singapore River, the bridge is just 12m high.

Because of the distance between the two banks of the Kallang River, two of the trestles of this bridge had to be constructed offshore rather than on land. To build them, 132 steel encased concrete piles with a total load bearing capacity of 36,000 tonnes were driven into the Kallang Basin river bed. The pile drivers worked off jetties that were specially built for them.

The entire project took 57 months to complete and cost \$165.8 million to build. With the opening of the Marina Coastal Expressway in December 2013, the Benjamin Sheares Bridge has been downgraded from an expressway to an arterial road.







KATZ BROS.

NEW HORSELESS

CARRIAGES.

KATZ BROTHERS are the first to import the HORSELESS CARRIAGES. They are the Sole Agents for the PATENT of BENZ & Co., Mannheim. The carriages are worked by patent oil motors, the latter being quite silent in their working and do not give off any heat or smell. The ordinary speed is from 10 to 15 miles an hour, but a higher rate of speed can be obtained on good roads. HILLS can be mounted with ease. The Motive Power is rectified Petroleum or Benzoline, which is easily obtained.

The consumption of oil costs less than a halfpenny per mile. The working of the carriage is totally without danger, as the igniting of the Motor is done by an electric spark, so that it is absolutely impossible for an explosion to occur. The carriages can be stopped instantly by simply touching a lever; they are also provided with powerful brakes which are quite easily worked. Catalogues and prices on application. Forwarding purchasers can make arrangements to see the Motors in actual work.

KATZ BROS.

NEW HORSELESS

CARRIAGES



NOBEL'S Explosives Co., Ltd.

WANTED...  
 Wanted...  
 Wanted...

# CHARLES BURTON BUCKLEY



CHARLES BURTON BUCKLEY (1844-1912) was a newspaper owner, lawyer, author of a history of Singapore and one of Singapore's first automobile owners.

He came to Singapore in 1864 at the age of 20 and eventually became a lawyer. He joined Rodyk and Davidson, a law firm established in 1877, and became a partner.

It is commonly believed that Buckley drove the first car imported into Singapore but this isn't strictly true. The Katz Brothers brought in two "horseless carriages" into Singapore in 1896. Made by Benz and Company, the Benz Velo was a 1.5hp two-seater that had a top speed of 18 miles an hour.

A reporter for the Singapore Free Press described it as "a neatly built carriage on springs, with bicycle wheels and rubber tyres." The car had three handles, one for low gear, one for high gear and the last for steering. An ad in the Singapore Free Press noted: "The

working of the carriage is totally without danger as the igniting of the Motor is done by an electric spark, so that it is absolutely impossible for an explosion to occur."

Of the two cars, one was bought by a "native who took it away from Singapore" while the other failed to find a buyer. Buckley bought it after it had lain in a stable for three years. He managed to get it working and handed it over, first to a police officer, then later to a doctor. The doctor "tried it for the first time, by running away down a steep hill in Serangoon Road and stopping very suddenly against a tree at the bottom of the hill." That, presumably, was the end of that particular "horseless carriage".

Mr Buckley's own car was the Benz Victoria. Nicknamed the Coffee Machine, it had been imported from England and was still running in 1908, even though it was, by then, 10 years old.

# BUKIT TIMAH ROAD

AT 25KM, BUKIT TIMAH ROAD is one of the longest roads in Singapore and is quite an old road. The road leading to the hill was actually completed in December 1843. The road was built to allow people access to the hill, which was desirable because the air on top of Bukit Timah was deemed cool and fresh. Subsequently, the road continued northwards towards Kranji, and that section was completed by 1845.

During the Second World War, the Battle of Bukit Timah saw Japanese troops advance down Bukit Timah Road, pushing back British and Commonwealth troops. By February 11, 1942, Japanese troops took Bukit Timah (and its ammunition and fuel supplies) and were able to repel subsequent British counter-attacks.

The Ford Motor Factory on Bukit Timah became the headquarters of Lieutenant

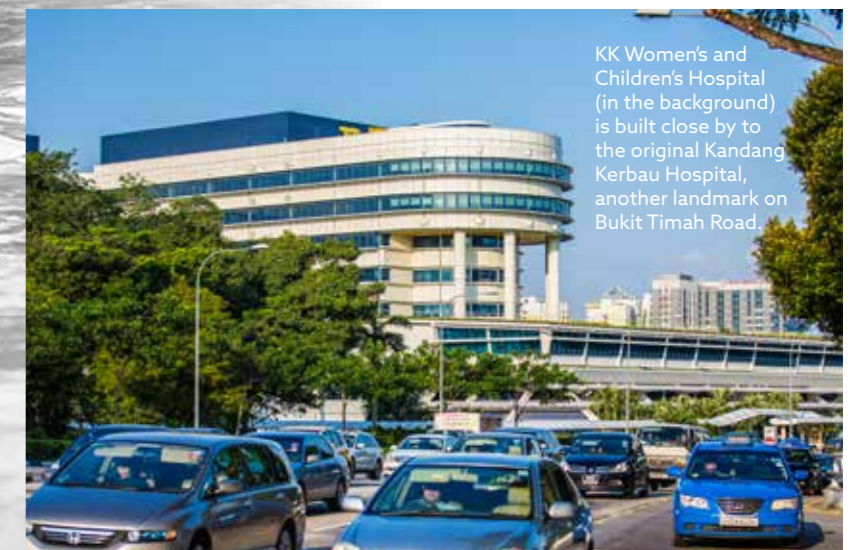


Flooding used to be a common occurrence in Bukit Timah. Apart from inconveniencing motorists, flooding would also affect people living in rural areas.

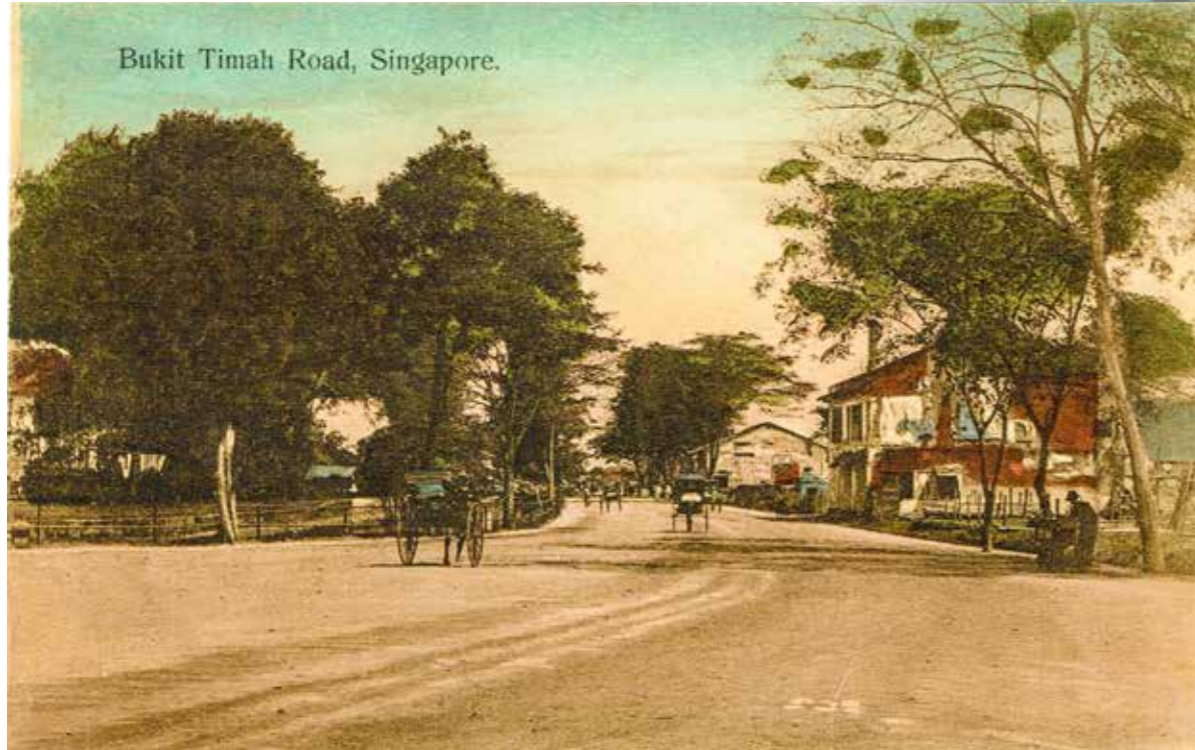
General Tomoyuki Yamashita, who led the Japanese troops. When the British surrendered on February 15, Lieutenant General Arthur Percival and his staff officers went to the Ford Motor Factory to surrender to Lt Gen Yamashita.

Among the well known landmarks on Bukit Timah is the Bukit Timah Nature Reserve. One of the first pieces of land to be set aside as a nature reserve in the nineteenth century, Bukit Timah was immortalised in Alfred Wallace's *The Malay Archipelago*. From his time in Southeast Asia, Wallace came up with a theory of evolution through natural selection around the same time, and independently from Charles Darwin.

Apart from the nature reserve, Bukit Timah is also where Raffles College, one of the predecessors of the National University of Singapore, was established back in 1928. The grounds subsequently became the



KK Women's and Children's Hospital (in the background) is built close by to the original Kandang Kerbau Hospital, another landmark on Bukit Timah Road.



Bukit Timah Road, Singapore.

campus for the University of Malaya in Singapore, later known as the University of Singapore. Today, the Law faculty of the National University of Singapore occupies the Bukit Timah campus.

American fast food chain A&W opened a drive-in outlet just outside the main entrance of the University of Singapore in the late 1960s.

Bukit Timah Road was not popular with drivers in the past. In the 1960s, it was prone to flooding during the monsoon season because of development in the area and the narrowness of the Bukit Timah canal. This was only fixed thanks to the Bukit

Timah Flood Alleviation Scheme. In the first phase, completed in 1972, water from the Bukit Timah Catchment area was channelled to Sungei Ulu Pandan via a new canal. This helped to relieve the load on the Bukit Timah canal and reduce the incidence of flooding there.

Experienced drivers also used to avoid Bukit Timah on race days back when the Singapore Turf Club operated out of Bukit Timah. On those days, traffic past the Turf Club heading into the city would slow to a crawl. To the joy of non-gambling motorists everywhere, the Turf Club moved to Kranji in 1999.



# BUSES

BUSES FORM ONE of the major pillars of public transport in Singapore (the other pillar being the Mass Rapid Transit system). In 2014, about 3.7 million people rode the bus each day.

Today, two companies run the public bus services in Singapore—SBS Transit and SMRT Buses (formerly known as Trans-Island Bus Services or TIBS). SBS Transit came into being in 1973 and held a virtual monopoly of public bus services until TIBS started running services a decade later. The duopoly has lasted over three decades but this will be broken in 2016 when a new company, Tower Transit Singapore, will start operating 26 routes originating in the western part of Singapore.

Singapore's first public bus company was the Singapore Traction Company (STC) which was formed in 1925. STC itself was the successor to Singapore Electric Tramways Limited, a company that ran tram services on tracks around the city, getting power from overhead cables.

STC initially ran trolley buses, which



used rubber wheels rather than relying on steel tracks on the road. These trolley buses continued to be powered by overhead wires but the company eventually started bringing in motor buses, which were more flexible. Some of the trolley buses continued operating into the early 1960s.

STC was given a 30-year monopoly over routes in the south and the city. The rural and suburban areas were split along geographical lines between 10 Chinese companies: Changi Bus Company, the Easy Bus Company, the Green Bus Company, the Hock Lee Amalgamated Bus Company (formed with the merger of the Soon Lee Bus Company and Ngo Hock Bus Company), Kampong Bahru Bus Service, the Katong-Bedok Bus Service Company, the Keppel Bus Company, the Paya Lebar Bus Service, the

Punggol Bus Service and the Tay Koh Yat Bus Company.

Thus, up until the 1970s, bus services in Singapore were split between the 11 companies. There was no integration of routes, timetable or fares which made travel inconvenient for commuters. There was no regulation on the age of buses so that in 1970, a third of the Chinese buses and a fifth of the STC buses were more than 16 years old. Breakdowns were common and fares were often pocketed by the conductors.

The problems with Singapore's bus system were noted as early as the 1950s. The Hawkins Report of 1956 recommended that all 11 companies be merged into a single company under the government's authority but in the late 1950s, attention was focused on issues relating to self-government and





independence. It was only in the late 1960s that the Registry of Vehicles took up the issue again.

In 1971, a White Paper recommended that the 11 companies be reorganised into four companies. The Amalgamated Bus Company (consisting of Hock Lee, Kampong Bahru and Keppel) would take over the east, the Associated Bus Service (made up of Changi Bus, Paya Lebar, Katong-Bedok and Punggol) would take over the west, and United Bus (a merger between Tay Koh Yat, Green Bus and Easy Bus) would take over the north. STC would continue running services in the city but it no longer had a monopoly.

Unfortunately, following years of losses, STC wound up its operations later that year and its routes were distributed among the remaining three bus companies. In 1973, the three companies were made to merge to

form Singapore Bus Service.

Merging the three companies was only the first step though. Subsequently, the Government had to straighten out the management of the company which was still being run by the old Chinese owners as separate fiefdoms. The company was eventually professionalized and in 1978, SBS went public. In the 1980s, a second bus company, TIBS was formed to provide competition to SBS.

Most recently, the Land Transport Authority has implemented a new model for public bus operations. Under this new model, the Government owns the buses and other infrastructure and collects the revenue from fares. Transport companies, however, are paid to operate the routes. Tower Transit is the first company to win a contract under the new model. It is expected to be paid about \$556 million over five years.





# CAR PRICES

CARS ARE INCREDIBLY expensive in Singapore. The sticker price of a new car in Singapore is usually several times more than what it would cost to buy that same make and model anywhere else in the world because of all the additional charges as well as the need to buy the Certificate of Entitlement.

The price of a car in Singapore is a function of its Open Market Value (OMV), the Registration Fee, the Additional Registration Fee, the Excise Duty and the Goods and Services Tax (GST).

The OMV is the value of the car as assessed by Customs. It takes into account purchase price, freight, insurance and other incidental charges. This is essentially the base price of a car in Singapore. To this, you need to add a Registration Fee of \$140, an Additional Registration Fee of at least 100 percent of the OMV, the cost of the Certificate of Entitlement, Excise Duty of





20 percent of the OMV and pay 7 percent GST on the customs duty and the OMV. (Note: The Additional Registration Fee is 100 percent for the first \$20,000, 140 percent for the next \$30,000, and 180 percent for the amount above \$50,000.)

