SBS Transit

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IRSC 2025

Advancing Railway Safety through Innovations and Collaborations

Hong Kong, China 25th - 30th November 2025

Managing Hazards and Incidents in SBS Transit Rail

Rendy Ho Chin Huat

Head of Safety, Security & Emergency Planning and Head of Rail Risk

SBS Transit Rail

Speaker's Biography

- Over 20 years of experience in railway, manufacturing, and safety-critical industries
- Lead Safety & Security Officer for SBST Transit Rail, responsible for safety, security & emergency planning across the organization's facilities buildings, depots and stations
- Leads audits, investigations, data analytics, project safety & emergency preparedness; champions enterprise risk governance and ensures the integrity of Enterprise Risk Management register

Rendy Ho, SBS Transit Rail

Vice President, Head of Rail Safety, Security & Emergency Planning & Head of Rail Risk

About SBS Transit Rail

SBS Transit

OUR PURPOSE

MOVING PEOPLE IN A SAFE, RELIABLE AND SUSTAINABLE WAY

OUR VALUES CARES

CARING
BE RESPECTFUL & PATIENT
BE KIND & HELPFUL

ADAPTABLE
BE INNOVATIVE
BE A GOOD PARTNER

RELIABLE
BE HONEST & DEPENDABLE

ECO-FRIENDLY
BE ECO-FRIENDLY

SAFE
BE SAFETY-MINDED
BE ALERT

1 ISO CERTIFIED — SBS Transit — SBS TRANSIT RAIL PTE LTD

ISO 9001	Quality Management System
ISO 14001	Environmental Management System
ISO 22301	Business Continuity Management System
ISO 27001	Information Security Management System
ISO 37001	Anti Bribery Management System
ISO 44001	Collaborative Business Relationship Management System
ISO 45001	Occupational Health & Safety Management System
ISO 46001	Water Efficiency Management System
ISO 50001	Energy Management System
ISO 55001	Asset Management System

Our Rail Profile

Sengkang-Punggol Light Rail Transit

Opened 18 Jan 2003

- 21.0 km route
- 29 stations
- Total : 57 LRV
- 1 or 2 car configuration
- Depot at Sengkang

North East Line

Opened 20 Jun 2003

- 22 km long
- 17 stations
- Total : 49 trains
- 6 car configuration
- Depot at Sengkang

Downtown Line

DTL 1 : 22 Dec 2013
DTL 2 : 27 Dec 2015
DTL 3 : 21 Oct 2017

- 41.9 km long
- 35 stations
- Total : 92 trains
- 3 car configuration
- Depot at Gali Batu & ECID

Jurong Region Line

JRL 1 : 2027
JRL 2 : 2028
JRL 3 : 2029

- 24 km long
- 24 stations
- Total : 62 trains
- 3 car configuration
- Depot at Tengah

Integrated Risk Management Framework

- Holistically manages risks through structured assessments and targeted controls

System Risk Management

Workplace Safety & Health Risk

Hazard Prevention

I. Enterprise Risks

- Operating System Risk
- Major Incident Risk
- Strategic Risks
- Financial Risks
- Compliance Risks
- Technology Risks

II. Rail Business Risks

- Derailment
- Collision
- Fires
- Flooding
- Power Outage

III. Operational Safety Risks

System Risks
Hazard Log

Workplace Risks
Risk Assessment

System Risk Management

System Risk	Residual system risk captured in a hazard log and will be mitigated through established internal processes
Risk from Modification	Changes to maintenance plans or system configurations may introduce new risks or compromise existing control
Governance Structure	**Modification Committee**: Oversees software/hardware changes; chaired by Head of Engineering
	Maintenance & Failure Review Board (MFRB): Reviews maintenance regime changes; chaired by Head of Rail Engineering & Support

