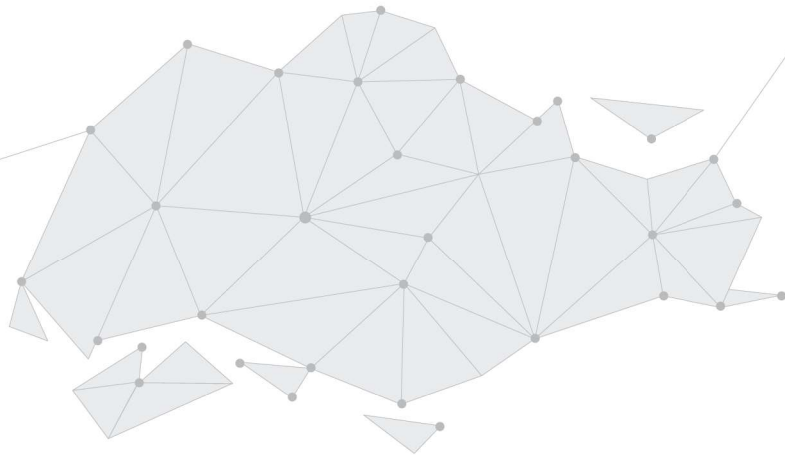


OPERATIONS REVIEW



PUBLIC TRANSPORT SERVICES

BASIC BUS SERVICES • CHINATOWN DIRECT BUS SERVICES
EXPRESS BUS SERVICES • NITE OWL BUS SERVICES
CITY DIRECT BUS SERVICES • NORTH EAST LINE
DOWNTOWN LINE • SENGKANG LIGHT RAIL TRANSIT SYSTEM
PUNGGOL LIGHT RAIL TRANSIT SYSTEM

1,383.3
REVENUE
(\$' MILLION)

10,916
TOTAL NUMBER OF
EMPLOYEES

3,512
TOTAL BUS FLEET

223
TOTAL BUS ROUTES
OPERATED

78
TOTAL STATIONS
IN OPERATION

192
TOTAL TRAIN FLEET

BUS SERVICES

SBS Transit maintained its pole position in Singapore's public bus industry with a market share of 61.1%. In 2019, we managed 223 bus routes – one more than in 2018 – and operated about 31,000 trips a day. Our fleet of 3,512 buses are garaged at seven bus depots and a bus park, and operated from 17 bus interchanges and 14 bus terminals.

With the Land Transport Authority (LTA) as the central planner of bus routes, we rolled out six short trip bus services – Services 33B, 116A, 117A, 117B, 137A and 163A – to provide commuters in the heartlands with greater convenience as they made transfers to and from the MRT stations.

Five bus routes – Services 102, 117, 145, 155 and 163 – also called at additional bus stops along their regular routes to better serve commuters' travel needs. For instance, Service 117 started to call at the newly installed bus stops outside the North-South Line's Canberra MRT Station when it started passenger service in November 2019.

Three bus routes – Services 5, 80 and 101 – were amended to better serve commuters in their respective neighbourhoods while another four services – Services 52, 74, 93 and 852 – had their routes altered to ply the north-bound Lornie Highway, just as they have been doing in the opposite direction since 2018.

For resource optimisation, Service 402 merged with Service 400 and continued to serve the Shenton Way and Marina Barrage areas. The route of the merged Service 400 was also extended to call at the Marina Bay Cruise Centre, which had been previously served by Service 402.

In 2019, we took over the operation of two City Direct Bus Services – Services 660 and 654 – from private bus operators. Under our management, we were able to deploy double deck buses, when required, to cater to increased demand. These services ferry commuters from their homes to the Central Business District (CBD) during the morning peak hours, and again in the evenings in the other direction. These services make minimal stops and use expressways to shorten the travel time.

