



Skills Framework for Public Transport

A Guide to Occupations and Skills

An initiative of

SKILLSfuture

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About the Skills Framework

The Skills Framework is a SkillsFuture initiative developed for the Singapore workforce to promote skills mastery and lifelong learning. Jointly developed by SkillsFuture Singapore, Workforce Singapore and the Land Transport Authority, together with the involvement of the public transport operators, the National Transport Workers' Union, and education institutions, the Skills Framework for Public Transport provides useful information on:



With the Skills Framework, individuals are equipped to make informed decisions about career choices, as well as take responsibility for skills upgrading and career planning.



Assess Career Interests



Prepare for Desired Jobs



Find Avenues to Close Skills Gaps



Renew, Upgrade and Deepen Skills

- Discover employment opportunities
- Understand career pathways
- Recognise personal attributes required

- Understand skills and competencies required

- Identify relevant training programmes to equip oneself with the required skills and competencies
- Participate in on-the-job training opportunities provided by companies

- Plan for career development/transition
- Recognise skills and competencies required for the intended job role
- Identify training programmes to upgrade and deepen skills

Singapore Public Transport: Connecting People and Places



Public transport is the core of Singapore's Land Transport Industry and a key enabler for Singapore's economy. Every day, almost 5 million commuter journeys are taken on our public buses and trains for work, school and leisure.

Today, the public transport sector employs approximately 22,000 people in the public bus and rail sectors. As the rail network expands and public bus services increase to support connectivity, it is projected that up to 8,000 new jobs will be created by the year 2030.

As Singapore moves towards a car-lite vision, our rail network will become denser and our public bus services will be more extensive. Commuters will be able to travel seamlessly and efficiently around Singapore. Our land transport system, in particular, public transport, has to remain reliable, convenient, comfortable, safe and secure for commuters to reach their destinations.

Key Statistics



Singapore's Land Transport cluster contributed **1.1 % of Singapore's GDP** in 2016



> 9,000 employed in the rail sector



The public transport sector **employs approximately 22,000 people** in the public bus and rail sectors



> 12,000 employed in the public bus sector



5 million commuter journeys daily



Rail network of **228km**



Fleet size of **more than 5,400 buses**

Transformation

The public transport sector has witnessed the implementation of major positive changes to the contractual models for bus and rail with the objectives of raising service levels for commuters.



Bus Contracting Model

Singapore's Bus Contracting Model (BCM) came into effect on 1 September 2016.

Under this contracting model, all public buses and bus infrastructure like depots and interchanges are owned by the Government. Bus routes in Singapore are allocated by packages and put up for competitive tendering. The bus operator(s) who win the bid will be paid a service fee to operate the services while the Land Transport Authority (LTA) will determine the bus services to be provided and set service standards. This allows the Government to make public bus services more responsive to changes in ridership and commuter needs, inject competition into the industry, and raise service levels for commuters.



New Rail Financing Framework (NRFF)

The New Rail Financing Framework (NRFF) was announced in the 2008 Land Transport Master Plan. This framework was first implemented in 2011 for the Downtown Line (DTL) and DTL operating assets. Effective 1 October 2016, the North-South-East-West Line (NSEWL), Circle Line (CCL) and Bukit Panjang Light Rail Transit (BPLRT) were transitioned to the NRFF. And as at 1 April 2018, the North East Line (NEL), Sengkang LRT and Punggol LRT were transitioned to the NRFF. This completed the transition of the entire rail network to NRFF.

Commuter interests are at the heart of the NRFF. The benefits include:

- The regulator is put in the driving seat to make timely investment in capacity expansion, replacement and upgrading of operating assets
- Rail public transport operators (PTOs) will be able to better focus on operations and maintenance of the rail network
- A shorter operating licence from 30-40 years, to 15 years under the NRFF will allow the licences to be re-tendered more often, making the industry more contestable
- Maintenance performance and consequently the reliability of the rail system will be improved with the introduction of new Maintenance Performance Standards (MPS)
- The rail system will be more financially sustainable through the provision of some risk and profit sharing between the regulator and the PTOs

Target 2030

The Land Transport Master Plan 2013 has an ambitious 2030 goal to build a car-lite Singapore. This goal will help Singapore achieve the following:

- 8 in 10 households live within a 10-minute walk from a train station
- 85% of public transport journeys, less than 20km, completed within 60 minutes
- 75% of all journeys in peak hours taken on public transport
- The public transport sector will see robust growth, creating many good jobs for Singaporeans. From now till 2030, the public transport sector will create up to 8,000 new jobs

By then, our rail network will be longer than networks in major cities such as Hong Kong and Tokyo, and comparable to current lengths in London and New York City.



NEW INITIATIVES

The Land Transport Industry will see many new initiatives to transform the industry and to meet the Land Transport vision by 2030. Some initiatives impacting the capabilities of the operations and maintenance workforce in the public transport sector include:



Harness data analytics tools to enhance operations

- (i) Build centralised data systems
- (ii) Acquire real time data through multi-data sources
- (iii) Use analytics and develop algorithms



Use technology to enhance maintenance work

- (i) Adopt condition monitoring instruments
- (ii) Deploy automatic vehicle inspection system, use of drones or all-terrain vehicles
- (iii) Modernisation and enhancement to depot facilities



Professionalise workforce through centralised academies

- (i) Develop an industry skills framework to guide capability development
- (ii) Capability development through Singapore rail, bus and taxi academies



Talent management and engagement for industry

- (i) Industry secondment to provide in-service staff with greater exposure
- (ii) Knowledge transfer to young engineers/technicians to enhance knowledge succession



Facilitate job mobility and transition

- (i) Job re-design to enhance job mobility and anticipate changes
- (ii) Conversion/bridging programmes to ease transition into the industry

BUS

Complementing the new Bus Contracting Model with:

- Review bus routes network to cater to commuters' needs
- On-Demand Bus Services trial to allow more direct journeys for commuters, while optimising resources
- Harness the latest technologies in operations and maintenance to improve productivity and efficiency of the bus industry

RAIL

Expansion of rail network:

- Expanding our rail network by 1km per month on average
- Building an MRT link between Woodlands North and Johor Bahru



Skills in Demand

As the public transport sector continues to advance and harness the latest technologies in operations and maintenance, it offers many opportunities to develop your passion and grow your career. You can expect to develop deep technical and management expertise by acquiring these skills in demand.



Data Analytics

Mining, cleansing and modelling of data to yield useful insights, patterns and information to suggest conclusions or to support decision-making



Predictive Maintenance

Analysis of the failure modes and monitoring of the condition of bus and rail assets, fixing the anomalies before they can occur



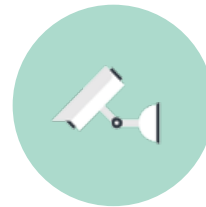
Bus and Rail Asset Management

Management of systems, plant and equipment, infrastructure, operations and maintenance and their associated performance, and risks and expenditures over the asset's lifecycle



Cyber Security

Protection of computer systems from theft and damage to the hardware, software or information, and disruption to the services they provide



Bus and Rail Operations Security

Assessment and mitigation of risks and threats to bus and trains operations, and the infrastructure

Desired Attributes

A career in the public transport sector provides diverse opportunities to individuals seeking rewarding and enriching careers. If you enjoy the challenge of working in a highly dynamic environment, and delight in service excellence, you can set yourself apart by developing these desired attributes.



Safety Minded

Cognisant of hazards and unsafe practices at the workplace, placing safety as a top priority for self and others



Systems Thinking

Make a conscious effort to understand the interconnectedness of sub-systems one is working on, and is aware of the consequences of one's actions on others



Analytical

Use logical reasoning and analysis based on data and facts to suggest ideas for improvement or to support decision making



Resilience

Adapt well in the face of adversity, or in situations such as stress and disruptions, and is able to recover readily from these situations



Embrace Technology

Take keen interest in learning the technologies available in the market or being used in similar work elsewhere. Receptive to technology disruptions and actively support the application of technology

Take Your Career Further

A skilled workforce is essential to support the Land Transport Industry in delivering a quality, safe and reliable public transport service to commuters. There is a wide range of initiatives and schemes available to both individuals and employers to promote skills acquisition and upgrading.



FOR INDIVIDUALS

SCHOLARSHIP / STUDY AWARD

Public Transport Study Awards: Public Transport Scholarships & Book Prizes

For engineering students of ITE, polytechnics and universities who are seeking a career in the public transport sector.

Public Transport Study Awards: Public Transport Sponsorships

For in-service employees of public transport operators who are enrolled in relevant Continuing Education and Training (CET) programmes to deepen their knowledge and skills.

LTA Local/Overseas Undergraduate Scholarships

For undergraduate studies in approved engineering courses in Civil, Mechanical, Electrical and Electronics, Environmental, Computer, Social Sciences, and Science.

LTA Local/Overseas Undergraduate Scholarships (non-English Speaking Countries)

For undergraduate studies in Civil Engineering, Mechanical Engineering, and Electrical and Electronic Engineering.

LTA Local Study Awards

For undergraduate studies in Civil Engineering, Mechanical Engineering, and Electrical & Electronic Engineering.

Land Transport Masters

For post-graduate studies in approved courses, e.g. Transportation Systems and Management, Urban Planning, Construction Law, etc.

Industrial Attachment

On-the-job learning opportunity with the public transport operators as part of the students' academic curriculum.

E.g. Integrated Work Study Programme offered by the Singapore Institute of Technology in Bachelor of Engineering with Honours in Sustainable Infrastructure Engineering (Land), and Bachelor of Engineering with Honours in Systems Engineering (ElectroMechanical Systems).

Initiatives and Schemes by:

- Land Transport Authority



FOR INDIVIDUALS

SCHOLARSHIP / STUDY AWARD

SkillsFuture Mid-Career Enhanced Subsidy

All Singaporeans aged 40 and above will receive up to 90% course fee subsidy for SkillsFuture Singapore-funded courses, including modular courses in publicly funded post-secondary education institutions and additional reductions in MOE-funded diploma and degree courses.

SkillsFuture Credit

This initiative aims to encourage individuals to take ownership of skills development and lifelong learning. All Singaporeans aged 25 and above will receive an opening credit of \$500 which will not expire.

SkillsFuture Study Awards

A monetary award of \$5,000 for adults in their early and mid-career to develop and deepen their skills in future growth clusters.

SkillsFuture Qualification Award

This award recognises the efforts of Singapore Citizens in attaining WSQ full qualifications, which equip them with comprehensive and robust sets of skills to perform their jobs competently, pursue career progression and explore new job opportunities.

PROGRAMMES, SCHEMES AND INITIATIVES

MySkillsFuture

MySkillsFuture is a one-stop online portal that enables Singaporeans to chart their own career and lifelong learning pathways, through access to industry information and tools to search for training programmes to broaden and deepen skills. It incorporates the national Jobs Bank, presenting an integrated platform for users to access resources related to jobs, education and skills training.

Professional Conversion Programme (PCP) for Public Transport

Career conversion programmes help mid-career PMETs undergo skills conversion to embark on a career in the public transport industry. Examples of PCPs in the Public Transport sector include those for Station Managers, Assistant Station Managers, Railway Executive Engineers or Assistant Engineers, as well as Service Controllers or Assistant Service Controllers.

MyCareersFuture.sg

MyCareersFuture.sg is the Government's job-matching portal for jobseekers. The portal leverages skills-to-job matching technology to create and deliver a citizen-centric user experience that makes job search smarter and faster.

Jobseekers can also find jobs that qualify for funding support under the Adapt and Grow initiatives e.g. Career Support Programme, Professional Conversion Programmes, Career Trial and P-Max.

Initiatives and Schemes by:

- SkillsFuture Singapore
- Workforce Singapore



FOR EMPLOYERS

Public Transport Manpower Development Fund – Industry Training Grant

(i) Rail Industry Training Grant

The grant is currently offered to local rail professionals (Singapore citizens and/or Permanent Residents) who are enrolled in short technical training courses centrally offered by the Singapore Rail Academy (SGRA). An example of the short technical training programme is the Career On-boarding for Railway Engineering (CORE).

(ii) Subsidies for Enhanced Vocational Licence Training Programme

The Enhanced Vocational Licence Training Programme (EVLTP) is a structured 5-day programme conducted by the Singapore Bus Academy (SGBA) for all Omnibus Drivers Vocational Licence (ODVL) applicants. The objective is to establish and raise the common standards of foundational core skills for new bus captains. Training subsidies are currently offered to eligible local bus captains.

Capability Transfer Programme (CTP)

The programme aims to improve local-foreign workforce complementarity by facilitating the transfer of capabilities from foreign specialists to locals. Funding support for the CTP can include salary and training support for foreign and local specialists, as well as Singaporean trainees on overseas attachment to acquire new capabilities. In the case of industry-wide projects, funding for equipment cost may also be considered on a case-by-case basis.

WorkPro

WorkPro encourages employers to implement progressive employment practices to benefit Singaporeans through job redesign, age management practices and flexible work arrangements. Employers can get funding support to implement age management practices, redesign the workplace and processes to create easier, safer and smarter jobs for older workers, and sustain flexible work arrangements for all workers. Companies can receive grants of up to \$425,000 to support the implementation of these initiatives.

Career Support Programme

Companies can receive up to \$42,000 in salary support for up to 18 months when they hire eligible Singapore Citizen Professionals, Managers, Executives and Technicians (PMETs) who are made unemployed for six months or more, or aged 40 and above and made redundant, in jobs that pay a gross monthly salary of at least \$4,000 (\$3,600 for SMEs).

Initiatives and Schemes by:

- Workforce Singapore
- Land Transport Authority



FOR INDIVIDUALS AND EMPLOYERS

Internship

On-the-job learning opportunity with the public transport operators and the Land Transport Authority as part of the students' academic curriculum.

Learning Programmes

- Career On-boarding for Railway Engineering (CORE)
- Enhanced Vocational Licence Training Programme
- Courses offered by ITEs, polytechnics and universities
- PTOs' in-house training programmes

SkillsFuture Series

The SkillsFuture Series is a curated list of short, industry-relevant training programmes that focus on emerging skills.

SkillsFuture for Digital Workplace

SkillsFuture for Digital Workplace is structured as a two-day training programme that will equip Singaporeans with basic digital skills required at the workplace and in their daily lives.

Career Matching Services

WSG's Careers Connect and NTUC's e2i centres offer an expanded suite of career matching services tailored to jobseekers' needs. Jobseekers can seek advice from professionals to guide them in their job search, as well as in their career planning and development. Employers can receive recruitment advice to uncover new talent and find the right people for their business needs.

Career Trial

The Career Trial aims to help unemployed Singaporean jobseekers try out more jobs through a short term work stint in jobs paying \$1,500 or more. Eligible jobseekers who are employed after the Career Trial and stay on the job for six consecutive months can receive retention incentives of up to \$1,500.

Employers can assess jobseekers' job fit through a short-term work trial for jobs paying \$1,500 or more before offering formal employment to suitable Singapore Citizens. Eligible employers can also receive up to \$5,400 in salary support for up to six months when they hire eligible Singapore Citizens.

SkillsFuture Earn and Learn Programmes (ELP)

A work-learn programme designed to give graduates from the Institute of Technical Education and polytechnics a head start in careers related to their discipline of study. Suitable candidates will be matched with a job related to their field of study and undergo structured on-the-job training and mentorship in participating companies, allowing them to gain industry experience and attain an industry recognised certification concurrently.

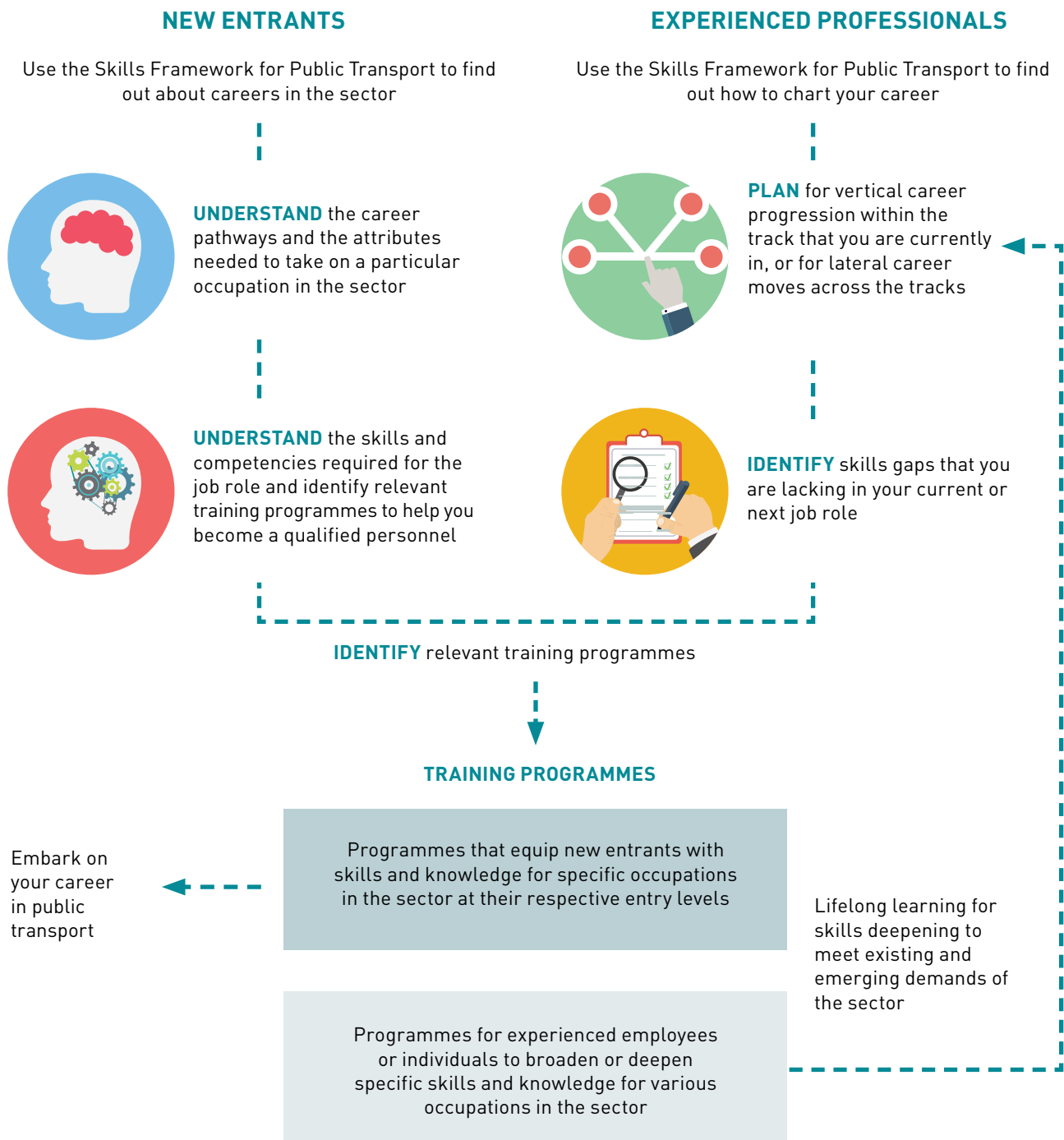
Initiatives and Schemes by:

- SkillsFuture Singapore
- Workforce Singapore
- Land Transport Authority

For more information on the initiatives and schemes, please visit skillsfuture.sg | wsg.gov.sg | lta.gov.sg

Realise Your Potential - Take the Next Step Forward

Now that you have some idea of what a career in the public transport sector can offer and the available government initiatives and schemes to support your career goals, you are ready to take the next step!



Public Transport Career Tracks

RAIL ENGINEERING

The Rail Engineering track involves the maintenance of the rail assets and upholding maintenance standards to provide safe and reliable rail services for commuters. There are seven Rail Engineering functional tracks in the Skills Framework for Public Transport, namely:



Rolling Stock

The Rolling Stock functional track involves the maintenance of train cars, its sub-systems and components, and the engineering works to monitor, analyse and improve the reliability of the trains.



Engineering Train

The Engineering Train functional track involves the deployment of specialised railway vehicles to perform measurement and alignment of rail tracks, profiling of rails, inspection of viaducts, cleaning of tunnels, and the maintenance of specialised railway vehicles.



Permanent Way and Civil Structure

The Permanent Way and Civil Structure functional track involves the inspection, repair and maintenance of rail tracks, tunnels, viaducts, buildings within the railway network and reserves, and the engineering work to monitor, analyse and improve the reliability of the track work and infrastructure.



Power

The Power functional track involves the maintenance of high voltage and low voltage systems that power the movement of trains and operations of the rail network, and the engineering work to monitor, analyse and improve the reliability of the power system.



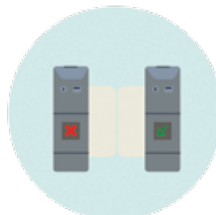
Mechanical and Electrical

The Mechanical and Electrical functional track involves the maintenance of mechanical and electrical systems within the rail network, such as lifts, escalators, station air-conditioning and ventilation systems, fire protection systems, and engineering work to monitor, analyse and improve the reliability of Mechanical and Electrical systems.



Signal and Communications

The Signal and Communications functional track involves the maintenance systems that regulates and controls the safe movement and frequency of trains, transmits voice, data and video required for operations, and engineering work to monitor, analyse and improve the reliability of these systems.



Automatic Fare Collection (AFC)

The AFC functional track involves the maintenance, testing and configuration of AFC systems such as train ticket sales devices, gantry gates, and AFC auxiliary systems.

RAIL OPERATIONS

The Rail Operations track involves the daily operations of the rail services and network.



Rail Operations Control Management

The Rail Operations Control Management functional track involves regulating daily train services, coordinating real-time rail operations, managing and responding to incidents, and providing train service information to commuters.



Station and Train Operations

The Station and Train Operations functional track involves the daily management and efficient operation of train stations and train services. These include train driving, passenger service, operating station equipment, crowd control, and ensuring the safety of commuters.

BUS FLEET ENGINEERING

The Bus Fleet Engineering track focuses on the management and maintenance of bus fleet, and the operations of the bus maintenance workshop and equipment.



Bus Workshop

The Bus Workshop functional track involves the maintenance of the bus fleet including the automotive components such as the electrical and electronics systems, engine, as well as the maintenance and repair regime, bus workshop operations, and on-the-road recovery of buses.



Bus Engineering

The Bus Engineering functional track involves the maintenance management of the bus fleet and in-depth analysis of fleet-wide engineering data to enhance the serviceability and reliability of the bus fleet.

BUS OPERATIONS

The Bus Operations track focuses on ensuring the smooth running of bus services and the efficient management of operations in the bus interchanges, bus depots and the Bus Operations and Control Centre.



Bus Service Route Operations

The Bus Service Route Operations functional track involves the provision of public bus services on predetermined service routes and timed schedules. Bus Captains operate the service routes to provide safe, comfortable, and reliable public bus services to commuters.



Bus Depot Management

The Bus Depot Management functional track involves the smooth operation of the bus depot and its premises, including bus service dispatch, garaging, and safe movement of buses in the depot.



Bus Interchange Management

The Bus Interchange Management functional track involves the management and efficient operation of the bus interchange and bus services, ensuring timely departure of bus services and providing customer service to commuters.



Bus Operations Control Management

The Bus Operations Control Management functional track involves regulating of daily bus services, monitoring real-time bus operations and coordinating with bus interchanges and depots to ensure bus service reliability.

Skills Map



RAIL ENGINEERING

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RAIL OPERATIONS

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Rail Engineering

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Deputy Engineering Maintenance Manager (Rolling Stock)

Bryan Tan
SMRT Trains Ltd

FINDING PURPOSE

Six years into his previous company as a Lead Engineer, Bryan Tan decided to join the public transport sector as a mid-careerist in search of bigger challenges and greater fulfilment in his work. Since his decision to switch, Bryan has found an environment that satisfies both criteria.

When SMRT rolled out its recruitment programme for more engineers to meet the demand for the expanding rail network in Singapore, Bryan jumped at the chance for greater career and learning opportunities in engineering. He says, "One reason that drove me to make the switch is because the daily operations in SMRT can influence millions of people. This makes me feel that my work is meaningful as it impacts many commuters."

After completing a three-month in-house place-and-train programme with Workforce Singapore's (WSG) Professional Conversion Programme (PCP) for Railway Executive Engineers/Assistant Engineers scheme, Bryan joined the Rolling Stock Depot team, a frontline maintenance department as Deputy Engineering Maintenance Manager. His primary job scope involves ensuring high reliability of the trains through timely, effective and quality maintenance, and leading a group of more than 40 engineering and technical specialists.

