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In collaboration with



# Impact Study of AI, Digital and Green Economy on the Malaysian Workforce

**Public Transport Sector:**  
*Summary of Roles & Impact Assessment*

# Public Transport:

## Summary of Impact Assessment of Roles and Emerging Roles

No.	Roles	Impact
1	Engineering Head (Rolling Stock)	L
2	Chief Engineer / Senior Engineering Manager (Rolling Stock)	L
3	Principal Engineer / Engineering Manager (Rolling Stock)	L
4	Supervisor/ Technical Assistant (Rolling Stock)	L
5	Rail Rolling Stocks Technician	M
6	Train Engine Fitter	L
7	Locomotive Supervisor	L
8	Rolling Stock Supervisor	L
9	Maintenance Supervisor	L
10	AFC Manager	L
11	AFC Analyst	M
12	AFC Engineer	L
13	AFC Technician	L
14	Engineering Head	L
15	Chief Engineer / Senior Engineering Mgr. (Permanent Way)	L
16	Chief Engineer / Senior Engineering Mgr. (Track Maintenance Vehicle)	L

No.	Roles	Impact
17	Principal Engineer / Engineering Manager (Permanent Way)	L
18	Principal Engineer / Engineering Manager (Track Maintenance Vehicle)	L
19	Supervisor/ Technical Assistant (Permanent Way)	L
20	Supervisor/ Technical Assistant (Track Maintenance Vehicle)	L
21	Track Network Technician	L
22	Trackman, Railway	L
23	Shunter, Railway	L
24	Rigger, Railway Cable	L
25	Engineering Head (Power)	L
26	Chief Engineer / Senior Engineering Mgr. (Power)	L
27	Principal Engineer / Engineering Manager (Power)	M
28	Supervisor/ Technical Assistant. (Power)	L
29	Power Technician	L
30	Engineering Head (Signalling and Communication)	L
31	Chief Engineer / Senior Engineering Mgr. (Signalling and Communication)	L

**75 current roles and 5 emerging roles have been identified**

0	High Impacted Roles
15	Medium Impacted Roles
60	Low Impacted Roles
5	Emerging Roles

- H High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- M Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- L Low:** Roles not severely impacted – need to continue improve self to keep self relevant
- E Emerging:** Roles that currently exist in other industries and / or **not commonly seen across industry** in Malaysia today

# Public Transport:

## Summary of Impact Assessment of Roles and Emerging Roles

No.	Roles	Impact
32	Principal Engineer / Engineering Manager (Signalling and Communication)	L
33	Supervisor/ Technical Assistant (Signalling and Communication)	L
34	Signaling and Communication Technician	L
35	Signaller, Railway	L
36	Engineering Head (Civil Structure and Facilities)	M
37	Chief Engineer / Senior Engineering Mgr. (Civil Structure and Facilities)	M
38	Principal Engineer / Engineering Manager (Civil Structure and Facilities)	M
39	Supervisor/ Technical Assistant (Civil Structure and Facilities)	M
40	Head of Operations Control Centre	L
41	Chief Controller/ Controller	L
42	Operations Control Centre Manager	L
43	Train Service Controller/ Depot Traffic Controller	M
44	Railway and Locomotive Operation Officer	L
45	Pointsman, Railway	L
46	Shunter, Railway	L
47	Gateman, Railway	L
48	Public Announcer	L

No.	Roles	Impact
49	Head, Train Operations	L
50	Head of Operations/ Section/ Unit	L
51	Train Operations Manager	L
52	Quality Inspector	L
53	Train Driver (Diesel) / Assistant Train Driver (Diesel)	L
54	Train Driver Supervisor	L
55	Train Driver (Electric)	L
56	Station Officer	L
57	Station Manager	L
58	Customer Service Officer	L
59	Transport Conductor, Train	L
60	Bus Driver / Bus Captain / Senior Bus Captain	L
61	Ticket Inspector / Transport Conductor, Bus	L
62	Traffic Controller, Bus	L
63	Chief Bus Controller/ Bus Operations/ Head of Bus Control Centre Operation	M
64	Bus Operations Control Centre Manager	M
65	Assistant Bus Control Centre Operation/ Deputy Bus Operations Control Centre Manager	M
66	Depot Operations Manager / Depot Manager	L