Catering to our commuters' needs for late night services, we extended the operational hours of selected bus routes on the eve



island with ST Engineering. Visitors on the island could book a shuttle ride on any of the four autonomous buses to get to popular destinations along the seven stops on their 5.7km route. Available as an on-demand service, the autonomous vehicles (AVs) operated on weekdays with our Bus Captains on board serving as safety operators. Prior to this, our Bus Captains were trained to take over the operation of the AVs in case of emergencies. They had gained more than a year of experience through operating trial trips which started in June 2018. The vehicles, which have a maximum capacity of 11 passengers each, were equipped with various technologies, including Lidar (light detection and ranging) and global positioning systems. They were supported by ST Engineering's autonomous vehicle management system which analysed passenger demand and optimised route management.

In addition to the Sentosa AV trial, we are also operating an AV trial in Jurong Island with ST Engineering. Unlike the vehicles used on Sentosa, the AVs on Jurong Island are 12-metre long, similar in length to a public bus. Our Bus Captains also serve as safety operators onboard in this on-going trial.

The inaugural On-Demand Public Bus Services trial, where we operated five bus routes – three in the Joo Koon area and two in the Marina-Downtown area – for the LTA ended in June 2019. Conducted during off-peak hours on weekdays, commuters could book a ride with an app and request to be picked up and dropped off at any bus stop within the defined areas, even if the services did not normally stop at a certain bus stop on their regular routes. Upon the conclusion of the trial, the LTA announced that such bus services, which were based on real-time commuter demand and along dynamic routes, were not cost-effective due to the high technology costs required to scale them up. The three Joo Koon bus services – Services 253, 255 and 257 – thereafter resumed their regular pre-trial schedules while the two Marina-Downtown bus services – Services 400 and 402 – merged.

Our Yio Chu Kang Bus Interchange received a facelift with major expansion and upgrading works undertaken in two phases by the LTA. The expansion works, which

of public holidays and major events such as the Singapore Grand Prix.

On religious occasions when families paid respect to their departed loved ones, we made it more convenient for them to visit the Choa Chu Kang Cemeteries and Columbarium with a special bus service, Service 405.

As part of the public transport community, we also supported SMRT, another public transport operator, when it conducted engineering works on its North-South Line and East-West Line which resulted in the early closure of several stations on selected Fridays and weekends. We operated shuttle buses in partnership with SMRT and the LTA and even extended the operational hours of 14 bus routes to enable passengers to get to their destinations with the early closure of affected stations.

To ensure that our bus services continued to operate reliably when roads were closed to facilitate races and events, we planned ahead and performed temporary route diversions for affected services. In 2019, we planned and conducted close to 70 temporary route diversions for our bus services. Besides these, ad-hoc diversions

were also conducted whenever our buses were unable to travel on their regular routes due to situations like flooding and accidents.

In 2019, under the Bus Contracting Model, we took delivery of 54 buses from the LTA which increased our total fleet by 1.2% to 3,512 compared to the previous year. Our fleet comprised 56.2% single deck buses, 43.6% double decks and the rest or 10 of them articulated buses. Our fleet of double deck buses, which catered to bus services with higher demand, increased slightly by 33 or about 2.2% compared to 2018. The number of wheelchair accessible buses also increased to 98.6% from 98.2% in 2018 to support the 223 bus services we have – all of which are wheelchair-accessible.

As part of our environmentally friendly efforts, we conducted a six-month trial of 25 diesel hybrid buses for the LTA. These diesel-electric buses were deployed on three bus services – Services 59, 93 and 272 – and continued to be operated on these routes after the trial ended.

A major highlight in 2019 was our active involvement in the three-month long public trial of driverless buses on Sentosa

commenced in December 2017, were completed just before the last quarter of 2019. We shifted our operations and the boarding berths of our seven services progressively to the expanded site and are now operating from the expanded interchange with a new lobby and an air-conditioned canteen. The enhanced features included improved boarding points at each berth and graduated kerb edges to facilitate boarding by passengers-in-wheelchairs, barrier-free alighting areas, priority queue zones with seats, a nursing room and barrier-free toilets to cater to the needs of the elderly, less mobile and families with young children. There are also 150 bicycle parking lots to facilitate active mobility and first-and-last-mile connectivity to encourage more commuters to "Walk-Cycle-Ride". Meanwhile, upgrading works on the existing interchange is continuing and this is expected to be completed in 2021. By then, the size of the bus interchange will be more than three times the original and will measure about 16,200 square metres.