Beyond the technical aspect of maintenance, Bryan also undertakes human resource management, which includes overseeing the quality, safety, and training management of the staff under his charge.

"The Skills Framework features training programmes that are aligned to skills in the job roles listed in the Career Map. This will enable me to identify the courses which are important for my career progression and achieving my career goals."

"Imparting technical knowledge and enforcing standards of maintenance is the key element to grow the competency of the team members under my charge," Bryan says.

On his responsibilities in ensuring quality and safety management for his staff, Bryan stresses that it is most important to ensure a conducive and safe work environment so that every team member returns home after their work shift.

Bryan is not one to rest on his laurels when it comes to lifelong learning. Having gained hands-on practical engineering experience and currently pursuing a post-graduate engineering certification, he is working towards becoming a chartered engineer. "After my postgraduate certification, I have the option to continue studying for a few years before I can attain a Master's degree. Leadership and management courses will also be part of the plan for my career progression," he says.

Bryan believes that the Skills Framework for Public Transport will be an essential platform for him to identify career advancement opportunities. "The Skills Framework features training programmes that link the skills in the occupations that are available in the market. This will enable me to identify the courses which are important for my career progression and achieving my career goals. Most importantly, I feel that the Skills Framework will provide me with guidance to more comprehensive career planning and skill advancement," he says.

Technician (Rolling Stock)

JOB ROLE DESCRIPTION

The Technician (Rolling Stock) works in a team to perform preventive and corrective maintenance of passenger trains. He/She assists in the preparation of maintenance work and supports the team in the conduct of fault analysis and testing to improve the reliability of passenger trains. He supervises the work of contractors and external stakeholders in ensuring adherence to safety requirements and operating standards.

He may be deployed at various rail premises such as workshops, depots and/or maintenance plants to carry out his duties. He is technically inclined and adept in the maintenance and/or repair of passenger train components. He is capable of communicating effectively within the team, able to multi-task and prioritises his assigned maintenance workload in supporting maintenance activities.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 1	Rolling Stock Brake Systems Maintenance	Level 1, Level 2
Data and Statistical Analytics	Level 1	Rolling Stock Car Body Maintenance	Level 1, Level 2
Engineering Train and Rolling Stock Operation	Level 3	Rolling Stock On-Board Control Systems Maintenance	Level 1, Level 2
Equipment Maintenance and Housekeeping	Level 1	Rolling Stock Power Systems Maintenance	Level 1, Level 2
Heavy Lifting Machinery Operation	Level 1	Rolling Stock Propulsion Systems Maintenance	Level 1, Level 2
Internet of Things Application	Level 2	Vendor Management	Level 1
Rail Regulatory Compliance	Level 1	Workplace Facilities Safety Management	Level 2
Report Writing	Level 1	Workplace Safety and Health for Confined Spaces	Level 1
Robotics and Automation Application	Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Rolling Stock Air Condition and Ventilation Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Rolling Stock Auxiliary Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Rolling Stock Bogie Maintenance	Level 1, Level 2		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Lifelong Learning	Basic
Interpersonal Skills	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Technician (Rolling Stock)

JOB ROLE DESCRIPTION

The Senior Technician (Rolling Stock) performs preventive and corrective maintenance activities as well as modification and/or overhaul works on passenger trains and its components. His/Her duties include troubleshooting to perform fault analyses, repairing of electronics, electrical and mechanical equipment of passenger trains as well as performing routine vehicle inspections in accordance to maintenance procedures and instructions. He also supervises the work of contractors and external stakeholders to ensure adherence to operating standards and safety standards.

He may be deployed at various rail premises such as workshops, depots and/or maintenance plants to carry out his duties, depending on his area of specialisation and expertise. He possesses good communication skills, is able to lead a work team and manage multiple tasks and works productively in a fast-paced and team-oriented environment.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 2	Rolling Stock Bogie Maintenance	Level 1, Level 2
Data and Statistical Analytics	Level 2	Rolling Stock Brake Systems Maintenance	Level 1, Level 2
Engineering Train and Rolling Stock Operation	Level 3	Rolling Stock Car Body Maintenance	Level 1, Level 2
Equipment Maintenance and Housekeeping	Level 1	Rolling Stock On-Board Control Systems Maintenance	Level 1, Level 2
Heavy Lifting Machinery Operation	Level 1	Rolling Stock Power Systems Maintenance	Level 1, Level 2
Internet of Things Application	Level 2	Rolling Stock Propulsion Systems Maintenance	Level 1, Level 2
Learning and Development	Level 2	Vendor Management	Level 1
Maintenance Scheduling	Level 3	Workplace Facilities Safety Management	Level 2
Rail Regulatory Compliance	Level 2	Workplace Safety and Health Culture Development	Level 2
Report Writing	Level 1	Workplace Safety and Health for Confined Spaces	Level 1
Robotics and Automation Application	Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Rolling Stock Air Condition and Ventilation Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Rolling Stock Auxiliary Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Sense Making	Basic
Interpersonal Skills	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Assistant Engineer/Assistant Engineer (Rolling Stock)

JOB ROLE DESCRIPTION

The Senior Assistant Engineer/Assistant Engineer (Rolling Stock) supervises his/her team in performing preventive and corrective maintenance work on passenger trains. He also proposes recommendations to workflow improvements and manages his/her team's performance in achieving established Key Performance Indicators (KPIs), as well as ensuring the safety and work quality of external contractors and/or stakeholders.

He may be deployed at various rail premises such as workshops, depots and/or maintenance plants to carry out his duties, depending on his area of specialisation and expertise. He has strong engineering fundamentals in rolling stock, is meticulous in ensuring the team carries out the maintenance work in a safe and orderly manner and displays leadership skills.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 3	Rolling Stock Air Condition and Ventilation Systems Maintenance	Level 3
Condition-Based Assets Monitoring Management	Level 2	Rolling Stock Auxiliary Systems Maintenance	Level 3
Continuous Improvement Management	Level 3	Rolling Stock Bogie Maintenance	Level 3
Data and Statistical Analytics	Level 3	Rolling Stock Brake Systems Maintenance	Level 3
Engineering Train and Rolling Stock Operation	Level 3	Rolling Stock Car Body Maintenance	Level 3
Equipment Maintenance and Housekeeping	Level 2	Rolling Stock On-Board Control Systems Maintenance	Level 3
Heavy Lifting Machinery Operation	Level 2	Rolling Stock Power Systems Maintenance	Level 3
Innovation Management	Level 3	Rolling Stock Propulsion Systems Maintenance	Level 3
Internet of Things Application	Level 3	Staff Performance Management	Level 3
Inventory Management	Level 3	Vendor Management	Level 2
Maintenance Scheduling	Level 3	Workplace Facilities Safety Management	Level 3
Manpower Planning and Deployment	Level 3	Workplace Safety and Health Culture Development	Level 3
People Development	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
Rail Regulatory Compliance	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
Report Writing	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Robotics and Automation Application	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Intermediate
Leadership	Intermediate	Interpersonal Skills	Intermediate
Teamwork	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Rolling Stock)

JOB ROLE DESCRIPTION

The Senior Engineer/Engineer (Rolling Stock) leads multiple teams in performing preventive and corrective maintenance for passenger trains. He/She is accountable for planning the maintenance work activities, providing technical advice to team members as well as supervising complex issues pertaining to fault analyses and testing of rolling stock. He is also involved in the engagement and management of external contractors and ensuring the achievement of operating standards and quality standards.

He is required to carry out his duties at various rail premises such as workshops, depots and plants. He has a strong working knowledge of rolling stock architecture and is systematic in solving engineering challenges. He is a team player with good interpersonal skills and demonstrates strong supervisory and leadership skills to implement work processes and systems in meeting operations and maintenance requirements.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 4	Rolling Stock Auxiliary Systems Maintenance	Level 4
Budgeting	Level 3	Rolling Stock Bogie Maintenance	Level 4
Change Management	Level 4	Rolling Stock Brake Systems Maintenance	Level 4
Condition-Based Assets Monitoring Management	Level 3	Rolling Stock Car Body Maintenance	Level 4
Continuous Improvement Management	Level 4	Rolling Stock On-Board Control Systems Maintenance	Level 4
Data and Statistical Analytics	Level 4	Rolling Stock Power Systems Maintenance	Level 4
Equipment Maintenance and Housekeeping	Level 3	Rolling Stock Propulsion Systems Maintenance	Level 4
Heavy Lifting Machinery Operation	Level 2	Staff Performance Management	Level 3
Innovation Management	Level 4	Stakeholder Management	Level 3
Internet of Things Application	Level 3	Systems Engineering Thinking	Level 4
Inventory Management	Level 3	Technology Application	Level 2
Maintenance Scheduling	Level 4	Vendor Management	Level 3
Manpower Planning and Deployment	Level 3	Workplace Facilities Safety Management	Level 3
People Development	Level 4	Workplace Safety and Health for Culture Development	Level 4
Project Management	Level 4	Workplace Safety and Health for Confined Spaces	Level 3
Rail Regulatory Compliance	Level 4	Workplace Safety and Health for Electrical Safety	Level 3
Report Writing	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Robotics and Automation Application	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Rolling Stock Air Condition and Ventilation Systems Maintenance	Level 4		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Rolling Stock)

GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Intermediate
Problem Solving	Intermediate	Resource Management	Intermediate
Leadership	Intermediate		

Principal Engineer/Engineering Manager (Rolling Stock)

JOB ROLE DESCRIPTION

The Principal Engineer/Engineering Manager (Rolling Stock) leads cross-functional teams in maintenance work involving passenger trains. He/She also applies technical expertise to improve maintenance regime, provides advice on engineering studies and new engineering initiatives, as well as the engagement and management of external contractors.

He is required to carry out his duties at various rail premises such as workshops, depots and plants. He possesses extensive knowledge of rolling stock and other rail systems, and has excellent problem solving and analytical skills. He also applies managerial skills to fulfil the responsibilities of operational activities and facilitates the implementation of organisational maintenance regimes and continuous improvement initiatives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 5	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 4	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Systems Engineering Thinking	Level 5
Engineering Maintenance Management	Level 4	Technology Application	Level 3
Innovation Management	Level 5	Vendor Management	Level 4
Internet of Things Application	Level 4	Workplace Facilities Safety Management	Level 4
Maintenance Scheduling	Level 5	Workplace Safety and Health Culture Development	Level 5
Manpower Planning and Deployment	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Organisational Planning and Target Setting	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Intermediate	Resource Management	Intermediate
Communication	Advanced	Problem Solving	Advanced
Decision Making	Advanced		

Chief Engineer/Senior Engineering Manager (Rolling Stock)

JOB ROLE DESCRIPTION

The Chief Engineer/Senior Engineering Manager (Rolling Stock) leads and facilitates the implementation of rolling stock maintenance regime within the organisation. He/She works closely with both internal and external stakeholders in implementing new initiatives and adopting new technologies to enhance rail reliability and maintainability. He demonstrates his technical expertise by providing advice to cross-disciplinary engineering studies, reviews enhancement initiatives and establishes competency standards and engineering standards to ensure staff are equipped with relevant skills.

He has a strong understanding of the rail operational activities, industry developments and regulatory requirements, and maintains a forward-looking mindset to contribute strategically towards achieving the department's goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Strategy Planning	Level 5
Engineering Maintenance Management	Level 5	Systems Engineering Thinking	Level 5
Innovation Management	Level 5	Technology Application	Level 3
Internet of Things Application	Level 4	Vendor Management	Level 4
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 4
Manpower Planning and Deployment	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Resource Management	Advanced	Leadership	Advanced
Decision Making	Advanced	Problem Solving	Advanced
Interpersonal Skills	Advanced		

Engineering Head (Rolling Stock/Engineering Train)

JOB ROLE DESCRIPTION

The Engineering Head (Rolling Stock/Engineering Train) is a technical subject matter expert on passenger trains and engineering trains within the organisation. He/She represents the organisation when interfacing with internal and/or external stakeholders to implement enhancement strategies to improve rail reliability and maintainability. His duties also include translating and aligning established industry standards into department Key Performance Indicators (KPIs).

He possesses a strong understanding of leading engineering practices, operational best practices, industry developments and regulatory requirements and he translates these into organisation practices and performance requirements. He possesses strong leadership skills, is able to foster a culture of continuous improvement and demonstrates excellent management skills to achieve the department's operational and functional objectives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 6
Budgeting	Level 5	Project Management	Level 6
Business Continuity Management	Level 6	Rail Regulatory Compliance	Level 6
Change Management	Level 6	Robotics and Automation Application	Level 5
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 5
Continuous Improvement Management	Level 6	Stakeholder Management	Level 5
Data and Statistical Analytics	Level 6	Strategy Planning	Level 6
Engineering Maintenance Management	Level 6	Systems Engineering Thinking	Level 6
Innovation Management	Level 6	Technology Application	Level 4
Internet of Things Application	Level 5	Vendor Management	Level 5
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 5
Manpower Planning and Deployment	Level 5	Workplace Safety and Health Culture Development	Level 6
Organisational Planning and Target Setting	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Interpersonal Skills	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Communication	Advanced		

Technician (Engineering Train)

JOB ROLE DESCRIPTION

The Technician (Engineering Train) works in a team to perform preventive and corrective maintenance on engineering trains. He/She assists in the conduct of fault analysis, testing and operations of engineering trains to improve the reliability of the trains. He also assists in the preparation of tools, equipment and checklist required for maintenance activities. He also supervises the work of contractors and external stakeholders in ensuring compliance to safety requirements and operating standards.

He is required to work in rotating shifts and carries out his duties at various train depots and workshops. He is capable of communicating effectively within the team, able to multi-task and prioritise workload.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 1	Report Writing	Level 1
Data and Statistical Analytics	Level 1	Robotics and Automation Application	Level 2
Engineering Train and Rolling Stock Operation	Level 3	Track Tamping Vehicle Maintenance	Level 1, Level 2
Equipment Maintenance and Housekeeping	Level 1	Vendor Management	Level 1
Heavy Crane Vehicle Maintenance	Level 1, Level 2	Wagon Maintenance	Level 1, Level 2
Heavy Lifting Machinery Operation	Level 1	Workplace Facilities Safety Management	Level 2
Internet of Things Application	Level 2	Workplace Safety and Health for Confined Spaces	Level 1
Locomotive Maintenance	Level 1, Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Multi-Function Vehicle Maintenance	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Rail Grinding Vehicle Maintenance	Level 1, Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Rail Regulatory Compliance	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Lifelong Learning	Basic
Interpersonal Skills	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Technician (Engineering Train)

JOB ROLE DESCRIPTION

The Senior Technician (Engineering Train) is responsible for the preventive and corrective maintenance activities, and supports the operations and deployment of engineering trains for maintenance work in the main line. His/Her duties include carrying out troubleshooting to perform fault analyses, repair and/or modifications of engineering train systems, components and on-board equipment, and perform routine vehicle inspections based on maintenance procedures and instructions. He also supervises the work of contractors and external stakeholders in ensuring compliance to safety requirements and operating standards.

He is required to work in rotating shifts and carries out his duties at various train depots and workshops. He possesses good communication skills and is able to work productively in a team to meet maintenance requirements.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 2	Rail Regulatory Compliance	Level 2
Data and Statistical Analytics	Level 2	Report Writing	Level 1
Engineering Train and Rolling Stock Operation	Level 3	Robotics and Automation Application	Level 2
Equipment Maintenance and Housekeeping	Level 1	Track Tamping Vehicle Maintenance	Level 1, Level 2
Heavy Crane Vehicle Maintenance	Level 1, Level 2	Vendor Management	Level 1
Heavy Lifting Machinery Operation	Level 1	Wagon Maintenance	Level 1, Level 2
Internet of Things Application	Level 2	Workplace Facilities Safety Management	Level 2
Learning and Development	Level 2	Workplace Safety and Health Culture Development	Level 2
Locomotive Maintenance	Level 1, Level 2	Workplace Safety and Health for Confined Spaces	Level 1
Maintenance Scheduling	Level 3	Workplace Safety and Health for Electrical Safety	Level 1
Multi-Function Vehicle Maintenance	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Rail Grinding Vehicle Maintenance	Level 1, Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Sense Making	Basic
Interpersonal Skills	Basic		

Senior Assistant Engineer/Assistant Engineer (Engineering Train)

JOB ROLE DESCRIPTION

The Senior Assistant Engineer/Assistant Engineer (Engineering Train) supervises his/her team in performing preventive and corrective maintenance work on engineering trains. He is adept in using various calibration and testing equipment for the maintenance of engineering trains and contributes to workflow improvements. He also manages the team's performance in achieving established Key Performance Indicators (KPIs).

He is required to work in rotating shifts and carries out his duties at various train depots and workshops. He is meticulous and shows good leadership in ensuring that workplace safety measures are implemented and maintenance activities are conducted in a safe and orderly manner by the team.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 3	People Development	Level 3
Condition-Based Assets Monitoring Management	Level 2	Rail Grinding Vehicle Maintenance	Level 3
Continuous Improvement Management	Level 3	Rail Regulatory Compliance	Level 3
Data and Statistical Analytics	Level 3	Report Writing	Level 2
Engineering Train and Rolling Stock Operation	Level 3	Robotics and Automation Application	Level 3
Equipment Maintenance and Housekeeping	Level 2	Track Tamping Vehicle Maintenance	Level 3
Heavy Crane Vehicle Maintenance	Level 3	Staff Performance Management	Level 3
Heavy Lifting Machinery Operation	Level 2	Vendor Management	Level 2
Innovation Management	Level 3	Wagon Maintenance	Level 3
Internet of Things Application	Level 3	Workplace Facilities Safety Management	Level 3
Inventory Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Locomotive Maintenance	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
Maintenance Scheduling	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Multi-Function Vehicle Maintenance	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Intermediate
Leadership	Intermediate	Interpersonal Skills	Basic
Teamwork	Intermediate		

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For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Engineering Train)

JOB ROLE DESCRIPTION

The Senior Engineer/Engineer (Engineering Train) leads multiple teams in performing preventive and corrective maintenance for engineering trains. He/She is accountable for planning the maintenance work activities, providing technical advice to team members as well as supervising complex maintenance issues pertaining to fault analyses and testing of engineering trains. He is also involved in the engagement and management of external contractors and ensuring the achievement of operating standards and quality standards.

He is required to work in rotating shifts and carries out his duties at various train depots and workshops. He is a team player with good interpersonal skills, exhibiting strong supervisory and leadership skills while also able to work independently in making informed decisions for the section.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 4	Rail Grinding Vehicle Maintenance	Level 4
Budgeting	Level 3	Rail Regulatory Compliance	Level 4
Change Management	Level 4	Report Writing	Level 3
Condition-Based Assets Monitoring Management	Level 3	Robotics and Automation Application	Level 3
Continuous Improvement Management	Level 4	Staff Performance Management	Level 3
Data and Statistical Analytics	Level 4	Stakeholder Management	Level 3
Equipment Maintenance and Housekeeping	Level 3	Systems Engineering Thinking	Level 4
Heavy Crane Vehicle Maintenance	Level 4	Technology Application	Level 2
Heavy Lifting Machinery Operation	Level 2	Track Tamping Vehicle Maintenance	Level 4
Innovation Management	Level 4	Vendor Management	Level 3
Internet of Things Application	Level 3	Wagon Maintenance	Level 4
Inventory Management	Level 3	Workplace Facilities Safety Management	Level 3
Locomotive Maintenance	Level 4	Workplace Safety and Health Culture Development	Level 4
Maintenance Scheduling	Level 4	Workplace Safety and Health for Confined Spaces	Level 3
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Electrical Safety	Level 3
Multi-Function Vehicle Maintenance	Level 4	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
People Development	Level 4	WSH for Incident and Accident Investigation	Level 3
Project Management	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Intermediate
Problem Solving	Intermediate	Resource Management	Intermediate
Leadership	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Principal Engineer/Engineering Manager (Engineering Train)

JOB ROLE DESCRIPTION

The Principal Engineer/Engineering Manager (Engineering Train) leads cross-functional teams in maintenance work involving engineering trains. He/She also applies technical expertise to improve maintenance regime, provides advice on engineering studies and new engineering initiatives, as well as the engagement and management of external contractors.

He is required to carry out his duties at various train depots and workshops. He has excellent problem solving and analytical skills, and applies his managerial skills to lead his team to fulfil the responsibilities of operational and maintenance activities. He also facilitates the implementation of organisational maintenance regimes and continuous improvement initiatives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 5	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 4	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Systems Engineering Thinking	Level 5
Engineering Maintenance Management	Level 4	Technology Application	Level 3
Innovation Management	Level 5	Vendor Management	Level 4
Internet of Things Application	Level 4	Workplace Facilities Safety Management	Level 4
Maintenance Scheduling	Level 5	Workplace Safety and Health Culture Development	Level 5
Manpower Planning and Deployment	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Organisational Planning and Target Setting	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Intermediate	Resource Management	Intermediate
Communication	Advanced	Problem Solving	Advanced
Decision Making	Advanced		

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For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Chief Engineer/Senior Engineering Manager (Engineering Train)

JOB ROLE DESCRIPTION

The Chief Engineer/Senior Engineering Manager (Engineering Train) leads and facilitates the implementation of Engineering Train (ET) maintenance regime within the organisation. He/She works closely with both internal and external stakeholders in implementing new initiatives and adopting technological developments in engineering trains. He demonstrates his technical expertise by providing advice to cross-disciplinary engineering studies as well as reviewing enhancement initiatives to justify the effectiveness of improvement programmes. His roles also include the establishment of competency and engineering standards to ensure staff are equipped with relevant skills.

He works well in a collaborative environment and functions through his understanding of the operational activities, industry developments and regulatory requirements. He maintains a forward-thinking mindset and contributes strategically to meet the department's goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Strategy Planning	Level 5
Engineering Maintenance Management	Level 5	Systems Engineering Thinking	Level 5
Innovation Management	Level 5	Technology Application	Level 3
Internet of Things Application	Level 4	Vendor Management	Level 4
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 4
Manpower Planning and Deployment	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Resource Management	Advanced	Leadership	Advanced
Decision Making	Advanced	Problem Solving	Advanced
Interpersonal Skills	Advanced		

Technician (Permanent Way and Civil Structure)

JOB ROLE DESCRIPTION

The Technician (Permanent Way and Civil Structure) works in a team to perform preventive and corrective maintenance of civil structures, train tracks and/or third rail. He/She operates engineering trains to support rail track maintenance and performs track-walk inspections. He also assists in the inspection and general maintenance of train stations and depot buildings, and the supervision of contractors and external stakeholders in ensuring adherence to work and safety standards.

He is required to work on day and/or permanent night shifts and carries out his duties at various rail premises such as on train tracks, in train tunnels and at various train stations. As such, he is physically fit and is able to perform his duties within confined work spaces under tight maintenance schedules. He is detail-oriented in identifying faults in the permanent way or civil structures and is a good team player in supporting the team in meeting their maintenance objectives.

TECHNICAL SKILLS & COMPETENCIES			
Civil Structure Maintenance	Level 1, Level 2	Robotics and Automation Application	Level 2
Condition-Based Assets Monitoring Management	Level 1	Third Rail Maintenance	Level 1, Level 2
Data and Statistical Analytics	Level 1	Track Access Management	Level 1
Engineering Train and Rolling Stock Operation	Level 2	Vendor Management	Level 1
Equipment Maintenance and Housekeeping	Level 1	Work at Heights	Level 1
Internet of Things Application	Level 2	Workplace Facilities Safety Management	Level 2
Rail Regulatory Compliance	Level 1	Workplace Safety and Health for Confined Spaces	Level 1
Rail Track Inspection	Level 1, Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Rail Track Maintenance	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Report Writing	Level 1	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Lifelong Learning	Basic
Interpersonal Skills	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Technician (Permanent Way and Civil Structure)

JOB ROLE DESCRIPTION

The Senior Technician (Permanent Way and Civil Structure) performs preventive and corrective maintenance of civil structures, train tracks and/or third rail. He/She operates various types of engineering work trains and train-mounted equipment to aid in the maintenance of train tracks, train tunnels and various rail structures. He conducts track-walk inspections and performs troubleshooting, fault analysis and repair of electrical and mechanical track equipment and systems. He also conducts visual inspections and assists in the general maintenance of train stations and depot buildings.

He is required to work on day and/or permanent night shifts and carries out his duties at various rail premises such as on train tracks, in train tunnels and at various train stations. He is technically inclined and guides his team to perform maintenance work assigned.

