# **Safety First**

Safety is an integral part of our business and is accorded the highest priority in all our activities. We embed safety standards into our daily operations, sparing no effort in enhancing the safety of our bus services.





Good Health and Well-Being

## **Safety Policy**

The KMB and LWB Safety Policy embodies our commitment to ensuring the health and safety of our employees as we strive to provide a safe environment and optimal working conditions across all business activities. All our employees are required to comply with all legal requirements applicable to our operations, as well as our own standards. We regularly consult employees and stakeholders to identify opportunities for improving our safety management system.



### **Safety Committees**

To facilitate internal communication on safety and health information, including risks, trends and the Company's safety policy, we have established various safety committees across all aspects of our business. These committees comprise employees from various levels, from frontline staff to management. They meet regularly to discuss safety matters and identify areas for improvement.

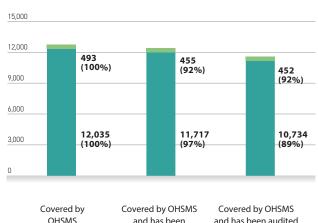
### **Safety Management**

We are committed to achieving a high level of health and safety performance. While compliance with legal requirements and our in-house safety rules serves as our minimum performance standard, we remain diligent in improving our safety performance across all aspects of our business, including bus maintenance and design upgrades. To support this commitment, we employ the Plan-Do-Check-Act management to drive continuous improvement in safety. Our efforts are further reinforced by the KMB Occupational Health and Safety Management System, which is certified to the ISO 45001.

To ensure that our working environment and staff performance consistently meet our standards, we conduct regular safety inspections and audits to identify areas for improvement, review our safety management system based on the findings, and investigate any safety inspections. We also assess potential risks associated with work tasks, formulate appropriate safety measures, and implement them to minimise risks.

### **Safety Statistics**

The number and the percentage of staff and workers covered by our Occupational Health and Safety Management System ("OHSMS") are shown in the table below:



#### KMB, LWB, Sun Bus and NHKB

No. of employees
No. of workers

Covered by OHSMS and has been internally audited covered by OHSMS and has been audited and certified by an external party



▲ KMB and LWB's professional and reliable maintenance team ensures the fleet is in optimal condition, enabling the provision of high-quality, safe, and efficient bus services to the public



▲ Debuted in 2023, the Preventive Maintenance System remotely monitors the performance of various bus systems and components, enabling engineers to perform proactive maintenance in advance, as needed, effectively harnessing technology to enhance bus safety

### **Bus Safety Facilities and Maintenance**

Various technological devices, including speed-limiting devices and telematics systems, have been installed on buses to improve safety and record operational data. All KMB and LWB buses adhere to an ISO-certified maintenance regime which includes daily and monthly servicing, a semi-annual minor dock and an annual road-worthiness inspection, and spot checks by the Transport Department of the Hong Kong SAR Government.

## Latest Bus Safety Measures Preventive Maintenance System

A Preventive Maintenance System is in place to enhance the safety and reliability of our bus fleet. Real-time data from various systems (transmission, battery, engine, cooling system and brake pressure) are sent to a backend server, where they are automatically analysed to identify potential issues. When necessary, immediate action is taken to prevent on-road breakdowns, with an ultimate goal of improving safety and minimising the impact on passengers.

## **GST Safety & Eco Driving System**

The GST System is a safety and eco-driving tool that evaluates driving performance and calculates engine idling time for each bus trip. Its goal is to encourage bus captains to improve their driving skills and habits. The driver feedback unit on the dashboard sends real-time audio and visual alerts to the bus captain whenever a driving behaviour requires attention or immediate correction in five key areas: cornering, braking, acceleration, pedal control and speeding. In addition to receiving instant feedback on his/her driving behaviour, the bus captain can also review his/her performance via the "GST Driver" app. The app clearly displays the time, date and location of any improper driving behaviour, along with the duration and location of engine idling.

A blackspot database was added to the "GST Driver" app in 2024. Bus captains are required to visit the "Blackspot" page via the popup tab during their first login each month. The database covers four of the five key driving aspects: cornering, braking, accelerating and speeding, as well as idling.

In 2024, the GST system also began using data from the first half of the month to predict the final safety scores for bus captains. By the middle of each month, a "predictive behaviour" analysis is available, showing not only the actual scores but also their trends. The predicted scores can help identify bus captains likely to exceed limits by month-end, as well as those at higher risk, through an automated report. This enables us to pinpoint bus captains in need of further training and monitoring. The "GST Driver" app will send notifications to any bus captains identified in these categories.

KMB and LWB has established a reward scheme to recognise bus captains with outstanding safety performance and eco-driving practices. The reward scheme is well-received by bus captains, who compete among themselves for a better ranking in their home depot and are eager to learn from those with high scores.