Fourteen of our bus services also shifted operation to the new Yishun Integrated Transport Hub which is managed by SMRT. With the new location, the routes of these services were slightly amended with some bus stop changes.

In the area of safety, we maintained our accident rate of 0.12 per 100,000 km, similar to that of 2018's. Besides instituting safety protocols, policies and procedures, we continued to invest in training and technology to help our Bus Captains to be safer drivers. With our entire fleet now fitted with Mobileye, which is an advanced driver assistance system that alerts Bus Captains to an impending collision, the number of head-to-rear accidents has dropped. We are also working with the LTA to install a blinker light sensor system on selected parking lots in our interchanges to reduce the risk of collision by alerting Bus Captains to other reversing or oncoming buses. To-date, five interchanges have been fitted with this system.

In contingency planning, we conducted four disruption exercises to review and validate our Business Continuity Plans.

This is to ensure that we can continue to operate our bus services with minimal disruption to minimise inconvenience for commuters. In 2019, the exercises were held at the Ulu Pandan and Ang Mo Kio Bus Depots and the Eunos and Tampines Bus Interchanges.

We also set up a new department – Future Systems and Technology – to drive innovation in our bus operations and maintenance and enhance work efficiency.

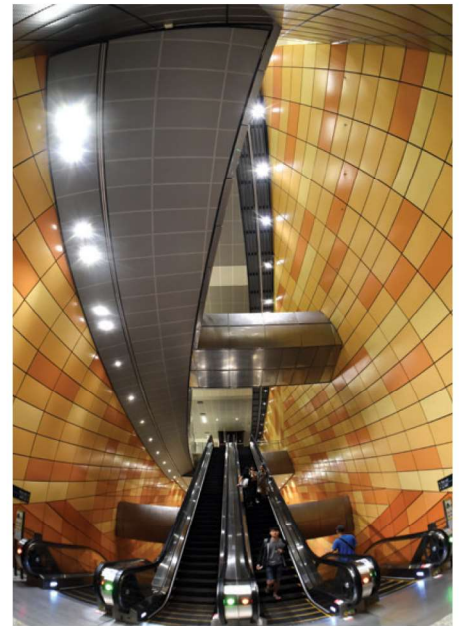
RAIL SERVICES

Demand for our rail services continued to grow albeit at a modest rate of 3.9% with an average daily ridership of 1.22 million in 2019. On the 42-km long Downtown Line (DTL), annual ridership increased by 6.0% to 174 million while demand on the 17-year-old North East Line (NEL) grew marginally by 1.6% or 3.5 million to 219.3 million. For the 28-station Sengkang Punggol LRT (SPLRT) systems, average daily ridership stood at 140,456 which is 6.7% or 8,873 higher than in 2018.

We now operate a total of 78 stations spanning a distance of 83 km. This translates to a market share of 36.3% of the rail network in Singapore. All stations on our lines are opened for passenger service except for one – Teck Lee – on the Punggol West LRT Loop. It will open in tandem with developments in the area.

To cater to commuters' travel needs on special occasions, we extended our train operational hours such as during the eve of Chinese New Year and other public holidays. We also operated our train services later during major national events such as the Singapore Grand Prix and coordinated our bus service extension hours to ensure commuters could get home from the MRT stations in selected heartlands.

To optimise the use of our rail resources by better matching commuter demand with supply, we extended the headways of our rail services on the NEL and DTL during off-peak hours starting from September 2019. This has helped to reduce wear and tear of our train systems and component parts, thereby lowering maintenance costs.