Let's take the example of a Toyota Avanza 1.5, which, according to Customs, has an OMV of \$17,324 in March 2015. After final calculations, the price shoots up to \$107,309, more than six times the OMV. And this excludes whatever profit the dealer has to make on it. The following table illustrates how the price of the Avanza in Singapore balloons:

<b>OMV</b>	<b>\$17,324</b>
<b>RF</b>	<b>\$140</b>
<b>ARF</b>	<b>\$17,324</b>
<b>COE</b>	<b>\$67,601</b>
<i>(for Category A at the second bidding exercise in April 2015)</i>	
<b>Excise Duty</b>	<b>\$3,464.8</b>
<b>GST</b>	<b>\$1,455.2</b>

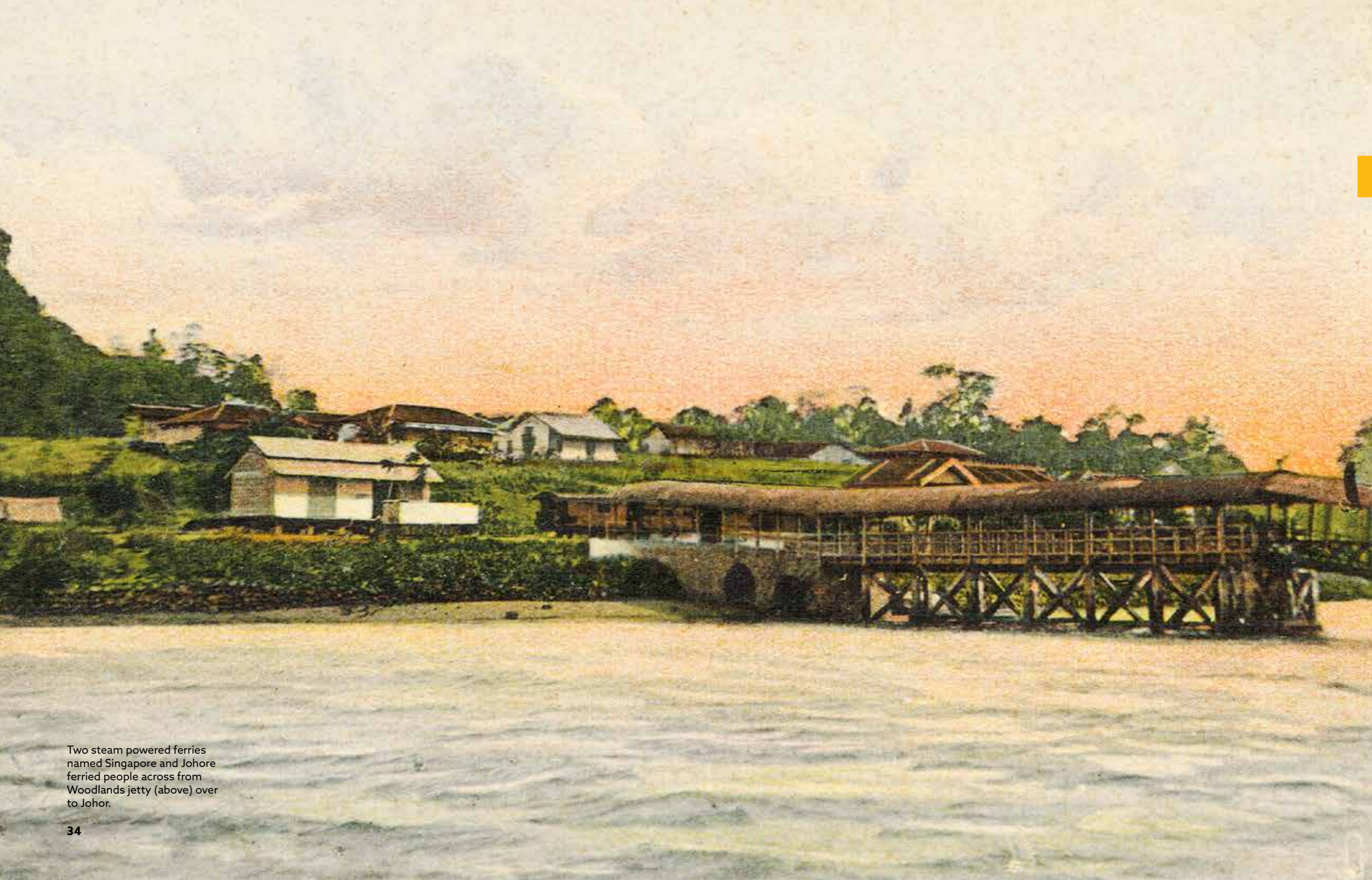
In Malaysia, the Avanza is going for under \$30,000.

If you want to buy a Porsche 911 Carrera (OMV of \$118,874), it will come up to \$416,748, excluding the dealer's markup (based on the COE prices at the second bidding exercise in April 2015).

Despite high car prices in Singapore, plenty of people still seem to be able to afford cars, as evidenced by the constant peak hour traffic jams.

(SEE ALSO, CERTIFICATE OF ENTITLEMENT)





## CAUSEWAY

THE CAUSEWAY IS infamous for its traffic jams, especially during festive periods or during peak hours on weekdays. Every day, thousands of cars, motorcycles, trucks and buses clog the Causeway in both directions. However, as bad as things can get, imagine life if the Causeway, just over 1km long, had never been built.

Until the Causeway was built in 1923, the only way across the Straits of Johor was by ferry. In the nineteenth century, motorists heading north had to go the Singapore harbour, then very carefully get their car from the pier into a waiting boat that would then sail off to a port up north.

The Causeway was originally envisioned as a land bridge to enable the railway systems in Singapore and the peninsula to connect. In fact, even though the Causeway was opened in September 1923, it was initially only used by the railway, carrying goods and passengers. The first cars went across only on June 28, 1924 following its official opening in Johor Baru.

The push to build the Causeway was the increasing commercial links between Singapore and Malaya. The Johor Straits is less than half a mile wide at its narrowest point and before the Causeway, people went across the straits by steamers and native boats. After the main railway track was laid between Tank Road station and Woodlands in 1904, it turned Woodlands into a major transit point between the two territories and two steam-powered ferry boats (named *Singapore* and *Johore*) were built to bring

Two steam powered ferries named Singapore and Johore ferried people across from Woodlands jetty (above) over to Johor.

people and cargo across.

In 1909, wagon ferries were introduced which were barges with railway tracks that could carry up to six train carriages. In 1913, the wagon ferries began carrying cars in open railway trucks. The cars would be covered in tarpaulin and the driver and passengers could ride the ferry across the Johor Straits.

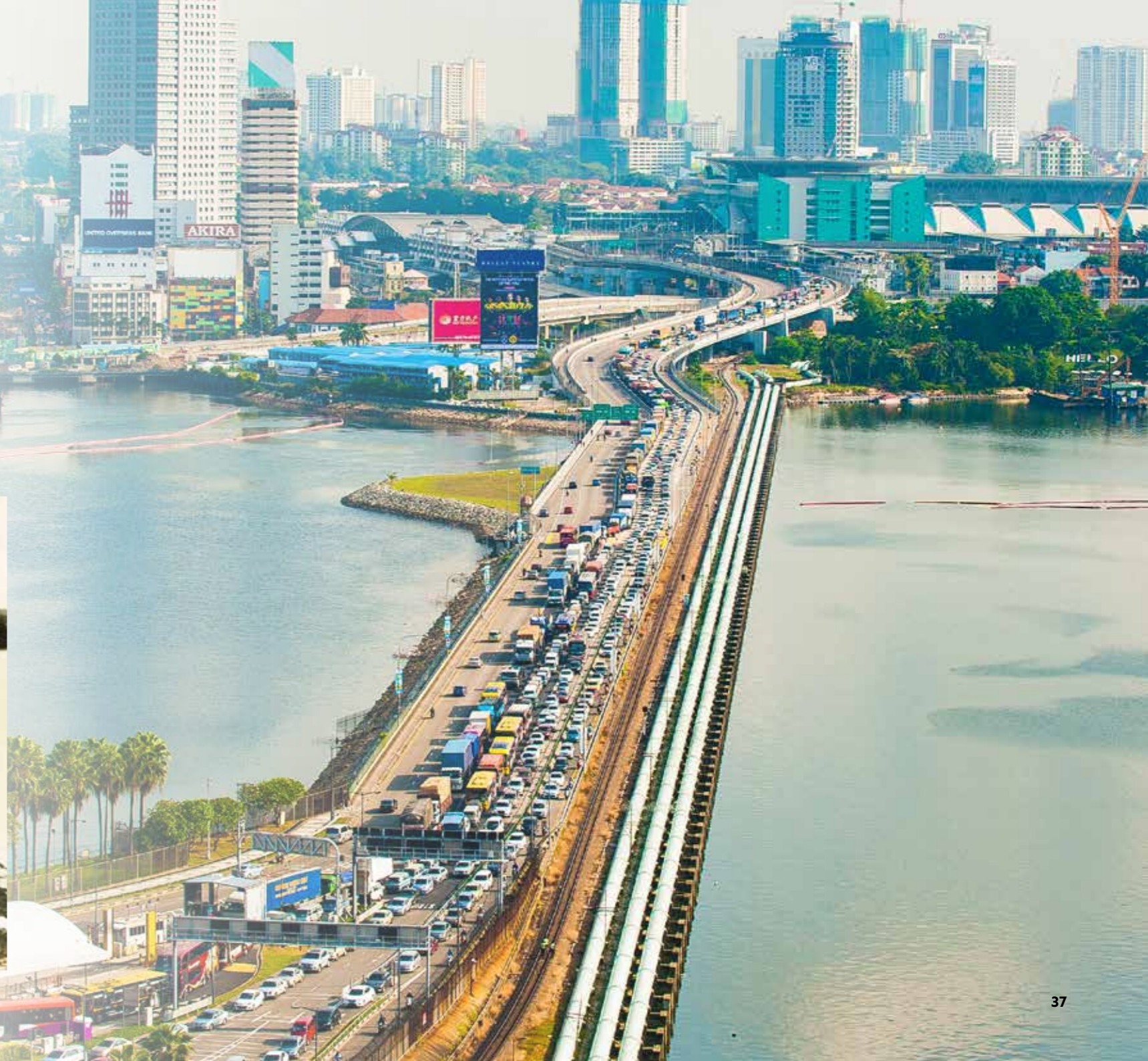
The ferry wagons were very heavily utilised and the cost of maintaining them eventually helped make the case for a permanent land bridge for the railway tracks to go across. Construction of the Causeway began in 1919 and it would eventually cost \$17 million to build.

The physical link quickly became a vital conduit and during the Japanese invasion of Malaya, it was seen as vital to blow up the Causeway to slow down the Japanese advance. At 8.15 am on February 1, two explosions rocked the morning air, creating a 70 foot wide gap in the Causeway (and also cutting off water from Johor).

During the Occupation period, the Japanese built a girder bridge across the gap. After Japan surrendered, the Causeway was properly repaired. Interestingly, the Causeway used to have a lock at the Johor end to allow vessels to pass through but the lock, which had been blown up during the British retreat, was sealed because there

weren't enough vessels sailing through to make it worthwhile.

In 1996, then Malaysian Prime Minister Mahathir Mohamad voiced plans to rebuild the Causeway as a bridge that would allow ships to sail through the Johor Straits. Negotiations between Singapore and Malaysia went on for a few years but did not go anywhere. At one point, Malaysia said it would unilaterally build a bridge to replace its part of the Causeway that would result in a "crooked bridge" that would link to the Singapore half of the Causeway. Since Dr Mahathir's retirement, the idea appears to have been shelved by his successors but the idea still raises its head every now and then.





# CAVENAGH BRIDGE

IT IS SAFE to say that no one alive today has ever driven over Cavenagh Bridge. Singapore's oldest bridge that still exists in its original form, it has been a pedestrian-only bridge since around 1910.

Opened in 1870, Cavenagh Bridge was originally supposed to be called Edinburgh Bridge to mark the 1869 visit by the Duke of Edinburgh. However, it was later decided that it would be named Cavenagh Bridge after Governor Colonel William Orfeur Cavenagh, the last governor appointed from India. The Cavenagh family's coat of arms is

still preserved at both ends of the bridge.

The suspension bridge was designed by John Turnbull Thomson of the Public Works Department and was built to replace a ferry that charged passengers one duit (a quarter of a cent) per trip. Cavenagh Bridge was manufactured by P & W MacLellan of Glasgow (which also made the steel for Telok Ayer Market) at the cost of \$80,000 and it was shipped out in 1869. It was then assembled in Singapore by convict labour. The bridge is about 79m long and 9.5m wide.

Cavenagh Bridge was the third bridge



gh Bridge



SINGAPORE. Cavenagh Bridge.



to be built over the Singapore river (the first two being Elgin Bridge and Coleman Bridge) and because of its location linking the commercial district to the civic district, it quickly became very popular. Because it could not cope with the increasing traffic and because of its low draught, the government built Anderson Bridge to replace Cavenagh Bridge, which was then supposed to be torn down. Fortunately, there was a change of heart and Cavenagh Bridge was spared from the scrap heap after Anderson Bridge was opened in 1910.

Cavenagh Bridge has a well-known sign on it that reads:

**POLICE NOTICE  
CAVENAGH BRIDGE  
THE USE OF THIS BRIDGE IS  
PROHIBITED TO ANY VEHICLE  
OF WHICH THE LADEN WEIGHT  
EXCEEDS 3 CWT. AND TO ALL CATTLE  
AND HORSES.  
BY ORDER  
CHIEF POLICE OFFICER.**

The laden weight of 3 cwt (centum weight) is approximately 150 kg.

# CERTIFICATE OF ENTITLEMENT

CAR PRICES IN Singapore are probably the highest in the world and a major reason for this is the Certificate of Entitlement (COE). The COE entitles a person to own a car for 10 years and is part of the Vehicle Quota System (VQS) which regulates the growth rate of vehicles in Singapore. This ensures that Singapore's roads are not overwhelmed.

The quota system works by restricting the total number of COEs in Singapore. Through this system, the vehicle population can be capped.

In order to get a COE, people have to bid for them. The number of successful bidders is limited by the number of COEs available for that particular vehicle category. In these auctions, people indicate their reserve price, which they are able to revise during the auction. The final price of the COE is determined by the highest unsuccessful bid plus \$1.

Currently, the five categories for COEs are:  
A (generally mass market cars) - cars with an engine capacity of 1,600cc and under

and Maximum Power Output up to 97kW (130bhp)

B (luxury cars) - cars with an engine capacity of 1,601cc and above or Maximum Power Output above 97kW (130bhp)

C - goods vehicles and buses

D - motorcycles

E - open (any kind of vehicle)

The VQS was introduced in 1990. Since then, COE prices have varied, depending on the total number of COEs available during a particular bidding exercise as well as the strength of the economy. At the second bidding exercise in April 2015, the COE for category A was \$67,601 while the price for category B COEs was \$78,001.

As Singapore was determining how to manage its roads in the late 1980s, the Automobile Association of Singapore played its role as a voice of local motorists. It commissioned studies to look at traffic congestion and conducted surveys of members to get feedback. In April 1988, it submitted its recommendations to the Ministry of Communications, arguing that





COE OPEN BIDDING

THE COE QUOTA AVAILABLE FOR NEXT BIDDING EXERCISE

Category	Quota
A - CAR UP TO 1800CC & 1700W	1,966
B - CAR ABOVE 1800CC OR 1700W	114
C - LICENSED VEHICLE & BUS	370
D - MOTORCYCLE	200
E - OPEN	274

FINAL RESULTS FOR JUNE 2015 2ND OPEN BIDDING EXERCISE

Category	Quota	SPRDS	WSPRDS
A - CAR UP TO 1800CC & 1700W	1,415	8,280	66,076
B - CAR ABOVE 1800CC OR 1700W	518	11,369	70,617
C - LICENSED VEHICLE & BUS	370	39,322	10,619
D - MOTORCYCLE	200	6,467	6,306
E - OPEN	274	14,361	

SP - Units Preferred  
WSP - Winning Costa Preferred

\* Cars registered using TCDS obtained before the Feb 2014 for COE bidding over size will pay POP for COE extension based on the following:

- Cars with engine capacity 1800cc & below - pay Category A POP
- Cars with engine capacity 1800cc & above - pay Category B POP

Category	Approved	Not accepted	Withdrawn/Failed	Missed
A - CAR UP TO 1800CC & 1700W	1,766	1,321	445	0
B - CAR ABOVE 1800CC OR 1700W	1,244	106	278	0
C - LICENSED VEHICLE & BUS	441	270	114	0
D - MOTORCYCLE	448	216	89	0
E - OPEN	370	228	144	0

Source: Land Transport Authority

measures should be aimed at regulating car usage rather than car ownership. In November 1989, it presented its views to the Parliamentary Select Committee that had been convened to consolidate public feedback on Singapore's land transport policies. Unfortunately, the Government eventually decided to have a quota system to manage the growth of the car population.