TECHNICAL SKILLS & COMPETENCIES			
Civil Structure Maintenance	Level 1, Level 2	Robotics and Automation Application	Level 2
Condition-Based Assets Monitoring Management	Level 2	Third Rail Maintenance	Level 1, Level 2
Data and Statistical Analytics	Level 2	Track Access Management	Level 1
Engineering Train and Rolling Stock Operation	Level 3	Vendor Management	Level 1
Equipment Maintenance and Housekeeping	Level 1	Work at Heights	Level 1
Internet of Things Application	Level 2	Workplace Facilities Safety Management	Level 2
Learning and Development	Level 2	Workplace Safety and Health Culture Development	Level 2
Maintenance Scheduling	Level 3	Workplace Safety and Health for Confined Spaces	Level 1
Rail Regulatory Compliance	Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Rail Track Inspection	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Rail Track Maintenance	Level 1, Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Report Writing	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Sense Making	Basic
Interpersonal Skills	Basic		

Senior Assistant Engineer/Assistant Engineer (Permanent Way and Civil Structure)

JOB ROLE DESCRIPTION

The Senior Assistant Engineer/Assistant Engineer (Permanent Way and Civil Structure) is responsible for supervising his/her team in performing preventive and corrective maintenance work on train tracks, railway reserves and buildings. He/She is adept in using various test equipment for the maintenance of permanent ways and civil structures as well as provides recommendations to workflow improvements and facilitating the work of external contractor. He also manages the team's performance in achieving established Key Performance Indicators (KPIs).

He is required to work in shifts and carries out his duties at various rail premises such as on train tracks, in train tunnels and at various train stations. He is meticulous in implementing workplace safety measures and demonstrates team leadership skills to ensure maintenance works are carried out in a safe and orderly manner.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 3	Rail Track Maintenance	Level 3
Civil Structure Maintenance	Level 3	Report Writing	Level 2
Condition-Based Assets Monitoring Management	Level 2	Robotics and Automation Application	Level 3
Continuous Improvement Management	Level 3	Staff Performance Management	Level 3
Data and Statistical Analytics	Level 3	Third Rail Maintenance	Level 3
Engineering Train and Rolling Stock Operation	Level 3	Track Access Management	Level 1
Equipment Maintenance and Housekeeping	Level 2	Vendor Management	Level 2
Innovation Management	Level 3	Work at Heights	Level 3
Internet of Things Application	Level 3	Workplace Facilities Safety Management	Level 3
Inventory Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Maintenance Scheduling	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
People Development	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Rail Regulatory Compliance	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Rail Track Inspection	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Intermediate
Leadership	Intermediate	Interpersonal Skills	Intermediate
Teamwork	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport



Engineer, Permanent Way and Civil Structure

Kaylee Fern
SBS Transit Ltd

KEEPING AN OPEN MIND

Kaylee Fern is a fresh face in the rail industry, with only a year's experience in the niche field of Rail Engineering. What keeps Kaylee energised about her job are the interesting challenges that her work brings each day, and the opportunities they present for personal and career growth.

As an engineer in the Permanent Way and Civil Structure department with SBS Transit, Kaylee's role involves leading a team to maintain the tunnel structure and drainage system, monitoring various parameters, and patrolling the railways. "In order to lead a team well, you need to be patient, have a positive mindset, and be resilient," says Kaylee. For her, these characteristics mean showing compassion, open-mindedness, and a willingness to take on challenges and manage any situation, especially when the going gets tough.

According to Kaylee, time and resources are the biggest challenges she faces on her job. At the end of train operations each day, her team only has a small window of three engineering hours to perform the maintenance work needed to ensure the trains run smoothly the next day. Rather than feel overwhelmed, Kaylee finds this immensely motivating.

"There were times where we had to drop everything to handle more pressing issues. But with the help of my supervisors, a dedicated team, detailed planning and coordination, we were able to ensure work is completed within the engineering hours safely," she quips.

"There were times where we had to drop everything to handle more pressing issues. But with the help of my supervisors, a dedicated team, detailed planning and coordination, we were able to ensure work is completed within the engineering hours safely."

Knowing that this is not a typical office deskbound job, what drew Kaylee to Rail Engineering in the first place was the potential she saw in the developments within the industry. The upcoming Thomson-East Coast Line and Cross Island Line mean more career and skills advancement opportunities. She reckons these developments will offer good prospects. With on-the-job training, she expects to gain skills mastery in her chosen field.

Kaylee hopes to expand her skillsets, as well as her knowledge on Rail Engineering. "The Skills Framework for Public Transport will be a helpful resource to inform me on the possible career paths, relevant courses and training required for skills upgrading," she says.

With the wide availability of courses, seminars, and workshops within the rail sector, she is confident that she has the resources she needs to keep updated on the technological developments and skills required to maintain rail network reliability.

Kaylee believes that expanding her skills set and learning more about Rail Engineering will in turn help her play her part in the bigger scheme of things. She says, "Commuters depend on our maintenance efforts to get to their destination every day, be it to work, to school, to meet more people. It is a rewarding moment and it is also this sense of satisfaction that motivates me every day."

Senior Engineer/Engineer (Permanent Way and Civil Structure)

JOB ROLE DESCRIPTION

The Senior Engineer/Engineer (Permanent Way and Civil Structure) leads multiple teams in performing preventive and corrective maintenance on tracks, railway reserves and buildings. He/She is accountable for planning the maintenance work activities, providing technical advice to team members as well as supervising complex issues pertaining to fault analysis and testing of permanent ways and civil structures. He is also involved in the engagement and management of external contractors and ensuring the achievement of operating standards and quality standards.

He is required to work in shifts and carries out his duties at various rail premises such as on train tracks, in train tunnels and at various train stations. He has a strong understanding of civil and structural design and is methodical in approaching engineering challenges. He is a team player with good interpersonal skills and is able to demonstrate strong supervisory and leadership skills to implement work processes and systems to meet operational requirements.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 4	Rail Track Maintenance	Level 4
Budgeting	Level 3	Report Writing	Level 3
Change Management	Level 4	Robotics and Automation Application	Level 3
Civil Structure Maintenance	Level 4	Staff Performance Management	Level 3
Condition-Based Assets Monitoring Management	Level 3	Stakeholder Management	Level 3
Continuous Improvement Management	Level 4	Systems Engineering Thinking	Level 4
Data and Statistical Analytics	Level 4	Technology Application	Level 2
Equipment Maintenance and Housekeeping	Level 3	Third Rail Maintenance	Level 4
Innovation Management	Level 4	Vendor Management	Level 3
Internet of Things Application	Level 3	Work at Heights	Level 3
Inventory Management	Level 3	Workplace Facilities Safety Management	Level 3
Maintenance Scheduling	Level 4	Workplace Safety and Health Culture Development	Level 4
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
People Development	Level 4	Workplace Safety and Health for Electrical Safety	Level 3
Project Management	Level 4	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Rail Regulatory Compliance	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Rail Track Inspection	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Intermediate
Problem Solving	Intermediate	Resource Management	Intermediate
Leadership	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Principal Engineer/Engineering Manager (Permanent Way and Civil Structure)

JOB ROLE DESCRIPTION

The Principal Engineer/Engineering Manager (Permanent Way and Civil Structure) leads cross-functional teams in the maintenance work involving train tracks, railway reserves and buildings. He/She also applies technical expertise in providing advice on engineering studies and new initiatives, as well as the engagement and management of external contractors.

He is required to carry out his duties at assigned workshops and may be involved in overseeing maintenance work at various rail premises such as train stations, train tracks and/or in train tunnels. He possesses in-depth knowledge of permanent way and civil structures engineering and has excellent problem solving and analytical skills. He also applies managerial skills to lead his team to fulfil the responsibilities of operational activities and facilitates the implementation of organisational maintenance regimes and continuous improvement initiatives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 5	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Staff Performance Management	Level 4
Condition-Based Assets Monitoring Management	Level 4	Robotics and Automation Application	Level 4
Continuous Improvement Management	Level 5	Staff Performance Management	Level 4
Data and Statistical Analytics	Level 5	Stakeholder Management	Level 4
Engineering Maintenance Management	Level 4	Systems Engineering Thinking	Level 5
Innovation Management	Level 5	Technology Application	Level 3
Internet of Things Application	Level 4	Vendor Management	Level 4
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 4
Manpower Planning and Deployment	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 4
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Resource Management	Advanced
Communication	Advanced	Problem Solving	Advanced
Decision Making	Advanced		

Chief Engineer/Senior Engineering Manager (Permanent Way and Civil Structure)

JOB ROLE DESCRIPTION

The Chief Engineer/Senior Engineering Manager (Permanent Way and Civil Structure) leads and facilitates the implementation of permanent way and civil structures maintenance regime within the organisation. He/She works closely with both internal and external stakeholders in implementing new initiatives and adopting technological developments in tracks, railway reserves and buildings. He demonstrates technical expertise in providing advice to cross-disciplinary engineering studies, reviews enhancement initiatives, as well as the establishment of competency standards and engineering standards to ensure staff are equipped with relevant skills.

He possesses in-depth knowledge and understanding of the operational activities, industry developments and regulatory requirements of permanent way and civil structures to establish improvement to the maintenance regime. He also maintains a forward-thinking mindset to contribute strategically towards achieving the department goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Strategy Planning	Level 5
Engineering Maintenance Management	Level 5	Systems Engineering Thinking	Level 5
Innovation Management	Level 5	Technology Application	Level 3
Internet of Things Application	Level 4	Vendor Management	Level 4
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 4
Manpower Planning and Deployment	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Resource Management	Advanced	Leadership	Advanced
Decision Making	Advanced	Problem Solving	Advanced
Interpersonal Skills	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Engineering Head (Permanent Way and Civil Structure)

JOB ROLE DESCRIPTION

The Engineering Head (Permanent Way and Civil Structure) is a technical subject matter expert on train tracks, railway reserves and buildings within the organisation. He/She represents the organisation when interfacing with internal and/or external stakeholders to implement permanent ways and civil structures-related maintenance and enhancement strategies. His duties also include translating and aligning established industry standards into department Key Performance Indicators (KPIs).

He possesses a strong understanding of leading engineering practices, operational best practices, industry developments and regulatory requirements, and translates these into organisation practices and performance requirements. He has strong leadership skills, is able to cultivate a culture of continuous improvement and demonstrates excellent management skills to achieve the department's operational and functional goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 6
Budgeting	Level 5	Project Management	Level 6
Business Continuity Management	Level 6	Rail Regulatory Compliance	Level 6
Change Management	Level 6	Robotics and Automation Application	Level 5
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 5
Continuous Improvement Management	Level 6	Stakeholder Management	Level 5
Data and Statistical Analytics	Level 6	Strategy Planning	Level 6
Engineering Maintenance Management	Level 6	Systems Engineering Thinking	Level 6
Innovation Management	Level 6	Technology Application	Level 4
Internet of Things Application	Level 5	Vendor Management	Level 5
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 5
Manpower Planning and Deployment	Level 5	Workplace Safety and Health Culture Development	Level 6
Organisational Planning and Target Setting	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Interpersonal Skills	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Communication	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Technician (Power)

JOB ROLE DESCRIPTION

The Technician (Power) works in a team to perform preventive and corrective maintenance of rail power systems. He/She assists in pre-maintenance activities including preparation of tools and equipment, and carries out workplace safety measures as required. He also assists in fault analysis and testing of power equipment and general housekeeping tasks. He may be assigned to supervise the work of contractors and external stakeholders in ensuring adherence to safety requirements and operating standards.

He is required to work in shifts and carries out his duties at various rail premises such as power plants, train tracks and train tunnels. He has acquired the required competencies in handling low power electrical systems work and is a good team player in supporting the team in meeting their maintenance objectives.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 1	Vendor Management	Level 1
Data and Statistical Analytics	Level 1	Work at Heights	Level 1
Equipment Maintenance and Housekeeping	Level 1	Workplace Facilities Safety Management	Level 2
High Voltage Power Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Confined Spaces	Level 1
Low Voltage Power Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Rail Regulatory Compliance	Level 1	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Report Writing	Level 1	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Lifelong Learning	Basic
Interpersonal Skills	Basic		

Senior Technician (Power)

JOB ROLE DESCRIPTION

The Senior Technician (Power) performs preventive and corrective maintenance of rail power systems. His/Her duties include identifying and rectifying rail power systems faults and restoring the rail power systems to operational conditions, providing technical guidance and on-the-job coaching to his team, as well as supervising the work of contractors and external stakeholders in ensuring compliance to safety requirements and operating standards.

He is required to work in shifts and carries out his duties at various rail premises such as power plants, train tracks and train tunnels. He is technically inclined and competent in maintaining various power systems. He is also able to provide technical guidance and on-the-job coaching to his team.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 2	Vendor Management	Level 1
Data and Statistical Analytics	Level 2	Work at Heights	Level 1
Equipment Maintenance and Housekeeping	Level 1	Workplace Facilities Safety Management	Level 2
High Voltage Power Systems Maintenance	Level 1, Level 2	Workplace Safety and Health Culture Development	Level 2
Learning and Development	Level 2	Workplace Safety and Health for Confined Spaces	Level 1
Low Voltage Power Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Maintenance Scheduling	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Rail Regulatory Compliance	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Report Writing	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Intermediate	Sense Making	Basic
Interpersonal Skills	Intermediate		

Senior Assistant Engineer/Assistant Engineer (Power)

JOB ROLE DESCRIPTION

The Senior Assistant Engineer/Assistant Engineer (Power) supervises his/her team in performing preventive and corrective maintenance work on rail power systems. He also proposes workflow improvements to improve the maintenance regime of the rail power systems, manages the team's performance in achieving established Key Performance Indicators (KPIs), as well as ensuring the safety and work quality of external contractors and/or stakeholders.

He is required to work in shifts and carries out his duties at various rail premises such as power plants, train tracks and train tunnels. He is meticulous in implementing workplace safety measures and ensuring that the team carries out the maintenance work in a safe and orderly manner. He possesses good supervision planning skills to lead his work team.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 3	Rail Regulatory Compliance	Level 3
Condition-Based Assets Monitoring Management	Level 2	Report Writing	Level 2
Continuous Improvement Management	Level 3	Staff Performance Management	Level 3
Data and Statistical Analytics	Level 3	Vendor Management	Level 2
Equipment Maintenance and Housekeeping	Level 2	Works at Heights	Level 3
High Voltage Power Systems Maintenance	Level 3	Workplace Facilities Safety Management	Level 3
Innovation Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Inventory Management	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
Low Voltage Power Systems Maintenance	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
Maintenance Scheduling	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
People Development	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Basic
Leadership	Intermediate	Interpersonal Skills	Intermediate
Teamwork	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Power)

JOB ROLE DESCRIPTION

The Senior Engineer/Engineer (Power) leads multiple teams in performing preventive and corrective maintenance for rail power systems. He/She provides technical analysis and support to the maintenance team to resolve complex rail power systems issues. He also supports and provides innovative recommendations for continuous improvement plans as well as re-prioritises work activities and addresses maintenance needs. He is also involved in the engagement and management of external contractors and ensuring the achievement of operating requirements and quality work standards.

He may be required to perform shift duties at various rail premises, and takes an active role in implementing operational improvement and enhanced maintenance regimes. As such he is well-organised, methodical and systematic in approaching his work responsibilities and adds value to the team with his technical knowledge.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 4	Rail Regulatory Compliance	Level 4
Budgeting	Level 3	Report Writing	Level 3
Change Management	Level 4	Staff Performance Management	Level 3
Condition-Based Assets Monitoring Management	Level 3	Stakeholder Management	Level 3
Continuous Improvement Management	Level 4	Systems Engineering Thinking	Level 4
Data and Statistical Analytics	Level 4	Technology Application	Level 2
Equipment Maintenance and Housekeeping	Level 3	Vendor Management	Level 3
High Voltage Power Systems Maintenance	Level 4	Works at Heights	Level 3
Innovation Management	Level 4	Workplace Facilities Safety Management	Level 3
Inventory Management	Level 3	Workplace Safety and Health Culture Development	Level 4
Low Voltage Power Systems Maintenance	Level 4	Workplace Safety and Health for Confined Spaces	Level 3
Maintenance Scheduling	Level 4	Workplace Safety and Health for Electrical Safety	Level 3
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
People Development	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Project Management	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Decision Making	Intermediate
Problem Solving	Intermediate	Resource Management	Basic
Leadership	Intermediate		

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For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Principal Engineer/Engineering Manager (Power)

JOB ROLE DESCRIPTION

The Principal Engineer/Engineering Manager (Power) leads cross-functional teams in collaborative work to support rail power systems maintenance and enhancement. He/She provides in-depth technical advice on critical maintenance issues, participates in engineering studies for the continuous improvement of the rail power maintenance regime, as well as the engagement and management of external contractors.

He possesses in-depth rail power engineering knowledge and has excellent problem solving and analytical skills. He also applies managerial skills to fulfil the responsibilities of operational activities and facilitates the implementation of organisational maintenance regimes and continuous improvement initiatives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 5	Organisational Planning and Target Setting	Level 4
Budgeting	Level 4	People Development	Level 5
Business Continuity Management	Level 5	Project Management	Level 5
Change Management	Level 5	Rail Regulatory Compliance	Level 5
Condition-Based Assets Monitoring Management	Level 4	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Systems Engineering Thinking	Level 5
Engineering Maintenance Management	Level 4	Technology Application	Level 3
High Voltage Power Systems Maintenance	Level 4	Vendor Management	Level 4
Innovation Management	Level 5	Workplace Facilities Safety Management	Level 4
Low Voltage Power Systems Maintenance	Level 4	Workplace Safety and Health Culture Development	Level 5
Maintenance Scheduling	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Manpower Planning and Deployment	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Resource Management	Intermediate
Communication	Advanced	Problem Solving	Advanced
Decision Making	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Chief Engineer/Senior Engineering Manager (Power)

JOB ROLE DESCRIPTION

The Chief Engineer/Senior Engineering Manager (Power) leads and facilitates the implementation of rail power system maintenance regime within the organisation. He/She works closely with internal and external stakeholders in implementing rail enhancement initiatives, and demonstrates his technical expertise in providing advice to cross-disciplinary engineering studies and the review of enhancement initiatives. He also establishes competency standards and engineering standards to ensure staff are equipped with the relevant skills.

He possesses an in-depth understanding of the industry and regulatory developments and translates these to operation enhancement and knowledge transfer to the organisation. He maintains a forward-thinking mindset to contribute strategically towards achieving the department goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	Organisational Planning and Target Setting	Level 4
Budgeting	Level 4	People Development	Level 5
Business Continuity Management	Level 5	Project Management	Level 5
Change Management	Level 5	Rail Regulatory Compliance	Level 5
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Strategy Planning	Level 5
Engineering Maintenance Management	Level 5	Systems Engineering Thinking	Level 5
High Voltage Power Systems Maintenance	Level 4	Technology Application	Level 3
Innovation Management	Level 5	Vendor Management	Level 4
Low Voltage Power Systems Maintenance	Level 4	Workplace Facilities Safety Management	Level 4
Maintenance Scheduling	Level 5	Workplace Safety and Health Culture Development	Level 5
Manpower Planning and Deployment	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Resource Management	Advanced	Leadership	Advanced
Decision Making	Advanced	Problem Solving	Advanced
Interpersonal Skills	Advanced		

Engineering Head (Power)

JOB ROLE DESCRIPTION

The Engineering Head (Power) is a subject matter expert on rail power systems. He/She leads the organisation to implement rail power systems maintenance regime and improvement strategies. His duties also include translating and aligning established industry standards into department Key Performance Indicators (KPIs).

He possesses a strong understanding of leading engineering practices, operational best practices, industry developments and regulatory requirements and he translates these into organisation practices and performance requirements. He possesses strong leadership skills, is able to cultivate a culture of continuous improvement and demonstrates excellent management skills to achieve the department's operational and functional goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	Organisational Planning and Target Setting	Level 5
Budgeting	Level 5	People Development	Level 6
Business Continuity Management	Level 6	Project Management	Level 6
Change Management	Level 6	Rail Regulatory Compliance	Level 6
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 5
Continuous Improvement Management	Level 6	Stakeholder Management	Level 5
Data and Statistical Analytics	Level 6	Strategy Planning	Level 6
Engineering Maintenance Management	Level 6	Systems Engineering Thinking	Level 6
High Voltage Power Systems Maintenance	Level 4	Technology Application	Level 3
Innovation Management	Level 6	Vendor Management	Level 5
Low Voltage Power Systems Maintenance	Level 4	Workplace Facilities Safety Management	Level 5
Maintenance Scheduling	Level 5	Workplace Safety and Health Culture Development	Level 6
Manpower Planning and Deployment	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Interpersonal Skills	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Communication	Advanced		

Technician (Mechanical and Electrical)

JOB ROLE DESCRIPTION

The Technician (Mechanical and Electrical) works in a team to perform preventive and corrective maintenance of mechanical and electrical systems at various rail premises. He/She assists in the preparation of maintenance work and performs routine maintenance under supervision. He supports the team in conducting fault analysis and testing to improve the reliability of mechanical and electrical systems as well as supervises the work of contractors and external stakeholders in ensuring compliance to safety requirements and operating standards.

He is required to work in shifts and carries out his duties in the workshops and at various train stations. He is technically inclined and adept in the repair and maintenance of mechanical and electrical systems. He is capable of communicating effectively within the team, able to multi-task and prioritise his assigned maintenance workload in supporting maintenance activities.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 1	Robotics and Automation Application	Level 2
Data and Statistical Analytics	Level 1	Station Air-Conditioning Systems Maintenance	Level 1, Level 2
Drainage, Plumbing and Sanitary Systems Maintenance	Level 1, Level 2	Track Access Management	Level 1
Equipment Maintenance and Housekeeping	Level 1	Vendor Management	Level 1
Escalator and Travellator Maintenance	Level 1, Level 2	Ventilation System Maintenance	Level 1, Level 2
Fire Protection Systems Maintenance	Level 1, Level 2	Work at Heights	Level 1
Internet of Things Application	Level 2	Workplace Facilities Safety Management	Level 2
Lift Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Confined Spaces	Level 1
Platform Screen Door Maintenance	Level 1, Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Rail Regulatory Compliance	Level 1	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Report Writing	Level 1	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Lifelong Learning	Basic
Interpersonal Skills	Basic		

Senior Technician (Mechanical and Electrical)

JOB ROLE DESCRIPTION

The Senior Technician (Mechanical and Electrical) performs preventive and corrective maintenance of mechanical and electrical systems. He/She is technically inclined, knowledgeable and skilled in the maintenance of various mechanical and electrical systems. His duties include troubleshooting faults, providing technical guidance and on-the-job coaching to his team, as well as supervising the work of contractors and external stakeholders in ensuring compliance to safety requirements and operating standards.

He is required to work in shifts and carries out his duties at various rail premises such as workshops and at train stations. He is a team-player and is able to communicate effectively within the team to support maintenance activities.

TECHNICAL SKILLS & COMPETENCIES			
Condition-Based Assets Monitoring Management	Level 2	Robotics and Automation Application	Level 2
Data and Statistical Analytics	Level 2	Station Air-Conditioning Systems Maintenance	Level 1, Level 2
Drainage, Plumbing and Sanitary Systems Maintenance	Level 1, Level 2	Track Access Management	Level 1
Equipment Maintenance and Housekeeping	Level 1	Vendor Management	Level 1
Escalator and Travellator Maintenance	Level 1, Level 2	Ventilation System Maintenance	Level 1, Level 2
Fire Protection Systems Maintenance	Level 1, Level 2	Work at Heights	Level 1
Internet of Things Application	Level 2	Workplace Facilities Safety Management	Level 2
Learning and Development	Level 2	Workplace Safety and Health Culture Development	Level 2
Lift Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Confined Spaces	Level 1
Maintenance Scheduling	Level 3	Workplace Safety and Health for Electrical Safety	Level 1
Platform Screen Door Maintenance	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Rail Regulatory Compliance	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Report Writing	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Sense Making	Basic
Interpersonal Skills	Basic		

Senior Assistant Engineer/Assistant Engineer (Mechanical and Electrical)

JOB ROLE DESCRIPTION

The Senior Assistant Engineer/Assistant Engineer (Mechanical and Electrical) supervises his/her team in performing preventive and corrective maintenance work on mechanical and electrical systems. His duties also include proposing workflow improvements to improve the reliability of the mechanical and electrical systems. He also manages his team's performance in achieving established Key Performance Indicators (KPIs) as well as facilitating the work of external contractors.