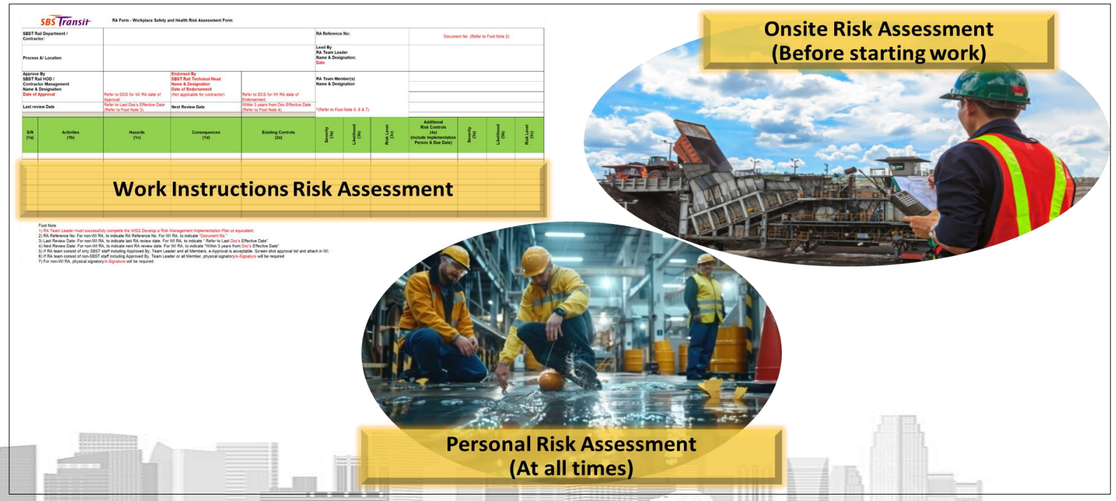
Workplace Safety & Health Risk Management

- Risk Assessment (RA) must be conducted for all works, both routine and non-routine works, conducted in SBS Transit Rail premises

- Outsourced works are subjected to thorough evaluation of processes, equipment / materials, and locations to identify and address safety requirements

- **Golden Standard** Risk Assessment (RA)
  - Alignment of RA standard
  - Introduced minimum severity guide and hazard guide

Severity \ Likelihood	Rare (1)	Remote (2)	Occasional (3)	Frequent (4)	Almost Certain (5)
Catastrophic (5)	Medium (5)	Medium (10)	High (15)	High (20)	High (25)
Major (4)	Medium (4)	Medium (8)	Medium (12)	High (16)	High (20)
Moderate (3)	Low (3)	Medium (6)	Medium (9)	Medium (12)	High (15)
Minor (2)	Low (2)	Medium (4)	Medium (6)	Medium (8)	Medium (10)
Negligible (1)	Low (1)	Low (2)	Low (3)	Medium (4)	Medium (5)



Hazard Prevention, Safety Initiatives

Safety Observation

Independent observations of work teams to ensure compliance with Safe Work Procedures

10-10-10 Safe Habits

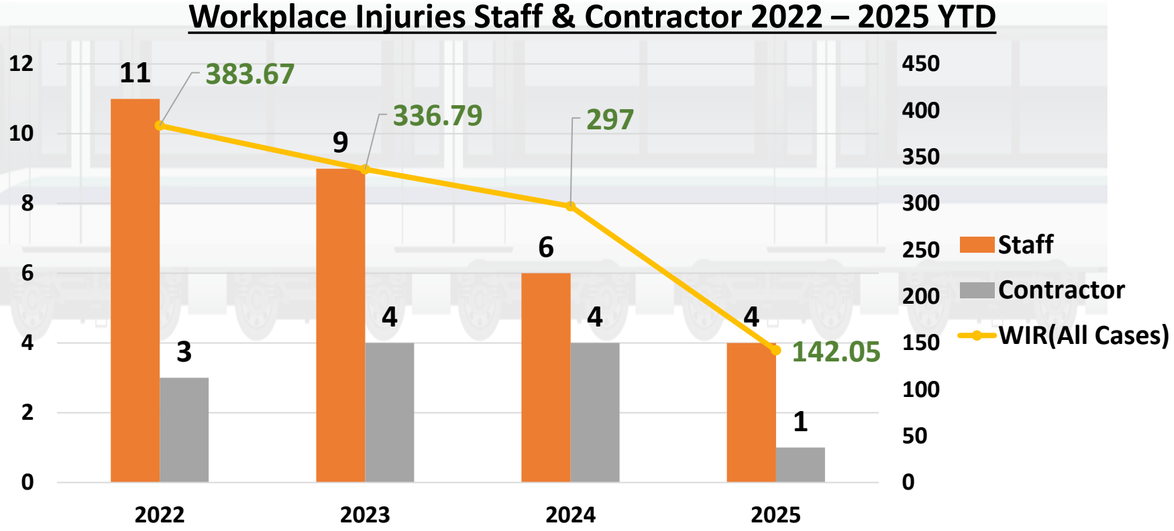
Take 10 seconds to look 10 meters around you for any unsafe act or condition