While it was unsuccessful in staving off the quota system, it did have more success in fine-tuning the COE system in its early years. It lobbied successfully, for example, to make COEs non-transferable, which was important because some people were selling off their COEs for a profit, which added to the cost of

car ownership. The Government agreed to a one-year trial period starting September 1991. After that trial period, the Government decided to make COEs non-transferable and today, that is still the case for COEs in Categories A, B and D. Subsequently, when the Government announced that it would be introducing a Goods and Services Tax in the 1990s, the AAS argued successfully that this tax should not be charged on COEs, road taxes and registration fees.



# CHIAM SEE TONG

## VETERAN OPPOSITION POLITICIAN

Chiam See Tong is notable for being the only politician in Singapore who is closely associated with his car. In Mr Chiam's case, that car is his much beloved maroon Volkswagen Beetle Herbie.

Herbie has accompanied Mr Chiam ever since he first ran for Parliament in 1976. He finally entered Parliament in 1984 in Potong Pasir and he would go on to win a total of six elections, all the while driving Herbie (at some point repainted from its original white) to and from election rallies.

Herbie has not merely served him well in Singapore; it was in Herbie that Mr Chiam drove from London to Singapore after he completed his legal studies in the mid-1970s.

While Mr Chiam was studying law in London, he bought a six-month-old white Beetle from a builder for £500 (approximately \$3,500 then). After he was called to the bar in 1974, he persuaded his future wife, Miss Lina Loh, to go back to Singapore overland in Herbie. The aim was to travel through Western Europe, then through the Balkans, into Turkey, Iran, Afghanistan, Pakistan, before ending up in India. They would then sail from Madras (now Chennai) to Penang, then to drive

An adventurous Chiam See Tong and his wife-to-be Lina travelled overland from London to Singapore in Herbie (the white Beetle) in the mid-1970s. (The Madras to Penang leg of the journey was by steamer.)



south to Singapore.

After upgrading Herbie's tyres, the young couple set off with their luggage on the roof because Mr Chiam's aunt Jenny wanted to see a bit of the continent too.

The trio sailed from Margate to Belgium in August 1974. They then drove through Belgium, Germany and Austria, where they dropped off Aunt Jenny at the train station in Vienna. From Austria, they drove through what was then Yugoslavia and then Bulgaria before reaching Turkey. Mr Chiam had the wheel while his wife-to-be consulted the map in her lap. To save money, they slept at campsites along the highway and ate canned food.

At the Bulgarian-Turkish border, Mr Chiam insisted that they did not need a visa to get into Turkey while the guard disagreed. The guard abruptly ended the argument by hurling Mr Chiam's passport some 10m through the air. Mr Chiam reluctantly

**"At the Bulgarian-Turkish border, Mr Chiam insisted that they did not need a visa to get into Turkey while the guard disagreed. The guard abruptly ended the argument by hurling Mr Chiam's passport some 10m through the air. Mr Chiam reluctantly decided to pay for the visa."**

decided to pay for the visa.

From Turkey, they drove through Iran and Afghanistan without incident and even drove through the famous Khyber Pass, the mountain pass between Afghanistan and Pakistan and the invasion route of famous conquerors such as Alexander the Great. It was only when they arrived at the Pakistan-Indian border that they encountered their first serious problem.

At the border, they were told that Herbie needed a Carnet de Passages (a particular customs document for cars) to enter India. Mr Chiam did not have one and was unwilling to bribe the guard. Indian officials took Herbie apart in a determined attempt to find contraband but to their disappointment, none was found. Because they lacked a Carnet, one of the guards escorted them all the way to New Delhi. He claimed he was armed and he would always choose the nicer restaurants along the way.

In New Delhi, Mr Chiam called his brother to apply for a Carnet and spent a month visiting major tourist sights such as the Taj Mahal and the Golden Temple in Amritsar. When the Carnet finally arrived, they drove to Madras and from there, sailed to Penang. They finally reached Singapore some two months after they had first set off. (Incidentally, Mr Chiam had to pay \$2,500 in import taxes when he registered Herbie in Singapore.)

The stubbornness and determination that Mr Chiam displayed during his motoring adventure stood him in good stead as he sought a career in politics. He was in Parliament from 1984 until 2011.





# EAST COAST PARKWAY

THE EIGHT-LANE East Coast Parkway (ECP) was built in 1981 over reclaimed land. Some 19km long, it connects Changi Airport in the east to the Benjamin Sheares Bridge in the south and then to the Marina Coastal Expressway. In the past, the western end of the ECP linked to the Ayer Rajah Expressway but this was changed after the Marina Coastal Expressway was built. At the eastern end, the ECP ends at Changi Flyover where it becomes Airport Boulevard.

The opening of the ECP was timed to coincide with the opening of Singapore Changi Airport. Visitors leaving the airport and travelling down the ECP were able to take in the sights of the mature trees of East Coast Park on the left and neat HDB blocks on the right.

The building of East Coast Parkway

began in 1971 and was completed over four phases. The last phase was opened on April 1981 linking Fort Road to Keppel Road.

Apart from being one of two main ways to get to Changi Airport (the other being the Pan-Island Expressway), the ECP is also significant because one of the first Electronic Road Pricing (ERP) gantries in Singapore was built on the ECP near the Tanjong Rhu Flyover in the direction towards the city.

Interestingly, part of the ECP was designed for military planes to land if the need arose. Now believed to be decommissioned, this landing strip was built in a long, straight section of the ECP close to Changi Airport. It is easy enough to spot this section of the highway. Unlike along other parts of the ECP, the median strip here consists of removable potted plants.



# EAST COAST ROAD

EAST COAST ROAD, as the name implies, is a road along the eastern coastline of Singapore. Of course thanks to decades of land reclamation, the name is now a bit of a misnomer as the road is now some distance from the coast.

East Coast Road started out as a laterite road that was built in 1902 to connect Katong to Bedok. The extension to Tanjong Katong Road in the west began in 1906.

Katong itself was settled very early in Singapore's history. The first coconut plantation was set up here in 1823 by the son-in-law of William Farquhar, the first Resident of Singapore. Much of the land around East Coast Road was turned over to coconut plantations, thanks to the sandy soil.

In the 1920s and 1930s, East Coast Road grew in popularity as the wealthy began building their seaside bungalows here and the area eventually turned into a Peranakan and Eurasian enclave.

East Coast Road connects major neighbourhoods like Katong, Telok Kurau, Frankel, Siglap and Upper East Coast Road. Katong is the hub of the area, and residents of the area would flock to Katong to shop at the Tay Buan Guan supermarket or pick up snacks from the Red House bakery. On weekends, faithful Catholics would worship at the Church of the Holy Family and after Mass, would perhaps catch a show at Odeon Katong, Palace or Roxy cinemas. Many of these landmarks are now gone.



# ELECTRIC/HYBRID CARS

YOU CAN COUNT the number of electric cars on the road with the fingers of one hand, even if you are Captain Hook. In 2014, a grand total of one electric car was registered in Singapore according to the Land Transport Authority.

No information is available on what type of electric car it is. It could be the Mitsubishi i-MiEV, Nissan's Leaf or the Renault Fluence Z.E. It is unlikely to be a Tesla because the well-known US electric carmaker pulled out

Sadly, Tesla pulled out of Singapore before it could sell any Roadsters.

of the Singapore market in 2011 after failing to get green tax benefits that would lower the selling price of the car.

While pure electric cars are struggling to get a foothold here, hybrid cars are doing much better. In total, there are some 7,891 hybrid cars (of all types) in Singapore, 1.28 percent of all cars. Hybrids are gaining in popularity as well. In 2014, Singapore had 5,727 (petrol-electric) hybrids, up from



One of the first electric cars on the road was brought into Singapore in the late 1970s. The CitiVan was used for the AA's breakdown service.

5,020 the year before and the numbers have been increasing over the last decade. In addition to the normal hybrids, there are also 47 plug-in hybrids and 17 diesel-electric hybrids silently cruising Singapore's streets. The number of petrol-CNG cars have been dropping since 2010 though.

The good news is that the LTA is actively



The BMW i8 is a new hybrid car that is sold in Singapore.

looking at what would make electric vehicles more popular in Singapore. Cost is certainly one of the issues. Even after accounting for taxes and rebates, the Nissan Leaf costs almost twice as much as its non-electric equivalent, the Nissan Sylphy.

Interestingly enough, one of the earliest electric vehicles in Singapore was brought in by the Automobile Association of Singapore. In 1977, an electric vehicle known as the CitiVan was acquired by the association to be used for its breakdown service. The American-made vehicle had a cruising speed of 50 to 60 km/h and a range of 60 to 80km per charge. Not particularly roomy, and not perhaps the most attractive of vehicles, the CitiVan never really took off and was quietly retired.



Electric cars need special charging equipment.



# ELECTRONIC ROAD PRICING

ELECTRONIC ROAD PRICING or ERP attempts to control traffic jams on the road by charging road users for driving on that particular road at that particular time.

All vehicles in Singapore are fitted with an In-vehicle Unit that has a stored value card reader. Around certain areas and on certain roads, gantries have been set up that automatically deduct money from the CashCard as the vehicle goes past. The amount varies depending on location and the time. The aim of the system is to shape traffic patterns and thus smooth out traffic flow.

If you drive through an ERP gantry and you don't have a CashCard inserted into the IU, or if the card does not have enough money to pay the fee needed, you will receive a letter requiring you to pay the ERP charge plus an administrative fee of \$10 (\$8 if paid electronically).

ERP rates are reviewed quarterly and during the June and December school

holidays. Rates are adjusted to aim for an optimal speed range of 20-30 km/h on arterial roads and 45-65 km/h on expressways.

The system was installed in 1998 at the cost of \$200 million. The Land Transport Authority is now planning to roll out a new system based on the Global Navigation Satellite System (GNSS). An ERP system based on GNSS will remove the need for physical gantries and will allow for distance-based congestion charging. The LTA called for a tender in 2014 and the new system is expected to be implemented around 2020.

In addition to pricing road use, the new system will also be able to provide real-time traffic information tailored to motorists based on their location. It will also handle electronic payment for parking fees, doing away with paper coupons.

(SEE ALSO AREA LICENSING SCHEME)

# ELGIN BRIDGE

FEW MOTORISTS WHO drive from North Bridge Road into South Bridge Road give much thought to the bridge that gives its name to the roads north and south of it. In fact, most motorists would probably be hard pressed to name the structure.

The 46m long concrete arch bridge that they drive through is the Elgin Bridge and it is significant because the spot where the bridge now stands is Singapore's oldest bridge point. When Stamford Raffles arrived in 1819, a wooden bridge is believed to have existed at this point in the river. In fact, Raffles and his party met Temenggong Abdul Rahman in January 1819 in the vicinity of this wooden bridge.

In 1822, that bridge was replaced by a wooden drawbridge called Presentment Bridge, which was built by Lt Philip



Jackson. Presentment Bridge was replaced by a wooden footbridge designed by John Turnbull Thomson in the early 1840s. This was, in turn, torn down and an iron bridge imported from Calcutta was put in its place in 1862. It was that bridge that was named Elgin Bridge, after the Governor General of India, James Bruce, the 8th Earl of Elgin.

The iron bridge lasted close to 70 years before it was removed and the present concrete bridge built in its place. The current bridge was officially opened in 1929.

Apart from the arches that span it, the bridge is also notable for its cast iron lamps found on either end of the bridge. These were designed by Rudolfo Nolli, who also designed the decorations on the old Supreme Court building and the marble reliefs outside the Tanjong Pagar Railway station.



# FORMULA ONE SINGAPORE GRAND PRIX



THE F1 SINGAPORE Grand Prix is the only night race on the F1 calendar and the only street circuit in Asia. The circuit takes place along public roads in the Marina Bay area and the circuit itself is about 5km long with 21 turns.

The circuit has been largely unchanged since the inaugural race though there have been minor modifications at different turns to improve safety.

Because it is a night race, it requires more than 1,500 projector lights and more than 3 million watts to light up the circuit. This is about four times brighter than a normal sports stadium.

The winner of the inaugural race was Fernando Alonso driving for Renault. Two years later, he grabbed first place again, this

time for Ferrari. So far, Sebastian Vettel holds the crown of most victories at the Singapore Grand Prix. He won in three consecutive years between 2011 and 2013 driving for Red Bull-Renault.

Alonso's win in 2008 was notable because he was the first winner of the Singapore Grand Prix and because the win was marred by controversy. The Renault team was accused of orchestrating a crash to give Alonso an advantage in the race. Renault was charged with conspiracy by Formula One's governing body. Renault did not contest the charge and the managing director and the executive director of engineering left the team.

Singapore will remain on the F1 calendar until at least 2017.



# FLOODING

IN THE LAST few years, flooding, and its cousin, 'ponding', have returned to the vocabulary of Singaporeans. In 2010 and 2011, Orchard Road and several other places around Singapore experienced severe flooding. Social media was rife with photos of cars stalled in Orchard Road while basement car parks of shopping malls were flooded as a result. Retailers experienced considerable losses from flood damage.

Singapore, unfortunately, is prone to flooding. Singapore gets about 2.4m of rain per year and about 30 percent of Singapore is low lying, i.e. less than 5m above sea level. Heavy rains combined with poor drainage and high tides means that flooding is inevitable. There have been numerous reports of severe flooding in Singapore in the 20th century. Between October and December 1954, almost 5,000

people lost their homes through floods. In December 1969, helicopters had to be used to evacuate people from the tops of trees and homes because of the flooding, which killed five people.

Not being able to change precipitation levels, the tides or low-lying geography, Singapore has sought to ameliorate the effects of flooding by improving drainage.

In the 1960s, Bukit Timah began to experience regular flooding because of development in the Bukit Timah Catchment area. Because the area downstream from Bukit Time was built up, it was impossible to significantly widen Bukit Timah canal (which leads to Rochore canal). To address this, the Government embarked on the Bukit Timah Flood Alleviation Scheme in 1966. A new canal was built to drain some of the storm water from the Upper Bukit Timah



Orchard Road in 1980.


Catchment area to Sungei Ulu Pandan. This project was built at a cost of \$7 million and was able to reduce the incidence of flooding in Bukit Timah.

In the 1980s, a second canal, some 4.4km long, was built to divert water from Bukit Timah Canal to the Kallang River. This project began in 1986 and was completed in 1991 at a cost of \$240 million. Apart from the diversion canal, Bukit Timah Canal was also widened and deepened. Currently, the Bukit Timah Canal is undergoing further improvement works to improve its capacity to handle extreme weather conditions.

While many places around Singapore experienced flooding in recent years, perhaps none received as much publicity as Orchard Road, given that it is a major tourist landmark. In the Orchard Road flood of June 2010, about 100 mm of rain fell in two hours, which is about 60 percent of the average monthly rainfall for June. In addition, Stamford Canal was choked with debris. The combination of high rainfall and choked canal led to the flooding. In June 2011, Orchard Road flooded again, this time because rain fell in two intense bursts over the catchment area. About 154 mm of rain fell in the space of three hours, and Stamford Canal could not drain it fast enough.

To prevent flooding in Orchard Road, the PUB has started building the Stamford Diversion Canal which will connect the upstream section of Stamford Canal, which covers Orchard Road, to the Singapore River. The 2km long canal is expected to be completed by 2017.

The PUB is also building a detention



The Bukit Timah Flood Alleviation Scheme helped to reduce the incidence of flooding in Bukit Timah.



The Marina Barrage is able to pump water out from Marina Reservoir if the water level rises too high.

tank near the junction of Tyersall Avenue and Tyersall Road. The tank will have a capacity of about 38,000 cu m or as much as 15 Olympic-sized swimming pools. When completed in 2016, the underwater tank will capture excess storm water from the drains along Holland Road. After the rain subsides, the water will be pumped back into the drains for subsequent discharge into the Marina Reservoir. This is expected to reduce the load on Stamford Canal.