No.	Roles	Impact
67	Senior Depot Supervisor / Depot Supervisor	L
68	Senior Depot Officer / Depot Officer / Depot Assistant	L
69	Workshop Manager/ Deputy Workshop Manager	M
70	Workshop Supervisor/ Senior Foreman	M
71	Section Supervisor/ Foreman	L
72	Senior Technician/ Technician	L
73	Senior Technical Specialist/ Technical Specialist	L
74	Engineering Manager	M
75	Engineer	M
76	Electric Vehicle (EV) Technician/ Mechanic	E
77	AI-Powered Video Analytics Specialist	E
78	AI & Machine Learning Engineers	E
79	Data Scientist / Analyst	E
80	Drone Specialist	E

# Current Railway Services: Rail Engineering

# Roles, Description and Impact Assessment (1/6)

Job Cluster		Rolling Stock	
No	Roles	Role Description	Impact Assessment
1	Engineering Head	Lead the technical and operational management of rolling stock, ensure compliance with safety and industry standards, drive operational improvements, and represent the organisation in aligning strategies with internal and external stakeholders	L
2	Chief Engineer/ Senior Engineering Manager	Oversee the implementation of maintenance regimes, collaborate with stakeholders on innovation and technology adoption, and establish engineering and competency standards to ensure reliable, modern, and regulation-compliant rail operations	L
3	Principal Engineer / Engineering Manager	Lead and manage teams, oversees and optimise rolling stock maintenance and operations, ensuring reliability, safety, and continuous improvement through technical expertise, strategic planning, and effective contractor management	L
4	Supervisor/ Technical Assistant	Supervise maintenance teams, ensure safety and work quality, and manage workflows to meet performance KPIs, while supporting preventive and corrective maintenance at rail facilities	L
5	Rail Rolling Stocks Technician	Ensure the efficient operation and safety of rail systems by performing, diagnosing, repairing, and supervising rolling stock engine maintenance and servicing tasks	M
6	Train Engine Fitter	Assembling fabricated components into operational systems, maintain and repair train engines, ensuring their optimal performance and safety while adhering to strict regulations and contributing to sustainable practices	L
7	Locomotive Supervisor	Supervise and perform train engine maintenance, inspect and repair faults, oversee overhauls, conduct periodic lubrication, and manage maintenance teams to ensure safety and operational compliance	L
8	Rolling Stock Supervisor	Oversee the servicing, repair, and periodic maintenance of train and locomotive engines, diagnose engine defects using specialised tools, and ensure optimal performance and safety by supervising engine maintenance tasks while monitoring the tasks of the team	L

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant

# Roles, Description and Impact Assessment (2/6)

Job Cluster	 <b>Rolling Stock</b>
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No	Roles	Role Description	Impact Assessment
9	<b>Maintenance Supervisor</b>	Oversee train engine servicing and repairs, inspect for defects, supervise overhauls and component replacements, conduct periodic inspections and lubrication, and manage maintenance teams to ensure safety and compliance	L


Job Cluster	 <b>Automatic Fare Collection (AFC)</b>
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No	Roles	Role Description	Impact Assessment
1	<b>AFC Manager</b>	Manages the automated fare collection (AFC) platform, ensuring seamless ticketing, payment, and booking operations, while focusing on system integration, data security, and real-time technical support for rail services	L
2	<b>AFC Analyst</b>	Analyse, design, and enhance the automated fare collection (AFC) systems, ensuring seamless integration between software and hardware components, addressing system issues, and supporting operations with real-time insights and technical solutions	M
3	<b>AFC Engineer</b>	Ensure the efficient operation, maintenance, and troubleshooting of Automatic Fare Collection (AFC) systems, including ticketing devices, gantry gates, and auxiliary systems, while ensuring compliance with service standards and supporting system upgrades for improved passenger convenience	L
4	<b>AFC Technician</b>	Maintains Automatic Fare Collection (AFC) systems, performs preventive and corrective maintenance of AFC Line Replacement Units (LRUs), prepares tools and checklists, assists in fault analysis and testing, and supervises contractors to ensure safety and standards compliance while working across depots, workshops, and public train stations during operational hours	L