He is required to work in shifts and carries out his duties at various rail premises such as workshops and at various train stations. He has strong mechanical and electrical fundamentals and is meticulous in ensuring that maintenance work and activities are performed in a safe and orderly fashion by the team. He possesses an analytical mindset and is able to exhibit leadership skills in his team.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 3	Rail Regulatory Compliance	Level 3
Condition-Based Assets Monitoring Management	Level 2	Report Writing	Level 2
Continuous Improvement Management	Level 3	Robotics and Automation Application	Level 3
Data and Statistical Analytics	Level 3	Staff Performance Management	Level 3
Drainage, Plumbing and Sanitary Systems Maintenance	Level 3	Station Air-Conditioning Systems Maintenance	Level 3
Equipment Maintenance and Housekeeping	Level 2	Track Access Management	Level 1
Escalator and Travellator Maintenance	Level 3	Vendor Management	Level 2
Fire Protection Systems Maintenance	Level 3	Ventilation System Maintenance	Level 3
Innovation Management	Level 3	Work at Heights	Level 3
Internet of Things Application	Level 3	Workplace Facilities Safety Management	Level 3
Inventory Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Lift Systems Maintenance	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
Maintenance Scheduling	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
People Development	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Platform Screen Door Maintenance	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Intermediate
Leadership	Intermediate	Interpersonal Skills	Basic
Teamwork	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Mechanical and Electrical)

JOB ROLE DESCRIPTION

The Senior Engineer/Engineer (Mechanical and Electrical) leads multiple teams in performing preventive and corrective maintenance for mechanical and electrical systems. He/She is required to provide innovative recommendations to support organisational continuous improvement plans as well as re-prioritise work activities and address maintenance needs. He is also involved in the engagement and management of external contractors and ensuring the achievement of operating standards and quality standards.

He is required to work in shifts and carries out his duties at various rail premises such as workshops and at train stations. He is well-versed in mechanical and electrical principles and adopts a methodical approach in resolving engineering challenges. He is a team player with good interpersonal skills and is able to demonstrate strong supervisory and leadership skills in implementing work processes and systems to meet operations and maintenance requirements.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 4	Project Management	Level 4
Budgeting	Level 3	Rail Regulatory Compliance	Level 4
Change Management	Level 4	Report Writing	Level 3
Condition-based Assets Monitoring Management	Level 3	Robotics and Automation Application	Level 3
Continuous Improvement Management	Level 4	Staff Performance Management	Level 4
Data and Statistical Analytics	Level 4	Stakeholder Management	Level 3
Drainage, Plumbing and Sanitary Systems Maintenance	Level 4	Station Air-Conditioning Systems Maintenance	Level 4
Equipment Maintenance and Housekeeping	Level 3	Systems Engineering Thinking	Level 4
Escalator and Travellator Maintenance	Level 4	Technology Application	Level 2
Fire Protection Systems Maintenance	Level 4	Vendor Management	Level 3
Innovation Management	Level 4	Ventilation System Maintenance	Level 4
Internet of Things Application	Level 3	Work at Heights	Level 3
Inventory Management	Level 3	Workplace Facilities Safety Management	Level 3
Lift Systems Maintenance	Level 4	Workplace Safety and Health Culture Development	Level 4
Maintenance Scheduling	Level 4	Workplace Safety and Health for Confined Spaces	Level 3
Manpower Planning and Deployment	Level 3	Workplace Safety and Health Culture Development	Level 4
People Development	Level 4	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Platform Screen Door Maintenance	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 3

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Mechanical and Electrical)

GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Decision Making	Intermediate
Problem Solving	Intermediate	Resource Management	Intermediate
Leadership	Intermediate		

Principal Engineer/Engineering Manager (Mechanical and Electrical)

JOB ROLE DESCRIPTION

The Principal Engineer/Engineering Manager (Mechanical and Electrical) leads cross-functional teams in maintenance work involving mechanical and electrical systems. He/She also applies technical expertise to improve maintenance regime, provides advice on engineering studies and new engineering initiatives, as well as the engagement and management of external contractors.

He is required to carry out his duties at assigned workshops and may oversee maintenance work at various rail premises such as workshops and at train stations. He possesses extensive engineering knowledge and has excellent problem solving and analytical skills. He also applies managerial skills to lead his team to fulfil the responsibilities of operational activities and facilitates the implementation of organisational maintenance regimes and continuous improvement initiatives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 5	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 4	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Systems Engineering Thinking	Level 5
Engineering Maintenance Management	Level 4	Technology Application	Level 3
Innovation Management	Level 5	Vendor Management	Level 4
Internet of Things Application	Level 4	Workplace Facilities Safety Management	Level 4
Maintenance Scheduling	Level 5	Workplace Safety and Health Culture Development	Level 5
Manpower Planning and Deployment	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Organisational Planning and Target Setting	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Resource Management	Advanced
Communication	Advanced	Problem Solving	Advanced
Decision Making	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Chief Engineer/Senior Engineering Manager (Mechanical and Electrical)

JOB ROLE DESCRIPTION

The Chief Engineer/Senior Engineering Manager (Mechanical and Electrical) leads and facilitates the implementation of mechanical and electrical maintenance regime within the organisation. He/She works closely with internal and external stakeholders in implementing new engineering initiatives to enhance the reliability of mechanical and electrical systems. He demonstrates his technical expertise in providing advice to cross-disciplinary engineering studies. His role also includes establishing competency standards and engineering standards to ensure staff are equipped with relevant skills.

He has a strong understanding of rail operational activities, industry developments and regulatory requirements of mechanical and electrical systems. He also maintains a forward-thinking mindset to contribute strategically towards achieving the department goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Strategy Planning	Level 5
Engineering Maintenance Management	Level 5	Systems Engineering Thinking	Level 5
Innovation Management	Level 5	Technology Application	Level 3
Internet of Things Application	Level 4	Vendor Management	Level 4
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 4
Manpower Planning and Deployment	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Resource Management	Advanced	Leadership	Advanced
Decision Making	Advanced	Problem Solving	Advanced
Interpersonal Skills	Advanced		

Engineering Head (Mechanical and Electrical)

JOB ROLE DESCRIPTION

The Engineering Head (Mechanical and Electrical) is a technical subject matter expert in mechanical and electrical systems within the organisation. He/She represents the organisation in interfacing with internal and/or external stakeholders to implement mechanical and electrical systems-related strategies. His duties also include translating and aligning established industry standards into department Key Performance Indicators (KPIs).

He has a strong understanding of the leading engineering practices, operational best practices, industry developments and regulatory requirements, and he translates it to organisation practices and performance requirements. He possesses strong leadership skills, is able to cultivate a culture of continuous improvement and demonstrates excellent management skills to achieve the department's operational and functional objectives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 6
Budgeting	Level 5	Project Management	Level 6
Business Continuity Management	Level 6	Rail Regulatory Compliance	Level 6
Change Management	Level 6	Robotics and Automation Application	Level 5
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 4
Continuous Improvement Management	Level 6	Stakeholder Management	Level 5
Data and Statistical Analytics	Level 6	Strategy Planning	Level 6
Engineering Maintenance Management	Level 6	Systems Engineering Thinking	Level 6
Innovation Management	Level 6	Technology Application	Level 4
Internet of Things Application	Level 5	Vendor Management	Level 5
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 5
Manpower Planning and Deployment	Level 5	Workplace Safety and Health Culture Development	Level 6
Organisational Planning and Target Setting	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Interpersonal Skills	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Communication	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Technician (Signal and Communications)

JOB ROLE DESCRIPTION

The Technician (Signal and Communications) works in a team to perform preventive and corrective maintenance of signal, communication and control systems to improve the reliability of signal, communication and control systems. He/She assists in the preparation of maintenance activities and is technically inclined and adept in handling electronics and computer-based systems and equipment for maintenance. He also supervises the work of contractors and external stakeholders in ensuring adherence to operating requirements and safety standards.

He may be required to perform shift duties at various rail premises such as workshops, depots, train stations, and train tunnels. He is capable of communicating effectively within the team, is able to multi-task and can prioritise his assigned maintenance workload in supporting maintenance activities.

TECHNICAL SKILLS & COMPETENCIES			
Communication Auxiliary Systems Maintenance	Level 1, Level 2	Signalling Auxiliary Device and Equipment Maintenance	Level 1, Level 2
Communication Backbone System Maintenance	Level 1, Level 2	Supervisory Control and Data Acquisition System Maintenance	Level 1, Level 2
Communication Power System Maintenance	Level 1, Level 2	Trackside Automatic Train Control Equipment Maintenance	Level 1, Level 2
Condition-Based Assets Monitoring Management	Level 1	Train Supervisory System Maintenance	Level 1, Level 2
Data and Statistical Analytics	Level 1	Trainborne Automatic Train Control Equipment Maintenance	Level 1, Level 2
Emergency and Security Communication Systems Maintenance	Level 1, Level 2	Travel Information System Maintenance	Level 1, Level 2
Equipment Maintenance and Housekeeping	Level 1	Vendor Management	Level 1
Internet of Things Application	Level 2	Video Surveillance System Maintenance	Level 1, Level 2
Network Systems Maintenance	Level 1, Level 2	Work at Heights	Level 1
Radio System Maintenance	Level 1, Level 2	Workplace Facilities Safety Management	Level 2
Rail Regulatory Compliance	Level 1	Workplace Safety and Health for Confined Spaces	Level 1
Report Writing	Level 1	Workplace Safety and Health for Electrical Safety	Level 1
Robotics and Automation Application	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Signal Interlocking Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Basic	Teamwork	Basic
Interpersonal Skills	Basic	Problem Solving	Basic
Lifelong Learning	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Technician (Signal and Communications)

JOB ROLE DESCRIPTION

The Senior Technician (Signal and Communications) is technically inclined and skilled in preventive and corrective maintenance of various signal, communication and control systems. He/She provides technical guidance and on-the-job coaching to his team and supervises the work of contractors and external stakeholders to ensure adherence to operating requirements and safety standards.

He may be required to perform shift duties at various rail premises such as workshops, depots, train stations, and train tunnels. He is a team-player and is able to communicate with junior and senior staff member to achieve work objectives.

TECHNICAL SKILLS & COMPETENCIES			
Communication Auxiliary Systems Maintenance	Level 1, Level 2	Signalling Auxiliary Device and Equipment Maintenance	Level 1, Level 2
Communication Backbone System Maintenance	Level 1, Level 2	Supervisory Control and Data Acquisition System Maintenance	Level 1, Level 2
Communication Power System Maintenance	Level 1, Level 2	Trackside Automatic Train Control Equipment Maintenance	Level 1, Level 2
Condition-Based Assets Monitoring Management	Level 2	Train Supervisory System Maintenance	Level 1, Level 2
Data and Statistical Analytics	Level 2	Trainborne Automatic Train Control Equipment Maintenance	Level 1, Level 2
Emergency and Security Communication Systems Maintenance	Level 1, Level 2	Travel Information System Maintenance	Level 1, Level 2
Equipment Maintenance and Housekeeping	Level 1	Vendor Management	Level 1
Internet of Things Application	Level 2	Video Surveillance System Maintenance	Level 1, Level 2
Learning and Development	Level 2	Work at Heights	Level 1
Maintenance Scheduling	Level 3	Workplace Facilities Safety Management	Level 2
Network Systems Maintenance	Level 1, Level 2	Workplace Safety and Health Culture Development	Level 2
Radio System Maintenance	Level 1, Level 2	Workplace Safety and Health for Confined Spaces	Level 1
Rail Regulatory Compliance	Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Report Writing	Level 1	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Robotics and Automation Application	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Signal Interlocking Systems Maintenance	Level 1, Level 2		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Basic
Interpersonal Skills	Basic	Teamwork	Basic
Lifelong Learning	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Assistant Engineer/Assistant Engineer (Signal and Communications)

JOB ROLE DESCRIPTION

The Senior Assistant Engineer/Assistant Engineer (Signal and Communications) supervises his/her team in performing preventive and corrective maintenance work on signal, communication and control systems. He also contributes to workflow improvements to enhance the reliability of the signal, communication and control systems, as well as supervising and ensuring the work quality and safety of external contractors and/or stakeholders.

He may be required to perform shift duties at various rail premises such as workshops, depots, train stations, and train tunnels. He demonstrates team leadership skills in ensuring the team carries out the maintenance work in a safe and orderly manner, as well as manages the team's performance in achieving established Key Performance Indicators (KPIs).

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 3	Rail Regulatory Compliance	Level 3
Communication Auxiliary Systems Maintenance	Level 3	Report Writing	Level 2
Communication Backbone System Maintenance	Level 3	Robotics and Automation Application	Level 3
Communication Power System Maintenance	Level 3	Signal Interlocking Systems Maintenance	Level 3
Condition-Based Assets Monitoring Management	Level 2	Signalling Auxiliary Device and Equipment Maintenance	Level 3
Continuous Improvement Management	Level 3	Staff Performance Management	Level 3
Data and Statistical Analytics	Level 3	Trackside Automatic Train Control Equipment Maintenance	Level 3
Emergency and Security Communication Systems Maintenance	Level 3	Train Supervisory System Maintenance	Level 3
Equipment Maintenance and Housekeeping	Level 2	Trainborne Automatic Train Control Equipment Maintenance	Level 3
Innovation Management	Level 3	Travel Information System Maintenance	Level 3
Internet of Things Application	Level 3	Vendor Management	Level 2
Inventory Management	Level 3	Video Surveillance System Maintenance	Level 3
Maintenance Scheduling	Level 3	Work at Heights	Level 3
Manpower Planning and Deployment	Level 3	Workplace Facilities Safety Management	Level 3
Network Systems Maintenance	Level 3	Workplace Safety and Health Culture Development	Level 3
People Development	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
Radio System Maintenance	Level 3	Workplace Safety and Health for Electrical Safety	Level 2

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Senior Assistant Engineer/Assistant Engineer (Signal and Communications)

GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Lifelong Learning	Intermediate
Interpersonal Skills	Intermediate	Problem Solving	Intermediate
Leadership	Intermediate		

Senior Engineer/Engineer (Signal and Communications)

JOB ROLE DESCRIPTION

The Senior Engineer/Engineer (Signal and Communications) leads multiple teams in performing preventive and corrective maintenance for signal, communication and control systems. He/She provides technical advice to team members, supervises complex maintenance issues pertaining to fault analyses and testing of signal, communication and control systems, and re-prioritises work activities to address maintenance requirements. He provides recommendations and technical support to implement organisational continuous improvement initiatives, and is also involved in the engagement and management of external contractors and ensuring the compliance of operating requirements and quality work standards.

He may be required to perform shift duties at various rail premises such as workshops, depots, train stations, and train tunnels. He is a team player with good interpersonal skills and demonstrates strong supervisory, leadership and decision-making skills to implement work processes and systems to meet operations and maintenance requirements.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 4	Project Management	Level 4
Budgeting	Level 3	Radio System Maintenance	Level 4
Change Management	Level 4	Rail Regulatory Compliance	Level 4
Communication Auxiliary Systems Maintenance	Level 4	Report Writing	Level 3
Communication Backbone System Maintenance	Level 4	Robotics and Automation Application	Level 3
Communication Power System Maintenance	Level 4	Signal Interlocking Systems Maintenance	Level 4
Condition-Based Assets Monitoring Management	Level 3	Signalling Auxiliary Device and Equipment Maintenance	Level 4
Continuous Improvement Management	Level 4	Staff Performance Management	Level 3
Data and Statistical Analytics	Level 4	Stakeholder Management	Level 3
Emergency and Security Communication Systems Maintenance	Level 4	Vendor Management	Level 3
Equipment Maintenance and Housekeeping	Level 3	Video Surveillance System Maintenance	Level 4
Innovation Management	Level 4	Work at Heights	Level 4
Internet of Things Application	Level 3	Workplace Facilities Safety Management	Level 3
Inventory Management	Level 3	Workplace Safety and Health Culture Development	Level 4
Maintenance Scheduling	Level 4	Workplace Safety and Health for Confined Spaces	Level 3
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Electrical Safety	Level 3
Network Systems Maintenance	Level 4	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
People Development	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 3

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Signal and Communications)

GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Lifelong Learning	Intermediate
Interpersonal Skills	Advanced	Problem Solving	Intermediate
Leadership	Intermediate		

Principal Engineer/Engineering Manager (Signal and Communications)

JOB ROLE DESCRIPTION

The Principal Engineer/Engineering Manager (Signal and Communications) leads cross-functional teams in maintenance work involving signal, communication and control systems. He/She possesses extensive technical knowledge in signal, communication and control systems and facilitates the implementation of organisational maintenance regimes and continuous improvement initiatives. He also applies his engineering expertise in providing advice on engineering studies, as well as the engagement and management of external contractors to ensure achievement of operating requirements and quality work standards.

He may be required to perform shift duties at various rail premises such as workshops, depots, train stations, and train tunnels. He is a good communicator and applies his leadership and managerial skills to fulfil the department's operational responsibilities.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 5	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Staff Performance Management	Level 4
Condition-Based Assets Monitoring Management	Level 4	Robotics and Automation Application	Level 4
Continuous Improvement Management	Level 5	Staff Performance Management	Level 4
Data and Statistical Analytics	Level 5	Stakeholder Management	Level 4
Engineering Maintenance Management	Level 4	Systems Engineering Thinking	Level 5
Innovation Management	Level 5	Technology Application	Level 3
Internet of Things Application	Level 4	Vendor Management	Level 4
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 4
Manpower Planning and Deployment	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 4
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Lifelong Learning	Advanced
Interpersonal Skills	Advanced	Problem Solving	Advanced
Leadership	Advanced		

Chief Engineer/Senior Engineering Manager (Signal and Communications)

JOB ROLE DESCRIPTION

The Chief Engineer/Senior Engineering Manager (Signal and Communications) leads and facilitates the implementation of signal, communication and control systems maintenance regime in the organisation. He/She works closely with internal and external stakeholders in implementing new initiatives to enhance rail reliability and maintainability. He demonstrates his technical expertise in providing advice to cross-disciplinary engineering studies, reviews enhancement initiatives and establishes competency and engineering standards to ensure staff are equipped with relevant skills.

He has a strong understanding of the rail operational activities, industry developments and regulatory requirements, and maintains a forward-looking mindset to contribute strategically towards achieving the department's operational goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 5
Budgeting	Level 4	Project Management	Level 5
Business Continuity Management	Level 5	Rail Regulatory Compliance	Level 5
Change Management	Level 5	Robotics and Automation Application	Level 4
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Strategy Planning	Level 5
Engineering Maintenance Management	Level 5	Systems Engineering Thinking	Level 5
Innovation Management	Level 5	Technology Application	Level 3
Internet of Things Application	Level 4	Vendor Management	Level 4
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 4
Manpower Planning and Deployment	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Interpersonal Skills	Advanced
Leadership	Advanced	Resource Management	Advanced
Decision Making	Advanced		

Engineering Head (Signal and Communications)

JOB ROLE DESCRIPTION

The Engineering Head (Signal and Communications) is a subject matter expert of signal, communication and control systems. He/She drives the organisation's signal, communication and control systems maintenance regime and engineering standards, as well as translating and aligning established industry standards and regulatory requirements into department Key Performance Indicators (KPIs). He maintains a close link with internal and external stakeholders to implement enhancement strategies to improve rail reliability and maintainability.

He possesses strong leadership skills, is able to cultivate a culture of continuous improvement through an in-depth appreciation of leading engineering best-practices and industry developments. He also demonstrates excellent management skills to achieve the department's operational and functional objectives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	People Development	Level 6
Budgeting	Level 5	Project Management	Level 6
Business Continuity Management	Level 6	Rail Regulatory Compliance	Level 6
Change Management	Level 6	Robotics and Automation Application	Level 5
Condition-Based Assets Monitoring Management	Level 5	Staff Performance Management	Level 5
Continuous Improvement Management	Level 6	Stakeholder Management	Level 5
Data and Statistical Analytics	Level 6	Strategy Planning	Level 6
Engineering Maintenance Management	Level 6	Systems Engineering Thinking	Level 6
Innovation Management	Level 6	Technology Application	Level 4
Internet of Things Application	Level 5	Vendor Management	Level 5
Maintenance Scheduling	Level 5	Workplace Facilities Safety Management	Level 5
Manpower Planning and Deployment	Level 5	Workplace Safety and Health Culture Development	Level 6
Organisational Planning and Target Setting	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Interpersonal Skills	Advanced
Leadership	Advanced	Resource Management	Advanced
Decision Making	Advanced		

Technician (Automatic Fare Collection)

JOB ROLE DESCRIPTION

The Technician (Automatic Fare Collection) works in a team to perform preventive and corrective maintenance of Automatic Fare Collection (AFC) Line Replacement Units (LRUs). He/She is responsible for the preparation of materials, tools, equipment and checklists required. He also assists in the conduct of fault analysis and testing to improve the reliability of the AFC systems as well as supervises the work of contractors and external stakeholders in ensuring compliance to safety requirements and operating standards.

He is required to carry out his duties in the depot, workshop and/or at various train stations during train operating hours. He is a team player and a well-organised individual who is able to work under pressure and carry out his duties professionally in public access areas.

TECHNICAL SKILLS & COMPETENCIES			
Automatic Fare Collection Auxiliary Systems Maintenance	Level 1, Level 2	Rail Regulatory Compliance	Level 1
Automatic Fare Collection Gate Maintenance	Level 1, Level 2	Report Writing	Level 1
Automatic Fare Collection Sales Device Maintenance	Level 1, Level 2	Vendor Management	Level 1
Condition-Based Assets Monitoring Management	Level 1	Workplace Facilities Safety Management	Level 2
Data and Statistical Analytics	Level 1	Workplace Safety and Health for Electrical Safety	Level 1
Equipment Maintenance and Housekeeping	Level 1	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Internet of Things Application	Level 2		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Lifelong Learning	Basic
Interpersonal Skills	Basic		

Senior Technician (Automatic Fare Collection)

JOB ROLE DESCRIPTION

The Senior Technician (Automatic Fare Collection) is responsible for preventive and corrective maintenance of Automatic Fare Collection (AFC) systems. His/Her duties include troubleshooting of faults, providing technical guidance and on-the-job coaching to his team, as well as supervising the work of contractors and external stakeholders in ensuring compliance to safety requirements and operating standards.

He is required to carry out his duties in the depot, workshop and/or at various train stations during train operating hours. He is technically inclined and well-versed in various AFC systems and machines and builds good teamwork amongst his team to support maintenance activities.

TECHNICAL SKILLS & COMPETENCIES			
Automatic Fare Collection Auxiliary Systems Maintenance	Level 1, Level 2	Rail Regulatory Compliance	Level 2
Automatic Fare Collection Gate Maintenance	Level 1, Level 2	Report Writing	Level 1
Automatic Fare Collection Sales Device Maintenance	Level 1, Level 2	Vendor Management	Level 1
Condition-Based Assets Monitoring Management	Level 2	Workplace Facilities Safety Management	Level 2
Data and Statistical Analytics	Level 2	Workplace Safety and Health Culture Development	Level 2
Equipment Maintenance and Housekeeping	Level 1	Workplace Safety and Health for Electrical Safety	Level 1
Internet of Things Application	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Learning and Development	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Maintenance Scheduling	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Basic	Problem Solving	Basic
Communication	Basic	Lifelong Learning	Basic
Interpersonal Skills	Basic		

Senior Assistant Engineer/Assistant Engineer (Automatic Fare Collection)

JOB ROLE DESCRIPTION

The Senior Assistant Engineer/Assistant Engineer (Automatic Fare Collection) is responsible for supervising his/her team in performing preventive and corrective maintenance work on Automatic Fare Collection (AFC) systems. His duties also include proposing workflow improvements to improve the reliability of the AFC systems. He also manages the team's performance in achieving established Key Performance Indicators (KPIs), as well as facilitating the work of external contractors.