Around Singapore, various efforts are being made to improve drainage to reduce the incidence of flooding. The Marina Barrage also plays a role in flood alleviation. When water builds up in the Marina Reservoir (which is fed by the Singapore River, the Kallang River and the Geylang River), pumps at the barrage are able to pump out water from Marina Reservoir into the sea at the rate of 40 cu m per second.



# FORD MOTOR FACTORY

THE FORD MOTOR factory in Bukit Timah is a reminder both of Singapore's automobile industry and of the dark days of the fall of Singapore and the subsequent Japanese Occupation.

The history of Ford in Singapore actually dates back to 1926 when it had a plant doing wheel fittings and vehicle touchups on Model Ts in Enggor Street. In 1929, it moved to Prince Edward Road and began assembling semi-knocked down cars sent from Ford Canada and Ford England.

In October 1941, Ford opened a large, modern assembly plant in Bukit Timah. However, within two months, Japan launched its attack on Malaya and the factory was repurposed to assemble fighter planes for the Royal Air Force. Most of these aircraft were then flown out of Singapore in January 1942 as the Japanese swept southwards.

After the Japanese captured Bukit Timah, they made the Ford factory their headquarters. On February 15, 1942, Lieutenant-General Arthur Percival, the British General Officer Commanding Malaya, and his officers formally surrendered to General Tomoyuki Yamashita, the Commander of Japan's 25th Army. During the Japanese Occupation, the factory was used by Nissan to assemble military trucks and other military vehicles.

After Japan's surrender in 1945, the factory was taken over by the British Military Administration for two years and used as a repair depot. Ford then took back the factory and resumed assembling cars there.

Ford closed the assembly plant in June 1980 after the Singapore Government said it would impose 45 percent customs duty on locally assembled cars.

On February 16, 2006, the building was officially reopened as Memories at Old Ford Factory after a \$10 million refurbishment. It is now a museum showcasing life during the Japanese Occupation.



# FORT CANNING TUNNEL

FORT CANNING TUNNEL is possibly Singapore's most controversial road tunnel, even if it is probably Singapore's shortest at just 350m.

The tunnel is controversial because its construction involved the tearing down of the old National Library Building in Stamford Road. The three-storey, red-brick structure was built in 1960 and while perhaps was not architecturally significant, was fondly remembered by Singaporeans from all walks of life thanks to its central location.

When the state confirmed that the library would be torn down in the late 1990s, there was a public outcry and numerous letters were written to the press. Well-known architect Tay Kheng Soon proposed an alternative plan that would preserve the building. However, in 2000, National Development Minister Mah Bow Tan announced in Parliament that the

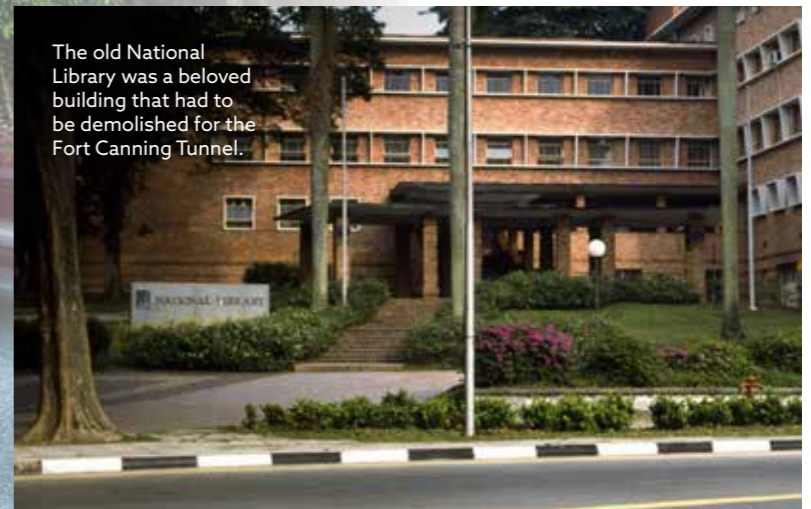


government would adopt the URA's proposal and that the building would be demolished.

The building was torn down in 2005 and the road tunnel was opened in January 2007. It was built at a cost of \$40 million.

Fort Canning Tunnel cuts under Fort Canning Park and an access road, Canning Rise. The tunnel was built to allow motorists to bypass several traffic junctions and is supposed to cut journey times from 5 minutes to 18 seconds.

The tunnel was built using a combination of cut-and-cover and a method known as the New Austrian Tunnelling Method. The latter method was used so that trees in Fort Canning could be saved. Cut-and-cover would involve digging a trench, building the tunnel, then covering the tunnel. Using this method would have meant the loss of trees along the way in the historic Fort Canning Park which was why the alternative tunnelling method was used.



The old National Library was a beloved building that had to be demolished for the Fort Canning Tunnel.



# HIGH-SPEED RAIL

SINGAPORE AND MALAYSIA will build a high-speed rail link between the two countries that will allow commuters to get from Singapore to Kuala Lumpur, a distance of about 340km, in just 90 minutes.

The link will terminate in Jurong East on the Singapore side while on the Malaysian side, it will end at Bandar Malaysia, about 5km from Petronas Twin Towers. Bandar Malaysia is a planned 200ha development on what is now a military airbase in Sungai Besi.

Along the way, there will be stops in Putrajaya, Seremban, Ayer Keroh, Muar, Batu Pahat and Nusajaya. There will be an express service as well as a slower service that will stop at the different stations along the route. A round trip is expected to cost about RM400.

The link was originally supposed to be completed by 2020 but it is likely that this will be pushed back given the scale and complexity of the project.

The project was first announced in February 2013. In May 2015, Singapore confirmed the location of the terminus in Singapore. It had previously said that it was considering locating the terminus in Tuas as well as the city centre.

The new Jurong East terminus will be located on land now occupied by the Jurong Country Club. The club sits on 67ha of land, which will be acquired. Apart from the 12ha terminus, it will also have offices, hotels, retail and family entertainment facilities. It may even have residential units.

The terminus is expected to be no further than 600m from the current Jurong East MRT station. Jurong East will also be served by two more MRT lines in the future.

The Customs, Immigration and Quarantine complex will be inside the terminus and passengers will only need to go through a single border checkpoint on either the Malaysian or the Singapore side.

# HIGH STREET

TODAY, MOST MOTORISTS are likely to zip through High Street en route to someplace else. Unless you are going to the Ministry of Finance, which is located on High Street, there is little reason for anyone to go to that road specifically, a tiny road a little less than 150m long, that runs from Hill Street to North Bridge Road.

But High Street was not always insignificant. In fact, for much of High Street's history, the road was a major destination.

It is not a well-known fact, but High Street is probably the first road to be built by

the British. When Stamford Raffles wanted to sign the treaty with Temenggong Abdul Rahman in January 1819, soldiers under the command of Lt Henry Ralfe, the first town planner, carved out a space in the jungle near the shore to create a meeting place for the signing. That was the genesis of High Street.

Very quickly, High Street would become a much longer road. In the famous Jackson plan of 1828, High Street is clearly marked as starting, as it does now, at Hill Street and ending near the shore (what was then called the Esplanade).

Its importance can be seen in the fact that back in 1821, High Street was the first street in Singapore to be macadamed, a new and efficient method of road building that consisted of a stone hardcore base sealed with laterite.

Singapore's first court house was located in the southern end of High Street, in the

building that is now The Arts House at The Old Parliament. In the 1830s, High Street, which runs along the eastern bank of the Singapore River, even had godowns, though over time, these disappeared, replaced by assorted businesses. Various hotels were located on High Street in the 19th century, the most famous being the London Hotel and the Hotel de Paris, the Europe Hotel and the Adelphi Hotel. However, it was not just hotels or business related to Singapore's entrepôt trade that made their home there. High Street was where women would go to buy hats or have dresses made, where a Frenchman set up a confectionery, where a doctor had his home and practice, and where Singapore's first newspaper, the *Singapore Free Press*, had its office.

In the early days, when Singapore was less developed, High Street was also a residential area. In the 1840s, it was home to people like William Napier, the lawyer and newspaper editor whose name is remembered in Napier Road, and James Guthrie, nephew of the founder of the Guthrie agency house.

High Street was on the western edge of the European part of town but it would soon be taken over by Asian merchants. When gem trader Balage de Silva came to Singapore from Ceylon, he decided to open his jewellery store on High Street. Thus was BP de Silva born in 1872. Eventually, many North Indian merchants moved into the street and North Indian names adorned most of the signboards on the street. However, it was not exclusively North Indian. In 1957, Mr Ong Tjoe Kim opened his first Metro



# Hotel de L'Europe, Singap



outlet in High Street, where The Treasury now stands. Further down, at the junction of High Street and North Bridge Road, was the Aurora Department Store which was where Mr Ong first cut his teeth in the business.

Perhaps the most famous business establishment on High Street was the Grand Hotel de l'Europe, which stood at the junction of High Street and the Esplanade. The hotel was opened at the beginning of the 20th century and was where royalty would stay when they visited Singapore. Among its guests were the Duke of York, the Prince of Wales and King Chulalongkorn of Thailand. The hotel shut its doors in 1932 though and the Government eventually purchased the land and built the Supreme Court on it.

High Street was eventually eclipsed by

Orchard Road as a shopping destination. The shophouses on both sides of the street were demolished to make way for The Treasury (where the Ministry of Finance is located) on the left.

When you drive down High Street and cross North Bridge Road, you will see Singapore's new Supreme Court on the left instead of the Aurora Department Store. On the right is the new Parliament building fronted by a large green lawn. In 1999, Singapore's Parliament moved to its current location and the part of High Street between North Bridge Road and Connaught Drive was renamed Parliament Place. All that remains of High Street's commercial past are High Street Plaza and Wisma Sugnomal opposite the Treasury.



THE HOCK LEE bus riots broke out on May 12, 1955, and involved about 2,000 people. The riot in Alexandra Road left four people dead and 31 people injured.

The strike had its origins in the breakdown in relations between the management of the Hock Lee Amalgamated Bus Company and its bus drivers and conductors. Following a strike on April 24 over a labour dispute, the management of the company dismissed all 229 workers who were members of the Singapore Bus Workers' Union (SBWU).

The next day, the dismissed workers, together with supporters and Chinese middle school students, began picketing the bus depot in Alexandra Road, preventing bus services from running.

Efforts to resolve the issues failed and the workers began to picket. On May 12, the police used high pressure water jets to disperse the crowds but the protestors fought back with bricks and stones. Eventually, an estimated 2,000 people were involved. They attacked police, road barriers and patrol cars in the vicinity. The police responded with tear gas and the riot only subsided in the early hours of May 13.

At the time, Mr Lee Kuan Yew was a member of the Legislative Assembly and



Chinese students supporting those on strike.

simultaneously also the legal advisor to the Singapore Bus Workers' Union. The riots would leave a big impression on him. At the 1982 National Day Rally, he recalled the chaos of that day: "Every time I pass by Alexandra Road, I remember the Hock Lee bus depot there and workers linking arms and refusing to let buses out, police coming in with water cannons, finally riots... I've not forgotten. It's vividly etched in my mind and every time anybody starts anything which will unwind and unravel this orderly, organised, sensible, rational society and make it irrational, emotional, I put a stop to it and without any hesitation."

## HOCK LEE BUS RIOTS



Riot police used high pressure water jets to try to disperse the crowds.



# KALLANG- PAYA LEBAR EXPRESSWAY

THE 12KM LONG Kallang-Paya Lebar Expressway (KPE) is significant because a large part of it consists of a 9km-long road tunnel, the longest such tunnel in Southeast Asia.

Built at the cost of \$1.7 billion, the road tunnel goes under, among other things, a river and a canal. Singapore's ninth expressway, it was opened in September 2008.

The expressway starts from East Coast Parkway in the south, crossing under the Geylang River, Nicoll Highway, Mountbatten Road, Geylang Road, Sims Avenue and the Pan Island Expressway.

It then continues from Aljunied Road and Upper Paya Lebar/Paya Lebar Road before following Airport Road past the Paya Lebar Air Base to connect to Tampines Expressway in the northeast.

The Marina Coastal Expressway connects the KPE from the ECP to the Ayer Rajah Expressway via Marina South.

Because of the long underground stretch, the Land Transport Authority has put in place a number of measures to improve road safety and ensure that traffic flows smoothly.

The KPE has its own Operations Control Centre that monitors traffic around the

clock, leveraging on various systems like automatic incident-detection cameras that pick up unusual situations.

It also has fibre-optic heat detectors to detect fire and air monitoring sensors to monitor the air temperature and carbon monoxide levels in the tunnel. These will activate fire alarms and the tunnel ventilation system if necessary.

To lower the risk of accidents in the tunnels, the KPE has a speed limit of 70 km/h. In addition, the KPE has dedicated Traffic Marshalls who patrol the expressway around the clock to spot problems early.



# DENIS LIAN

DENIS LIAN IS a professional Singaporean race car driver who has taken part in numerous races in the region and around the world.

Born in 1972, he began karting at the age of 9 and was runner-up in the Singapore National Karting Championship at the age of 21. He also finished third in the 1993 International Kart Prix. He transitioned to racing cars in 1994 and was invited to join the Asian Formula 2000 Racing series in 1999. Two years later, he became a full time race car driver. In 2002, he won the Asian Formula 2000 series, breaking two lap records in the process.



In 2004, he drove for TVR Asia in the 12 hour Merdeka Millennium Endurance Race where he took the eighth position. In 2005, he came in fourth in the same race, racing for Lotus.

He also took part in the Formula Palmer Audi Euro Series in 2005. In 2006, he established his own team and took fifth place in the Formula V6 Asia Championship. Later that year, he drove for A1GP Team Singapore at the Czech Republic Grand Prix, where he finished 17th overall.

Lian began taking part in GT races from 2008. Driving a Lotus 2 Eleven GT4, he has taken part in endurance races like the 24-hour Dubai and 12-hour Merdeka Millennium Endurance races.







# MARINA COASTAL EXPRESSWAY

ONLY 5KM LONG, the Marina Coastal Expressway is shorter than any other highway in Singapore. However, what it lacks in length, it makes up for in other ways. It is Singapore's first undersea tunnel and at one point, runs 25m below sea level, the deepest road tunnel ever. At the same time, the dual five-lane MCE is the most expensive tunnel built, costing \$860 million per km or \$4.3 billion in total.

The MCE connects the Kallang-Paya Lebar Expressway (KPE) and East Coast Parkway (ECP) in the east to the Ayer Rajah Expressway (AYE) in the west. The MCE

goes under the Marina Bay Channel seabed for almost half a kilometer (420m to be precise).

It is not surprising then, that constructing the tunnel was so expensive. The bit of the tunnel under the Marina Bay Channel was particularly challenging because that section was just 130m away from the Marina Barrage, which regularly discharges enough water to fill 50 swimming pools in one minute. The force of the water being discharged causes the seabed to be churned and washed away, which is not something you want happening if you

happen to be constructing a tunnel under that part of the seabed.

And because of the soft marine clay, described as "peanut butter-like", piles had to be driven as deep as 85m (about 25 storeys) before it hit hard rock.

The MCE was built with the future in mind. There are plans for a branch heading west towards the future Southern Waterfront and an eastward branch heading for Marina East.

With the opening of the MCE in December 2013, the venerable Benjamin Sheares Bridge was downgraded to a mere arterial road.



# MARKET STREET CARPARK

THE MARKET STREET multi-storey car park was the first multi-storey carpark to be built in Singapore. The eight-storey carpark with over 700 parking spots was opened in 1964 in response to a severe shortage of parking space in the city centre.

Parking space had always been a premium in the business district and in the post-war years, the number of cars soon outstripped the number of available parking spaces. It was clear that a new solution was needed. From the 1950s, the Automobile Association of Singapore had been lobbying the government to build a multi-storey carpark in the city.