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant

# Roles, Description and Impact Assessment (3/6)

Job Cluster		 Permanent Way and Track Maintenance Vehicle	
No	Roles	Role Description	Impact Assessment
1	Engineering Head	Lead and manage mechanical and electrical systems initiatives, collaborate with stakeholders and analyse industry standards and translate them into measurable KPIs for the department ensuring strategic alignment with industry standards, continuous improvement, and regulatory compliance	L
2	Chief Engineer / Senior Engineering Manager (Permanent Way)	Lead and oversee the maintenance and optimization of Permanent Way infrastructure, ensuring compliance with safety and engineering standards, fostering staff development, and collaborating with stakeholders to enhance operational reliability and performance	L
3	Chief Engineer / Senior Engineering Manager (Track Maintenance Vehicle)	Lead and manage the operation, maintenance, and technological advancements of track maintenance vehicles to ensure safety, compliance, and optimal performance within Malaysia's public transport infrastructure.	L
4	Principal Engineer / Engineering Manager (Permanent Way)	Lead and oversee the engineering, maintenance, and operational activities of Permanent Way infrastructure, ensuring safety, reliability, regulatory compliance, and optimization of resources in the Malaysian public transport industry	L
5	Principal Engineer / Engineering Manager (Track Maintenance Vehicle)	Lead and manage the maintenance, inspection, and optimisation of track maintenance vehicles, ensuring compliance with safety standards, operational efficiency, and effective coordination with internal teams and external contractors	L
6	Supervisor/ Technical Assistant (Permanent Way)	Supervise preventive and corrective maintenance activities on Permanent Way systems, ensuring mechanical and electrical system reliability, workflow improvements, and compliance with KPIs.	L
7	Supervisor/ Technical Assistant (Track Maintenance Vehicle)	Supervise and coordinate preventive and corrective maintenance activities for track maintenance vehicles, ensuring operational reliability, mechanical and electrical system performance, and adherence to KPIs.	L

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
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# Roles, Description and Impact Assessment (4/6)

Job Cluster	 <b>Permanent Way and Track Maintenance Vehicle</b>
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No	Roles	Role Description	Impact Assessment
8	<b>Track Network Technician</b>	Perform routine maintenance, diagnose and repair engine faults, monitor team performance and provide guidance and support to ensure optimal engine performance	L
9	<b>Trackman, Railway</b>	Install, repair, and maintain railway tracks on the rail network, ensuring proper alignment and safety compliance, while coordinating with maintenance teams and train operators to minimise service disruptions during repairs or upgrades	L
10	<b>Shunter, Railway</b>	Move and position trains over short distances within rail yards or terminals for maintenance or repair purposes, ensuring safe and efficient handling of rolling stock	L
11	<b>Rigger, Railway Cable</b>	Install, maintain, and inspect railway cables and rigging equipment, troubleshoot and repair systems, collaborate with engineering and maintenance teams to meet project goals, and ensure strict safety compliance	L

Job Cluster	 <b>Power</b>
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No	Roles	Role Description	Impact Assessment
1	<b>Engineering Head</b>	Develop strategies and oversee the implementation and improvement of rail power systems, ensuring compliance with industry standards and analyse industry standards and translating them into measurable KPIs for the department	L
2	<b>Chief Engineer / Senior Engineering Manager</b>	Lead and oversee the implementation of a comprehensive rail power systems maintenance regime, collaborate with internal and external stakeholders, provide expert technical advice, and set competency and engineering industry standards for staff development	L
3	<b>Principal Engineer / Engineering Manager (Power)</b>	Lead team in enhancing and maintaining rail power systems, providing expert technical guidance, managing external contractors in the maintenance and enhancement of rail power systems, and driving continuous improvement initiatives to optimise performance and sustainability.	M