Slips, Trips & Falls (STF) Workgroup

Proactive approach to identify and reduce Slip Trip Fall hotspots

Contractor Partnership & Engagement

Quarterly Engagement to address safety issues and share safety protocols



> 50% reduction in workplace injuries from 2023 - 2025

Preparation During Normalcy

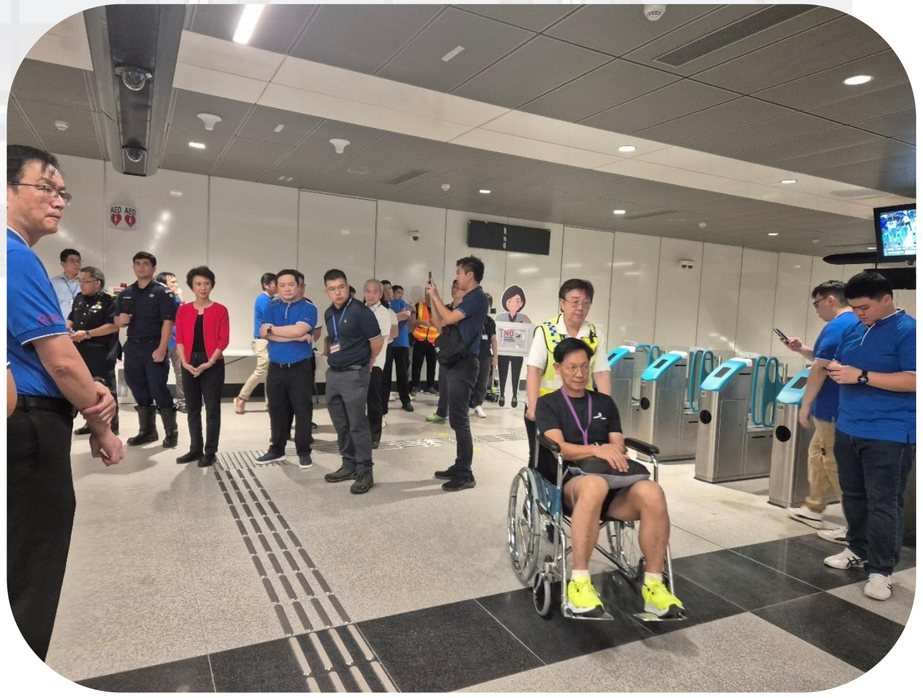
Regular reviews of crisis management plan

Establish emergency protocols with government agency representatives

Preparation During Normalcy

Train and familiarize all involved staff under the Rail Emergency Preparedness (REP) roadmap

Regular tabletop and ground deployment exercises to validate readiness



Emergency Preparedness Exercises

- Emergency Preparedness (EP) exercises are held to validate response plan, coordination with first responders and allow our staff to practice their roles and responsibility in an emergency

Ex High Flame

Readiness in responding and managing a fire incident

Ex Escape Shaft

Readiness in managing train-to-track detrainment and evacuation

Ex Service Disruption

Readiness in responding to a major service disruption in mainline

Ex High Waters

Readiness in responding to flooding situations and setting up flood barrier system

Ex Bomb / Chemical Threat

Readiness in responding to explosive or chemical threat

Rail Incident Management & Recovery

- Strive for Zero Rail Incidents, however, should they happen…

1 Manage service recovery efforts

2 Maintain train services where possible

3 Regular and accurate updates to commuters

4 Ensure safety of commuters and personnel at all times

Joint Incident Management Plan

Joint Incident Management Plan (JIMP)

- Establishes a structured, coordinated approach to management and service recovery of major incidents, integrating **Rail** and **Bus** Business Units' responses

- Ensure safe evacuation, service continuity, timely communication for public assurance during incidents

Crisis Management Room

Phases of JIMP

Phase 1

Evacuate commuters safely, activate alternate transport, and emergency services, and disseminate timely, accurate updates to public

Incident Management

Phase 2

Provide updates to public and stakeholders, manage operations and coordinate repair works