He is required to carry out his duties in the depot, workshop and/or at various train stations during train operating hours. He is meticulous, analytical, conducts his work and leads his team in a systematic approach to resolve technical issues and challenges.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 3	Manpower Planning and Deployment	Level 3
Automatic Fare Collection Auxiliary Systems Maintenance	Level 3	People Development	Level 3
Automatic Fare Collection Gate Maintenance	Level 3	Rail Regulatory Compliance	Level 3
Automatic Fare Collection Sales Device Maintenance	Level 3	Report Writing	Level 2
Condition-Based Assets Monitoring Management	Level 2	Staff Performance Management	Level 3
Continuous Improvement Management	Level 3	Vendor Management	Level 2
Data and Statistical Analytics	Level 3	Workplace Facilities Safety Management	Level 3
Equipment Maintenance and Housekeeping	Level 2	Workplace Safety and Health Culture Development	Level 3
Innovation Management	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
Internet of Things Application	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Inventory Management	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Maintenance Scheduling	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Basic	Problem Solving	Intermediate
Leadership	Intermediate	Interpersonal Skills	Basic
Teamwork	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Engineer/Engineer (Automatic Fare Collection)

JOB ROLE DESCRIPTION

The Senior Engineer/Engineer (Automatic Fare Collection) is responsible for leading multiple teams in performing preventive and corrective maintenance for Automatic Fare Collection (AFC) systems. He/She is required to provide innovative recommendations to support organisational continuous improvement plans as well as re-prioritise work activities and address maintenance requirements. He is involved in the engagement and management of external contractors and ensuring the achievement of operating standards and quality standards.

He is required to carry out his duties in the depot, workshop and/or at various train stations. He is well-organised and methodical in approaching engineering challenges and has good problem solving skills. He is resourceful and a good planner in allocating manpower and engineering resources to meet the maintenance requirements of the organisation.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 4	People Development	Level 4
Automatic Fare Collection Auxiliary Systems Maintenance	Level 4	Project Management	Level 4
Automatic Fare Collection Gate Maintenance	Level 4	Rail Regulatory Compliance	Level 4
Automatic Fare Collection Sales Device Maintenance	Level 4	Report Writing	Level 3
Budgeting	Level 3	Staff Performance Management	Level 3
Change Management	Level 4	Stakeholder Management	Level 3
Condition-Based Assets Monitoring Management	Level 3	Systems Engineering Thinking	Level 4
Continuous Improvement Management	Level 4	Technology Application	Level 2
Data and Statistical Analytics	Level 4	Vendor Management	Level 3
Equipment Maintenance and Housekeeping	Level 3	Workplace Facilities Safety Management	Level 3
Innovation Management	Level 4	Workplace Safety and Health Culture Development	Level 4
Internet of Things Application	Level 3	Workplace Safety and Health for Electrical Safety	Level 3
Inventory Management	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Maintenance Scheduling	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Manpower Planning and Deployment	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Intermediate
Problem Solving	Advanced	Resource Management	Intermediate
Leadership	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Principal Engineer/Engineering Manager (Automatic Fare Collection)

JOB ROLE DESCRIPTION

The Principal Engineer/Engineering Manager (Automatic Fare Collection) leads the maintenance work involving Automatic Fare Collection (AFC) systems when partnering with cross-functional teams. He/She also applies technical expertise to improve maintenance regime, provides advice on engineering studies and new engineering initiatives, as well as the engagement and management of external contractors.

He may be required to carry out his duties in the depot, workshop and/or at various train stations. He has excellent problem solving and analytical skills. He also applies managerial skills to lead his team to fulfil the responsibilities of operational activities and facilitates the implementation of organisational maintenance regimes and continuous improvement initiatives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 5	Organisational Planning and Target Setting	Level 4
Budgeting	Level 4	People Development	Level 5
Business Continuity Management	Level 5	Project Management	Level 5
Change Management	Level 5	Rail Regulatory Compliance	Level 5
Condition-Based Assets Monitoring Management	Level 4	Staff Performance Management	Level 4
Continuous Improvement Management	Level 5	Stakeholder Management	Level 4
Data and Statistical Analytics	Level 5	Systems Engineering Thinking	Level 5
Engineering Maintenance Management	Level 4	Technology Application	Level 3
Innovation Management	Level 5	Vendor Management	Level 4
Internet of Things Application	Level 4	Workplace Facilities Safety Management	Level 4
Maintenance Scheduling	Level 5	Workplace Safety and Health Culture Development	Level 5
Manpower Planning and Deployment	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 4
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Intermediate	Resource Management	Intermediate
Communication	Intermediate	Problem Solving	Advanced
Decision Making	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Chief Engineer/Senior Engineering Manager (Automatic Fare Collection)

JOB ROLE DESCRIPTION

The Chief Engineer/Senior Engineering Manager (Automatic Fare Collection) leads and facilitates the implementation of Automatic Fare Collection (AFC) maintenance regime within the organisation. He/She works closely with the authorities in implementing new engineering initiatives to enhance the reliability of AFC systems. He demonstrates his technical expertise in providing advice to cross-disciplinary engineering studies. His role also includes the establishment of competency standards and engineering standards to ensure staff are equipped with relevant skills.

He excels in operating in a collaborative environment and functions through his understanding of the operational activities, industry developments and regulatory requirements. He maintains a forward-thinking mindset to contribute strategically towards achieving the department's goals.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	Project Management	Level 5
Budgeting	Level 4	Rail Regulatory Compliance	Level 5
Business Continuity Management	Level 5	Staff Performance Management	Level 4
Change Management	Level 5	Stakeholder Management	Level 4
Condition-Based Assets Monitoring Management	Level 5	Strategy Planning	Level 5
Continuous Improvement Management	Level 5	Systems Engineering Thinking	Level 5
Data and Statistical Analytics	Level 5	Technology Application	Level 3
Engineering Maintenance Management	Level 5	Vendor Management	Level 4
Innovation Management	Level 5	Workplace Facilities Safety Management	Level 4
Internet of Things Application	Level 4	Workplace Safety and Health Culture Development	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
People Development	Level 5		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Resource Management	Intermediate	Leadership	Advanced
Decision Making	Intermediate	Problem Solving	Intermediate
Interpersonal Skills	Advanced		

Engineering Head (Automatic Fare Collection)

JOB ROLE DESCRIPTION

The Engineering Head (Automatic Fare Collection) is a subject matter expert on Automatic Fare Collection (AFC) systems and drives the AFC engineering and maintenance excellence within the organisation. He/She serves as the link between the organisation and authorities to implement AFC-related strategies. His duties also include translating and aligning established industry standards into department Key Performance Indicators (KPIs).

He possesses a strong understanding of leading engineering practices, operational best practices, industry developments and regulatory requirements, and translates these into organisation practices and performance requirements. He possesses strong leadership skills, able to cultivate a culture of continuous improvement and demonstrates excellent management skills to achieve the department's operational and functional objectives.

TECHNICAL SKILLS & COMPETENCIES			
Asset Management	Level 6	Project Management	Level 6
Budgeting	Level 5	Rail Regulatory Compliance	Level 6
Business Continuity Management	Level 6	Staff Performance Management	Level 5
Change Management	Level 6	Stakeholder Management	Level 5
Condition-Based Assets Monitoring Management	Level 5	Strategy Planning	Level 6
Continuous Improvement Management	Level 6	Systems Engineering Thinking	Level 6
Data and Statistical Analytics	Level 6	Technology Application	Level 4
Engineering Maintenance Management	Level 6	Vendor Management	Level 5
Innovation Management	Level 6	Workplace Facilities Safety Management	Level 5
Internet of Things Application	Level 5	Workplace Safety and Health Culture Development	Level 6
Organisational Planning and Target Setting	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 5
People Development	Level 6		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Interpersonal Skills	Advanced
Resource Management	Advanced	Problem Solving	Advanced
Communication	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

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Traffic Controller

Arasu Seran
SBS Transit Ltd

KEEP CALM AND CARRY ON

With 12 years in the rail sector, Arasu Seran knows that the ability to remain calm and collected under pressure is imperative to the smooth running of any rail operation. Arasu is no stranger to demanding situations, but it is his ability to manage stressful working conditions that make him a valuable asset to his employers.

As the Traffic Controller at the Operations Control Centre (OCC) of the North East Line, Arasu's typical day involves managing, maintaining, and regulating the train service on the mainline. This is no small feat as it ultimately translates to providing a safe, reliable and pleasant journey for all commuters. Besides ensuring a smooth and reliable experience for commuters, Arasu is also responsible for coordinating and mobilising the relevant Engineering and Operations staff in resolving unexpected rail incidents in the most expeditious and safest manner possible.

As a former train operations staff, Arasu saw the role in Rail Operations and Control as a logical progression in his career aspirations. The opportunity came with the ever-expanding rail network, which offered him the promise of further career prospects. However, to fulfil the role meant greater challenges and demands on Arasu.

Working at the OCC needs certain attributes because of the stressful working environment. Arasu says,

“The satisfaction, joy and appreciation that we get comes from ensuring that our train services run reliably for our commuters. These are what counts as memorable work moments.”

“To do the job well, one must be able to remain calm and composed, and possess critical decision-making skills.” On top of that, the ability to handle a multitude of specialised hi-tech systems is a pre-requisite. He sees the biggest challenge of the job to be keeping abreast of the never-ending technological advancements of the train systems.

He is however undaunted and is more than ready for any challenge at any time. “I remain up-to-date with job knowledge and competence by taking all work related briefings, refresher courses, and yearly competency tests seriously,” he says.

Arasu finds immense job satisfaction in handling and resolving rail control operations challenges successfully with his team of controllers. “The satisfaction, joy and appreciation that we get comes from ensuring that our train services run reliably for our commuters. These are what counts as memorable work moments,” he says.

Arasu hopes to further equip himself in his current role as a Traffic Controller. He believes the Skills Framework for Public Transport can help him stay updated with the various jobs in the sector, plus the skills and training programmes listed in the Skills Framework will be essential to help him make informed choices about skills upgrading.

Communication Controller

JOB ROLE DESCRIPTION

The Communication Controller keeps track of daily rail operations activities and supports the Operations Control Centre (OCC) in executing its tasks and requirements. He/She monitors passenger activities and train operations via close-circuit television (CCTV), and communication and alert systems, to provide train service information and updates to commuters and the public.

He possesses excellent communication skills, and is able to succinctly disseminate train service information in real-time and under pressure. He is savvy in operating a range of surveillance and broadcast communication equipment.

TECHNICAL SKILLS & COMPETENCIES			
Health and Fatigue Risk Management	Level 1	Report Writing	Level 1
Innovation Management	Level 2	Security Management	Level 1
Rail Emergency Response Management	Level 1	Workplace Facilities Safety Management	Level 2
Rail Incident Management	Level 1	Workplace Safety and Health Culture Development	Level 2
Rail Operations Control Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Rail Regulatory Compliance	Level 2		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Interpersonal Skills	Intermediate
Teamwork	Basic	Decision Making	Basic
Service Orientation	Basic		

Train Service Controller/Depot Traffic Controller

JOB ROLE DESCRIPTION

The Train Service Controller/Depot Traffic Controller monitors, controls, and regulates train services in real-time to provide regular and efficient train services, and to ensure safe commute for passengers. He/She coordinates with Train Captains, station staff, depot control and maintenance staff, as well as external stakeholders, to manage activities for daily train services. He plays an important role in managing track access to ensure the protection and safety of personnel accessing train tracks for maintenance activities.

He performs his duties from the Operations Control Centre (OCC) and operates integrated supervisory and control systems to track and regulate real-time train services and activities. He is observant, decisive, and able to think on his-feet under stress. He possesses good communication skills, can give clear and concise instructions, and disseminate train service control information accurately.

TECHNICAL SKILLS & COMPETENCIES			
Civil Emergency Management	Level 2	Rail Regulatory Compliance	Level 3
Continuous Improvement Management	Level 3	Report Writing	Level 2
Health and Fatigue Risk Management	Level 1	Security Management	Level 2
Innovation Management	Level 3	Track Access Management	Level 3
Learning and Development	Level 2	Train Depot Control Management	Level 3
People Development	Level 3	Workplace Facilities Safety Management	Level 3
Rail Emergency Response Management	Level 2	Workplace Safety and Health Culture Development	Level 3
Rail Incident Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Rail Operations Control Management	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Teamwork	Intermediate
Decision Making	Intermediate	Interpersonal Skills	Intermediate
Service Orientation	Intermediate		

Chief Controller/Controller

JOB ROLE DESCRIPTION

The Chief Controller/Controller leads and guides a team of train operations controllers in the Operations Control Centre (OCC) in implementing train service control activities to ensure the overall efficiency and continuity of train services. He/She works closely with operations and maintenance centres across the rail network to supervise and coordinate train services to meet ridership demand, and to implement service recovery measures during rail incidents and/or accidents.

He coordinates the implementation of procedures for the OCC's operations, manages staff deployment, and coaches staff to achieve train service and performance targets. He also contributes to the continual improvement of OCC operations and workflow efficiency. He has good supervision and people management skills, and is organised and efficient in operationalising various OCC functions.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 3	Rail Operations Control Management	Level 4
Change Management	Level 4	Rail Operations Enhancement Management	Level 4
Civil Emergency Management	Level 3	Rail Regulatory Compliance	Level 4
Continuous Improvement Management	Level 4	Report Writing	Level 3
Data and Statistical Analytics	Level 2	Security Management	Level 3
Health and Fatigue Risk Management	Level 3	Staff Performance Management	Level 3
Innovation Management	Level 4	Stakeholder Management	Level 3
Manpower Planning and Deployment	Level 3	Track Access Management	Level 4
People Development	Level 4	Workplace Facilities Safety Management	Level 3
Rail Emergency Response Management	Level 3	Workplace Safety and Health Culture Development	Level 4
Rail Incident Management	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 4
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Service Orientation	Advanced
Decision Making	Advanced	Problem Solving	Advanced
Leadership	Intermediate		

Operations Control Centre Manager

JOB ROLE DESCRIPTION

The Operations Control Centre Manager manages all operations and activities of the Operations Control Centre (OCC) in accordance with rail service requirements and regulations. He/She maintains close working relationships with internal and external stakeholders to manage diverse rail operation requirements. He operationalises and integrates various public transport services and maintenance resources to meet ridership demand and manages the recovery of affected services during rail incidents and/or accidents.

He leads various continuous improvement initiatives to optimise the overall efficiency of OCC operations. He also oversees staff performance and capability development to ensure the core competence of OCC staff. He possesses excellent leadership and networking skills, is resourceful, and has good situational awareness to rapidly assess operational situations and develop solutions under stressful time-sensitive conditions.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	Rail Incident Management	Level 5
Business Continuity Management	Level 5	Rail Operations Control Management	Level 5
Change Management	Level 5	Rail Operations Enhancement Management	Level 5
Civil Emergency Management	Level 4	Rail Regulatory Compliance	Level 5
Continuous Improvement Management	Level 5	Security Management	Level 4
Data and Statistical Analytics	Level 3	Staff Performance Management	Level 4
Health and Fatigue Risk Management	Level 4	Stakeholder Management	Level 4
Innovation Management	Level 5	Strategy Planning	Level 5
Manpower Planning and Deployment	Level 4	Track Access Management	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Facilities Safety Management	Level 4
People Development	Level 5	Workplace Safety and Health Culture Development	Level 5
Report Writing	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 5
Rail Emergency Response Management	Level 5		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Problem Solving	Advanced
Decision Making	Advanced	Interpersonal Skills	Advanced
Communication	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Head, Operations Control Centre

JOB ROLE DESCRIPTION

The Head, Operations Control Centre manages the overall operations of the Operations Control Centre (OCC) department to align with and achieve organisational and regulatory requirements for train service standards and performance. He/She establishes the organisation's operational and service frameworks to enhance train service reliability, continuity, and safety. He is responsible for managing rail service recovery with internal and external stakeholders and is required to communicate on behalf of the organisation with the relevant authorities and/or external stakeholders.

He demonstrates exemplary leadership, is a good communicator, and is able to network effectively with internal and external stakeholders to establish strong rapport. He is forward-thinking and is able to lead the department to achieve service and operational excellence by driving a culture of continuous improvement and spearheading capability development initiatives.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 5	Rail Incident Management	Level 6
Business Continuity Management	Level 6	Rail Operations Control Management	Level 6
Change Management	Level 6	Rail Operations Enhancement Management	Level 6
Civil Emergency Management	Level 4	Rail Regulatory Compliance	Level 6
Continuous Improvement Management	Level 6	Security Management	Level 5
Data and Statistical Analytics	Level 4	Staff Performance Management	Level 5
Innovation Management	Level 6	Stakeholder Management	Level 5
Manpower Planning and Deployment	Level 5	Strategy Planning	Level 6
Organisational Planning and Target Setting	Level 5	Track Access Management	Level 6
People Development	Level 6	Workplace Facilities Safety Management	Level 5
Report Writing	Level 4	Workplace Safety and Health Culture Development	Level 6
Rail Emergency Response Management	Level 6	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Problem Solving	Advanced
Interpersonal Skills	Advanced	Resource Management	Advanced
Decision Making	Advanced		

Customer Service Officer/Rover

JOB ROLE DESCRIPTION

The Customer Service Officer/Rover supports the day-to-day train services and operations, which include conducting patrols on passenger trains and at station premises to ensure the operability of equipment, performing first-line recovery of train and station equipment malfunctions, and serving as an emergency train operator.

He/She works on rotating shifts and performs duties at train station premises, in passenger trains, and from the cabs of trains. He possesses good situational awareness, and is able to communicate professionally via public announcement systems to convey train service information to commuters.

TECHNICAL SKILLS & COMPETENCIES			
Civil Emergency Management	Level 1	Service Excellence	Level 1
Crowd Management	Level 2	Track Access Management	Level 2
Health and Fatigue Risk Management	Level 2	Train Station Operations Management	Level 2
Innovation Management	Level 2	Train Fare and Ticket Management	Level 2
Passenger Train Operations	Level 2	Workplace Facilities Safety Management	Level 2
Rail Emergency Response Management	Level 1	Workplace First-Aid	Level 2
Rail Incident Management	Level 1	Workplace Safety and Health Culture Development	Level 2
Rail Regulatory Compliance	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Security Management	Level 1	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Basic	Interpersonal Skills	Basic
Sense Making	Basic	Teamwork	Basic
Service Orientation	Basic		



Assistant Station Manager

Nur Azimah Binti Mohd Ramlee
SMRT Trains Ltd

WALK THE LINE

If the network of MRT trains racing across Singapore can be likened to the blood stream of the human body, the train stations are its beating heart. Every day, from the early hours of the morning to late in the night, our MRT station platforms are packed with thousands of commuters from all walks of life travelling and going about their daily lives. Hence, it is important to ensure that each train station operates smoothly and safely every day.

This responsibility rests with station staff like Assistant Station Manager Nur Azimah to monitor and ensure everything that happens inside the MRT station works with clockwork efficiency. This entails being observant and staying alert to the smallest details, reporting and attending to various rail operations situations, from crowd control to managing rail systems and commuter-related incidents.

Having been with SMRT for eight years, starting her career as a Customer Service Officer, Nur Azimah knows her job like the back of her hand. Even so, she is always looking for opportunities to grow and develop personally and professionally. "Learning new things has always been a great motivator for me," she says. In fact, she believes that an insatiable appetite for knowledge is a must-have quality for someone in her profession.

"As technologies are advancing rapidly, there will be constant upgrades and changes to the transportation system. We must be adaptable enough to equip ourselves with the necessary knowledge," Nur Azimah shares.

Her aspiration is met with enthusiastic support by the company. "SMRT is supportive in terms of career

"As technologies are advancing rapidly, there will be constant upgrades and changes to the transportation system – the individual must be adaptable enough to equip themselves with the necessary knowledge."

advancement and skills upgrading. Individuals are able to upgrade themselves through education opportunities, as well as sponsorship given by the company."

The more skills she acquired, the more opportunities opened up. "After completing the Fire Safety Manager (FSM) course, I was asked to become a FSM at the MRT station where I'm based."

Nur Azimah feels that the time is ripe to upgrade her skills with the introduction of the Skills Framework for Public Transport and various SkillsFuture schemes available. "It enables me to upgrade and prepare myself to hold a supervisory position in the company. At the same time, it challenges me to perform better in my current job scope."

Yet knowledge is only half of the equation. To excel in her role, Nur Azimah learns firsthand the importance of keeping a cool head. "It is absolutely essential to remain calm in any situation and react accordingly," she says.

This combination of knowledge and mental fortitude allows Nur Azimah to spring into action during critical moments. During an emergency when a train stalled in the tunnel, she was able to apply her training to an actual situation by assisting its passengers to safety. On another memorable occasion, she rendered first aid assistance to a lady on the verge of fainting. She was pleasantly surprised to receive a token of gratitude from the passenger a few days later.

For those keen to follow her footsteps in the public transport sector, Nur Azimah has a few words of wisdom to share – "Challenge yourself to have a positive mindset and keep up with the current changes in the transport system."

Senior Assistant Station Manager/ Assistant Station Manager

JOB ROLE DESCRIPTION

The Senior Assistant Station Manager/Assistant Station Manager supports the day-to-day operations of the train station, which includes preparing the station for rail service, conducting security patrols at station premises and on train platforms, providing customer service, and performing duties in the Passenger Service Centre.

He/She monitors commuter flow and manages crowds during peak hours and/or during service degradation. He carries out first-line recovery of station equipment and systems, performs the duty of an emergency train operator when required, and supports the implementation of procedures for rail incidents and/or emergencies. He also performs person-in-charge duties, manages access to the station, and assists in track access and procession by maintenance teams and/or service providers.

He works in a fast-paced and customer-facing environment, and possesses a service-oriented mindset and pleasant disposition. He is able to multi-task effectively when responding to station operation requirements.

TECHNICAL SKILLS & COMPETENCIES			
Civil Emergency Management	Level 1	Service Excellence	Level 1
Crowd Management	Level 2	Track Access Management	Level 2
Health and Fatigue Risk Management	Level 2	Train Fare and Ticket Management	Level 1
Innovation Management	Level 2	Train Station Operations Management	Level 2
Passenger Train Operations	Level 2	Workplace Facilities Safety Management	Level 2
Rail Emergency Response Management	Level 2	Workplace First-Aid	Level 2
Rail Incident Management	Level 1	Workplace Safety and Health Culture Development	Level 2
Rail Regulatory Compliance	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Security Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Basic	Interpersonal Skills	Intermediate
Sense Making	Basic	Decision Making	Basic
Service Orientation	Intermediate		

Senior Station Manager/Station Manager/Deputy Station Manager

JOB ROLE DESCRIPTION

The Senior Station Manager/Station Manager/Deputy Station Manager is responsible for the overall operations of the train station, to ensure efficient rail services, and the overall safety of staff and commuters. He/She plans, deploys, and supervises the station staff in the execution of their daily activities, manages staff welfare and performance, and ensures service excellence for commuters.

He conducts regular inspections of station premises and facilities to ensure station equipment are operational, as well as account for and ensure station's revenue protection. He also manages service and repair requirements for station equipment and facilities, and carries out access control for maintenance teams and/or service providers to perform maintenance work on rail systems and/or station facilities.

He possesses a friendly disposition, a service-oriented mindset, and good people skills. He applies strong organisational skills to ensure the daily operational requirements of the station are met. He also has strong situational awareness and can react quickly to manage a diverse range of station operations demands.

TECHNICAL SKILLS & COMPETENCIES			
Civil Emergency Management	Level 2	Report Writing	Level 1
Continuous Improvement Management	Level 3	Security Management	Level 3
Crowd Management	Level 2	Service Excellence	Level 2
Health and Fatigue Risk Management	Level 2	Track Access Management	Level 2
Innovation Management	Level 3	Train Fare and Ticket Management	Level 2
Manpower Planning and Deployment	Level 3	Train Station Operations Management	Level 3
Passenger Train Operations	Level 2	Workplace Facilities Safety Management	Level 3
People Development	Level 3	Workplace First-Aid	Level 2
Rail Emergency Response Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Rail Incident Management	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Rail Regulatory Compliance	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Interpersonal Skills	Intermediate
Sense Making	Basic	Managing Diversity	Basic
Service Orientation	Advanced		

Service Operations Manager/ Duty Operations Manager

JOB ROLE DESCRIPTION

The Service Operations Manager/Duty Operations Manager manages and coordinates the overall operations of a cluster of train stations in a given zone. He/She supervises the station operations teams to ensure organisational requirements for rail services and safety requirements are fulfilled, and service excellence, and regulatory service standards are adhered to.

He is responsible for the achievement of rail service and station operations performance standards, and recommends and implements continuous improvement initiatives to enhance overall rail services. He coordinates improvement initiatives for station facilities and the implementation of security measures with internal and external stakeholders. He also supervises coordinated response and recovery efforts during rail incidents and/or accidents.

He possesses strong leadership and people management skills. He also has the ability to implement and synchronise organisational operating procedures and requirements across the different train stations and operations teams under his purview.