▲ Bus captains can review their performance through the GST system to improve their driving skills, while KMB Academy instructors use it to analyse challenges faced by trainees and tailor solutions to enhance their driving techniques

#### Driving Monitoring System ("DMS")

This monitoring device, mounted on the dashboard, uses image processing and advanced facial recognition technology to assess driver alertness. Early audio alerts

and vibration warnings will be triggered and sent through the bus captain's signs of fatigue or other abnormality, such as drowsiness, are detected.



#### Electronic Stability Programme ("ESP")

The ESP is a crucial safety feature that helps prevent a bus from skidding or overturning while cornering or operating on slippery road surfaces.



# Advanced Driver Assistance System ("ADAS")

The device, installed on the lower front windscreen, uses image-processing technology to detect road obstacles

ahead and calculate their distance. Early audio alerts and vibration warnings will be triggered when unsafe conditions are detected, such as when a collision is predicted, unless action is taken.



### Speed Limiting Retarder ("SLR")

SLR enhances the speed limiters of our fleets by automatically activating the brakes or retarder to prevent speeding when travelling

downhill. The current speed limiters cut off the fuel supply to the engine once the speed limit is reached.



#### **Safety Belts**

KMB and LWB have requested that bus manufacturers install 3-point safety belts on all seats as a standard feature for new buses, while Sun Bus has

2-point safety belts installed across its new fleet. Meanwhile, KMB has been retrofitting safety belts on some existing buses to provide better protection for passengers.



#### Tyre Pressure Monitoring System ("TPMS")

TPMS is installed to allow bus captains to monitor tyre pressure in real-time. Visual and audio alerts will be triggered if the tyre pressure drops below a pre-set level. The majority of our bus fleet is equipped with this safety feature.



#### **AI Reversing Camera**

In mid-2024, NHKB ("Huang Bus") launched a pilot programme to enhance service quality and driving safety by installing and testing AI reversing cameras on all buses. The AI cameras feature automatic recognition of human shapes, animals and vehicles, including bicycles and motorcycles, and provide real-time visual and audio alerts to assist bus captains during reversing.





▲ Featuring various bus component models, the Technical Training Workshop at KMB Academy offers comprehensive training for students in the "Certificate in Bus Maintenance" programme

#### **KMB** Academy

KMB established the KMB Academy ("the Academy") in January 2022 with the aim of nurturing talent for the bus industry. The Academy provides professional and comprehensive training programmes for franchised bus maintenance personnel and bus captains. In 2023, two new training programmes, the "Certificate in Continuing Development for In-service Bus Captains" and the "Professional Certificate for Instructors in the Franchised Bus Industry" were recognised at Level Three and Level Four, respectively, under the Qualifications Framework ("HKQF") by the Hong Kong Council for Accreditation of Academic and Vocational Qualifications. The number of HKQF programmes in the KMB Academy now totals four.

The "Certificate in Bus Maintenance" at HKQF Level Two for franchised bus maintenance personnel provides knowledge of mechanical operation and industrial safety. Students will also undergo basic technical training, covering engine, drivetrain, chassis, electrical systems, and air-conditioning, with on-the-job training available at KMB and LWB depots. In addition to the HKQF Level Two accreditation, graduates will also receive professional bus maintenance certificates recognised by two European bus manufacturing giants, Alexander Dennis Ltd and Volvo Buses, qualifying them as semi-skilled workers with a clear progression path through further training. The "Certificate in Public Bus (Franchised) Driving Training" at HKQF Level Three is designed to build safety awareness, bus manoeuvring skills, and knowledge of bus routes and bus types. In addition to driving, students will also receive training in customer service and emotion management to further enhance their service standards. Before graduation, instructors assess student performance to ensure it meets KMB's standards.

The "Certificate in Continuing Development for In-service Bus Captains" is at HKQF Level Three. It aims to enhance in-service bus captains' knowledge and skills in road safety awareness, driving techniques and attitude, including defensive driving.



▲ Both newly hired and in-service bus captains of KMB and LWB are required to undergo comprehensive professional training in courses accredited under the HKQF

The "Professional Certificate for Instructors in the Franchised Bus Industry" at HKQF Level Four provides our instructors (both Driving Instructors and Technical Instructors) with a better understanding of their role at the KMB Academy. The programme focuses on enhancing teaching skills, improving teaching quality and fostering professional development while also considering their teaching performance, professional behaviour and attitude.

In addition to addressing the training needs of bus maintenance staff and bus captains, the Academy also offers short-term courses and workshops for tertiary institutions on various topics. These courses aim to broaden students' understanding of the bus industry, business operations and public institutions. For primary and secondary schools, the Academy provides a variety of on-campus STEM education courses and activities, allowing students to apply interdisciplinary knowledge and cultivate innovative thinking through both "hands-on" and "minds-on" experiences.

### **Public Safety Awareness Programme**

Ensuring passenger safety is a top priority in our bus operations. Through different channels, we raise public awareness of passenger safety. A series of safety messages is broadcast on the Bus Stop Announcement System in Cantonese, English and Putonghua, reminding passengers to hold the handrail at all times. Safety stickers such as "Hold the Handrail" and "Fasten the Seatbelt" are placed in bus compartments. We also periodically share educational messages with the public through our mobile app, App1933, and KMB's Facebook page.