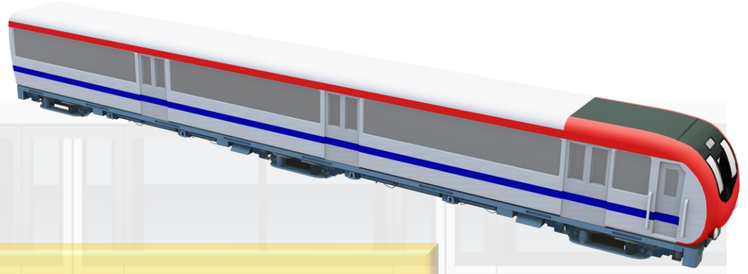
Business Continuity

Phase 3

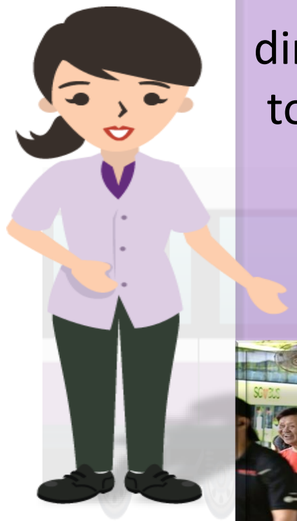
Recovery checks post incident reviews and press releases

Service Resumption

Passenger Service Group



- Managing crowd at stations and bus stops during a rail incident



Provide info and directing commuters to exits for bridging and regular bus services

Setting up of queue heads and poles for proper queuing and boarding

Working in tandem with disruption and wayfinding information across stations

Look after the general well-being of commuters

CARES
SBS Transit

Bus Bridging Group

- Provide timely, reliable and free bridging bus services for affected stations during a rail incident

Bridging bus to arrive at all affected stations within **60** mins of activation

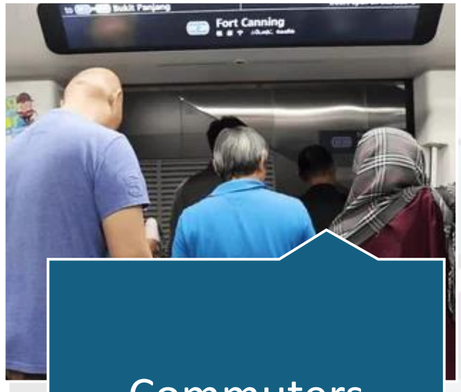
Maintain headway of no longer than 8 to 10 mins

Careful Planning of bus bridging routes and yearly familiarization training

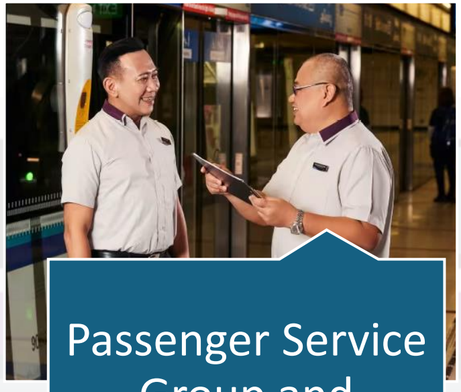
Mobile application to guide Bus Captains on bridging routes