In the late 1940s, the AA started a valet parking service to help its members to park their cars at Raffles Place and Clifford Pier because parking was becoming a challenge. By the 1950s, there was so little space to park in Raffles Place that the AA's drivers were forced to park in Connaught Drive and the association had to deal with complaints from members about long waits to retrieve their cars. It did not help, of course, that parking in the city was free until 1959.

The AA approached a number of people

in government but had no luck until 1961 when it was able to argue its case before Deputy Prime Minister Toh Chin Chye. He was persuaded to act and Singapore's first multi-storey car park was finally opened in June 1964 at a cost of \$2.5 million.

There was some initial controversy as the rates were set relatively high. The government wanted to dissuade people from driving into the city and thus set the rates at 50 cents an hour compared to 20 cents elsewhere. Monthly parking would cost \$30 a month. However, people got used to the prices and just two years later, hourly parking fees were increased to dissuade people from parking all day there.

The ground floor of the car park had space for offices and shops. At one point, the top floor of the car park was home to the Car Park Cabaret and Restaurant, which opened in 1966.

The car park was in operation until June 2011. It has since been torn down and a 40-storey office tower named CapitaGreen now stands in its place.

Interestingly, Singapore's first underground car park was opened in 1965 at Raffles Place, a year after the Market Street Car Park was opened. This car park was built to replace the old car park on Raffles Place. The underground carpark at Raffles Place had space for 150 cars and after parking, people to get directly to Robinsons Department Store. The roof of the car park was turned into a garden, adding a green lung to the centre of the business district. This car park was subsequently removed for the building of the Raffles Place MRT station.



# MERDEKA BRIDGE

ON THE OCCASION of the 50th anniversary of Singapore's independence, it is timely to remember a bridge built around that time with a most auspicious name, Merdeka Bridge.

Most younger motorists these days would be hard pressed to locate the Merdeka Bridge. The bridge is usually just described as being part of Nicoll Highway that spans the mouth of the Kallang and Rochore River.

However, back in the 1950s, it had its own identity. It was opened by Chief Minister Lim Yew Hock in August 1956 and was given the name Merdeka Bridge, not to mark an event, but as a symbol of Singapore's aspiration for independence (*merdeka* being Malay for independence). Earlier that year, the previous Chief Minister, David Marshall, flew to London to negotiate complete self-rule in what was termed the Merdeka Talks. He failed and stepped down and was replaced by Lim. It would take three years after the Merdeka Bridge was opened for Singapore to be given almost complete internal self-rule.

The Merdeka Bridge is some 610m long and 20m wide and cost just over \$6 million to build. The bridge was actually significantly longer than the span across the river mouth. However, it was deliberately designed that way because a shorter bridge would have sat on newly reclaimed land and would thus be at risk of ground subsidence.

Because of the depth of the mud in the area, some piles went as deep as 40m. The bridge itself was made of pre-stressed reinforced concrete and at the time, it was

the largest pre-stressed bridge of its kind in Southeast Asia.

After Nicoll Highway was widened from four to seven lanes in 1965, Merdeka Bridge too acquired three additional lanes. Traffic flow in those three new lanes were reversed every day. In the mornings, the traffic flowed into the city and in the evening, it was reversed so that the traffic flowed towards the East Coast. In 1992, the lanes became permanent three-lane dual carriageways.

The structural strength of the bridge has been tested repeatedly. During Confrontation, there were two attempts by Indonesian saboteurs to blow the bridge up but both failed to do significant damage. In 2004, part of the Merdeka Bridge was damaged in the Nicoll Highway collapse but it was determined that the bridge was structurally sound.

The bridge was also notable for a pair of stone lions designed by Rodolfo Nolli, the sculptor behind cast iron lamps of the Elgin Bridge and the marble reliefs representing Agriculture, Industry, Commerce and Transport at Tanjong Pagar railway station. The heads of the Merdeka lions are turned right with their mouths half opened in a roar. The lions were placed on either end of the bridge to face oncoming traffic. The lions stayed there until the widening of Nicoll Highway in 1966. They have since been relocated several times and today, the lions have been installed at the base of a 17-storey observation tower in SAFTI MI in Upper Jurong Road.

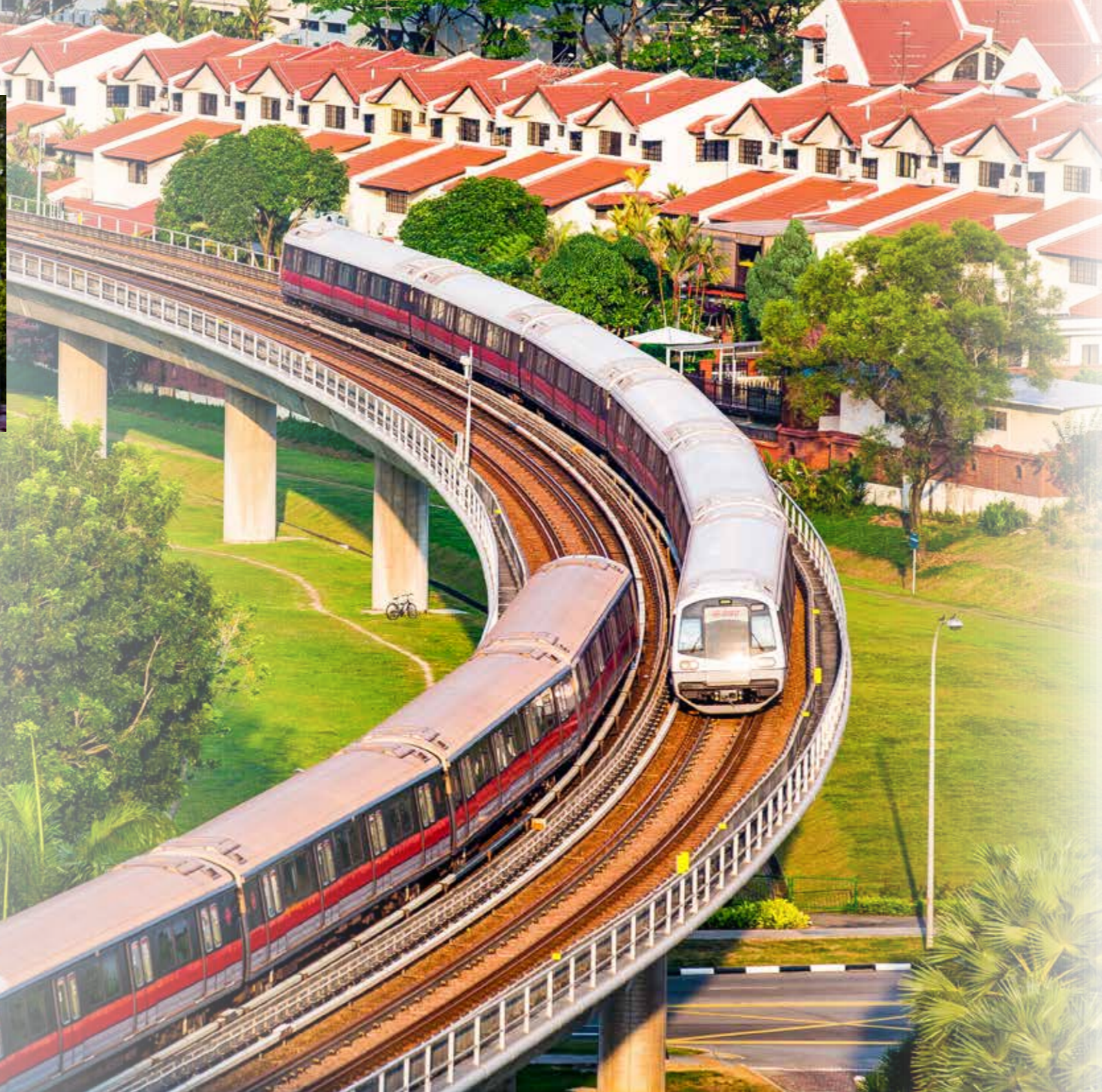


# MRT AND LRT

THE MASS RAPID Transit and Light Rail Transit are major pillars of the public transport system in Singapore. In 2014, some 2.8 million riders used the MRT each day, while 137,000 people used the LRT.

The MRT currently consists of five lines, the North-South Line, the East-West Line, the North-East Line, the Circle Line and the Downtown Line. The three LRT lines serve Bukit Panjang, Sengkang and Punggol. The MRT system consists of 154km of track and 113 stations while the LRT system is made up of 29km of track and 39 stations in operation (five stations are not).

The Land Transport Authority aims to increase the rail network to about 360km by



2030. Three new rail lines—the Thomson-East Coast line, the Cross Island Line and the Jurong Region Line—will be opened by then. In addition, there will be extensions to the Circle Line, North-East Line and the Downtown Line. With 360km of rail network, Singapore will have a total rail length that is higher than Tokyo or Hong Kong today, and comparable to New York City, according to the LTA.

There is currently a plan to create a Rapid Transit System to connect Singapore and Johor Baru. The Singapore terminal will be near Republic Polytechnic in Woodlands and it is supposed to be operational by 2019. This new system will be connected to the upcoming Thomson-East Coast Line.

As one of the key pillars of the public transport network today, it is hard to imagine how controversial the idea was initially. The idea of a Mass Transit System for Singapore was first mooted in the 1970s but the matter was debated in Government for over a decade. Deputy Prime Minister and Finance Minister, Dr Goh Keng Swee, was the chief opponent. He believed that a system reliant on buses instead was superior. Buses were cheaper while building an MRT system was very expensive, given that Singapore needed the money for public housing, education and defence at the time.

During the 1970s, the Singapore Mass Rapid Transit Study went through three phases examining the financial viability of the MRT, how it would be built and how the system would operate. The battle between the pro-MRT group and the pro-bus group



even made it to television. In 1980, there was a televised debate between a pro-bus group from Harvard and the pro-MRT group.

Eventually, of course, the pro-MRT group won and in 1982, the Government announced that it would build the MRT for an estimated \$5 billion. One advantage of the decade-long debate was that it allowed Singapore to build up its reserves so there was no need to borrow money from the World Bank, which in the 1970s, was not in favour of the project given its costs.

Interestingly, the original project was supposed to be completed by 1992. Prime Minister Lee Kuan Yew had advised waiting to build the MRT system until a worldwide recession would bring down costs. The recession came much earlier, and work thus began earlier. Construction started on all of

the 42 initial stations at once and the project was completed ahead of schedule and below budget. In 1987, the North-South Line and the East-West Line began operations.

While there are many laudable aspects of the MRT system, it is not perfect. There are constant complaints of overcrowding and of people having to wait for a few trains to go by before being able to board. However, a greater problem is the issue of delays because of train breakdowns. Because the trains carry so many people, delays have a significant impact. As the trains and systems age, delays have become more common. On 7 July 2015, both the North-South and East-West lines broke down for several hours during the evening peak period, affecting more than 250,000 people who were heading home from work.

# NEWTON CIRCUS

BUILT IN 1933, Newton Circus is a major roundabout that connects Bukit Timah Road, Clemenceau Avenue North, Scotts Road, Dunearn Road, Newton Road, Keng Lee Road and Kampong Java Road. It is one of the very few roundabouts left in Singapore. Once a common (and cheap) way to manage traffic at major road junctions, over the years, roundabouts have been slowly phased out in favour of traffic lights, flyovers and tunnels.

Given that it links so many major roads, the authorities introduced traffic lights at Newton Circus in 1987. Initially, the traffic lights were only turned on during peak hours between Monday and Saturday but in 2011, the policy was changed so that the lights would run around the clock.

While the traffic lights help motorists

get into the roundabout, it is less helpful getting them out. Because there are so few roundabouts in Singapore these days, drivers in Singapore don't have enough experience with driving around one, and so they have trouble negotiating the three-lane Newton Circus.

Foodies disregard the threat to life and limb to eat at Newton Hawker Centre nearby, which was built to house hawkers who had been relocated from Koek Road.

The original railway track that ran from Tank Road to Woodlands used to have a stop at Newton Circus. Today, an MRT station stops here instead.

Newton Circus was named after Howard Newton, a municipal engineer who was James MacRitchie's assistant in the mid-nineteenth century. Newton was apparently also a well-known amateur singer as well.



# NICOLL HIGHWAY COLLAPSE



NICOLL HIGHWAY, built in 1956, was the site of one of Singapore's worst construction accidents in 2004. Four people were killed as a result of a cave-in of a Mass Rapid Transit tunnel under construction. At 3.30pm on April 20, a section of the Nicoll Highway suddenly collapsed, leaving a ravine 30m deep, 150m long and 100m wide that spread across six lanes of Nicoll Highway. The tunnel was part of the underground Circle Line that was under construction at the time.

Only three of the four bodies were subsequently recovered. The search for the body of Mr Heng Yeow Peow, 40, was called off after the authorities determined that it was unsafe to continue. Mr Heng was the only Singaporean to die in the accident. According to survivors working with him, the metal beams above them suddenly started making loud creaking noises so Mr

Heng, the foreman, immediately urged all the eight men with him to leave. The eight managed to scramble out, no easy task as they were at the bottom of the 10-storey deep tunnel, but Mr Heng did not. He had been the last to leave the worksite allowing his men to go first.

The cave-in caused tremors that were felt at the nearby Golden Mile Complex, which was evacuated. It also affected gas and water lines and electricity cables and about 15,000 people and 700 businesses in the vicinity of Marina and Suntec City lost power.

Nicoll Highway was finally repaired and reopened on December 4.

A Commission of Inquiry later concluded that there were critical design and construction errors that led to the failure of the earth retaining wall system. There were also issues with project management that made things worse.

# ORCHARD ROAD

ORCHARD ROAD HAS not always been Singapore's premier shopping hub. Back in the 1830s, Orchard Road was full of pepper and gambier plantations as well as cemeteries. In the 1840s, a Chinese graveyard was established around Mandarin Hotel and where Ngee Ann City now stands. A Malay cemetery was built near what is now the Hotel Grand Central while a Jewish cemetery stood in Dhoby Ghaut.

Government House, later renamed the Istana, was built in the 1860s and its presence probably helped set the tone for the area. Over the next few decades, private houses and bungalows would be built along Orchard Road and by the early twentieth century, it was described as looking like a "well-shaded avenue of English mansions".

The Singapore Cold Storage Company opened a store in Orchard Road in 1905 selling thawed meats and chilled dairy products. In the 1920s, the Pavilion Cinema opened across the road. Amber Mansions, also built in the 1920s, was located in the curve between Orchard Road and Penang Road and was one of Singapore's first shopping centres. In 1939, Cathay Cinema

opened in nearby Handy Road, creating more reason for people to flock to that end of Orchard Road.

After the war, the Orchard Road-Bras Basah area became a hub for car dealers. Car distributors like Borneo Motors and Cycle & Carriage, as well as repair shops, had outlets along Orchard Road. This was probably why the Automobile Association had its office in Orchard Road at one point.

In late 1950s, Orchard Road began to become known for shopping. In 1958, a canny businessman by the name of Tang Choon Keng opened a store which would be called CK Tang. Around the same time, across the road, the Shaw Brothers built the 10-storey Shaw House, as well as Lido Cinema next to it. Fitzpatrick's opened Singapore's first supermarket in 1958 as well, where the Paragon's extension (previously the Promenade) now stands.

By the 1960s, Orchard Road had become a magnet for people. For shopping, there were department stores like Metrotex (later just Metro) in Liat Towers and CK Tangs. For groceries, you could go to Fitzpatrick's or Cold Storage. Coffee houses and restaurants

Orchard Road was not always Singapore's main shopping street.







View of Orchard Road from Mandarin Hotel, showing Fitzpatrick's Supermarket (left) and Lucky Plaza in construction (extreme left)



View of Cathay Building from Orchard Road

attracted the young and restless. This included Cozy Corner Café, Tivoli, Silver Spoons and Batik Inn.