TECHNICAL SKILLS & COMPETENCIES			
Change Management	Level 4	Report Writing	Level 2
Civil Emergency Management	Level 3	Security Management	Level 4
Continuous Improvement Management	Level 4	Service Excellence	Level 3
Crowd Management	Level 3	Staff Performance Management	Level 3
Health and Fatigue Risk Management	Level 3	Stakeholder Management	Level 3
Innovation Management	Level 4	Train Fare and Ticket Management	Level 3
Manpower Planning and Deployment	Level 3	Train Station Operations Management	Level 4
People Development	Level 4	Workplace Facilities Safety Management	Level 4
Rail Emergency Response Management	Level 4	Workplace Safety and Health Culture Development	Level 4
Rail Incident Management	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 3
Rail Operations Enhancement Management	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Rail Regulatory Compliance	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Intermediate	Developing People	Advanced
Teamwork	Advanced	Communication	Advanced
Interpersonal Skills	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Station Operations Manager

JOB ROLE DESCRIPTION

The Station Operations Manager leads and manages daily rail service operations of train stations, to ensure the smooth operation of rail services, and to meet and exceed service targets and requirements. He/She leads the station operations teams in reviewing service and operations performance standards, and sets continuous improvement goals to optimise the overall operational efficiency and safety of rail services.

He leads in coordinating and managing rail service recovery with internal and external stakeholders during service degradation, devises emergency response procedures, and conducts operation exercises to assess and enhance the operational and emergency preparedness of the station operations teams.

He possesses strong organisational management skills, is resourceful, and is knowledgeable in various aspects of rail operations. He is able to lead his team to achieve set targets and performance requirements.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	Rail Incident Management	Level 5
Business Continuity Management	Level 5	Rail Operations Enhancement Management	Level 5
Civil Emergency Management	Level 4	Rail Regulatory Compliance	Level 5
Continuous Improvement Management	Level 5	Security Management	Level 5
Crowd Management	Level 4	Service Excellence	Level 4
Data and Statistical Analytics	Level 2	Staff Performance Management	Level 4
Health and Fatigue Risk Management	Level 4	Stakeholder Management	Level 4
Innovation Management	Level 5	Strategy Planning	Level 5
Manpower Planning and Deployment	Level 4	Train Station Operations Management	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Facilities Safety Management	Level 5
People Development	Level 5	Workplace Safety and Health Culture Development	Level 5
Rail Emergency Response Management	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 4
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Developing People	Advanced
Teamwork	Advanced	Decision Making	Intermediate
Interpersonal Skills	Advanced		

Senior Train Captain/Train Captain

JOB ROLE DESCRIPTION

The Senior Train Captain/Train Captain operates passenger trains to provide a safe, reliable, and efficient commute for passengers and to achieve the overall train service standards. He/She is well-versed with train operations and the functions of train-borne systems and equipment. He monitors and analyses train operations from the cabs of trains in order to make quick and sound operational decisions to maintain and improve train service standards and reliability.

He is independent, effective in handling stress, and can communicate effectively with the Operations Control Centre (OCC) regarding the regulating of train services. He can also make clear and concise announcements to passengers onboard trains.

TECHNICAL SKILLS & COMPETENCIES			
Civil Emergency Management	Level 1	Rail Regulatory Compliance	Level 1
Health and Fatigue Risk Management	Level 1	Security Management	Level 1
Innovation Management	Level 2	Service Excellence	Level 1
Passenger Train Operations	Level 2	Workplace Facilities Safety Management	Level 2
Rail Emergency Response Management	Level 1	Workplace Safety and Health Culture Development	Level 2
Rail Incident Management	Level 1	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Basic	Interpersonal Skills	Basic
Sense Making	Basic	Teamwork	Basic
Service Orientation	Basic		

Depot Train Controller

JOB ROLE DESCRIPTION

The Depot Train Controller directs the movement of trains within the depot, including launching and withdrawing trains in accordance with train service standards and requirements, and facilitating the stabling of trains in the depot for service and maintenance works. He/She coordinates with relevant internal and external stakeholders to execute first-line recovery of trains during train service disruptions.

He is organised, meticulous, and systematic in managing the movement and stabling of trains, and in coordinating track access, so as to ensure the highest safety standards for personnel and train movement are upheld in the depot premises.

TECHNICAL SKILLS & COMPETENCIES			
Civil Emergency Management	Level 2	Report Writing	Level 1
Continuous Improvement Management	Level 3	Service Excellence	Level 2
Health and Fatigue Risk Management	Level 2	Track Access Management	Level 3
Innovation Management	Level 3	Train Depot Control Management	Level 3
People Development	Level 3	Workplace Facilities Safety Management	Level 3
Rail Emergency Response Management	Level 2	Workplace Safety and Health Culture Development	Level 3
Rail Incident Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Rail Regulatory Compliance	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Intermediate
Sense Making	Intermediate	Managing Diversity	Basic
Decision Making	Intermediate		

Crew Manager

JOB ROLE DESCRIPTION

The Crew Manager manages the day-to-day operations and duties of Train Captains. This includes preparing duty rosters, deploying resources, and ensuring the discipline, well-being, and performance standards of the Train Captains. He/She is well-versed with train service operations and service standards, and is required to execute crew reformation and deployment plans to maintain train service standards and reliability, as well as safety standards of train operations.

He has excellent supervisory, people management, and communication skills. He is also approachable and relational in caring for staff's welfare and in coaching to staff.

TECHNICAL SKILLS & COMPETENCIES			
Civil Emergency Management	Level 2	Rail Incident Management	Level 2
Continuous Improvement Management	Level 3	Rail Regulatory Compliance	Level 3
Health and Fatigue Risk Management	Level 2	Report Writing	Level 1
Innovation Management	Level 3	Service Excellence	Level 2
Inventory Management	Level 3	Stakeholder Management	Level 3
Manpower Planning and Deployment	Level 3	Workplace Facilities Safety Management	Level 3
People Development	Level 3	Workplace Safety and Health Culture Development	Level 3
Rail Emergency Response Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Intermediate
Sense Making	Intermediate	Problem Solving	Intermediate
Service Orientation	Intermediate		

Rail Service Manager

JOB ROLE DESCRIPTION

The Rail Service Manager oversees the management of train operations, in adherence to operations and regulatory requirements and standards. He/She performs on-site inspections, supervises train services and staff's operational performance, as well as reviews service standards to improve service reliability and safety.

He represents the organisation in responding to rail service enquiries, and works closely with internal and external stakeholders for service improvement reviews, complaints, and investigations. He also coordinates with these stakeholders during rail incidents and/or accidents.

He possesses a friendly disposition and has excellent communication skills. He is measured, composed, decisive, and resourceful in handling rail incidents, public enquiries, and engagements.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 3	Rail Incident Management	Level 4
Change Management	Level 4	Rail Operations Enhancement Management	Level 4
Civil Emergency Management	Level 3	Rail Regulatory Compliance	Level 4
Continuous Improvement Management	Level 4	Report Writing	Level 2
Health and Fatigue Risk Management	Level 3	Security Management	Level 3
Innovation Management	Level 4	Service Excellence	Level 3
Manpower Planning and Deployment	Level 3	Stakeholder Management	Level 3
People Development	Level 4	Workplace Facilities Safety Management	Level 4
Performance Management	Level 3	Workplace Safety and Health Culture Development	Level 4
Rail Emergency Response Management	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Developing People	Advanced
Leadership	Advanced	Interpersonal Skills	Advanced
Teamwork	Advanced		

Train Operations Manager

JOB ROLE DESCRIPTION

The Train Operations Manager maintains high standards of train operations by ensuring all staff comply with policies, procedures, and regulations. He/She initiates audits to identify performance and operational gaps, implements improvement measures, and enhances workforce capabilities and operational standards. He leads in coordinating recovery and investigation efforts during occurrences of rail incidents and/or accidents.

He demonstrates strong people management skills, and is an effective communicator in working collaboratively with internal and external stakeholders. He can adapt quickly to dynamic situations, is well organised, has a forward looking mindset, and maintains a high standard of operation readiness in his department.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	Rail Emergency Response Management	Level 5
Business Continuity Management	Level 5	Rail Incident Management	Level 5
Civil Emergency Management	Level 4	Rail Operations Enhancement Management	Level 5
Continuous Improvement Management	Level 5	Rail Regulatory Compliance	Level 5
Data and Statistical Analytics	Level 3	Security Management	Level 5
Health and Fatigue Risk Management	Level 4	Service Excellence	Level 4
Innovation Management	Level 5	Stakeholder Management	Level 4
Manpower Planning and Deployment	Level 3	Strategy Planning	Level 5
Organisational Planning and Target Setting	Level 4	Workplace Facilities Safety Management	Level 4
People Development	Level 5	Workplace Safety and Health Culture Development	Level 5
Performance Management	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 5
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Developing People	Advanced
Interpersonal Skills	Advanced	Decision Making	Intermediate
Teamwork	Advanced		

Head, Train Operations/Head, Station Operations/Head, Passenger Services

JOB ROLE DESCRIPTION

The Head, Train Operations/Head, Station Operations/Head, Passenger Services is responsible for the overall management of the department, and represents the organisation in engaging with the relevant authorities and other external stakeholders. He/She leads service reliability enhancement efforts, and drives the department's performance through the establishment of a rail service excellence framework. He also develops rail incident and/or accident recovery framework to ensure the impact of operations and service disruptions is mitigated.

He is a strategic leader who is able to establish rapport with external stakeholders and staff. He possesses a broad understanding of commuter and industry trends, and translates these to the organisation's operational and rail service frameworks.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 5	Rail Operations Enhancement Management	Level 6
Business Continuity Management	Level 6	Rail Regulatory Compliance	Level 6
Civil Emergency Management	Level 4	Security Management	Level 6
Continuous Improvement Management	Level 6	Service Excellence	Level 5
Crowd Management	Level 5	Staff Performance Management	Level 5
Data and Statistical Analytics	Level 3	Stakeholder Management	Level 5
Innovation Management	Level 6	Strategy Planning	Level 6
Manpower Planning and Deployment	Level 5	Train Station Operations Management	Level 6
Organisational Planning and Target Setting	Level 5	Workplace Facilities Safety Management	Level 5
People Development	Level 6	Workplace Safety and Health for Culture Development	Level 6
Rail Emergency Response Management	Level 6	Workplace Safety and Health for Incident and Accident Investigation	Level 5
Rail Incident Management	Level 6		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Resource Management	Advanced
Decision Making	Advanced	Developing People	Advanced
Interpersonal Skills	Advanced		

Notes

Bus Operations

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Chief Bus Captain

Lim Boon Long
SBST Transit Ltd

ONE MAN, MANY HATS

With close to three decades on the job, Lim Boon Long proves that experience is the best asset an employee can bring to the job. In his lengthy career, he has worn many hats, from Chief Bus Captain, to Interchange Mentor, Service Mentor, Union Representative and Union Secretary. These experiences made him a sought-after adviser to his peers.

Bouncing from role to role, this 57-year-old veteran is always there for his fellow Bus Captains (BCs), especially those BCs still learning the ropes, helping new BCs to familiarise with operations, and to meet performance standards. In the bus interchange where he is stationed, Boon Long also ensures that the employees are able to do their work safely and correctly by facilitating the safety and training procedures.

Boon Long's career started behind the wheel. A former private bus driver, he saw the opportunity to embark on a different career path at SBS Transit as a BC. Yet the role demands no small amount of commitment.

"One must have patience, be caring and disciplined to function in today's bus operations," says Boon Long. It is the combination of these three qualities that allows Boon Long and his colleagues to weather any work challenges facing BCs today.

"What I learned, I now teach the new BCs. This is important, because if everyone is doing well, the whole company will do well."

True to his mentoring spirit, Boon Long feels a great sense of fulfilment when he sees new BCs under his care flourish and progress through the ranks. In fact, he considers it his ultimate career goal to help more BCs progress and upgrade themselves over the course of their careers. In his role as a mentor, Boon Long says, "What I learnt, I now teach the new BCs. This is important because if everyone is doing well, the whole company will do well."

However, he sees a need to further develop his own skills before he can contribute to his peers' career and personal development. Boon Long reckons the Skills Framework for Public Transport can provide guidance and information on courses to choose from. "In the past, there was a lack of upgrading courses for our profession," he says.

He is now setting his sights on taking courses in three key areas: Security, Safety and Customer Service. "In transportation, security and safety are the most important things," he concludes.

With that, Boon Long feels confident that he has what it takes to grow in knowledge and capability, and to also help his fellow colleagues strive towards a fulfilling career.

Bus Captain

JOB ROLE DESCRIPTION

The Bus Captain is responsible for the safe operation of various bus types on scheduled routes and timetables. He/She performs pre-trip bus checks to ensure bus readiness for daily service commencement, as well as post-trip checks to prepare the bus for routine procedures upon service termination. He has to work closely with the Bus Operations Control Centre (BOCC) when operating buses on the road to ensure adherence to scheduled journey timings and to seek instructions and support during the occurrence of incidents and/or accidents. He is also expected to provide customer service to passengers in need of assistance, and contribute towards continuous improvement by providing feedback on gaps in service standards.

He is an independent individual who is able to handle stressful situations when driving on the road. He possesses a customer-centric mindset and is capable of interacting well with passengers. He performs duties on rotating shifts which include carrying out duties on weekends and/or public holidays. He is required to obtain a valid Class 4 or 4A driving licence and Omnibus Driver's Vocational Licence as administered by the Land Transport Authority (LTA).

TECHNICAL SKILLS & COMPETENCIES			
Bus Equipment and Systems Operation	Level 2	Service Excellence	Level 1
Bus Fare Management	Level 2	Workplace Traffic Safety Management	Level 1
Bus Regulatory Compliance	Level 1	Workplace Safety and Health Culture Development	Level 2
Bus Vehicle Operations	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Crisis Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Health and Fatigue Risk Management	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Service Orientation	Basic	Teamwork	Basic
Communication	Basic	Decision Making	Basic
Problem Solving	Basic		

Senior Bus Captain

JOB ROLE DESCRIPTION

The Senior Bus Captain is responsible for the safe operation of various bus types on scheduled routes and timetables. He/She performs bus checks to ensure bus readiness for service commencement as well as to prepare the bus for post-trip procedures upon service termination. He is required to work closely with the Bus Operations Control Centre (BOCC) when operating buses on the road to ensure adherence to scheduled journey timings, and to seek instructions and support during the occurrence of incidents and/or accidents. He is also expected to provide customer service to passengers in need of assistance and to contribute towards continuous improvement by identifying and proposing areas for improvement. As a Senior Bus Captain, he takes on the responsibility to assist in the conduct of assessments for new bus service routes, and may be required to provide coaching to guide junior staff.

He is an independent individual who is able to handle stressful situations when driving on the road. He possesses a customer-centric mindset and an encouraging disposition for guiding and coaching others. He performs duties on rotating shifts which include carrying out duties on weekends and/or public holidays. He is required to obtain a valid Class 4 or 4A driving licence and Omnibus Driver's Vocational License as administered by the Land Transport Authority (LTA).

TECHNICAL SKILLS & COMPETENCIES			
Bus Equipment and Systems Operation	Level 2	People Development	Level 3
Bus Fare Management	Level 2	Service Excellence	Level 2
Bus Regulatory Compliance	Level 2	Workplace Safety and Health Culture Development	Level 2
Bus Service Route Operations Training and Development	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Bus Vehicle Operations	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Crisis Management	Level 2	Workplace Traffic Safety Management	Level 2
Health and Fatigue Risk Management	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Intermediate
Service Orientation	Intermediate	Interpersonal Skills	Intermediate
Teamwork	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Chief Bus Captain/Master Bus Captain

JOB ROLE DESCRIPTION

The Chief Bus Captain/Master Bus Captain is responsible for the safe operation of various bus types on scheduled routes and timetables. He/She performs bus checks prior to service commencement and upon service termination as part of the routine operational inspection procedures. He has to work closely with the Bus Operations Control Centre (BOCC) when operating buses on the road to ensure adherence to scheduled journey timings, and to seek instructions and support during the occurrence of incidents and/or accidents. He is also expected to provide customer service to passengers. As a Chief Bus Captain/Master Bus Captain, he acts as a role model to drive service culture and supports team performance through coaching and briefings. He also conducts assessments for new bus service routes and supports continuous improvement initiatives and special event projects as a key member of the team.

He is an independent individual who is able to handle stressful situations when driving on the road. He demonstrates a strong service excellence mindset and is able to influence others towards achieving common goals. He performs duties on rotating shifts which include carrying out duties on weekends and/or public holidays. He is required to obtain a valid Class 4 or 4A driving licence and Omnibus Driver's Vocational Licence as administered by the Land Transport Authority (LTA).

TECHNICAL SKILLS & COMPETENCIES			
Bus Equipment and Systems Operation	Level 2	People Development	Level 3
Bus Fare Management	Level 2	Service Excellence	Level 3
Bus Regulatory Compliance	Level 3	Workplace Traffic Safety Management	Level 2
Bus Service Route Operations Training and Development	Level 3	Workplace Safety and Health for Culture Development	Level 3
Bus Vehicle Operations	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Crisis Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Health and Fatigue Risk Management	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Problem Solving	Intermediate
Communication	Intermediate	Developing People	Advanced
Service Orientation	Advanced		

Senior Interchange Officer/ Senior Interchange Assistant/Interchange Officer/ Interchange Assistant

JOB ROLE DESCRIPTION

The Senior Interchange Officer/Senior Interchange Assistant/Interchange Officer/Interchange Assistant performs day-to-day operations at the bus interchange to support the smooth running of bus services to serve passengers. To ensure bus service regularity, he/she monitors bus arrival and departure timings, regulates bus departure timings, redeploys Bus Captains to operate bus service routes, and conducts bus checks to ensure service readiness. He takes on the role of a service ambassador to help passengers in need of assistance, and is also responsible for ensuring the safety of passengers by performing traffic and crowd control and daily security checks, and providing support to respond to incidents and accidents. He supports compliance management to fulfil organisational and legislative requirements and provides feedback on gaps in operational efficiency to contribute towards continuous improvement.

He is a service-oriented individual with strong interpersonal skills, and is able to communicate effectively and work systematically. He works on rotating shifts within the bus interchange and may be required to work on weekends and public holidays. He is required to possess a valid Class 4 or 4A driving licence and Omnibus Driver's Vocational Licence as administered by the Land Transport Authority (LTA), if his assigned job responsibility includes driving buses for relocation across bus interchanges.

TECHNICAL SKILLS & COMPETENCIES			
Bus Interchange Operations	Level 2	Security Management	Level 1
Bus Regulatory Compliance	Level 2	Service Excellence	Level 1
Bus Vehicle Operations	Level 2	Workplace First-Aid	Level 1
Continuous Improvement Management	Level 2	Workplace Safety and Health Culture Development	Level 2
Crisis Management	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Crowd Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Health and Fatigue Risk Management	Level 2	Workplace Traffic Safety Management	Level 2
Report Writing	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Service Orientation	Basic	Problem Solving	Basic
Communication	Basic	Teamwork	Basic
Decision Making	Basic		

Senior Interchange Supervisor/ Interchange Supervisor

JOB ROLE DESCRIPTION

The Senior Interchange Supervisor/Interchange Supervisor is responsible for supervising day-to-day bus interchange operations to provide efficient and reliable bus services to passengers. He/She monitors the regulating of bus services and redeployment of Bus Captains to ensure service reliability, and supervises the management of bus interchange facilities and security. He is responsible for liaising with vendors to carry out contract works and acts as the liaising officer for lost and found items. As a team leader, he supports the team in addressing passenger issues, allocates team duties, and manages team performance and development. He also prepares contingency plans for incident and/or accident management, operationalises procedures for compliance management, and proposes areas for continuous improvement.

He is a resourceful individual with strong communication skills and is able to work collaboratively with others. He works on rotating shifts within the bus interchange and may be required to work on some weekends and public holidays.

TECHNICAL SKILLS & COMPETENCIES			
Bus Interchange Operations	Level 3	Security Management	Level 1
Bus Regulatory Compliance	Level 3	Service Excellence	Level 2
Continuous Improvement Management	Level 3	Staff Performance Management	Level 3
Crisis Management	Level 3	Vendor Management	Level 3
Crowd Management	Level 3	Workplace First-Aid	Level 1
Health and Fatigue Risk Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
People Development	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Report Writing	Level 1	Workplace Traffic Safety Management	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Interpersonal Skills	Intermediate
Problem Solving	Intermediate	Leadership	Intermediate
Teamwork	Intermediate		

Interchange Manager

JOB ROLE DESCRIPTION

The Interchange Manager is responsible for leading the team in the execution of bus interchange operations to achieve operational efficiency and meet service performance targets. He/She oversees the provision of reliable bus services, the upkeep of interchange facilities, and the security of the interchange, so as to provide a pleasant and safe environment for passengers. He is also responsible for overseeing budget and manpower allocation, managing staff performance and development, as well as customer service performance. To mitigate risks in bus interchange operations, he reviews the effectiveness of contingency plans periodically and oversees compliance management to fulfil organisational and legislative requirements. He is also accountable for the implementation of improvement initiatives in the bus interchange as part of the organisation's continuous improvement efforts.

Analytical and articulate, he is able to make decisions independently and communicate instructions clearly. With strong leadership skills, he is able to lead a group and influence others towards achieving common goals. He performs duties within the bus interchange and may be required to work on some weekends and public holidays.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	Organisational Planning and Target Setting	Level 4
Bus Interchange Operations	Level 4	People Development	Level 4
Bus Regulatory Compliance	Level 4	Report Writing	Level 3
Business Continuity Management	Level 5	Security Management	Level 2
Change Management	Level 4	Service Excellence	Level 3
Continuous Improvement Management	Level 4	Staff Performance Management	Level 4
Crisis Management	Level 4	Stakeholder Management	Level 4
Crowd Management	Level 3	Vendor Management	Level 4
Data and Statistical Analytics	Level 3	Workplace Safety and Health for Culture Development	Level 5
Health and Fatigue Risk Management	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 5
Manpower Planning and Deployment	Level 4	Workplace Traffic Safety Management	Level 4
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Problem Solving	Advanced
Communication	Advanced	Developing People	Advanced
Service Orientation	Advanced		

Senior Depot Officer/Senior Depot Assistant/ Depot Officer/Depot Assistant

JOB ROLE DESCRIPTION

The Senior Depot Officer/Senior Depot Assistant/Depot Officer/Depot Assistant performs day-to-day operations at the bus depot to prepare buses for daily service commencement and termination. He/She may be expected to perform operations in one or more areas such as bus despatch, bus inspection, post-trip procedures for bus reinstatement, as well as facility maintenance based on organisational job requirements. He may also enforce traffic and safety rules and regulations within the bus depot, and provide support to respond to incidents and accidents, in addition to supporting compliance management for work procedures. Other duties which may be expected of this job role include rostering of Bus Captain duties, redeployment of Bus Captains, data updating, as well as providing feedback on gaps in bus depot operations to support continuous improvement initiatives.

He is a systematic individual who is able to multi-task and communicate effectively. He works on rotating shifts within the bus depot and may be required to work on weekends and public holidays. He is required to possess a valid Class 4 or 4A driving licence and Omnibus Driver's Vocational Licence as administered by the Land Transport Authority (LTA), if his assigned job responsibility includes driving buses for relocation across bus depots.

TECHNICAL SKILLS & COMPETENCIES			
Bus Depot Operations	Level 2	Security Management	Level 1
Bus Garaging	Level 2	Vendor Management	Level 2
Bus Regulatory Compliance	Level 2	Workplace First-Aid	Level 1
Bus Vehicle Operations	Level 2	Workplace Safety and Health Culture Development	Level 2
Continuous Improvement Management	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Crisis Management	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Health and Fatigue Risk Management	Level 2	Workplace Traffic Safety Management	Level 2
Report Writing	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Teamwork	Intermediate	Interpersonal Skills	Intermediate
Communication	Basic	Problem Solving	Basic
Decision Making	Basic		



Depot Supervisor

Josephine Lee
Go-Ahead Singapore

“The Skills Framework will help with my career progression by offering me a detailed outline of the job requirements, and the growth potential.”

STEPPING OUT OF COMFORT ZONES

After a seven-year hiatus from work to look after her children and aged father, Josephine Lee took the plunge and dove back into working life, making a mid-career change in the process. A testament to what determination can do, Josephine proves that there will always be career opportunities that can help achieve your goals.

The former administrator at a multinational corporation always had a natural inclination towards the public bus industry. “I’ve always admired female Bus Captains and wanted to experience being one myself,” she says. When the opportunity presented itself, Josephine knew she had to seize it. When she joined the industry in 2013, she was exposed to other functions of public bus operations. Soon after, she expressed an interest in the dispatch area of the work and was given the role of Depot Supervisor with Go-Ahead Singapore (GAS) in 2017.