For the year under review, DTL operated 4,228 weekly trips or 5% fewer when compared to 2018. Trains ran at a frequency of 2.5 minutes during peak hours and 5.5 minutes during off-peak periods. Likewise, NEL operated 4,029 trips a week or 3.2% lower than the previous year with trains arriving at between 2.25 and 2.5 minutes during peak hours and 5.5 minutes during off-peak hours. On the other hand, the SPLRT systems increased the number of trips operated a week by 12.0% or 1,927 to 17,967 to cater to the increase in ridership demand.

To enhance the safety and travel experience of commuters, a new 65-metre long air-conditioned pedestrian underpass at DTL's Stevens Station was opened to the public, providing commuters with a safer access to Dunearn Road and Whitley Road. In particular, students from the nearby schools are now able to use the underpass when walking between their school and the station.

In train service reliability, there was no major disruption on the NEL and DTL in 2019. There were, however, 11 instances of delays – three on the NEL and eight on the DTL – which were 15% lower than the year before. Consequently, NEL achieved an MKBF¹ of 1.38 million train-km while the DTL clocked 1.14 million train-km, both of which exceeded the

1 MKBF stands for Mean Kilometres Between Failure, and is a widely used measure of reliability.

one-million target set for 2020 by the Transport Minister. In particular, NEL exceeded the nationwide MRT network's average of 1.32 million train-km.

On the SPLRT systems, there were six service disruptions in 2019 with each stretching more than 30 minutes long. The SPLRT clocked an MKBF of 251,000 train-km in 2019 compared to the nationwide LRT network's average of 154,000 train-km.

To minimise the recurrence of service delays and disruptions on our rail systems, we have been adopting the "People, Environment, Equipment, Procedures and Organisation" (PEEPO) methodology in our investigations to systematically identify the root and contributory causes that resulted in the incidents. We have since implemented action plans including design enhancements, maintenance improvements and asset renewals on our rail systems and equipment.

Apart from this, we commenced work on an Integrated Maintenance Diagnostics Centre (IMDC) at the NEL depot that will enable us to proactively monitor the condition of train systems to pre-empt faults. In 2019, we completed the installation of the physical and communication infrastructure and integrated the various condition-monitoring equipment. Works will continue with the development of a fault anomaly detection engine using data analytics. When completed, we expect to improve our ability to pre-empt faults. For example we can pre-emptively withdraw a train if there are early signs of deterioration in the transmission of signals between the train and the signalling system. The DTL depot in Gali Batu will also set up its own IMDC by 2021.

In contingency planning, we continued to conduct simulated rail disruption exercises to review and validate our emergency response preparedness plans. "Exercise Endeavour" was held in September 2019 after passenger service hours at the DTL Hillview Station while "Exercise Harmony" was conducted in March 2019 at the NEL Dhoby Ghaut Station. The SPLRT organised "Exercise Pinnacle" at Renjong Station on the Sengkang West Loop in December 2019.

Meanwhile, our staff continued to be systematically trained to assist commuters

at the stations during emergency situations. Training programmes for these Passenger Service Team members, who number about 800, are conducted regularly throughout the year.

To further improve rail reliability on the NEL, which is a 17-year-old line, we continued to conduct intensified preventive maintenance works. The works covered part of the power system and platform screen doors, rail crossings, signalling point machines and tracks. These works, which commenced in 2018, were done during extended engineering hours. As a result, stations along the affected sectors had to close earlier at about 11.00pm on selected Friday and Saturday evenings from January to March, and in July and November 2019. To minimise inconvenience for commuters, shuttle bus services were operated during the disruption hours.

Concurrently, upgrading works commenced for the mid-life refurbishment of the 25 first-generation NEL trains. This multi-year programme is expected to be completed in 2024 and will involve the installation of a new condition monitoring system which will provide early warning of impending faults for preventive action to be taken. It will also include an upgrade of the air-conditioning and passenger information systems and replacement of train interior fittings.