▲ Through onboard stickers and the Bus Information Panel System, KMB and LWB remind passengers to hold the handrails at all times



▲ KMB Academy's "Professional Certificate for Instructors in Franchised Bus Industry" programme enhances instructors' teaching performance, and continues to provide professional training for bus captains and bus maintenance personnel

### **Safety Bus**

KMB is committed to promoting road and passenger safety. We transformed a single-deck bus into a "Safety Bus" with the theme of "Stop, Look, Listen and Give Way" to engage with the community. By combining learning with playing through motion-sensing games and virtual reality activities inside the compartment, the Safety Bus allows participating students to learn public transport etiquette, such as fastening seatbelts, holding handrails, and understanding the blind spots of buses. To raise awareness among participants, staff members from the Safety Department are also present to host quiz games and give short talks on road and passenger safety. In 2024, a total of 1,352 students visited the Safety Bus.

#### **Mobile Classroom**

The first Mobile Classroom activity, launched by the KMB Academy and the Safety Department in 2023, aims to promote road and driving safety, with a focus on situations where bicycles and buses share the road. More than 200 bus captains and members of the public participated in the activity. They welcomed and appreciated our efforts in engaging various road users (bus captains, cyclists, pedestrians and bus passengers) while promoting road safety messages.



▲ KMB regularly holds safety talks at schools to raise students' awareness of road and travel safety through interactive games in an educational and engaging way

# **Case Study**



# KMB Academy Introduces Two Electric Vehicle Maintenance Training Programmes Accredited by EMSD

As the Hong Kong SAR Government continues to march towards carbon reduction, electric vehicles have gained popularity over the years and have become a major development trend in the transport industry. To address the surging demand for electric vehicle maintenance services, KMB, as the operator of Hong Kong's largest electric bus fleet, actively fosters local talent by leveraging its extensive experience in electric vehicle maintenance. The Technical Training Section under the KMB Academy launched the Electric Vehicle Maintenance Safety Awareness Training Programme ("EVE") and the Electric Vehicle Low Voltage (LV) Training Programme ("EVL"). These training programmes were designed not only for KMB's maintenance personnel but also for other industry professionals seeking to acquire expertise in electric vehicle maintenance. We believe these programmes can help expand the talent pool of qualified personnel for electric vehicle maintenance in Hong Kong, facilitating industry-wide collaboration in the transition towards greener urban mobility.

These two programmes offered by the KMB Academy have been accredited by the Vehicle Maintenance Technical Advisory Committee of the Electrical and Mechanical Services Department, establishing the KMB Academy as one of the first organisations to receive official recognition. Upon graduation, registered vehicle mechanics will be gualified for relevant service scopes in EV maintenance. Since the launch of the programmes, the KMB Academy has trained nearly 100 KMB mechanics and other talent from the industry, reinforcing the importance of prioritising safety in electric vehicle maintenance. The EVE welcomes newcomers interested in pursuing a career in vehicle maintenance, as well as vehicle mechanics registered under the Voluntary Registration Scheme for Vehicle Mechanics ("VRSVM") by the Electrical and Mechanical Services Department ("EMSD") with service scopes ranging from S2 to S7. The programme is designed to help students understand relevant laws and regulations on Occupational Safety and Health related to EV maintenance, as well as safety knowledge and the necessary safety facilities in the workplace.



Meanwhile, the EVL, which consists of a total of 48 hours of training, is designed for registered mechanics specialising in the service areas of Body Repair B1, Body Painting B2, Mechanical M and Electrical E under the VRSVM. The programme covers the safety designs of high-voltage systems in EVs and knowledge of safety protective equipment. It uses simulations of various scenarios to offer solutions for potential issues that may arise during the maintenance process. For example, students are required to learn how to effectively isolate a high-voltage vehicle traction battery system, use an onboard diagnostics ("OBD") system to obtain diagnostic trouble codes ("DTCs"), and apply the "one-to-one" method to dismantle, replace, and install an EV high-voltage system or its associated components. The programme enables participants to apply and practice electric vehicle maintenance skills through a variety of scenarios.



"These two programmes offered by the KMB Academy provide a platform for our KMB mechanics and industry practitioners to enhance their expertise in electric vehicle maintenance. With the growing trend of electric vehicles, there is a high demand for maintenance knowledge and experienced personnel in the market. The new programmes are designed to fill the gap in professional maintenance staff.

Repairing electric vehicles involves certain risks. By leveraging the rich experience and expertise of KMB's team in maintaining electric buses, programme instructors can effectively impart their skills and techniques for electric vehicle maintenance to participants in a safe environment, helping to develop more professional talent in the industry. Several industry practitioners have shared that, after obtaining the qualification, they have been assigned with more electric vehicle repair tasks."

# Martin Cadman, KMB Safety Director and Director of KMB Academy