Orchard Road was particularly attractive on weekends. Apart from watching movies at Lido, Pavilion or Orchard Theatre, people could go bowling at Jackie's Bowl or attend an afternoon tea dance at the Prince's Hotel Garni.

On hot afternoons, the Magnolia Milk Bar, which operated out of Cold Storage, where Centrepoint is now, was a special treat. Foodies would make a beeline for Glutton's Square, a carpark at the Koek Road which would be turned into a massive al fresco dining area in the evening.

By the 1970s, developers started building shopping centres up and down the street. These include Tanglin Shopping Centre, Specialist Shopping Centre, Far East Shopping Centre, and the mother of them all, Plaza Singapura, then Singapore's biggest.



In 1974, Orchard Road was changed from a two-way street into a one-way street with the construction of Orchard Boulevard to take traffic in the opposite direction. This helped to ease congestion and undoubtedly contributed to Orchard Road's popularity as well.

The 1980s was when most of the more modern-looking shopping centres like Centrepoint, Orchard Point and Wisma Atria were built. Orchard Road's popularity was aided by the opening of the North-South MRT line in 1987, which added three stations along the road.

Orchard Road continued to evolve as new shopping malls were added. In 1993, Ngee Ann City took over the space previously occupied by the older and much smaller Ngee Ann Building. And since the new millennium, newer, swankier places have opened such as ION Orchard, Orchard Central, 313@Somerset and Orchard Gateway.

# PAN-ISLAND EXPRESSWAY

THE VENERABLE PAN-ISLAND Expressway, or PIE as it is popularly known, is 43km long, and is Singapore's oldest and longest expressway. It links Tuas all the way to Changi Airport and along the way, it goes past Jurong, Bukit Timah, Toa Payoh, Kallang, Eunos, Bedok and Tampines.

The entire 43km was not built in one go though. It was built in four phases starting in 1966. The first phase consisted of

widening the stretch of Whitley Road from Mount Pleasant Flyover to Thomson Flyover, Jalan Toa Payoh, Jalan Kolam Ayer, and Paya Lebar Way. In the next phase, a new road was made in Jalan Eunos to connect to the East Coast Parkway. The third phase involved linking Jalan Anak Bukit to Corporation Road. Finally, in 1992, an extension was built to connect the PIE to Kranji Expressway and Tuas.



# PARK-AND-RIDE



City Shuttle Service (CSS) buses were introduced to ferry motorists from Park-And-Ride carparks into the Central Business District.

THE AREA LICENSING SCHEME was set up at a cost of \$6.6 million in 1975 but more than 90 percent of that was spent on acquiring land and building car parks for the associated Park-and-Ride programme. Unfortunately, the programme was a dismal failure as no one wanted to use these car parks.

The idea behind the Park-and-Ride programme was not controversial. To persuade motorists not to drive into the Restricted Zone, the Government set up car parks on the fringe of the city. The idea was that people would drive to these car parks, pay \$10 a month (or 50 cents a day) for parking, then take special shuttle buses into the CBD. These rides would cost \$20 a month or 50 cents a ride.



	\$4 per night (10.30pm - 7am)
	65¢ per day (7am - 10.30pm) or 65¢ per night (10.30pm - 7am)
<b>Park &amp; Ride</b> (For passenger Cars Only) \$3 7am - 9pm (Mon - Fri) 7am - 3pm (Sat)	

The Government built added space for 7,700 cars at nine sites, on top of the 2,400 spaces already available there. However, only 585 slots were taken up. Motorists either changed their travel plans or rode a regular bus into the city rather than use the Park-and-Ride system. At the time, it was derided as the \$7 Million Dollar Mistake. The car parks were converted into lorry parks and bus depots and the shuttle bus services became part of the network of buses that plied the routes from housing estates.

Today, a Park-and-Ride scheme still exists quietly at selected HDB/URA car parks near some MRT stations. It is administered by TransitLink which sells a monthly Park-and-Ride card for \$40 and a monthly season parking ticket for \$30.

# PASIR PANJANG ROAD

PASIR PANJANG LITERALLY means long sand in Malay and is a reference to the sandy beach that ran along Singapore's south western coastline.

Pasir Panjang Road was laid down as far as Jurong River in 1850. By the 1920s, the area was lined with holiday bungalows owned by wealthy Chinese families. In 1930, some Malay families from Kallang Basin were resettled into Pasir Panjang as the Kallang Airport was being built.

Pasir Panjang was where a major battle was fought during World War II. On February 13 and 14, the Japanese 18th Division launched an attack on Pasir Panjang Ridge, which was defended by the 1st and 2nd Battalions of the Malay Regiment, the British Second Loyals Regiment, the Australian Bren-Gun Carriers and the 44th Indian Brigade.

C Company of the Malay Regiment led by Second Lieutenant Adnan Saidi was tasked to defend the area around Pasir Panjang Village. However by evening of February 13, they had to retreat to hold the line at Bukit Chandu.

The platoon held off the Japanese until they were eventually overrun the next day. Lieutenant Adnan was captured and bayoneted to death. The day after the

Japanese captured Bukit Chandu, the British surrendered.

The last stand of the Malay Regiment is currently featured in Reflections at Bukit Chandu, a permanent exhibition held at a restored colonial bungalow in the area. Another reminder of the war is a concrete machine-gun pillbox that can still be found along Pasir Panjang road.

From the 1960s, the government began reclaiming land around Pasir Panjang Road, pushing the coastline further away from the road. In 1993, the Port of Singapore Authority began building Pasir Panjang Terminal along the reclaimed coastline and today, it is one of Singapore's most advanced wharves.



A concrete machine gun pillbox still stands in Pasir Panjang Road.



Lt Adnan





# PETAINE ROAD

A TINY ROAD perpendicular to Serangoon Road and Jalan Besar, Petain Road is somewhat infamous. To the historically minded, it is an oddly named road, named as it is after Field Marshall Henri Philippe Petain. The road was given his name in 1928 to commemorate Marshall Petain's military leadership in the Battle of Verdun which made him a hero in France.

However, during the Second World War, Petain became Prime Minister of Vichy France and a German puppet. After the war, he was convicted of treason and sentenced to death. This was commuted to life in solitary confinement by General Charles de Gaulle.

As a result of Petain's new status, the French community has sought repeatedly to change the name of the road. The authorities have repeatedly declined to do so.



# PICCADILLY CIRCUS

GETTING TO PICCADILLY Circus is easier than you think, and you won't need to bring your passport. Instead, all you need to do is drive towards Jalan Kayu. Follow Jalan Kayu heading northeast, drive over the Jalan Kayu flyover, go past an unmanned guardhouse and voila, you are in front of Piccadilly Circus.

Of course, having reached Piccadilly Circus, you are not much closer to London's West End. Piccadilly Circus in Singapore is a tiny green roundabout that is part of a network of roads that used to make up Seletar Airbase. Other roads nearby include Regents Street, Edgware Road, Brompton Road and Maida Vale.

These names date back to when Seletar Airbase was built by the British back in the late 1920s. Back then, it was the largest base run by the Royal Air Force in Asia.

The airport at Seletar was Singapore's first international airport and thus allowed commercial planes to land as well until

Kallang Airport was built in the 1930s.

After the British military withdrawal in the late 1960s, the eastern half of the camp was taken over by the Singapore Armed Forces while the public had access to the rest. The more than 200 colonial houses that used to house RAF officers were leased out to individuals.

In 2006, the Government announced plans to develop the area into the Seletar Aerospace Park, to be run by the Jurong Town Corporation. Many of the old houses there will be torn down as part of the development.

Seletar Aerospace Park is now well underway. Companies now based there include Bell Helicopter, Bombardier, Cessna Aircraft, Fokker Services, Hawker Pacific, Pratt & Whitney, ST Aerospace and Rolls Royce. Seletar Airport has been upgraded and now has a 1,836m long runway. It is used mainly for chartered flights and training purposes.



# REVISED OFF-PEAK CAR SCHEME

WHILE OWNING A car is expensive, one way to lower the cost of ownership is to register your car under the Revised Off-Peak Car Scheme.

Under this scheme, you can drive your car freely outside the restricted hours of 7am and 7pm on weekdays. There are no restrictions on weekends, public holidays and on the eve of certain public holidays. If you need to drive your car during the restricted hours, you will need to buy an electronic Day licence that costs \$20.

In exchange for these restrictions, a buyer of a new car gets up to \$17,000 rebate offset against the Certificate of Entitlement and the Additional Registration Fee. In addition, the buyer gets a discount of up to \$500 on his annual road tax, subject to a minimum road tax payment of \$70 per year.

Existing car owners can convert their cars to this scheme. You can also convert your car under this scheme back into a normal car.

Cars under this scheme have a distinctive red license plate with white lettering.

The first incarnation of this scheme was the Weekend Car Scheme which was introduced in 1991. The idea had been mooted the year before and was supported by Automobile Association in Singapore. It convened a Working Committee to study the

concept, organised a forum in June 1990 to get feedback and presented its findings to the Government's Feedback Unit in July.

The AAS made two recommendations that were eventually taken up—that these weekend cars could be driven from 7pm, instead of the proposed 8pm, and that normal cars could later be converted to weekend cars and vice versa. In 1994, the Weekend Car Scheme was replaced by a new scheme known as the Off-Peak Car Scheme. This was, in turn, replaced by the current scheme in 2010.





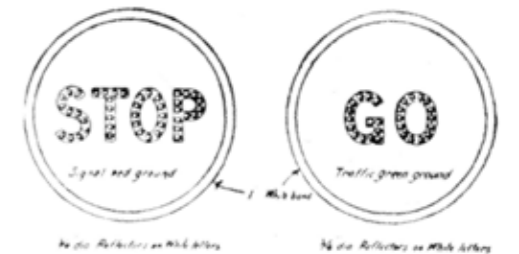
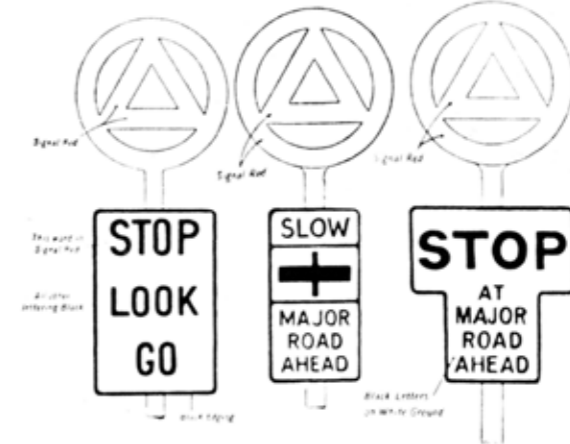
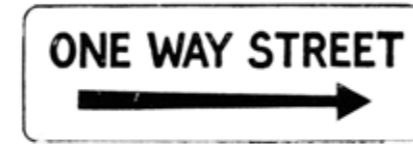
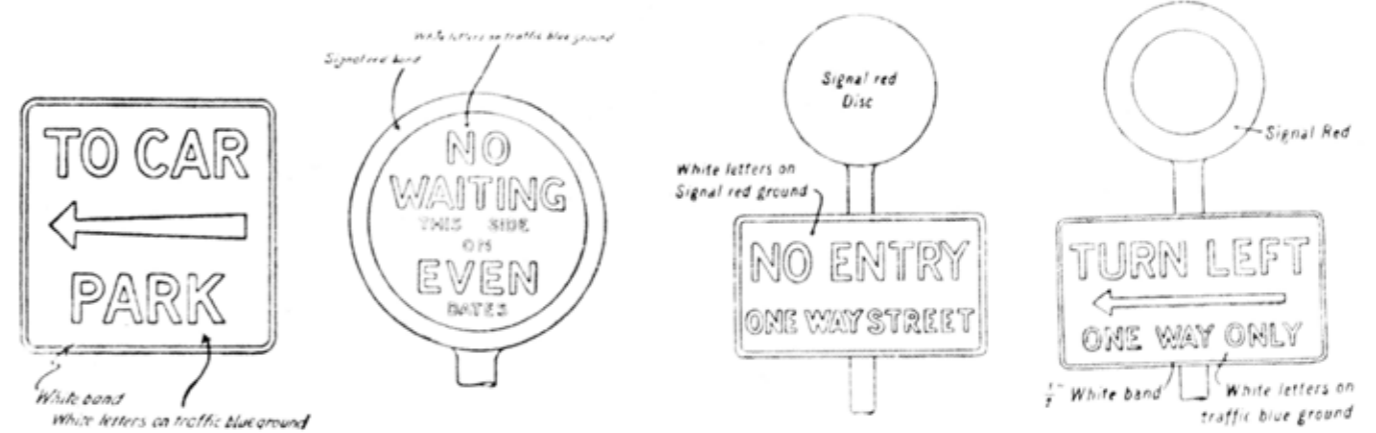
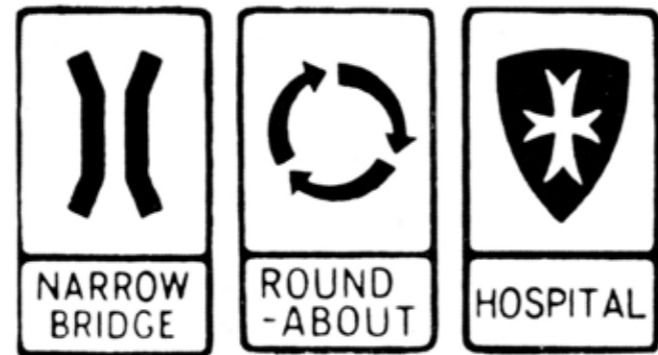
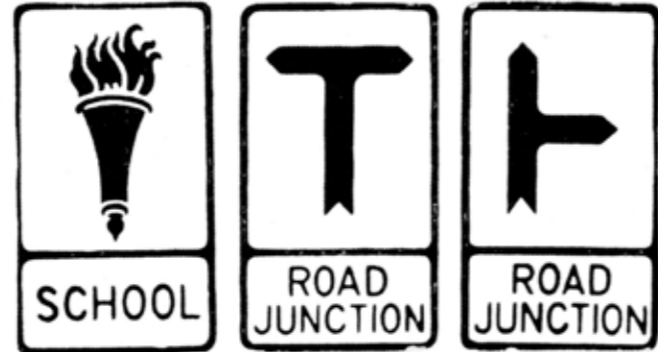
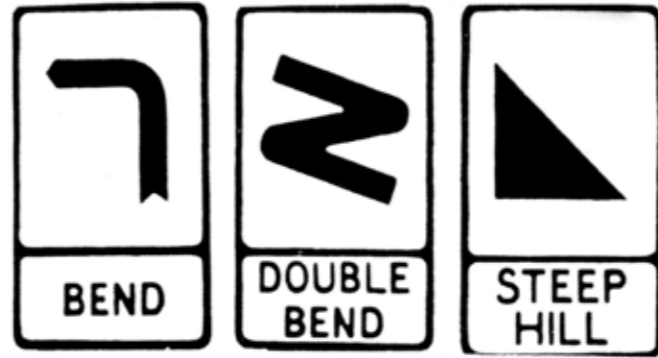
# ROAD SIGNS

ROAD SIGNS IN Singapore follow the recommendations set out by the United Nations Protocol on Road Signs and Signals. This allows for signs in Singapore to be similar to road signs around the world.

Singapore does have its own unique road signs though. For example, Singapore has Silver Zones, areas with a high percentage of elderly pedestrians. A specific sign was designed to warn motorists that they are entering the Silver Zone. Another Singapore-specific sign shows an umbrella and an arrow. This indicates a rain shelter for motorcyclists, typically under a bridge, in the direction of the arrow.