Strategic Communications Group

- Provide timely, regular and accurate information to stakeholders



Commuters



Passenger Service Group and Station staff

cna

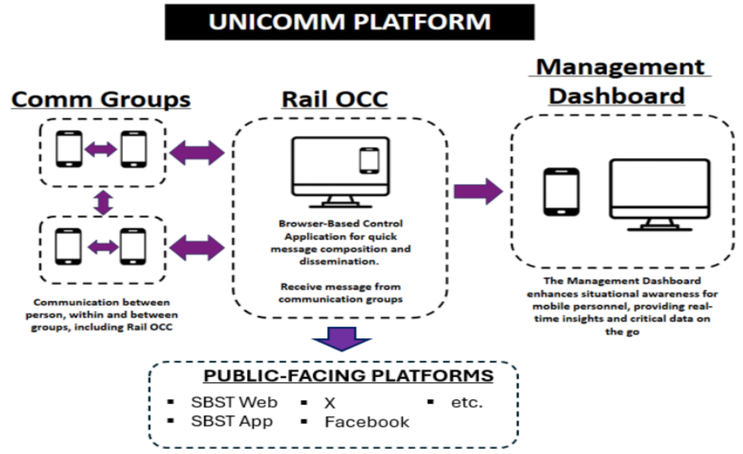
External agencies and Media

Senior Management

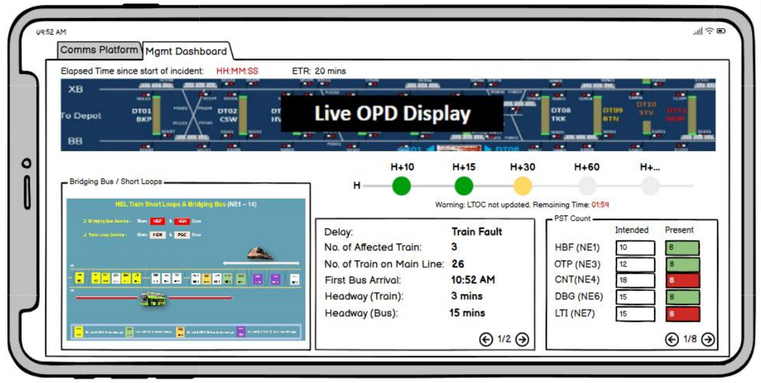
Social media platforms

Unified Communications

SYSTEM DIAGRAM



MANAGEMENT DASHBOARD



Streamlined Communication

- One Platform for both internal & external communications
- Multi-modal messaging for enhanced clarity
- Accelerated message creation using pre-defined templates

Data Security

- Information not shared externally
- Access restricted to internal personnel only
- Built-in audit trial and compliance support

Smart Features

- Automatic alerts to prompt timely completion of critical tasks
- Quick selection tool for efficient message composition

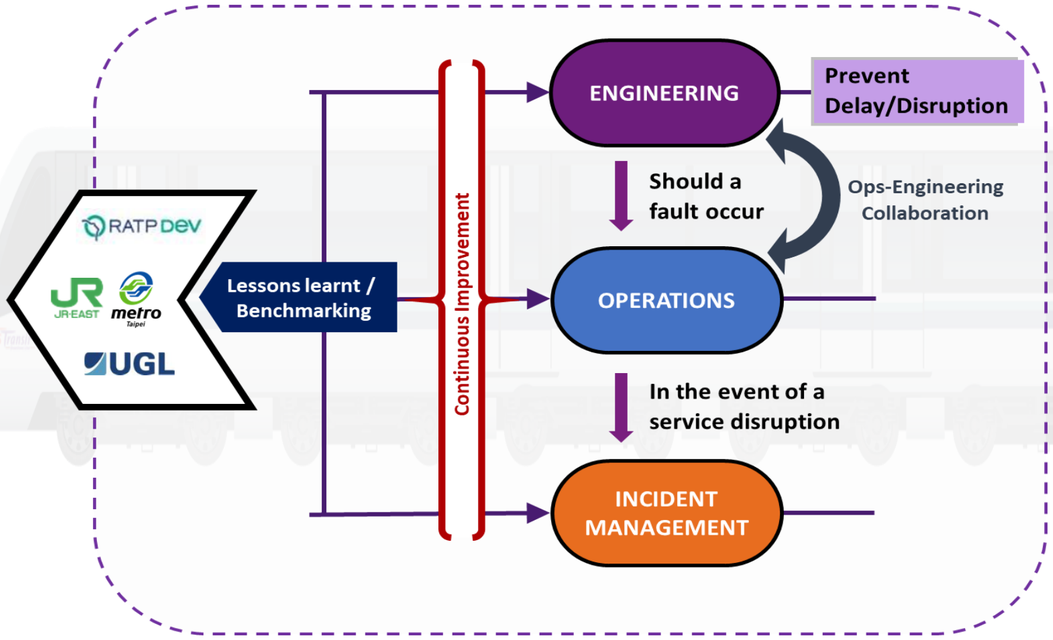
Management Dashboard

- "On-the-Move" Management Dashboard – access anytime, anywhere
- Real-time situational awareness (Live OPD/ODS view, On-Site PST count)

Continuous Improvement

Operations & Maintenance Framework

- Integrates Engineering, Operations, and Incident Management
- Ensuring a coordinated response to hazards and incidents
- Enhancing safety and reliability



Investigation Methodology

- SBS Transit adopts the People, Equipment, Environment, Procedures, Organization (PEEPO) and Reason Model Analysis (RMA) for investigation

People Equipment Environment Procedures Organisation

Contact

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