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant



# Roles, Description and Impact Assessment (5/6)

Job Cluster	 <b>Power</b>
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No	Roles	Role Description	Impact Assessment
4	<b>Supervisor/ Technical Assistant</b>	Supervise team in carrying out preventive and corrective maintenance, develop workflow improvements for the rail power systems maintenance regime ensuring efficient, safe operations while managing performance and compliance with KPIs	L
5	<b>Power Technician</b>	Ensure the safe and efficient operation of rail power systems by performing preventive and corrective maintenance, monitoring system performance, and ensuring compliance with safety and regulatory standards	L

Job Cluster	 <b>Signal and Communications</b>
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No	Roles	Role Description	Impact Assessment
1	<b>Engineering Head</b>	Drive the organisation's maintenance regime and engineering standards, aligning industry standards and regulatory requirements with departmental KPIs, and collaborate with stakeholders to implement strategies that enhance rail reliability and maintainability	L
2	<b>Chief Engineer / Senior Engineering Manager</b>	Lead the maintenance and enhancement of rail signal, communication, and control systems, establish and enforce technical standards to ensure team competency, and engage with internal and external stakeholders to integrate new reliability initiatives	L
3	<b>Principal Engineer / Engineering Manager (Power)</b>	Lead cross-functional teams in maintaining signal, communication, and control systems, implement maintenance regimes and improvements, provide engineering advice, and oversee contractors to meet operational and quality standards	L

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant

# Roles, Description and Impact Assessment (6/6)

Job Cluster	 <b>Signal and Communications</b>
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No	Roles	Role Description	Impact Assessment
4	<b>Supervisor/ Technical Assistant</b>	Oversee and supervise the team in carrying out preventive and corrective maintenance of signal, communication, and control systems, ensure workflow improvements to enhance system reliability, and supervise external contractors to uphold work quality and safety standards	L
5	<b>Signalling and Communication Technician</b>	Oversee the servicing, repair, and maintenance of train/locomotive engines, ensuring operational reliability through regular inspections, defect repairs, and supervision of maintenance teams	L
6	<b>Signaller, Railway</b>	Manage and control train movements through signal systems, coordinate with Rail Operation teams for schedule adjustments, and ensure safe, efficient, and smooth operations across rail network	L

Job Cluster	 <b>Civil Structure and Facilities</b>
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No	Roles	Role Description	Impact Assessment
1	<b>Engineering Head</b>	Oversee the maintenance and management of civil structures and facilities within the rail network, ensuring safety and regulatory compliance, managing large-scale infrastructure projects, conducting inspections, and implementing strategies to enhance reliability and sustainability.	M
2	<b>Chief Engineer / Senior Engineering Manager</b>	Responsible for maintaining, repairing, and managing civil structures and facilities in the rail network while ensuring safety compliance, conducting inspections, and implementing strategies for operational reliability and sustainability	M
3	<b>Principal Engineer / Engineering Manager</b>	Oversee the maintenance, repair, and optimisation of rail civil structures and facilities, ensuring compliance with safety and regulatory standards while driving infrastructure reliability and sustainability within the rail network	M
4	<b>Supervisor/ Technical Assistant</b>	Oversee maintenance, repairs, and operational tasks related to civil structures within the rail network, ensuring safety compliance, monitoring infrastructure conditions, and managing maintenance teams to enhance structural reliability and functionality.	M

## Remarks:

- **High: Roles at risk of convergence or displacement** – need to pivot to adjacent role and reskill
- **Medium: Roles still relevant** – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low: Roles not severely impacted** – need to continue improve self to keep self-relevant