Interesting, while the state is now in charge of putting up road signs, this was not always the case. In 1912, the Singapore Automobile Club, a predecessor to the Automobile Association of Singapore, proposed to put up signs in the city to warn motorists about dangerous corners. The Municipality agreed to put up the signs if the club agreed to pay for the posts, the club being deemed "too wealthy". The club did indeed pay for the signs.

Road signs used in the Singapore, reproduced from a booklet produced by the Automobile Association before the War.





In the 1920s, the club put up 50 concrete reinforced signposts around Singapore which were modelled after those used in Selangor to warn motorists about “crossroads”, “schools”, “level crossings”, “double corners” and “steep hills”. It was praised by the local papers for its efforts.

The Automobile Association was involved in putting up road signs in the decades before and after the war. In 1958, for example, it put up 52 direction signs around Singapore to help motorists get around. It also put up flood signs to warn motorists to avoid flooded roads.

After Singapore became independent in 1965, the state became stronger (and wealthier) and there was less need for organisations such as the AA to provide services like putting up signs that is the usual province of a municipal authority or government department.



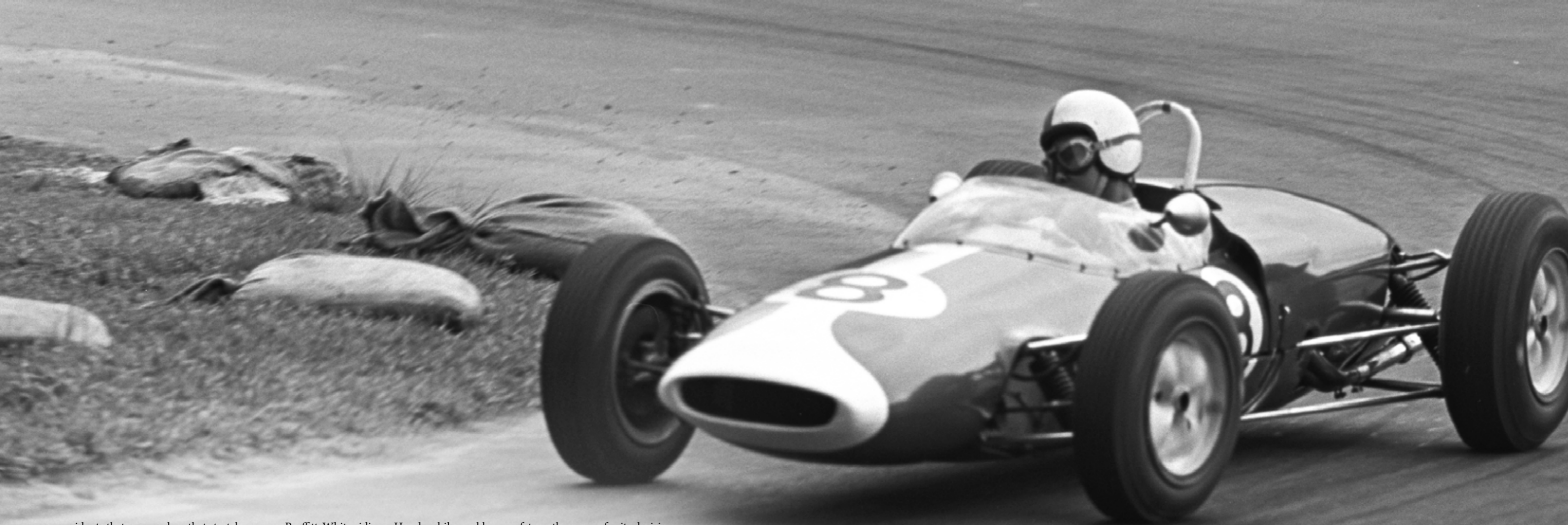
## SINGAPORE GRAND PRIX (THOMSON ROAD CIRCUIT)

WHEN PEOPLE THINK of professional motor racing in Singapore today, they think of the Formula One races that take place on the Marina Bay Circuit in September. However, the very first Grand Prix to be held in Singapore was actually held in 1961, on September 16 and 17 to be precise.

Back then, it was known as the Orient Year Grand Prix and it was organised by the Singapore Motor Club (SMC) and sponsored by the Ministry of Culture. It was one of a number of activities designed to draw tourists to Singapore.

Like today's Grand Prix, the race in

1961 was held on the streets of Singapore, specifically along old and new Upper Thomson Road. The circuit was a challenging one. Some three miles (4.8km) long, it started at Upper Thomson Road and involved driving through what became known as Murder Mile for the many



accidents that occurred on that stretch. Among other things, drivers also had to negotiate a series of four bends known as the Snakes, followed by a V-bend known as Devil's Bend.

One unique aspect of the race was that it was the first grand prix to have races for both cars and motorcycles. In addition, it was a Formula Libre format which allows different types and makes of cars to race head-to-head. The motorcycle event was won by Royal Air Force technician Chris "Prof"

Proffitt-White riding a Honda while a rubber planter from Pahang named Ian Barnwell rode home to victory in the car event in his Aston Martin DB3S.

Over the next decade, the Singapore Grand Prix (as it would become known from 1965) would continue to grow in popularity and there was even talk of building a permanent racing circuit. However, in October 1973, the Government suddenly announced that it was pulling support for the event. Officially, the Government cited

safety as the reason for its decision; over the years, the Grand Prix had claimed seven lives.

For the next 35 years, motor racing in Singapore ceased to exist until the staging of the Formula One SingTel Singapore Grand Prix along a street circuit in Marina Bay in 2008.

The Singapore Grand Prix was where some local drivers made a name for themselves. The 1966 race was won by Lee Han Sengwhile Rodney Seow won the next



year. Other well-known local names include “Fats” Yong Nam Kee and Lim Peng Han. The son of doctor and social reformer Lim Boon Keng, Lim Peng Han not only raced his cars, he built them as well and was one of the first locals to make a name for himself as a race car driver.

Sent to England to read law in 1930, he decided that he preferred cars instead and studied at the Automobile Engineering Training College in London. He began racing in Donington Park and Brooklands between 1930 and 1934, winning a few trophies.

In 1937, he set up a garage in Singapore and started building cars for racing, which he called the LA Special, LA standing for Lim’s Automobile. He began racing in Singapore

and won the Singapore Speed Trial in Farrer Road in 1938. He also came in first place in the Gap Hill Climb in 1939 and 1940.

During the war years, he disassembled his nine racecars to hide them from the Japanese. He buried most of the parts, while the engines were put into old lorries and cars that the Japanese did not think were worth requisitioning. After the war, it took him two years to find and retrieve all the hidden parts. Using those parts, he started building new racecars again.

He continued racing into the 1960s. While he managed to win number of races as well as numerous Fastest Time of Day awards, the one prize which eluded him was the Grand Prix. He died in 2003 at the age of 91.

# SINGAPORE ROAD SAFETY COUNCIL

THE SINGAPORE ROAD SAFETY COUNCIL (SRSC) was set up in 2009 by the Ministry of Home Affairs with the support of the Ministry of Transport. The Council comprises representatives from academia, commercial, industrial and public sectors, including the Traffic Police and the Land Transport Authority.

Since its formation, the SRSC has been actively partnering Traffic Police in road safety campaigns and outreach programmes. The SRSC focussed on mass outreach campaigns which targeted various user groups, such as the Road Safety Outreach and Road Courtesy Campaign for all road users and the Anti-Drink Drive Campaign which targeted drivers who drink.

As the SRSC's presence developed, it also supported international efforts at road safety. For example, in support of the United Nations Decade for Road Safety, the SRSC, together with the Automobile Association of Singapore and Traffic Police, jointly organised a nation-wide campaign called





Safer Roads Singapore in March 2011.

Over time, its public outreach also intensified, both in the scale of the existing programmes and its outreach through collaborations and newer initiatives. In addition, the SRSC has been involved in more and more ad-hoc campaigns and awareness-building initiatives at the request of private sector companies interested in raising road safety awareness and practice through partnering with SRSC, such as with heavy vehicles companies, vehicle inspection centres and insurance companies.

The SRSC is also at the forefront of national initiatives to improve road safety. This includes being a part of the Safer Roads

Industry Taskforce Committee, the Cyclist Education Programme; and the Pedestrian and Cyclist Safety Committee.

As a result of the efforts of organisations such as the Singapore Road Safety Council as well as the Traffic Police and the Land Transport Authority, Singapore's roads are increasingly safer. In 2014, the fatality rate from motor accidents was 2.82 per 100,000, which is higher than cities like Hong Kong (1.8) and Oslo (1.3), but lower than cities like Macao (3.1). There were 149 fatal traffic accidents in Singapore in 2014, and the numbers are on the decline; in 2010, there were 188 fatal accidents (Singapore's fatality rate in 2010 was 3.8).

# SOUTH BUONA VISTA ROAD

SOUTH BUONA VISTA Road links Dover to Pasir Panjang Road and has so many bends that it has been nicknamed 99 Turns. The narrow road runs uphill from Pasir Panjang Road and is thus a popular place for people to test drive new cars. It has been designated a heritage road, thanks to the abundance of mature trees on either side.

South Buona Vista Road was previously known as Gap Road and was the venue of the Gap Hill Climb, an uphill race that ran intermittently from 1927.

The Gap Hill Climb was started by the Straits Settlements Volunteer Force to draw attention to the Motorcycle Platoon. Initially,



9427 The Gap, Singapore





the hill climb was reserved for motorcycles and the course ran for about 1,600 yards, starting about 300 yards from the junction of Pasir Panjang Road.

The Gap Hill Climb ran for three years between 1927 and 1929 before taking a break. It was then restarted in 1939 by the Automobile Association of Malaya, probably because both the chairman (Conrad Oldham) and the vice-chairman (Cpt PK Braid) of the AAM were avid racers. The races of 1939 and 1940 were won by Lim Peng Han. Lim wasn't merely a driver, he also built these cars in his garage. The son Dr Lim Boon Keng, he was also a member of the AAM's Sports Committee.

Naturally, the war put a stop to the Hill Climbs. They were only restarted in 1951, organised this time by the Singapore Motor Club. These ran until 1973.





# ST ANDREW'S ROAD

THE ROAD JUST in front of City Hall is now known as St Andrew's Road, but it was not always known as such. The road was actually known as Esplanade Road until it was renamed in 1907.

The road was renamed because the esplanade, which is defined as an open space beside the sea, was no longer next to Esplanade Road after reclamation work. A new road called New Esplanade Road was built which has since been renamed Connaught Drive. Presumably, rather than have Esplanade Road and New Esplanade Road running next to each other and confusing people, the original Esplanade Road was renamed.

As the road in between two important civic landmarks, City Hall and the Padang, St Andrew's Road has been the scene of a number of recent important historical events.

On September 12, 1945, General

Seishirō Itagaki surrendered to Lord Louis Mountbatten, Supreme Commander of Southeast Asia Command, in what was then known as the Municipal Building. When Prime Minister Lee Kuan Yew declared self-government in 1959, it was done at the steps of City Hall in front of a crowd who occupied the Padang. City Hall was also the venue for the declaration of Singapore's independence in 1963 (as part of Malaysia). In the past, City Hall was also used for the swearing in of Singapore's prime ministers.

A number of National Day parades have also been held here. Parade participants would march down St Andrew's Road in front of the VIP spectators sitting on temporary stands built in front of City Hall.

The City Hall building, together with the former Supreme Court building, has been turned into the National Gallery Singapore, which is slated to open in 2015.

# TAXIS

THERE ARE CURRENTLY six taxi companies in Singapore and a total of about 30,000 taxis on the road today. In addition, there are a few hundred yellow-top taxis that are being driven by owner-drivers but these are slowly being phased out. ComfortDelgro is the largest player in the market; it owns two taxi companies with a combined fleet of about 17,000. While all taxis are metered, each company has slightly different scales for calculating charges depending on the type of car used and the distance travelled.

The earliest mention of a taxi service in Singapore dates back to 1910 when it was reported that C.F.F. Wearne and Co had two (or possibly three) Rovers in the garage being fitted with meters and they were applying for a licence to operate. The rate was 40 cents per mile. It is not known if this service was sufficiently popular because there is little mention of it subsequently.

In late 1920, another taxi service began advertising itself. It was called the Singapore

Taxicab Company and it had a garage at 1, Orchard Road. Again, it is not known if this company managed to last for very long but taxi services certainly continued even if the company did not. One aggrieved letter writer (and regular taxi user) complained about the cost of using a taxi in Singapore in 1924. He described the taxis around Singapore at the time as “ramshackle dilapidated vehicles” and said their tariffs were “absurd and extortionate” given the cost of hiring a car.

In May 1933, Wearne Brothers brought in their first “Yellow Top” taxis and in six months, they had 25 taxis on the road. By late 1934, Wearne had started a new subsidiary called the General Transport Company to run the business, which had 60 cars by then. In 1934, the Straits Times described the yellow-top taxis as a “taxi-cab service which is beyond reproach.” The rate at the time was 20 cents per mile and 10 cents per half mile.

These yellow-top taxis co-existed with





the other existing taxis that were driven by owners or hirers and continued up to the war. Immediately after the end of the Japanese Occupation, taxi services began again. In 1945, the Singapore Hire Car Association was set up to represent the interest of taxi owners. Taxis belonging to this association had a diamond shaped sign with SHCA on them. In the late 1940s, the Taxi Transport Association was formed, presumably as a rival association. These associations were formed to represent the interests of taxi owners in the face of increasing government legislation on things like rates and licensing conditions.

By the mid-1950s, there were about 1,600 licenced taxis on the road, and an estimated 5,000 pirate taxis, or about one in eight private cars, according to the 1956 Hawkins report on transport in Singapore. The pirate taxis were a problem because they took passengers away from licenced taxis

and public buses. Licenced taxis had higher rates because they had a license to pay, and had to upkeep their taxis whereas pirate taxis did not. In addition, pirate taxis did not have proper insurance coverage. Pirate taxis also reduced the profitability of buses which made it difficult for bus companies to invest in upgrading their services.

In 1970, the Government restricted the number of taxi licences to 3,800, mostly to drivers of yellow-top cabs. However, an army of pirate taxis continued to roam Singapore's

streets. While some were driven by owners, many were driven by hirers paying an exorbitant rent to an owner who owned a fleet of cars.

The next year, the Government turned up the heat on pirate taxis, increasing the diesel tax by 100 percent (as most pirate taxis were believed to be diesel-powered vehicles). Pirate taxi drivers could be arrested and their cars impounded.



At the end of 1971, NTUC Comfort, a cooperative started off with a fleet of 1,000 taxis to give pirate taxi drivers a chance to be owners as well.

The co-op was converted into a private limited in 1993 and the owners became hirers as they were bought out by Comfort. Those driving yellow-top taxis were allowed to continue driving as owner-drivers but this scheme is being phased out in favour of companies with taxi operating licences.

Other taxi companies were formed in the wake of Comfort. Bus companies SBS and TIBS started their own taxi companies, as did the Ministry of Defence. Some of these companies have merged while new companies have come in as operators. Apart from Comfort, the other companies now operating are CityCab (also owned by ComfortDelgro), SMRT Taxis, Trans-Cab Services, Premier Taxis and Prime Car Rental & Taxi Services.

# TOA PAYOH FLYOVER



WHILE FLYOVERS ARE NOW COMMON on Singapore roads, they were only introduced in 1970. The very first flyover to be built in Singapore was built in Toa Payoh. Toa Payoh was the first satellite town to be completely planned and built by the Housing and Development Board and the Government was determined that it would have the proper transport infrastructure.

That meant that from the planning stage, the Government wanted to ensure that it would be easy to get in and out of Toa Payoh via Jalan Toa Payoh. A flyover connecting Toa Payoh to Jalan Toa Payoh meant that vehicles could get out of the new town and onto Jalan Toa Payoh (and vice versa) without having to negotiate traffic lights.

