

ENHANCING THE SAFETY OF PUBLIC BUS CAPTAINS THROUGH ADAS

SBS TRANSIT LTD

A multi-modal public transport operator, SBS Transit Ltd has installed the Advanced Driver Assistance System (ADAS)* in all their buses.

They adopted Mobileye, an anti-collision alert system that helps to reinforce safe driving behaviour. It consists of a smart camera mounted on the bus windshield to monitor road conditions and alerts Bus Captains to pedestrians, cyclists, and vehicles detected near the front of their buses. It is also able to detect lane markings and alerts drivers when they stray out of their lanes unintentionally.

Bus Captains receive warnings in the form of visual and audio alerts through a small dashboard unit. For example, if the “headway” or the following distance between the bus and the vehicle in front is two seconds or lower – a parameter customised by SBS Transit – an alarm will sound, and an icon of a car will light up on the display unit.

The Mobileye sensor continuously monitors the distance and relative speed of objects on the road and provide early warnings to drivers to make the necessary corrections. This reminds the Bus Captains to maintain a safe following distance and provides them ample reaction time to stop the bus to avoid any potential collisions. Mobileye enables Bus Captains to pre-empt potential hazards, which reduces the risk of collision, especially in the prevention of head-to-rear accident cases.

With the integration of the Mobileye system, there has been a substantial reduction in the accident rate, especially in head-to-rear cases. There was a significant 44% decrease in head-to-rear cases in 2020 (the first year following the system’s implementation) as compared to the year before. Since then, the number of the head-to-rear cases had consistently remained low, despite a 40% increase in passenger ridership in 2023.

Challenges faced

Due to the variety of bus models, SBS Transit had to verify the compatibility of Mobileye, particularly when installing it on older vehicles. There was also a need to confirm that the system parameters were well-suited to SBS Transit’s operational environment to minimise the occurrence of false triggers and guarantee the system’s performance within specified limits. To address this, SBS Transit conducted trials and closely monitored the results before implementing the system for normal operations.

When Mobileye was first implemented, many Bus Captains were unaware of its uses and features. There was also a small group that was sceptical about its technology. To address this, Bus Captains underwent refresher safety training sessions, which incorporated a module on Mobileye. In addition, Trainee Bus Captains were trained in Mobileye as part of their curriculum. SBS Transit's Safety Champions and Senior Bus Captain mentors also acted as advocates for Mobileye, actively promoting its effectiveness.



Thoughts and reflections:

*“By embracing ADAS technology for buses, companies not only prioritise safety but also stand to gain significant advantages, including reduced accidents, improved operational efficiency, cost savings, and enhanced employee satisfaction. Continuous education and raising awareness are vital for ensuring a successful adoption process.” - **Ralph Ang, Head of Bus Safety***

*“Mobileye helps me to do my job better, while keeping me safe. It helps to identify and warns me of potential dangers on the road with its warning beep and image.” - **Kang Yen Yen, Senior Bus Captain***