As a Depot Supervisor, her main responsibilities include ensuring all bus route services operate according to schedule. This entails securing substitutes when allocated Bus Captains (BCs) are unavailable, ensuring bus service route operation duties are effectively covered with standby BCs, and giving BCs advice on service routes based on her personal experience. Josephine also has to ensure that BCs comply with company policies, operating procedures and safety regulations, especially when it comes to not exceeding their duty hours which can cause fatigue, an area she can fully identify with.

In this role, Josephine highlights the importance of having a comprehensive awareness of the organisation’s operating procedures and safety regulations, strong analytical and organisational skills, and impeccable oral communication skills. Nevertheless, the biggest challenge is managing and fostering positive working relationships with the BCs. “It’s about being honest, reliable, and delivering on requests,” those are the words she lives by.

Josephine is also responsible for attending to customer feedback, as well as receiving and logging lost and found items at the interchanges. When comparing her duties between communicating with BCs and dealing directly with commuters, Josephine stresses that ultimately, it all comes down to customer service – either internal or external.

“Having satisfied and happy customers and colleagues makes my day. It’s not easy, we just have to be more humane and patient,” shares Josephine. When asked about her future goals, Josephine has no lack of opportunities to look forward to. “There are plenty of opportunities in GAS and I would like to experience rotating to different departments and try different areas of work. I am keen to be an all-rounder with an understanding of the organisation’s various functions,” she shares.

With the Skills Framework for Public Transport, Josephine thinks that it will help her chart her career pathway. “The Skills Framework will help with my career progression by offering a detailed outline of the job requirements, and the growth potential.”

“Besides BCs, I work hand-in-hand with Service Controllers to get my job done. I look forward to understanding the role of the Service Controllers better and the necessary training required to do so,” she adds.

Josephine shares that a career in the public bus operations will get one heavily involved and will provide valuable insights into the bus industry and career opportunities available. For anyone thinking of joining the industry, she advises, “One must have a ‘can do’ attitude, be willing to persevere, and not be afraid to make mistakes or step out of comfort zones.”

Senior Depot Supervisor/ Depot Supervisor

JOB ROLE DESCRIPTION

The Senior Depot Supervisor/Depot Supervisor supervises day-to-day bus depot operations to ensure operational continuity and efficiency to support daily bus service commencement and termination. He/She is also responsible for the development and review of the bus depot operational plans, as well as the execution of work activities in the areas of manpower deployment, contingency management, facilities maintenance and continuous improvement. He also oversees data management, operationalises procedures for compliance management, and manages the team's development needs and performance in achieving Key Performance Indicators (KPIs).

He is a resourceful individual who is able to work collaboratively with others and communicate effectively. He works on rotating shifts within the depot and may be required to work on some weekends and public holidays.

TECHNICAL SKILLS & COMPETENCIES			
Bus Depot Operations	Level 3	Report Writing	Level 1
Bus Garaging	Level 3	Security Management	Level 1
Bus Regulatory Compliance	Level 3	Staff Performance Management	Level 3
Continuous Improvement Management	Level 3	Workplace First-Aid	Level 1
Crisis Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Health and Fatigue Risk Management	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Manpower Planning and Deployment	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
People Development	Level 3	Workplace Traffic Safety Management	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Problem Solving	Intermediate
Resource Management	Intermediate	Leadership	Intermediate
Teamwork	Intermediate		

Depot Operations Manager/ Depot Manager

JOB ROLE DESCRIPTION

The Depot Operations Manager/Depot Manager leads the bus depot team to ensure operational efficiency and the fulfilment of service delivery targets. He/She reviews operational plans, oversees the implementation of bus depot operational procedures and activities, including manpower deployment, contingency management and facilities maintenance, to achieve improved efficiency and continuous improvement. He is also responsible for the management of vendors and budget, as well as the bus depot's compliance to regulatory and safety requirements. As a leader, he is accountable for the performance and development of the bus depot team.

He is an analytical individual with strong leadership skills. He is able to articulate clear instructions and work under pressure. He performs duties within the depot and may be required to work on some weekends and public holidays.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	Organisational Planning and Target Setting	Level 4
Bus Depot Operations	Level 4	People Development	Level 4
Bus Garaging	Level 4	Report Writing	Level 3
Bus Regulatory Compliance	Level 4	Security Management	Level 2
Business Continuity Management	Level 5	Staff Performance Management	Level 3
Change Management	Level 4	Stakeholder Management	Level 4
Continuous Improvement Management	Level 4	Vendor Management	Level 4
Crisis Management	Level 4	Workplace Safety and Health Culture Development	Level 5
Data and Statistical Analytics	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 5
Health and Fatigue Risk Management	Level 3	Workplace Traffic Safety Management	Level 4
Manpower Planning and Deployment	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Problem Solving	Advanced
Decision Making	Advanced	Teamwork	Advanced
Leadership	Advanced		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Chief Bus Controller/ Bus Operations Control Centre Controller

JOB ROLE DESCRIPTION

The Chief Bus Controller/Bus Operations Control Centre Controller performs day-to-day operations at the Bus Operations Control Centre (BOCC) to ensure bus service reliability on the road. He/She works closely with Bus Captains and other stakeholders to regulate bus services in a real-time environment to maintain bus service performance standards and minimise service delays. This aspect of monitoring work also requires him to provide on-the-job coaching to Bus Captains. He is required to respond to emergencies and restore bus service disruptions, as well as assist in the investigation and documentation of incidents and/or accidents. He also takes on administrative duties in data compilation, and contributes towards continuous improvement by providing feedback on gaps observed in operational activities.

He is an analytical individual who is able to remain calm and composed in stressful situations to make critical decisions. He is systematic and is able to communicate effectively. He works on rotating shifts and may be required to work on some weekends and public holidays.

TECHNICAL SKILLS & COMPETENCIES			
Bus Operations Control Management	Level 3	Learning and Development	Level 2
Bus Regulatory Compliance	Level 3	Report Writing	Level 2
Continuous Improvement Management	Level 3	Stakeholder Management	Level 3
Crisis Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Data and Statistical Analytics	Level 1	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Health and Fatigue Risk Management	Level 1		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Sense Making	Intermediate
Communication	Advanced	Teamwork	Basic
Decision Making	Intermediate		

Deputy Bus Operations Control Centre Manager

JOB ROLE DESCRIPTION

The Deputy Bus Operations Control Centre Manager oversees a team and is responsible for supervising and coordinating daily operations within the Bus Operations Control Centre (BOCC) to provide safe and reliable bus services to the public. He/She supervises the BOCC's daily core function in monitoring bus service performance standards to achieve service timeliness and regularity, as well as the execution of contingency plans in the event of incidents and/or accidents. To uphold bus service performance standards, he is required to work closely with the relevant authorities and other stakeholders. He is also responsible for managing team performance, manpower allocation and training. He recommends areas for continuous improvement to enhance the efficiency of the BOCC.

He is a team-player and a well-organised individual who is able to remain calm and think clearly in stressful situations to make critical decisions. He works on rotating shifts and may be required to work on some weekends and public holidays.

TECHNICAL SKILLS & COMPETENCIES			
Bus Operations Control Management	Level 4	Manpower Planning and Deployment	Level 3
Bus Regulatory Compliance	Level 3	People Development	Level 4
Business Continuity Planning	Level 4	Report Writing	Level 2
Change Management	Level 4	Staff Performance Management	Level 4
Continuous Improvement Management	Level 4	Stakeholder Management	Level 4
Crisis Management	Level 4	Workplace Safety and Health Culture Development	Level 4
Data and Statistical Analytics	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Health and Fatigue Risk Management	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Decision Making	Intermediate
Resource Management	Intermediate	Teamwork	Intermediate
Communication	Advanced		

Bus Operations Control Centre Manager

JOB ROLE DESCRIPTION

The Bus Operations Control Centre Manager oversees all operations within the Bus Operations Control Centre (BOCC) and is accountable for the achievement of bus service performance targets. He/She leads the team of BOCC staff and ensures operations are carried out in accordance with schedules, procedures, and regulations. He maintains partnerships with the authorities and stakeholders to facilitate the BOCC's operations, and leads recovery and investigative actions in times of emergencies to mitigate the impact on bus operations. His role at the management level also includes developing and implementing improvement plans and processes to enhance operational efficiency for the BOCC, and overseeing manpower allocation, staff training and performance, and budget matters.

Analytical and articulate, he is able to analyse complex information for decision making and communicate clear instructions to staff. He has strong leadership skills and is able to remain calm and composed when leading staff during crises. He works on rotating shifts and may be required to work on some weekends and public holidays.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	Manpower Planning and Deployment	Level 4
Bus Operations Control Management	Level 5	Organisational Planning and Target Setting	Level 4
Bus Regulatory Compliance	Level 4	People Development	Level 4
Business Continuity Planning	Level 5	Report Writing	Level 3
Change Management	Level 4	Staff Performance Management	Level 4
Continuous Improvement Management	Level 4	Stakeholder Management	Level 4
Crisis Management	Level 5	Workplace Safety and Health Culture Development	Level 5
Data and Statistical Analytics	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 5
Health and Fatigue Risk Management	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Decision Making	Advanced	Resource Management	Advanced
Leadership	Advanced	Communication	Advanced
Problem Solving	Advanced		

Notes

Bus Fleet Engineering

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Technician

Mohammed Syazwan Bin Mohd Sukaimi
SMRT Buses Ltd

NEVER STOP LEARNING

For Mohammed Syazwan Bin Mohd Sukaimi, starting from scratch simply means taking the first step towards success. And despite setbacks in his educational pathway, he has taken what life has offered him and is making strides forward.

As a student in a vocational school, Syazwan's grades were not ideal to help him enrol into a post-secondary education institution. Not one to give up easily, Syazwan spoke with a teacher to explore his options, and was encouraged to take on the automotive apprenticeship programme with SMRT.

During his time at vocational school, Syazwan had done a 2-month attachment dealing in automotive and civil defence vehicles repairing ambulances, fire engines, and trucks. And while he admitted to having zero knowledge of the work involved, he kept an open mind and steady head. Syazwan found the work interesting as he had a natural inclination towards the technical field, and felt he had a future in it. He enjoyed his work even though it was tough, so it was a proud moment when he was offered a 2.5-year automotive apprenticeship from SMRT. After his

"If I don't know something, I will ask my mentor to teach me. To learn these skills takes time. Until now, I'm still learning."

apprenticeship was completed, Syazwan worked at other places for two years before being offered a job by SMRT as a bus technician.

When asked what qualities were needed for his role, Syazwan replied, "It's very simple. This is a tough job, but if you have an interest in it, it's easy. I like to get my hands dirty, so I love this job."

Syazwan believes that to be successful as a mechanic, humility is key. He says, "If I don't know something, I will ask my mentor to teach me. To learn these skills takes time. Until now, I'm still learning."

Syazwan's dream is to become a business owner with his own automotive workshop someday, and hopes to help others like him find work that they love doing. He knows he has a long way to go, but feels that his youth is an advantage in this journey. In fact, Syazwan has many aspirations, some of which include earning an engineering qualification, as well as taking courses in Business Administration to accomplish his dream. Syazwan asserts, "The future is in my hands."

Technician

JOB ROLE DESCRIPTION

The Technician supports the team to perform routine bus servicing and preventive corrective maintenance activities. His/Her duties include preparation of work activities, perform assigned servicing and maintenance tasks of different bus sub-systems, perform general housekeeping of workshop tools and equipment as well as adheres to Workplace Safety and Health (WSH) procedures. He may be deployed to support on-the-road bus breakdown assistance and recovery.

He is required to work in the bus workshop and/or depot environment based on rotating shifts. He is able to interact effectively with others when carrying out his duties and has the opportunity to gain experience, knowledge as well as deepen his technical and maintenance skills on various bus sub-systems.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 1, Level 2	Equipment Maintenance and Housekeeping	Level 1
Bus Body Work Maintenance	Level 1, Level 2	Heavy Lifting Machinery Operation	Level 1
Bus Brake Systems Maintenance	Level 1, Level 2	Internet of Things Application	Level 2
Bus Drivetrain Systems Maintenance	Level 1, Level 2	Report Writing	Level 1
Bus Electrical and Electronic Systems Maintenance	Level 1, Level 2	Robotics and Automation Application	Level 2
Bus Engine System Maintenance	Level 1, Level 2	Work at Heights	Level 1
Bus Recovery and Towing	Level 2	Workplace Facilities Safety Management	Level 2
Bus Regulatory Compliance	Level 1	Workplace Safety and Health for Electrical Safety	Level 1
Bus Steering and Suspension Systems	Level 1, Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Data and Statistical Analytics	Level 1	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Basic	Decision Making	Basic
Teamwork	Basic	Creative Thinking	Basic
Problem Solving	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Senior Technician

JOB ROLE DESCRIPTION

The Senior Technician supports the coordination of routine and scheduled bus maintenance operations. He/She performs servicing, preventive and corrective maintenance activities on the bus fleet under limited supervision. His duties also include assigning daily work tasks to team members and providing technical guidance and on-the-job coaching to his team. He is required to operate recovery support vehicles and on-board equipment to assist in on-the-road breakdown assistance and recovery.

He is required to work in the bus workshop and/or depot environment based on rotating shifts. He is technically inclined and well-versed in various bus systems and builds good teamwork amongst his team to support the achievement of maintenance targets and requirements.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 1, Level 2	Equipment Maintenance and Housekeeping	Level 2
Bus Body Work Maintenance	Level 1, Level 2	Heavy Lifting Machinery Operation	Level 1
Bus Brake Systems Maintenance	Level 1, Level 2	Internet of Things Application	Level 2
Bus Drivetrain Systems Maintenance	Level 1, Level 2	Report Writing	Level 1
Bus Electrical and Electronic Systems Maintenance	Level 1, Level 2	Robotics and Automation Application	Level 2
Bus Engine System Maintenance	Level 1, Level 2	Work at Heights	Level 1
Bus Recovery and Towing	Level 2	Workplace Facilities Safety Management	Level 2
Bus Regulatory Compliance	Level 2	Workplace Safety and Health Culture Development	Level 2
Bus Steering and Suspension Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Continuous Improvement Management	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Data and Statistical Analytics	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Decision Making	Basic
Problem Solving	Basic	Service Orientation	Basic
Teamwork	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Section Supervisor/Foreman

JOB ROLE DESCRIPTION

The Section Supervisor/Foreman supervises his/her team in performing scheduled and routine preventive and corrective maintenance of bus fleets under his section. His duties include implementing the maintenance schedule, assigning work instructions and proposing workflow improvements to improve the maintenance regime of the bus fleets. He also supports the coordination and deployment of breakdown recovery teams and manages recovery efforts in coordination with the Bus Operations Control Center (BOCC).

He supports the conduct of maintenance, operations and safety audits and manages the section's performance in achieving established Key Performance Indicators (KPIs) as well as implementing staff capability development initiatives.

He is required to work in the bus workshop and/or depot environment based on rotating shifts. He possesses good planning and coordination skills, is meticulous, analytical, and conducts his work and leads his section in a systematic approach to achieve the section's KPIs.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 3	Inventory Management	Level 3
Bus Body Work Maintenance	Level 2	Learning and Development	Level 2
Bus Brake Systems Maintenance	Level 3	Maintenance Scheduling	Level 3
Bus Drivetrain Systems Maintenance	Level 3	People Development	Level 3
Bus Electrical and Electronic Systems Maintenance	Level 3	Report Writing	Level 2
Bus Engine System Maintenance	Level 3	Robotics and Automation Application	Level 3
Bus Recovery and Towing	Level 3	Work at Heights	Level 3
Bus Regulatory Compliance	Level 3	Staff Performance Management	Level 3
Bus Steering and Suspension Systems Maintenance	Level 3	Vendor Management	Level 2
Continuous Improvement Management	Level 3	Workplace Facilities Safety Management	Level 3
Data and Statistical Analytics	Level 3	Workplace Safety and Health Culture Development	Level 3
Equipment Maintenance and Housekeeping	Level 2	Workplace Safety and Health for Electrical Safety	Level 2
Heavy Lifting Machinery Operation	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Innovation Management	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Internet of Things Application	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Teamwork	Intermediate
Leadership	Intermediate	Interpersonal Skills	Basic
Problem Solving	Intermediate		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Workshop Supervisor/Senior Foreman

JOB ROLE DESCRIPTION

The Workshop Supervisor/Senior Foreman supervises multiple maintenance teams in performing scheduled as well as routine preventive and corrective maintenance of bus fleets. His/Her duties include planning and assigning maintenance teams according to schedule, allocating prioritised maintenance and redirecting resources to meet service requirements. He is also responsible for the deployment and coordination of bus breakdown recovery teams.

He coordinates the implementation of maintenance, operations and safety audits across multiple maintenance teams, review maintenance performances as well as recommends improvement initiatives to achieve established Key Performance Indicators (KPIs).

He is required to work in the bus workshop and/or depot environment based on rotating shifts. He possesses excellent supervision skills, takes a systematic approach to coordinate work activities across multiple maintenance teams, and is resourceful to achieve maintenance targets and requirements.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 4	Inventory Management	Level 3
Bus Body Work Maintenance	Level 2	Learning and Development	Level 2
Bus Brake Systems Maintenance	Level 4	Maintenance Scheduling	Level 3
Bus Drivetrain Systems Maintenance	Level 4	People Development	Level 3
Bus Electrical and Electronic Systems Maintenance	Level 4	Report Writing	Level 2
Bus Engine System Maintenance	Level 4	Robotics and Automation Application	Level 3
Bus Recovery and Towing	Level 3	Staff Performance Management	Level 3
Bus Regulatory Compliance	Level 3	Vendor Management	Level 2
Bus Steering and Suspension Systems Maintenance	Level 4	Work at Heights	Level 3
Continuous Improvement Management	Level 3	Workplace Facilities Safety Management	Level 3
Data and Statistical Analytics	Level 3	Workplace Safety and Health Culture Development	Level 3
Equipment Maintenance and Housekeeping	Level 2	Workplace Safety and Health for Electrical Safety	Level 2
Heavy Lifting Machinery Operation	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Innovation Management	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Internet of Things Application	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Intermediate	Decision Making	Intermediate
Communication	Intermediate	Teamwork	Intermediate
Interpersonal Skills	Intermediate		

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For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Technical Specialist

JOB ROLE DESCRIPTION

The Technical Specialist is assigned to perform maintenance activities on specific bus sub-system based on his/her area of specialisation. His duties include corrective and preventive maintenance of a bus sub-system, troubleshooting to identify faults, and repairing and conducting functionality tests. He supports the general housekeeping activities and maintenance of workshop tools and equipment, and carries out Workplace Safety and Health (WSH) procedures.

He is required to work in the bus workshop and/or depot environment based on rotating shifts. He is technically-inclined and has opportunities to deepen his technical knowledge and skills in the maintenance of different bus sub-systems. He is a team-player and supports the team to meet its operational and maintenance targets.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 1, Level 2	Heavy Lifting Machinery Operation	Level 1
Bus Body Work Maintenance	Level 1, Level 2	Internet of Things Application	Level 2
Bus Brake Systems Maintenance	Level 1, Level 2	Report Writing	Level 1
Bus Drivetrain Systems Maintenance	Level 1, Level 2	Robotics and Automation Application	Level 2
Bus Electrical and Electronic Systems Maintenance	Level 1, Level 2	Work at Heights	Level 1
Bus Engine System Maintenance	Level 1, Level 2	Workplace Facilities Safety Management	Level 2
Bus Regulatory Compliance	Level 2	Workplace Safety and Health Culture Development	Level 2
Bus Steering and Suspension Systems Maintenance	Level 1, Level 2	Workplace Safety and Health for Electrical Safety	Level 1
Continuous Improvement Management	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 1
Data and Statistical Analytics	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 2
Equipment Maintenance and Housekeeping	Level 2		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Computational Thinking	Basic
Problem Solving	Basic	Creative Thinking	Basic
Teamwork	Basic		

Senior Technical Specialist

JOB ROLE DESCRIPTION

The Senior Technical Specialist supports the preventive and corrective maintenance work on multiple bus sub-systems. His/Her duties include instructing the maintenance team on various approaches and procedures to resolve technical issues. He also conducts sub-system and component fault analysis and testing with specialised tools and techniques as well as devises fault rectification methods on multiple bus sub-systems. He is also involved in supervising external contractors on various bus and workshop equipment maintenance and servicing to ensure quality requirements are met.

He is required to work in the bus workshop and/or depot environment based on rotating shifts. He is meticulous, analytical and able to interact with the maintenance team effectively to provide technical and instructional advice.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 3	Internet of Things Application	Level 3
Bus Body Work Maintenance	Level 2	Inventory Management	Level 3
Bus Brake Systems Maintenance	Level 3	Maintenance Scheduling	Level 3
Bus Drivetrain Systems Maintenance	Level 3	Report Writing	Level 2
Bus Electrical and Electronic Systems Maintenance	Level 3	Robotics and Automation Application	Level 3
Bus Engine System Maintenance	Level 3	Vendor Management	Level 2
Bus Regulatory Compliance	Level 3	Work at Heights	Level 3
Bus Steering and Suspension Systems Maintenance	Level 3	Workplace Facilities Safety Management	Level 3
Continuous Improvement Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Data and Statistical Analytics	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
Equipment Maintenance and Housekeeping	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Heavy Lifting Machinery Operation	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Innovation Management	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Problem Solving	Basic	Teamwork	Basic
Communication	Intermediate	Creative Thinking	Basic
Decision Making	Basic		

The information contained in this document serves as a guide.

For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Master Technical Specialist

JOB ROLE DESCRIPTION

The Master Technical Specialist supervises the implementation of preventive and corrective maintenance of the bus fleet, including technical advice based on his/her expert knowledge and skills across different bus systems. He conducts fleet performance testing and complex technical fault analysis of the bus systems to recommend enhanced maintenance regime as well as to improve the fleet service reliability and maintainability.

He is required to work in the bus workshop and/or depot environment based on rotating shifts. He is a technical expert in multiple bus systems, is resourceful and leads his team in a systematic and collaborative approach to resolve technical challenges and achieve fleet maintenance requirements.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 4	Internet of Things Application	Level 3
Bus Body Work Maintenance	Level 2	Inventory Management	Level 3
Bus Brake Systems Maintenance	Level 4	Maintenance Scheduling	Level 3
Bus Drivetrain Systems Maintenance	Level 4	Report Writing	Level 2
Bus Electrical and Electronic Systems Maintenance	Level 4	Robotics and Automation Application	Level 3
Bus Engine System Maintenance	Level 4	Vendor Management	Level 2
Bus Regulatory Compliance	Level 3	Work at Heights	Level 3
Bus Steering and Suspension Systems Maintenance	Level 4	Workplace Facilities Safety Management	Level 3
Continuous Improvement Management	Level 3	Workplace Safety and Health Culture Development	Level 3
Data and Statistical Analytics	Level 3	Workplace Safety and Health for Electrical Safety	Level 2
Equipment Maintenance and Housekeeping	Level 2	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Heavy Lifting Machinery Operation	Level 2	Workplace Safety and Health for Incident and Accident Investigation	Level 3
Innovation Management	Level 3		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Problem Solving	Intermediate	Decision Making	Intermediate
Communication	Intermediate	Sense Making	Basic
Creative Thinking	Intermediate		

Deputy Workshop Manager

JOB ROLE DESCRIPTION

The Deputy Workshop Manager supports the day-to-day workshop operations and the implementation of fleet maintenance activities to meet service requirements. He/She supports the coordination of workshop operations with other functional teams such as the Depot and Interchange Management, as well as the Bus Operations Control Centre (BOCC) to support the overall bus service operations.

He supports fleet maintenance activities, implements improvement initiatives and conducts engineering studies by allocating required resources and coordination amongst different workshop sections. He also oversees the implementation of housekeeping practices, ensuring that quality logistic support is rendered to facilitate maintenance needs. He supports the management of workshop operating expenditures and forecasting of annual budgetary requirements to meet the workshop operations requirements.