# Current Railway Services: Rail Operations

# Roles, Description and Impact Assessment (1/3)

Job Cluster		 Rail Operations Control Management	
No	Roles	Role Description	Impact Assessment
1	<b>Head of Operations Control Centre</b>	Manage real-time public transport operations, ensure efficient and safe service delivery, monitor performance, resolve disruptions, collaborate with stakeholders, and drive continuous improvement initiatives for operational excellence	L
2	<b>Chief Controller</b>	Manage and oversee real-time train operations to ensure services run on schedule, efficiently, and safely, aligning with Malaysia's public transport standards and sustainability goals.	L
3	<b>Operations Control Centre Manager</b>	Oversee Operations Control Centre activities to ensure regulatory compliance, coordinate with stakeholders, align services and maintenance to meet ridership demand, and manage service recovery during rail incidents or accidents	L
4	<b>Train Service Controller/ Depot Traffic Controller</b>	Manage and oversee train movements within the depot, including dispatching, stabling, and maintenance coordination, while regulating real-time train operations, coordinating with Train Captains, station staff, depot teams, and external stakeholders, and managing track access to uphold safety standards for both personnel and train handling activities during maintenance and disruptions	M
5	<b>Railway and Locomotive Operation Officer</b>	Oversee the daily operations of trains and locomotives, monitor track conditions, maintain communication with the ground staff to ensure efficient train operations and on-time performance and troubleshoot issues as they arise and responding effectively to emergencies	L
6	<b>Pointsman, Railway</b>	Operate railway switches, monitor train movements and track conditions, coordinate with the signallers team for track status, ensuring safe and efficient train routing, and collaborate with rail staff to maintain smooth operations	L
7	<b>Shunter, Railway</b>	Move and organise trains within rail yards or terminals, ensuring smooth marshaling of railway cars according to instructions and safety procedures, while coordinating with Yard Personnel for train arrival, departure, and assembly	L
8	<b>Gateman, Railway</b>	Monitor and regulate traffic flow at level crossings, operate barriers or warning systems, coordinate with train operators for timely train passage, and report malfunctions or hazards, ensuring safety compliance for vehicles and pedestrians	L

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant

# Roles, Description and Impact Assessment (2/3)

<b>Job Cluster</b>	 <b>Rail Operations Control Management</b>
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No	Roles	Role Description	Impact Assessment
9	<b>Public Announcer</b>	Monitor daily rail operations, support the Operations Control Centre (OCC) in executing tasks, monitor passenger activities and train operations via CCTV and communication systems, and provide train service information and updates to commuters and the public during service disruptions or delays	L

<b>Job Cluster</b>	 <b>Train Operations</b>
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No	Roles	Role Description	Impact Assessment
1	<b>Head, Train Operations</b>	Represent the organisation with stakeholders, drive service reliability improvements, oversee rail incident recovery strategies, provide strategic leadership, and adapt rail operations to industry trends	L
2	<b>Head of Operations/ Section/ Unit</b>	Oversee daily rail operations, ensure safety and compliance, enhance service reliability, coordinate with stakeholders, and manage crises to minimise disruptions	L
3	<b>Train Operations Manager</b>	Oversee daily operations of Train Captains, prepare duty rosters, deploy resources, ensure discipline, well-being, and performance, execute crew reformation and deployment plans for service reliability, provide guidance and coaching for staff welfare, and manage the crew effectively	L
4	<b>Quality Inspector</b>	Ensure safety compliance through inspections of systems, trains, and stations, monitor environmental standards, conduct post-repair checks, report incidents, and oversee inspection and maintenance team to align with operational needs	L
5	<b>Train Driver/ Assistant Train Driver (Diesel)</b>	Operate locomotives safely, monitor tracks and signals, address hazards, communicate with control centers about delays or emergencies, ensure passenger safety, and conduct routine inspections to meet mechanical and safety standards	L

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant

# Roles, Description and Impact Assessment (3/3)

Job Cluster	 Train Operations
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No	Roles	Role Description	Impact Assessment
6	<b>Train Driver Supervisor</b>	Oversee train driver operations, ensuring compliance with the rail safety and operational standards, evaluate driver performance, facilitate communication with control centers, and manage incident responses to uphold safety, reliability, and service efficiency	L
7	<b>Train Driver (Electric)</b>	Operate and monitor train operations, make operational decisions, communicate with the Operations Control Centre, and provide passenger announcements to ensure a safe and efficient passenger journey	L