Between mid-June and October 2019, the SPLRT also carried out asset renewal and maintenance works with passenger service starting later on one platform on affected loops on selected Sundays. This, however, had minimal impact on commuters as train services remained available on the other platform. For the affected Sundays, asset renewal works were conducted on the viaduct bearings, signalling cables, power rails as well as the stations' Public Announcement systems while maintenance works were conducted on the concrete plinths. These plinths need resurfacing due to wear-and-tear over time and maintaining them well ensures that we can continue to provide commuters with smooth rides.

Besides performing maintenance works, we also reviewed the productivity and efficiency of our work processes by setting up a new department to drive process re-engineering. This new Rail Development department is also tasked to look out for new technologies to further improve rail reliability.

Driven towards achieving rail excellence, we continued to learn and adopt best practices from experienced railway operators from around the world. We held our annual forum with the Taipei Rapid Transit Corporation (TRTC) which manages Taipei Metro, one of the most reliable MRT systems in the world. Conducted in October 2019, the forum focussed on track access management policies and practices, station security related mechanisms and practices, as well as asset replacement strategy for the power supply system. This is the second in the series since we signed an MOU with TRTC in 2018 to leverage on each other's skills and experiences in operations, maintenance and engineering.

Two other MOUs – one with France's RATP Dev and the other with Japan's JR East – were also signed and study visits and training stints will ensue.

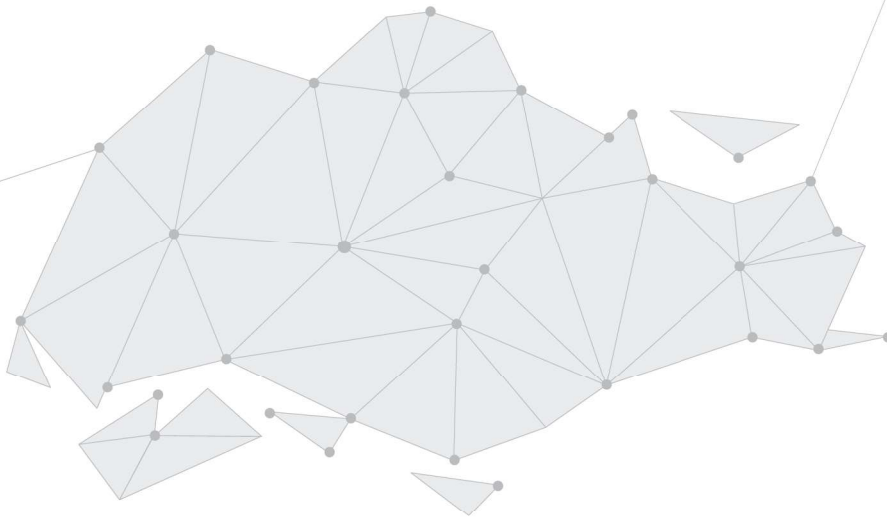
Locally, we joined hands with SMRT to sign an MOU with ST Engineering to collaborate and develop engineering capabilities for rail operations and maintenance, and address technology gaps faced by the local industry. One such area identified was that of electronic cards, which are critical components of our MRT trains and signalling systems. Since 2017, we have been working with ST Engineering to service our faulty electronic cards instead of sending them back to their manufacturers overseas. This has saved us travel time, costs and also decreased downtime for repair work. With this collaboration, we are able to synergise the expertise, resources and new technologies of our partners in a cost-effective manner.

Our efforts towards rail excellence did not go unnoticed by the LTA which awarded our NEL and DTL the top two spots respectively in the "Best Land Transport Operations and Maintenance Initiative" category at the 2019 Land Transport Excellence Award.

We also played host to governments and other operators who visited us to learn more about our rail experience and best practices. They included the Norwegian Transport Minister, VicTrack which owns all the transport land, assets and infrastructure in Victoria, Australia, Laos Ministry of Public Works and a Penang State delegation.