Work began on Toa Payoh Flyover in

1968 and it took two years and \$2.7 million to build. Interestingly, soon after working on this flyover, the Government began to build two more flyovers in Toa Payoh, one to link Jalan Toa Payoh to Thomson Road in the west and the other linking Toa Payoh to Braddell Road in the north. As a result, Toa Payoh has the distinction of having three of the first four flyovers ever to be built in Singapore.

On a related note, thanks to the Pan-Island Expressway, much of Jalan Toa Payoh no longer exists. The road has been largely subsumed by the PIE. Today, remnants of Jalan Toa Payoh exists in the vicinity of Potong Pasir, where Jalan Toa Payoh meets Upper Serangoon Road and MacPherson Road.



# TRAFFIC POLICE

THE TRAFFIC BRANCH was formed in 1918, in response to increasing problems on the roads. Proper policing on the roads was much needed and the branch was started with 20 young constables standing at road junctions and doing their best to improve traffic flow.

In 1926, these officers were given traffic wings to help them signal to oncoming

vehicles. The traffic wings were in use until the early 1940s.

In the 1930s, the Traffic Branch formed a mobile squad comprising two cars and eight motorcycles. The Traffic Police set up its first all female mobile squad in 1970. Seven female officers were selected to undergo a two-month training course before they were commissioned as Mobile Squad officers (patrol officers), a task that had, until then, been an exclusive domain of male officers.

The Traffic Branch was based at its headquarters in Maxwell Road for 72 years, before moving to Ubi Avenue 3 in 1999.

Today, the Traffic Police comprises about 500 uniformed officers and 160



non-uniformed officers. The uniformed officers include investigation officers from the investigation branch, patrol officers from the Patrol Unit and officers from the Special Operations Team.

The Patrol Teams are responsible for the day-to-day enforcement of traffic rules and regulations. The Special Operations Team is made up of experienced patrol officers with exceptional riding skills and ground experience. The duties of the Special Operations Team include the enforcement of serious traffic offences and conducting major operations.

In total, the Traffic Police have more than 200 vehicles which include the Volvo S80 2.0T Expressway Patrol cars and the Yamaha Diversion 900cc and Honda VFR 800cc motorbikes.



# TRAINS

MOST PEOPLE TODAY know that the railway line that links up to Peninsula Malaysia used to terminate at Tanjong Pagar Railway Station. However, what is less well-known is that this was not what the line looked like when it first opened.

The original railway line in Singapore started in Tank Road and ran to Woodlands. It consisted of five stations—Tank Road, Newton, Cluny, Bukit Timah and Woodlands. It was opened in two stages, in 1903 and 1904. An extension to the wharves was later completed in 1907. The stations on the line then consisted of Woodlands, Bukit Panjang, Bukit Timah, Holland Road, Cluny Road, Newton, Tank Road, Borneo Wharf and Pasir Panjang. With the completion of

the Causeway in 1923, trains could then start in Singapore and go up to Malaya without needing a ferry to get across the Straits of Johor.

About a decade later, this line was drastically reworked. The opening of the Tanjong Pagar Railway Station in May 1932 marked the opening of the new route or deviation, starting in Tanjong Pagar and going up to Woodlands. The old stations were dismantled and new stations were built along the newly opened line. Apart from Tanjong Pagar Station, the other new stations were Alexandra Halt, Tanglin Station and a new Bukit Timah Station. Interestingly, the new Bukit Timah station was designed to cope with horses as it was foreseen that they







would arrive by train and be transported to the new racecourse in Bukit Timah, then under construction.

In 1965, a six-mile long extension was built from Bukit Timah Station to the Jurong industrial estate but this was not well utilised and was eventually abandoned.

With the development of Singapore's economy, the land around Tanjong Pagar became extremely valuable. At the same time, the development of the transport network (by road, sea and air) made the railway less commercially important. In 1990, Singapore and Malaysia signed an agreement to relocate the terminal station to Bukit Timah to free up the land at Tanjong Pagar.

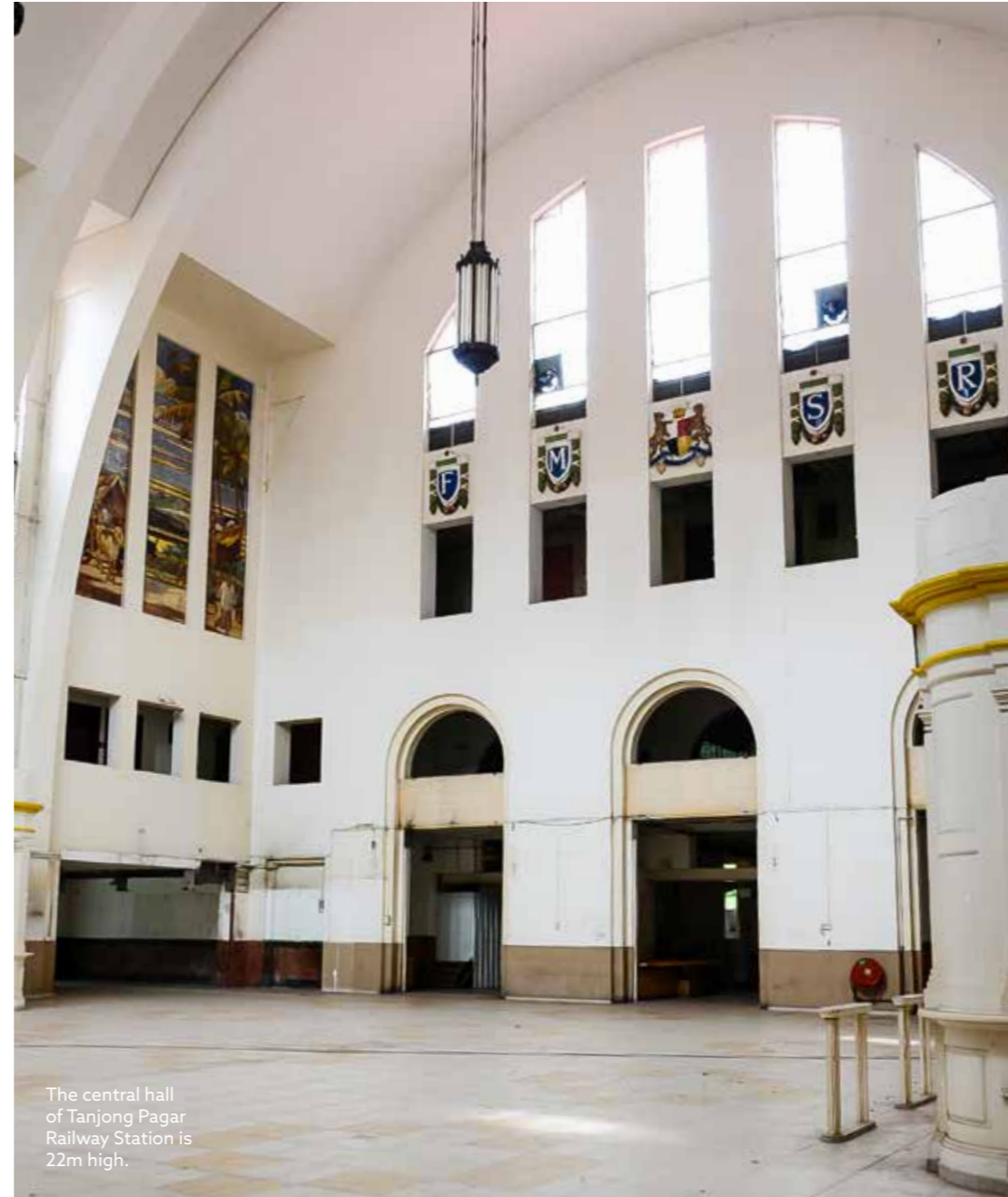
Subsequently however, there was disagreement over where Malaysia's Customs, Immigration and Quarantine



(CIQ) operations would be located. Singapore had built a new CIQ in Woodlands to handle train passengers but Malaysia did not move its CIQ and remained in Tanjong Pagar instead. As a result, between 1998 and 2011, train passengers leaving Singapore ended up being cleared to enter Malaysia at Tanjong Pagar, before being cleared to leave Singapore at Woodlands checkpoint.

In July 2011, Malaysia finally moved to its CIQ to Woodlands and Keretapi Tanah Melayu (the railway operator), moved its southern terminus to Woodlands station. The last train left Tanjong Pagar station on June 30, 2011, was driven by Sultan Ibrahim Ismail of Johor.

Three parcels of railway land in Tanjong Pagar, Kranji and Woodlands, and three pieces of land in Bukit Timah have been



The central hall of Tanjong Pagar Railway Station is 22m high.



Bukit Timah Railway Station today.

exchanged for four land parcels in Marina South and two pieces in the Ophir-Rochor area. M+S Pte Ltd, a 60-40 joint venture between Khazanah National and Temasek Holdings, will develop the six Singapore land parcels.

Tanjong Pagar Railway Station and Bukit Timah Railway Station have been preserved. Bukit Timah station is open to visitors while Tanjong Pagar station is opened on special occasions.

It is not clear what will eventually happen to Tanjong Pagar station but there are obviously plans for it. The building was designed by the well-known firm of Swan & Maclaren and when it opened, it had a bar, a hair salon, a restaurant and a hotel.

Designed in the Art Deco style, it has four large marble sculptures made by Angelo Vannetti, a sculptor from Florence, on the front. These sculptures represent

the four main sectors of the Malayan economy: agriculture, commerce, transport, and industry.

The central hall is 22m high with tall murals lining the interior walls. These murals depict scenes such as rubber tapping, tin mining, rice cultivation, and different modes of transport. There have been calls to turn the old railway station into a museum.

Most of the track between Tanjong Pagar and Woodlands has been removed. Some still remain at Tanjong Pagar station. The line is currently being preserved as a 'green corridor'.

While the line between Tanjong Pagar and Woodlands is the best known rail network in Singapore, it is not the only one. In the 1920s, a four-mile line was built in Changi specifically to service the Changi battery. It is not known when this line was removed.

# TRISHAWS AND RICKSHAWS

TRISHAWS ARE A rare sight in Singapore today. If you do see them around, they are ferrying tourists around the city. However, at one point, the trishaw was an essential means of public transport.

While the first trishaws were brought to Singapore in 1914, the initial batch of 15 trishaws did not last long in Singapore

and they were re-exported to Java. Interest picked up later and in 1936, there were 6,163 registered trishaws in Singapore. During the war, with petrol shortages, trishaws undoubtedly were given a boost.

Many of the early trishaw riders were men from the Henghua, Hokchia and Hokkien dialect groups. They were

latecomers to Singapore and thus had to take up the new trade of riding a trishaw as the other trades were taken up by earlier immigrants. Rickshaws pullers and former coolies too old to carry heavy loads also became trishaw riders. In the post-war years, trishaws in Singapore were locally made using standard bicycle frames. Their dimensions were standardised by the Municipal Commission in the 1940s. The commission also fixed the rate for trishaw riders at 20 cents per half mile or \$1.50 per hour.

The government began restricting trishaws in the late 1940s. In 1948, it stopped new trishaws from being registered. The next year, it limited the maximum number of trishaw riders to 9,000 and the number of trishaws to 7,900. This was further reduced to 4,820 trishaws and 5,175 riders in 1954.

The combination of government legislation and competition from buses and taxis eventually led to the decline of



the trishaw. The clearance of urban slums also reduced their customer base. Over the decades, the number of riders have dropped and there are currently about 31 riders who have the Trishaw Riders Vocational License. The government has stopped issuing these licenses since September 2001 and so trishaws are likely to vanish from our roads soon.

Trishaws, now going extinct, were themselves a contributing cause of the extinction of their predecessor, the rickshaw

or jinrikisha. The rickshaw was introduced into Singapore in the 1880s, and it competed successfully against the two-wheeled horse carriages of the time. By 1893, there were around 13,000 rickshaws in Singapore.

Initially, Singapore's rickshaws were double-seaters unlike the single-seaters in Hong Kong. This is because roads here are less hilly than in Hong Kong, making it possible for one man to pull two people. However, the early rickshaws were not particularly comfortable as they had

iron wheels. In 1904, better single-seater rickshaws were introduced with "Indian rubber-cushion-tyre wheels" and by 1919, the older rickshaws were displaced.

In the early 1920s, there were close to 30,000 rickshaws in Singapore. However, from 1924, the number began to decline until there were just 3,700 licensed rickshaws remained in 1939. The numbers began dropping because the government deliberately began a policy of removing rickshaws from the road. New licences



were no longer issued from 1924, and over the next few years, the Rickshaw Department continued to deliberately cull older rickshaws. They were able to do this because alternative forms of transport such as trishaws, buses, and taxis now existed which were faster and relatively safer than rickshaws. Rickshaws were finally banned in Singapore in 1947.

Rickshaws did leave a permanent imprint on the Singapore landscape though. Because there were so many rickshaws around Singapore in the late 19th century, the Jinrikisha Station was built in 1903 as a depot for rickshaws and a place to register new rickshaws and inspect old ones. After rickshaws were banned, the building was used as a family planning clinic as well as a maternal and childcare centre.

# VINTAGE CARS

Malaysia and Singapore



Vintage Car Register

VINTAGE CAR OWNERS are represented in Singapore by the Malaysia & Singapore Vintage Car Register. The MSVCR was founded in Malacca in 1955 as the Malayan Vintage Car Register by a group of keen enthusiasts. Now 60 years old, the Register continues to bring together vintage car enthusiasts and encourages the use, restoration and preservation of period cars and motorcycles.

For historic reasons associated with the events of the Second World War, the definition of “vintage” in the region has generally been held to refer to pre-1940 vehicles. However, over the years, the interests of members have expanded to vehicles from more modern times — the “classics” covering the 1940s through to the early 1980s.

One of the founding Associate Members of the Federation Internationale des Vehicules Anciens (FIVA) in the 1960s, the MSVCR is FIVA’s National Authority in

Singapore and Malaysia, and is registered for motor sport with the respective governing national bodies — the Singapore Motor Sports Association and the Automobile Association of Malaysia.

Apart from regular Club activities for members, the Register also organises competitive events such as circuit racing at the Pasir Gudang and Sepang race tracks, rallies in rubber estates to highly polished Concours d’Elegance and key social initiatives in support of local causes and charity events. Some events, such as the Vintage Equator Run, have attracted international participation. Some of the club’s more adventurous members have also taken part in international events such as the Mille Miglia in Italy, the Beijing to Paris Rally and more recently, the 21 Gun Salute International Rally in India.

It is a relatively small club with 120

members in Singapore and over 200 who used to live in Singapore but are now based elsewhere. While some members use their vintage cars every day, others do not even own an old car. The common characteristic is that these members are all enthusiasts of period vehicles.



This Triumph Spitfire is an original Singapore registered sports car that was built in 1965.

# PHOTO CREDITS

## **BMW Asia**

55. *Electric cars*

## **Malaysia & Singapore Vintage Car Register**

154. *Vintage cars*

## **Ministry of Information and the Arts Collection, Courtesy of the National Archives of Singapore**

84. *Market Street Carpark*

104. *Park-And-Ride*

118, 120, 122. *Singapore Grand Prix (Thomson  
Road Circuit)*

## **Mohd Ferdaus, Pixel Gallery Pte Ltd**

3. *Anderson Bridge*

16. *Benjamin Sheares Bridge*

37. *Causeway*

41. *Cavenagh Bridge*

88, 90, 91. *MRT and LRT*

105. *Park-And-Ride*

113. *Revised Off-Peak Car Scheme*

117. *Road signs*

127. *Singapore Road Safety Council*

133. *St Andrew's Road*

100. *Orchard Road*

113. *Revised Off-Peak Car Scheme*

## **Mrs Lina Chiam**

46. *Chiam See Tong*

## **National Archives of Singapore**

24, 26, 27. *Buses*

69. *Fort Canning Tunnel*

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