Job Cluster	 Station Operations
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No	Roles	Role Description	Impact Assessment
1	<b>Station Officer</b>	Oversee station operations, conduct performance reviews to drive operational improvements, coordinate service recovery during disruptions, implement emergency plans, and lead teams to meet service and safety standards	L
2	<b>Station Manager</b>	Manage overall station operations, lead and supervise station staff, enhance passenger services, coordinate with stakeholders during emergencies, and ensure safety, compliance, and service excellence in line with operational standards	L
3	<b>Customer Service Officer</b>	Manage customer interactions, handle inquiries, promote services, resolve issues, and coordinate follow-ups and feedback to ensure continuous service improvements and passenger satisfaction. ensuring high levels of satisfaction	L
4	<b>Transport Conductor, Train</b>	Ensure passenger safety, comfort, and compliance with ticketing regulations by managing fare collection, assisting passengers, providing information, and coordinating with transport personnel for smooth operations and efficient handling of disruptions or emergencies	L

## Remarks:

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant

# Bus Services: Bus Operations



# Roles, Description and Impact Assessment (1/2)

Job Cluster	 <b>Bus Service Route Operations</b>
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No	Roles	Role Description	Impact Assessment
1	<b>Bus Driver/ Bus Captain/ Senior Bus Captain</b>	Operate buses safely on local or interstate routes, assist passengers with boarding, alighting, and luggage, comply with Public Service Vehicle regulations and traffic laws, perform routine vehicle inspections, manage ticketing or fare tasks, and ensure a secure, punctual, and customer-focused travel experience.	L
2	<b>Ticket Inspector/ Transport Conductor</b>	Manage ticketing, and reservations, verify travel documentation, enforce fare compliance, address fare-related disputes, and provide assistance or information to passengers when needed	L
3	<b>Traffic Controller</b>	Manage driver schedules, monitor fleet and driver performance, ensure regulatory compliance, and coordinates incident responses to maintain efficient public transport operations	L

Job Cluster	 <b>Bus Operations Control Management</b>
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No	Roles	Role Description	Impact Assessment
1	<b>Chief Bus Controller/ Bus Operations/ Head of Bus Operations Control Centre Controller</b>	Ensure real-time bus service reliability by regulating operations, coaching Bus Captains, responding to emergencies, documenting incidents, performing administrative tasks, and identifying operational gaps for continuous improvement	M
2	<b>Bus Operations Control Centre Manager</b>	Oversee BOCC operations to meet service performance targets, ensure compliance with schedules and regulations, lead emergency recovery efforts, manage staff performance, training, and budgets, maintain stakeholder partnerships, and implement improvement plans to enhance operational efficiency.	M
3	<b>Assistant Bus Control Centre Operation/ Deputy Bus Operations Control Centre Manager</b>	Support strategic optimisation, forecast operational trends, manage staff recruitment and fleet costs, ensure compliance, analyse ridership data for efficiency, streamline fuel systems, implement SOPs for vehicle maintenance, and plan vehicle procurement and replacement to meet organisational needs	M

- **High:** Roles at risk of convergence or displacement – need to pivot to adjacent role and reskill
- **Medium:** Roles still relevant – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low:** Roles not severely impacted – need to continue improve self to keep self-relevant

# Roles, Description and Impact Assessment (2/2)

Job Cluster
 Bus Depot Management

No	Roles	Role Description	Impact Assessment
1	<b>Depot Operations Manager / Depot Manager</b>	Lead the bus depot team to ensure operational efficiency, compliance, cost optimization, and team development while meeting service targets and supporting sustainable transport goals	L
2	<b>Senior Depot Supervisor/ Depot Supervisor</b>	Ensure efficient daily depot operations, compliance with regulations, team performance, and service quality, while driving operational improvements and supporting sustainable transport solutions.	L
3	<b>Senior Depot Officer/ Depot Officer/ Depot Assistant</b>	Assist in depot operations, ensure timely bus departures, manage vehicle inspections and maintenance, handle inventory and equipment, support compliance with safety regulations, assist with manpower deployment, and provide customer service to ensure smooth daily operations	L