OTHER COMMERCIAL SERVICES

BUS ADVERTISING • IN-TRAIN ADVERTISING
BUS HUB ADVERTISING • TRAIN STATION ADVERTISING
SHOP SPACE • ROAD SHOW SPACE

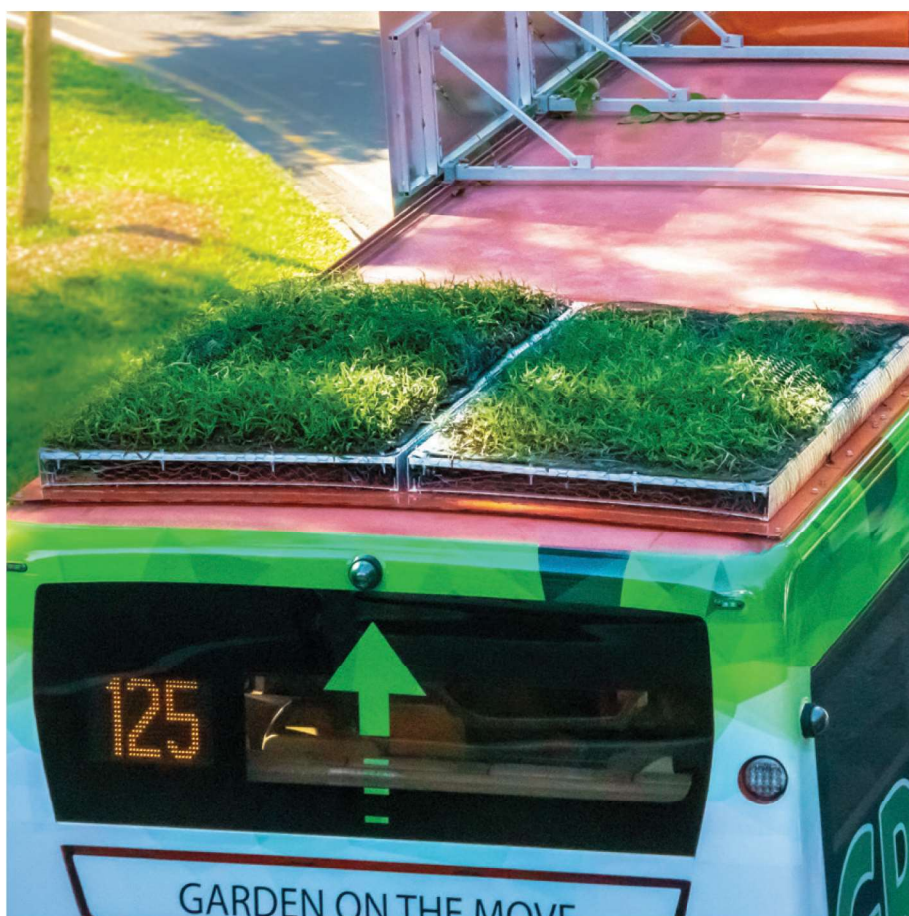
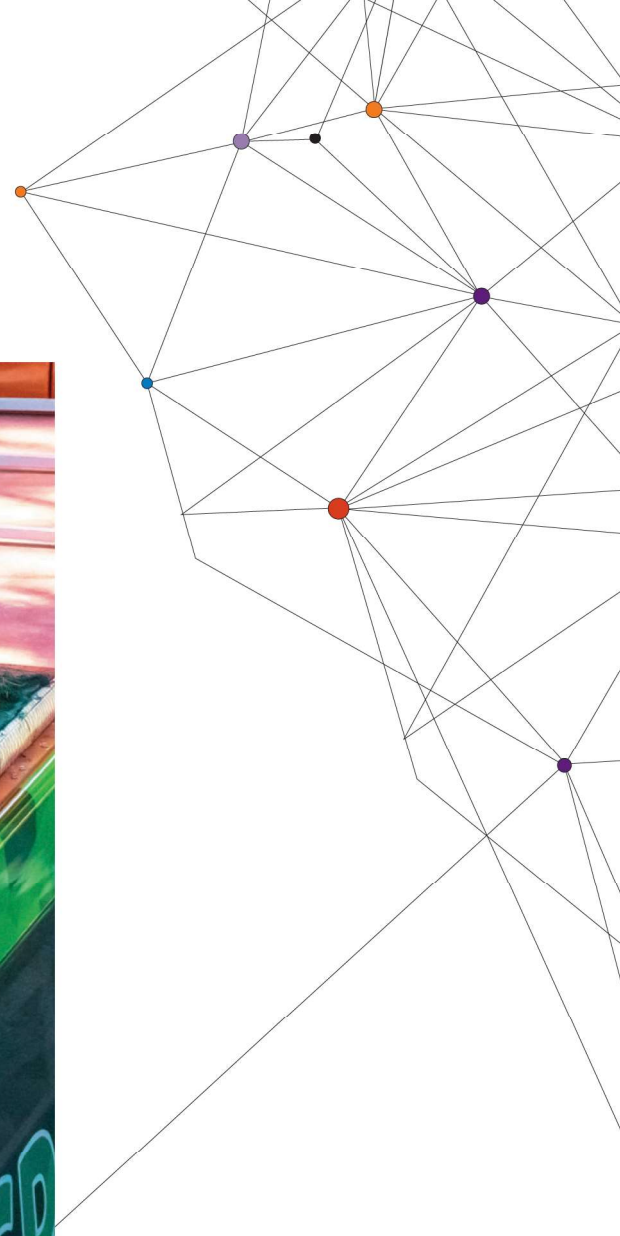


