



MINISTRY OF TRANSPORT
MALAYSIA

MEDIA RELEASE MINISTER OF TRANSPORT MALAYSIA

24 MAY 2021 KELANA JAYA LRT COLLISION: MOT REPORT SUBMITTED TO CABINET WITH 23 RECOMMENDATIONS FOR SYSTEMIC IMPROVEMENTS

The Ministry of Transport has presented to the Cabinet on Wednesday, 9 June 2021, its report compiled by the Investigation Committee to examine the tragic accident which occurred on 24 May 2021 between the Kampung Baru and KLCC Light Rail Transit (LRT) stations on the Kelana Jaya line.

The Government views this incident seriously and has directed the Ministry to strictly ensure that every effort is taken to review and revamp safety procedures and operating guidelines in Prasarana Malaysia Berhad and Rapid Rail Sdn Bhd's rail services and asset maintenance.

The Cabinet Meeting on 9 June 2021 has accepted the Investigation Committee's 23 recommendations to achieve these systemic improvements expeditiously and the Ministry will audit the progress of these improvements periodically.

The overarching goals of the Committee's findings are to identify any gaps and to recommend systemic improvements to both Prasarana Malaysia Berhad and Rapid Rail Sdn Bhd, and its services. Particular attention was given to ensure that the entire rail service industry and infrastructure management keep public safety as a paramount concern. This report is not for the purpose of apportioning blame nor liability on any party.

RECOMMENDATIONS FOR IMPROVEMENTS

The Committee's findings have culminated in an analysis of factors that led to the collision, and from this analysis, there are **23** distinct recommendations for improvements which Prasarana Malaysian Bhd and Rapid Rail Sdn Bhd should implement. There are **5** short term changes, **11** medium term changes, and **7** long term changes that would take more than six months to implement.

SHORT TERM IMPROVEMENTS (within 3 months)

1. Post two hostlers (drivers), with one acting as Safety and Compliance Officer, during manual train operation within tunnels.





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2. Upgrade work tools for hostlers in carrying out their duties in low visibility environments (i.e. LRT tunnels).
3. Improve checklists used by hostlers and operation control centres (OCC) during manual operation and in critical situations.
4. Set up a Sighting Committee to perform audits on track markers.
5. Report safety performance issues and improvements periodically to Prasarana Malaysia Berhad and Rapid Rail Sdn Bhd senior management for review and monitoring.

MEDIUM TERM IMPROVEMENTS (within 3 to 6 months)

6. Perform technical evaluation on SOPs used for manual operation within tunnels and undertake periodic audits.
7. Perform technical evaluations on communication systems to determine improvements needed, and undertake periodic audits.
8. Improve SOPs used in OCC, and undertake periodic audits.
9. Review all SOPs governing operations during Normal, Degraded, and Critical situations.
10. Improve management accountability towards all SOPs, Emergency Response Plans and Safety procedures.
11. Improve communication plans for Prasarana Malaysia Berhad and Rapid Rail Sdn Bhd SOPs to ensure they are understood by all levels of staff.
12. Review and revise operations rule book, OCC manuals, and hostler's manual.
13. Perform Job Safety Analysis on all personnel in Safety Critical Positions for competencies and knowledge, and undertake periodic audits.
14. Improve SOPs for energisation and de-energisation of tracks during emergency or critical situations.
15. Perform technical evaluation and audit on all safety and emergency equipment.
16. Perform risk evaluation on communications equipment between hostler and OCC.





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LONG TERM IMPROVEMENTS (6 months or longer)

17. Improve refresher courses and re-certification for all hostlers and OCC personnel, to maintain their competencies.
18. Review risk profiles of stanchions within train vestibules.
19. Perform simulations on all existing and revised SOPs.
20. Perform Reliability, Availability, Maintainability and Safety (RAMS) study on all Prasarana Malaysia Bhd and Rapid Rail Sdn Bhd assets and systems.
21. Improve electronic train detection systems to ensure 'time-out' trains are detectable remotely.
22. Fortify Rail Enforcement Division of the Land Public Transport Agency (APAD) to regulate rail service and safety standards.
23. Install 'hot button' system to simplify OCC control over trains during critical situations.

FACTORS LEADING TO INCIDENT

In the report, the Cabinet has been informed of the sequence of events that led to the collision. Due to a combination of technical faults, communication between the hostler/driver and the operations control centre (OCC) in safely manning the empty 'timed-out' Train 40 and release of Train 81 were compromised prior to the incident.

Train 40 experienced technical difficulties and the Vehicle On-Board Communication (VOBC) system was halted on one of two of its VOBC systems at 6.26pm on 24 May 2021. The standby VOBC, as the standard redundant safety system of the LRT trains, then kicked in. In line with proper safety procedure, Train 40 was then vacated of passengers and remotely brought to the Lembah Subang depot via Automated Train Operation (ATO) mode for the necessary maintenance.

However, at 8.13pm, the second VOBC on Train 40 halted and lost communication (time-out) with the OCC while en route to Lembah Subang depot. As a failsafe system, when a train experiences time-out, it will come to a complete stop. Train 40 stopped between KLCC and Kampung Baru LRT stations.





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During this time-out, the OCC was unable to detect and remotely control Train 40. A hostler was then called to manually reset both VOBs and drive Train 40 to the 're-enter' point near Dang Wangi LRT station (after Kampung Baru station), in an attempt to return operation of Train 40 to ATO mode.

During the process of resetting both VOBs and driving the Train 40 manually to the re-enter point, both the hostler and OCC's train controller had overlooked and missed critical procedures during this process. This inadvertently resulted in Train 40 being manually moved towards KLCC station instead of south-bound towards the designated re-entry point at Dang Wangi station.

At the same time, Train 81, with passengers on board and on the same track, was held back at KLCC LRT station and a protective Manual Route Reservation (MRR) was implemented while Train 40's situation was being resolved. However, the MRR was lifted and Train 81 was prematurely made to depart KLCC station towards Kampung Baru station without the proper verification that Train 40 had been safely reset and re-entered into ATO mode. This led to the collision between Train 40 and Train 81.

CONCLUSION

To reiterate, the findings of the Investigation Committee's report aim to introduce systemic changes that will prevent similar future incidents and to repair confidence in the public transport services. It is not to apportion blame nor liability on any party.

The Government of Malaysia through the Ministry will continue to cooperate with Prasarana and all other public transport service providers to find ways to continuously improve safety and security for users and employees.

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