## Remarks:

- **High: Roles at risk of convergence or displacement** – need to pivot to adjacent role and reskill
- **Medium: Roles still relevant** – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low: Roles not severely impacted** – need to continue improve self to keep self-relevant

# Bus Services: Bus Fleet Engineering

# Roles, Description and Impact Assessment (1/1)

Job Cluster		Technical and Engineering Functions	
No	Roles	Role Description	Impact Assessment
1	Workshop Manager/ Deputy Workshop Manager	Oversee bus maintenance, coordinate with functional teams to ensure resource adequacy, implement fleet maintenance and improvement initiatives, manage logistics and housekeeping, review audits, forecast budgets, and ensure safety and service standards	M
2	Workshop Supervisor / Senior Foreman	Oversee multiple maintenance teams, plan and assign tasks, coordinate bus breakdown recovery, implement audits, review performance, recommend improvements to meet KPIs, and ensure resourceful, systematic operations in a workshop or depot environment on rotating shift	M
3	Section Supervisor / Foreman	Lead and coordinate maintenance activities within their section, oversee preventive and corrective maintenance for bus fleets, implement schedules, assign tasks, coordinate breakdown recovery with BOCC, supports audits, drives KPI achievement, and promotes staff capability development	L
4	Senior Technician/ Technician	Support and perform bus maintenance operations, provide technical guidance, and ensure fleet reliability through effective teamwork and breakdown recovery assistance.	L
5	Senior Technical Specialist/ Technical Specialist	Lead multi-system maintenance, provide technical guidance, and ensure quality standards through fault analysis, team collaboration, and contractor supervision	L
6	Engineering Manager	Oversee fleet-wide operations to ensure safety, reliability, and service standards, provides technical guidance for maintenance programs, reviews performance data to set standards, and leads engineering studies and technology projects to enhance fleet reliability and maintainability	M
7	Engineer	Ensure bus fleet safety and reliability by monitoring performance, diagnosing issues, implementing mitigation measures, providing technical guidance to the maintenance team, conducting engineering studies, and enhancing operations through best practices and technological advancements.	M

## Remarks:

- **High: Roles at risk of convergence or displacement** – need to pivot to adjacent role and reskill
- **Medium: Roles still relevant** – need to evolve and upskill to deliver beyond what would traditionally be expected
- **Low: Roles not severely impacted** – need to continue improve self to keep self-relevant

# Roles, Description and Impact Assessment (1/1)

Emerging roles		
No	Roles	Role Description
1	EV Technician/ Mechanic	Maintain, diagnose, and repair electric buses to ensure compliance with SPAD and JPJ regulations, optimise performance, and support fleet operations through adherence to environmental and safety standards and effective documentation management
2	AI-Powered Video Analytics Specialist	Leverage AI-driven video analytics to enhance public transport operations by monitoring security, improving passenger flow, ensuring service reliability, analysing ESG metrics, and providing actionable insights for strategic decision-making
3	AI and Machine Learning Engineers	Design, develop, and deploy advanced AI and machine learning models to revolutionise public transportation efficiency by predicting equipment failures, optimising route planning for reduced travel times, enabling real-time data processing for personalised passenger experiences, and supporting environmental sustainability through emissions reduction and energy optimisation strategies.
4	Data Scientist and Analyst	Leverage sophisticated data analytics techniques to collect and interpret vast datasets from public transport operations, passenger behaviors, and environmental factors, providing critical insights to optimize fleet management, enhance passenger satisfaction, improve service reliability, and drive evidence-based policy decisions to support sustainable urban mobility initiatives
5	Drone Specialist	Operate and maintain advanced drone systems to conduct remote inspections of rail tracks, collect high-resolution geospatial data, monitor infrastructure conditions, identify maintenance needs, and ensure compliance with safety standards, significantly reducing the need for human presence in potentially hazardous field environments



# TERIMA KASIH

*'Demi Rakyat dan Negara'*



MINISTRY OF HUMAN RESOURCES

**TalentCorp**  
GROUP OF COMPANIES



In collaboration with

Building a better  
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