ADVERTISING

Moove Media, our sister company, continued to develop innovative campaigns for advertisers that drew the attention of commuters and the public alike. With its extensive portfolio of advertisements on our buses and trains, as well as at our train stations and bus interchanges, Moove Media has managed to inject colour and cheer to our various modes of public transport.

For the Formula One Singapore Grand Prix publicity campaign, Moove Media came up with a bold and innovative idea to employ lighting technology using LumiWerkz to recreate the captivating night race visual experience. The campaign, which was an industry first, featured illuminated three-dimensional race car models. These displays accurately depicted body designs of F1 car models and were spray-painted with LumiWerkz,





which uses an electroluminescent coating system. At night, the car models, which were mounted on the roofs of our buses, lit up.

Moove Media also launched Singapore's first public buses with green 'roofs' to great media fanfare. Another first, it was specially created for a study by GWS Living Art, an urban greenery specialist, which had the support of the National Parks Board, Singapore Green Building Council and Temasek Foundation. The initiative aimed to find out if the green 'roofs' lowered temperatures inside the buses and helped reduce fuel consumption. Using a special soil-less system, plots of grass were installed atop 10 buses that operated all over the island over a period of three months.

Throughout the year, the interiors of the trains on the NEL and DTL were given

makeovers to increase awareness of consumer products and services. There was the Ben and Jerry's ice cream campaign, a cyber security campaign and a graciousness campaign. One of the more popular ones was Dynasty Travel's tour package campaign where train interiors were decorated with picturesque sceneries of various countries and interesting landmarks to entice travel. For major festivals such as Christmas and Deepavali, the team in collaboration with the Land Transport Authority decorated our trains and buses with festive themes and icons.

RENTAL OF COMMERCIAL SPACES

In 2019, we leased close to 97% of our commercial space at our bus interchanges and train stations. Tenants included convenience stores, food and beverage outlets and beauty and wellness clinics and salons.

To support our rental customers and promote environmentally green practices, we organised a campaign where commuters could redeem a set of reusable straws when they hit a minimum spend at participating shops on our premises. For the Lunar New Year, we engaged the 'God of Fortune' and during Christmas, Santa Claus, to meet and greet commuters who patronised the shops as well as to spread festive cheer and well wishes on our premises.