Call to address safety issues on highland roads

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> Many design features – tight curves, narrow lanes, steep slopes, limited climbing zones and no median separation – on East-West Highway outdated : Expert

PETALING JAYA: The tragic bus crash on the East-West Highway on June 9 is probably an outcome of long-standing, unresolved safety issues on Malaysia's highland roads, said Universiti Putra Malaysia (UPM) civil engineering expert Assoc Prof Dr Fauzan Mohd Jakarni.

He said the highway, built in the early 1980s, was never designed for today's traffic volume, heavier vehicles and high speeds.

"Many design features – tight curves, narrow lanes, steep slopes, limited climbing zones and no median separation – are outdated.

"Modern vehicle sizes, speeds and loads exceed what the original design can safely handle."

Fauzan, who heads UPM's Department of Civil Engineering, said the Gerik-Jeli route, which winds through forested highlands, is known for sharp bends, limited overtaking zones and sudden weather shifts.

These natural hazards are worsened by ageing infrastructure and a lack of key safety features such as escape ramps, guardrails and emergency lay-bys.

"Certain segments have steep gradients, poor night visibility, tight corners and inadequate signage.

"These design limitations, combined with unpredictable weather, cut driver reaction time and raise accident risk, especially for buses and lorries."

The crash, involving a bus and a multi-purpose vehicle, killed 15 university students and injured several others, making it one of the worst in recent memory on a highway long deemed high-risk.

Fauzan believes poor maintenance is a major factor behind such tragedies.

"The road likely suffers from pavement issues like fatigue cracking, rutting, edge failure and shoulder erosion, especially along bends and slopes.

"Decades of heavy traffic, rain and slope movement have polished the surfaces, reducing skid resistance. Instability in cut-and-fill areas also contributes to dangerous deformations."

To reduce risks, Fauzan urged upgrades to the highway's most hazardous stretches, ideally converting them into dual carriageways.

"This would separate traffic flows and reduce head-on collisions.

"But upgrades must be carefully planned, factoring in slope stability, drainage, environmental impact, wildlife crossings and better lighting and signage."

He also called for climate-responsive maintenance, including quarterly inspections, especially before and after the monsoon, along with annual skid resistance testing and routine slope, drainage and vegetation checks.

He said the frequency of highland accidents suggests a reactive approach to maintenance, with action often taken only after disasters.

Beyond infrastructure, Fauzan highlighted the need for driver readiness and vehicle safety.

"Mechanical failures, especially brake issues on downhill sections, can be fatal. Commercial drivers need proper training, rest and regular evaluations."

He added that technology could significantly boost safety.

"Intelligent Transport Systems such as smart sensors, solar-powered beacons and real-time traffic and weather alerts can help prevent crashes."

Fauzan also cited local innovation in road materials as a potential game changer.

"Plastic-modified asphalt, developed by UPM and Petronas Research, improves grip and durability on steep, wet roads."

He urged stricter rules for night-time commercial vehicle travel and mandatory inspections before long-haul journeys.

"This tragedy must serve as a painful but urgent wake-up call. Improved road safety isn't just necessary, it's long overdue.

"Let us honour the victims by ensuring such a disaster is never repeated."

The risk of highway accidents can be reduced with proper upgrades, climate-responsive maintenance and innovative road materials. – ***ADIB RAWI YAHYA/THESUN***