He has good knowledge of the bus service operations and is able coordinate effectively with internal and external stakeholders. He possesses excellent supervision skills, is resourceful and seeks continual manpower capability improvement and resources requirement to meet the bus maintenance and service requirements of the organisation.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 3	Maintenance Scheduling	Level 4
Bus Air-Conditioning Systems Maintenance	Level 4	People Development	Level 4
Bus Brake Systems Maintenance	Level 4	Project Management	Level 4
Bus Drivetrain Systems Maintenance	Level 4	Robotics and Automation Application	Level 3
Bus Electrical and Electronic Systems Maintenance	Level 4	Report Writing	Level 2
Bus Engine System Maintenance	Level 4	Work at Heights	Level 3
Bus Regulatory Compliance	Level 4	Staff Performance Management	Level 3
Bus Steering and Suspension Systems Maintenance	Level 4	Stakeholder Management	Level 3
Business Continuity Management	Level 4	Technology Application	Level 2
Change Management	Level 4	Vendor Management	Level 3
Continuous Improvement Management	Level 4	Workplace Facilities Safety Management	Level 3
Equipment Maintenance and Housekeeping	Level 3	Workplace Safety and Health for Confined Spaces	Level 3
Heavy Lifting Machinery Operation	Level 2	Workplace Safety and Health Culture Development	Level 4
Innovation Management	Level 4	Workplace Safety and Health Electrical Safety	Level 3
Internet of Things Application	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Inventory Management	Level 3	Workplace Safety and Health for Incident and Accident Investigation	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Problem Solving	Advanced
Leadership	Advanced	Developing People	Intermediate
Decision Making	Advanced		

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For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Workshop Manager

JOB ROLE DESCRIPTION

The Workshop Manager leads the overall bus maintenance operations in close coordination with other functional teams such as the Depot and Interchange Management and the Bus Operations Control Centre (BOCC) to manage the overall bus service operations. He/She facilitates the implementation of organisational maintenance regimes and ensures quality and adequate technical expertise, manpower and operating resource requirement are met to support effective workshop operations. He leads in the implementation of process improvement initiatives, and reviews the maintenance, operations and safety audits findings to make informed decisions for process and operations improvement requirements.

He exhibits excellent leadership and managerial skills, is analytical and resourceful to manage the diverse workshop operations and fleet maintenance to achieve service operations standards and equipment.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	People Development	Level 5
Bus Air-Conditioning Systems Maintenance	Level 4	Project Management	Level 5
Bus Brake Systems Maintenance	Level 4	Report Writing	Level 2
Bus Drivetrain Systems Maintenance	Level 4	Robotics and Automation Application	Level 3
Bus Electrical and Electronic Systems Maintenance	Level 4	Staff Performance Management	Level 4
Bus Engine System Maintenance	Level 4	Stakeholder Management	Level 4
Bus Regulatory Compliance	Level 4	Technology Application	Level 2
Bus Steering and Suspension Systems Maintenance	Level 4	Vendor Management	Level 4
Business Continuity Management	Level 5	Work at Heights	Level 3
Change Management	Level 5	Workplace Facilities Safety Management	Level 4
Continuous Improvement Management	Level 5	Workplace Safety and Health for Confined Spaces	Level 3
Engineering Maintenance Management	Level 4	Workplace Safety and Health Culture Development	Level 5
Innovation Management	Level 5	Workplace Safety and Health for Electrical Safety	Level 3
Internet of Things Application	Level 3	Workplace Safety and Health for Fire Prevention and Fire Fighting	Level 2
Maintenance Scheduling	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Organisational Planning and Target Setting	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Leadership	Advanced	Resource Management	Advanced
Communication	Advanced	Developing People	Advanced
Decision Making	Advanced		

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Engineering Supervisor

Chua Muhammad Syafidi
Tower Transit Singapore

ALWAYS UP TO THE CHALLENGE

Perseverance and a desire to progress are two key factors in Chua Muhammad Syafidi's journey from an excavator mechanic to his current role as Engineering Supervisor with Tower Transit Singapore (TTS). Starting as a vehicle technician with TTS, the willingness to take on new challenges has seen his personal development and career grow by leaps and bounds.

Despite having no prior experience working with buses, Syafidi found he was able to apply the experience gained from his previous job to much of his work at TTS. Within a year, Syafidi and three colleagues were handpicked and sent to London to compete in a Skills Challenge with some of the UK's top road engineers.

The TTS team, made up of newbies to the bus industry, faced veteran competitors from some of the biggest bus operators in the UK. Despite this seeming disadvantage, the young TTS team fared well beyond expectations – with Syafidi impressively taking home the runner-up award in the bus bodyworks skills challenge. Syafidi describes the whole experience as “very scary but also a once in a lifetime opportunity”.

After two years into the job, Syafidi was formally promoted to Engineering Supervisor. His job scope now includes assigning jobs to his technicians, diagnosing mechanical issues and ensuring vehicles are road-worthy. However, he still rolls up his sleeves and gets his hands greasy alongside his colleagues.

In his new role, Syafidi says that while there is a significant supervisory aspect to the job, a technical mind is also

“The public bus industry in Singapore is growing quickly with lots of new technology being installed on buses to improve safety, reliability and convenience to passengers. Not a day goes by that I’m not learning something new. It is not the greasy, backward industry that some people think it is. Try it. You’ll be surprised where it can take you.”

imperative to earn the respect of the vehicle technicians under his management.

“Dealing with people is one of the most complex components of the job. You need to have a good understanding of each team member and their abilities in order to assign them tasks that they are equipped to handle,” he says. On top of that, Syafidi is also responsible for keeping those under his charge focused and disciplined. “This is because the comfort and safety of passengers are in our hands,” he adds.

Not content with his accomplishments so far, Syafidi aims to be a Workshop Manager someday. To realise his aspirations, he plans to complete a diploma in Heavy Vehicle Maintenance and Repair under the sponsorship of his company. He also hopes to acquire more experience in leadership roles.

Syafidi believes that the Skills Framework for Public Transport can provide him the necessary insights to chart his career aspirations. “The Skills Framework helps me chart my development towards my aspiration of becoming a workshop manager one day. By understanding the skills required of the job, I can be systematic about the learning and development that I pursue,” he says.

“The public bus industry in Singapore is growing quickly with lots of new technology being installed on buses to improve safety, reliability and convenience to passengers. Not a day goes by that I’m not learning something new. It is not the greasy, backward industry that some people think it is. Try it. You’ll be surprised where it can take you,” he says.

Engineer

JOB ROLE DESCRIPTION

The Engineer monitors the performance of the bus fleet to ensure operational safety and reliability, as well as to identify bus system degradation, diagnose root causes and implement mitigation actions to reduce service downtime. He/She guides the bus maintenance team with technical advice based on his/her in-depth knowledge of a bus systems and engineering principles. He also conducts engineering studies to continuously improve bus operations and maintenance regime through implementing best practices in maintenance management as well as sourcing and application of technological aids to enhance bus performances.

He is innovative, technologically savvy and possesses strong analytical skills to advance in his field of expertise. He is resourceful and has good project management skills to implement fleet-wide engineering studies and implementation of new technology applications for the enhancement of fleet performance and maintenance regime.

TECHNICAL SKILLS & COMPETENCIES			
Bus Air-Conditioning Systems Maintenance	Level 4	Internet of Things Application	Level 3
Bus Brake Systems Maintenance	Level 4	Inventory Management	Level 3
Bus Drivetrain Systems Maintenance	Level 4	People Development	Level 4
Bus Electrical and Electronic Systems Maintenance	Level 4	Project Management	Level 4
Bus Engine System Maintenance	Level 4	Robotics and Automation Application	Level 3
Bus Regulatory Compliance	Level 4	Staff Performance Management	Level 4
Bus Steering and Suspension Systems Maintenance	Level 4	Systems Engineering Thinking	Level 4
Change Management	Level 4	Technology Application	Level 2
Condition-Based Assets Monitoring Management	Level 3	Vendor Management	Level 3
Continuous Improvement Management	Level 4	Work at Heights	Level 3
Data and Statistical Analytics	Level 4	Workplace Facilities Safety Management	Level 3
Engineering Maintenance Management	Level 4	Workplace Safety and Health Culture Development	Level 4
Innovation Management	Level 4	Workplace Safety and Health for Incident and Accident Investigation	Level 3
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Intermediate	Creative Thinking	Intermediate
Problem Solving	Intermediate	Computational Thinking	Intermediate
Decision Making	Intermediate		

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For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Engineering Manager

JOB ROLE DESCRIPTION

The Engineering Manager oversees the fleet-wide operational activities to ensure safety, reliability and achievement of bus service standards. He/She provides multi-disciplinary technical advice for fleet-wide engineering and maintenance programs which include review of fleet performance audit data to establish fleet engineering and maintenance standards. He is also responsible for commissioning engineering studies and technology application projects to enhance the overall fleet reliability and maintainability.

He possesses an innovative mind-set, is forward looking and able to apply in-depth engineering knowledge to analyse complex engineering and operational issues to make informed recommendations in enhancing the overall performance of the organisation.

TECHNICAL SKILLS & COMPETENCIES			
Budgeting	Level 4	Innovation Management	Level 5
Bus Air-Conditioning Systems Maintenance	Level 4	Internet of Things Application	Level 3
Bus Brake Systems Maintenance	Level 4	Organisational Planning and Target Setting	Level 4
Bus Drivetrain Systems Maintenance	Level 4	People Development	Level 5
Bus Electrical and Electronic Systems Maintenance	Level 4	Project Management	Level 5
Bus Engine System Maintenance	Level 4	Robotics and Automation Application	Level 3
Bus Regulatory Compliance	Level 4	Staff Performance Management	Level 4
Bus Steering and Suspension Systems Maintenance	Level 4	Systems Engineering Thinking	Level 5
Business Continuity Management	Level 5	Technology Application	Level 2
Change Management	Level 5	Vendor Management	Level 4
Condition-Based Assets Monitoring Management	Level 4	Workplace Facilities Safety Management	Level 4
Continuous Improvement Management	Level 5	Workplace Safety and Health Culture Development	Level 5
Data and Statistical Analytics	Level 5	Workplace Safety and Health for Incident and Accident Investigation	Level 4
Engineering Maintenance Management	Level 4		
GENERIC SKILLS & COMPETENCIES (TOP 5)			
Communication	Advanced	Decision Making	Advanced
Leadership	Advanced	Creative Thinking	Advanced
Problem Solving	Advanced		

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For a list of Critical Work Functions and Key Tasks for this job role, please visit www.skillsfuture.sg/skills-framework/public-transport

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Automotive Maintenance	Bus Air-Conditioning Systems Maintenance	Implement preventive and corrective maintenance of bus air-conditioning systems	●	●	●	●		
	Bus Body Work Maintenance	Execute corrective and preventive maintenance of bus body work	●	●				
	Bus Brake Systems Maintenance	Implement corrective and preventive maintenance of bus brake systems	●	●	●	●		
	Bus Drivetrain Systems Maintenance	Implement corrective and preventive maintenance of bus drivetrain systems	●	●	●	●		
	Bus Electrical and Electronic Systems Maintenance	Implement corrective and preventive maintenance of bus electrical and electronic systems	●	●	●	●		
	Bus Engine System Maintenance	Implement preventive and corrective maintenance of bus engine system	●	●	●	●		
	Bus Steering and Suspension Systems Maintenance	Implement corrective and preventive maintenance of bus steering and suspension systems	●	●	●	●		
Bus Operations	Bus Depot Operations	Manage bus depot operations through activities for bus allocation and despatch, Bus Captain duty allocation, and facilities maintenance		●	●	●		
	Bus Equipment and Systems Operation	Operate bus controls and on-board equipment		●				
	Bus Fare Management	Operate bus fare collection equipment to collect bus fares and maintain bus fare policy		●				
	Bus Garaging	Restore buses through garaging activities at the depot, which include refuelling, conducting bus inspections, parking buses, and managing coin boxes, to ensure organisational standards and bus service regulatory requirements are met		●	●	●		
	Bus Interchange Operations	Manage bus interchange operations through activities for bus service frequency regulation, bus readiness checks, safety management and crowd control, traffic control, customer service, and facilities maintenance		●	●	●		
	Bus Operations Control Management	Manage the operation of bus fleets according to designated service routes using real-time information obtained from bus fleet management systems			●	●	●	
	Bus Service Route Operations Training and Development	Provide coaching to facilitate learning of bus service route operations			●			
	Bus Vehicle Operations	Operate various bus vehicular types and models in accordance with regulatory and operational requirements		●				

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Business Management	Budgeting	Prepare organisational budgets to support short- and long-term business plans through forecasting, allocation and financial policy setting			●	●	●	●
	Business Continuity Planning	Develop and implement business continuity plans for organisational preparedness of disruptive events			●	●	●	●
	Change Management	Manage organisational change management systems to drive organisation success and outcomes by preparing, equipping and supporting adoption of change			●	●	●	●
	Data and Statistical Analytics	Identify data sets for the application of statistical techniques to analyse and interpret large complex data to uncover trends or patterns in order to locate and define new process improvement opportunities	●	●	●	●	●	●
	Innovation Management	Identify functional needs for innovation, establish systems and processes to cultivate an innovative culture that transforms ideas to realisation to enhance functional performance	●	●	●	●	●	●
	Organisational Planning and Target Setting	Identify and prioritise strategic needs of the organisation to determine key performance indicators to achieve established goals				●	●	●
	Project Management	Plan, execute, track and govern projects, including allocating and managing people resources, stakeholder engagement, time and budgets and problem resolution		●	●	●	●	●
	Report Writing	Write reports using terminology appropriate to the reader as well as identify requirements for written reports	●	●	●	●		
	Strategy Planning	Develop organisational strategies and policies by analysing the impact of internal and external influencing factors and seeking consultation from relevant stakeholders				●	●	●
Corporate Governance and Policies	Bus Regulatory Compliance	Comply with bus legislative and regulatory requirements by establishing and adhering to internal work procedures, to prevent incidents of non-compliance and regulatory oversight	●	●	●	●	●	
	Rail Regulatory Compliance	Adhere to rail legislative and regulatory requirements by establishing and developing internal work processes, to prevent incidents of non-compliance and regulatory oversight	●	●	●	●	●	●
Incident Management	Bus Recovery and Towing	Deploy on-the-road bus recovery procedures by implementing appropriate recovery actions and in coordination with the Bus Operations and Control Centre		●	●			
	Civil Emergency Management	Facilitate civil emergency operations and exercises in accordance to operation standards and regulatory requirements	●	●	●	●		
	Crisis Management	Apply strategies designed to enable an organisation to deal with disruptive events by planning for responses to potential crises, establishing monitoring systems and training systems, communicating both internally and externally, and leading recovery processes		●	●	●	●	●

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Incident Management	Rail Emergency Response Management	Respond to rail emergencies by executing and developing emergency response procedures as a countermeasure to rail operation disruptions	●	●	●	●	●	●
	Rail Incident Management	Respond to rail incidents by investigating and implementing recovery plans to maintain rail service continuity and reliability	●	●	●	●	●	●
Maintenance Management	Asset Management	Formulate and implement the organisation's asset management policies to optimise asset life-cycle and performance			●	●	●	●
	Condition-based Assets Monitoring Management	Formulate and implement condition-based maintenance procedures to enhance organisation maintenance regimes and operational reliability	●	●	●	●	●	
	Engineering Maintenance Management	Implement engineering maintenance strategy to enhance performance level of public transport fleet				●	●	●
	Equipment Maintenance and Housekeeping	Maintain and upkeep tools and equipment and implement organisational housekeeping practices	●	●	●			
	Maintenance Scheduling	Plan and manage maintenance schedules in accordance to the organisational standards and Original Equipment Manufacturer recommendations			●	●	●	
People Management	Learning and Development	Manage employees' learning and development activities to maximise employee' potential and capabilities to contribute to the organisation		●	●	●	●	●
	Manpower Planning and Deployment	Develop and implement manpower plans to support and meet the organisation's strategic and operational needs			●	●	●	
	People Development	Build a healthy pipeline of talent pool within the organisation, review talent capabilities, identify skill needs and encourage personal learning and development			●	●	●	●
	Staff Performance Management	Maximise employee performance to meet business goals by aligning organisational objectives with staff goals, creating learning and development opportunities to improve individuals, providing systems of feedback and support, and implementing an effective reward system for the employee			●	●	●	
Process Improvement	Continuous Improvement Management	Apply continuous improvement processes to optimise operating cost, task efficiency and effectiveness in production, services and processes		●	●	●	●	●
	Systems Engineering Thinking	Optimise inter-disciplinary engineering application by applying process knowledge and analytical techniques to provide engineering solutions and practices through an integrated and multidisciplinary approach				●	●	●
Rail Operations	Passenger Train Operations	Operate passenger train and respond to degraded and emergency train operations in accordance to regulatory and organisational requirements		●				

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Rail Operations	Rail Operations Control Management	Manage rail operations and control to achieve and enhance rail service continuity and reliability		●	●	●	●	●
	Rail Operations Enhancement Management	Formulate rail operations strategies built on rail systems fundamentals, principles and knowledge to drive enhancement of service operations and performance excellence				●	●	●
	Track Access Management	Monitor and facilitate track access with relevant security and protection measures at appropriate zones in accordance to organisational and regulatory requirements	●	●	●	●	●	●
	Train Depot Control Management	Facilitate train depot activities through effective management of depot control operations		●	●			
	Train Fare and Ticket Management	Implement fare and ticket management, operations and enforcement in accordance to Fares and Tickets Regulations	●	●	●			
	Train Station Operations Management	Manage the operations of train stations to achieve rail service continuity, safety and reliability		●	●	●	●	●
Rail Systems Maintenance	Automatic Fare Collection Auxiliary Systems Maintenance	Implement preventive and corrective maintenance activities of Automatic Fare Collection (AFC) auxiliary systems	●	●	●	●		
	Automatic Fare Collection Gate Maintenance	Implement preventive and corrective maintenance activities of Automatic Fare Collection gates	●	●	●	●		
	Automatic Fare Collection Sales Device Maintenance	Implement preventive and corrective maintenance activities of Automatic Fare Collection (AFC) sales devices	●	●	●	●		
	Civil Structure Maintenance	Implement preventive and corrective maintenance of civil structures	●	●	●	●		
	Communication Auxiliary Systems Maintenance	Implement preventive and corrective maintenance activities of communication auxiliary systems	●	●	●	●		
	Communication Backbone System Maintenance	Implement preventive and corrective maintenance activities of communication backbone system	●	●	●	●		
	Communication Power System Maintenance	Implement preventive and corrective maintenance activities of communication power system	●	●	●	●		
	Drainage, Plumbing and Sanitary Systems Maintenance	Implement preventive and corrective maintenance of drainage, plumbing and sanitary systems	●	●	●	●		

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Rail Systems Maintenance	Emergency and Security Communication Systems Maintenance	Implement preventive and corrective maintenance activities of emergency and security communication systems	●	●	●	●		
	Engineering Train and Rolling Stock Operation	Operate engineering train, rolling stock and on-board equipment to support maintenance operations		●	●			
	Escalator and Travelator Maintenance	Implement preventive and corrective maintenance of escalator and travelator	●	●	●	●		
	Fire Protection Systems Maintenance	Implement preventive and corrective maintenance of lift systems	●	●	●	●		
	Heavy Crane Vehicle Maintenance	Implement preventive and corrective maintenance activities of heavy crane vehicle	●	●	●	●		
	Heavy Lifting Machinery Operation	Operate heavy lifting machinery and the appropriate deployment of machinery for maintenance activities	●	●				
	High Voltage Power Systems Maintenance	Implement preventive and corrective maintenance activities of high voltage power systems	●	●	●	●		
	Lift Systems Maintenance	Implement preventive and corrective maintenance of lift systems	●	●	●	●		
	Locomotive Maintenance	Implement preventive and corrective maintenance activities of locomotive	●	●	●	●		
	Low Voltage Power Systems Maintenance	Implement preventive and corrective maintenance activities of low voltage power systems	●	●	●	●		
	Multi-Function Vehicle Maintenance	Implement preventive and corrective maintenance activities of multi-function vehicle	●	●	●	●		
	Network Systems Maintenance	Implement preventive and corrective maintenance activities of network systems	●	●	●	●		
	Platform Screen Door Maintenance	Implement preventive and corrective maintenance of Platform Screen Door	●	●	●	●		
	Radio System Maintenance	Implement preventive and corrective maintenance activities of radio system	●	●	●	●		
	Rail Grinding Vehicle Maintenance	Implement preventive and corrective maintenance activities of rail grinding vehicle	●	●	●	●		
	Rail Track Inspection	Plan, coordinate and perform inspection of rail tracks through on-site patrols	●	●	●	●		

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Rail Systems Maintenance	Rail Track Maintenance	Implement preventive and corrective maintenance activities of rail track	●	●	●	●		
	Rolling Stock Air-Condition and Ventilation Systems Maintenance	Implement preventive and corrective maintenance activities of rolling stock air-conditioning and ventilation systems	●	●	●	●		
	Rolling Stock Auxiliary Systems Maintenance	Implement preventive and corrective maintenance activities of rolling stock auxiliary systems	●	●	●	●		
	Rolling Stock Bogie Maintenance	Implement preventive and corrective maintenance activities of rolling stock bogie	●	●	●	●		
	Rolling Stock Brake Systems Maintenance	Implement preventive and corrective maintenance activities of rolling stock brake systems	●	●	●	●		
	Rolling Stock Car Body Maintenance	Implement preventive and corrective maintenance activities of rolling stock car body	●	●	●	●		
	Rolling Stock On-Board Control and Communication Systems Maintenance	Implement preventive and corrective maintenance activities of rolling stock on-board control systems	●	●	●	●		
	Rolling Stock Power Systems Maintenance	Implement preventive and corrective maintenance activities of rolling stock power systems	●	●	●	●		
	Rolling Stock Propulsion Systems Maintenance	Implement preventive and corrective maintenance activities of rolling stock propulsion systems	●	●	●	●		
	Signal Interlocking Systems Maintenance	Implement preventive and corrective maintenance activities of signal interlocking systems	●	●	●	●		
	Signalling Auxiliary Device and Equipment Maintenance	Implement preventive and corrective maintenance activities of signalling auxiliary devices and equipment	●	●	●	●		
	Station Air-Conditioning Systems Maintenance	Implement preventive and corrective maintenance of station air-conditioning systems	●	●	●	●		
	Supervisory Control and Data Acquisition System Maintenance	Implement preventive and corrective maintenance activities of Supervisory Control and Data Acquisition system	●	●	●	●		

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Rail Systems Maintenance	Third Rail Maintenance	Implement preventive and corrective maintenance activities of third rail system	●	●	●	●		
	Track Tamping Vehicle Maintenance	Implement preventive and corrective maintenance activities of track tamping vehicle	●	●	●	●		
	Trackside Automatic Train Control Equipment Maintenance	Implement preventive and corrective maintenance activities of Trackside Automatic Train Control equipment	●	●	●	●		
	Train Supervisory System Maintenance	Implement preventive and corrective maintenance activities of train supervisory system	●	●	●	●		
	Trainborne Automatic Train Control Equipment Maintenance	Implement preventive and corrective maintenance activities of trainborne Automatic Train Control equipment	●	●	●	●		
	Travel Information System Maintenance	Implement preventive and corrective maintenance activities of travel information system	●	●	●	●		
	Ventilation System Maintenance	Implement preventive and corrective maintenance of ventilation system	●	●	●	●		
	Video Surveillance System Maintenance	Implement preventive and corrective maintenance activities of video surveillance system	●	●	●	●		
	Wagon Maintenance	Implement preventive and corrective maintenance activities of wagons	●	●	●	●		
Stakeholder and Customer Management	Crowd Management	Manage and control commuter traffic in public transport premises through crowd management and control techniques to facilitate service continuity and reliability		●	●	●	●	
	Security Management	Develop and enforce security measures in public transport premises in accordance with organisational standards and regulatory requirements	●	●	●	●	●	●
	Service Excellence	Develop a service framework to manage and address service challenges as well as collaborate with relevant partners to deliver service excellence	●	●	●	●	●	
	Stakeholder Management	Manage organisation's key stakeholders, strategic partners and investors to ensure continuous levels of engagement by identifying needs, setting service standards and resolving issues in accordance with organisational procedures			●	●	●	
Supply Chain Management	Inventory Management	Formulate and implement inventory management strategies targeted at ensuring availability of equipment, tools and materials for maintenance work			●	●	●	
	Vendor Management	Manage vendor by ensuring adherence to contract terms and organisational safety and operating requirements	●	●	●	●	●	

Overview of Technical Skills and Competencies

Technical Skills and Competencies (TSCs)

TSC Category	TSC Title	TSC Description	Proficiency Levels					
			1	2	3	4	5	6
Technology Management	Internet of Things Application	Implement Internet of Things (IoT) technologies to drive efficiency and effectiveness of operations		●	●	●	●	
	Robotics and Automation Application	Apply and integrate evaluated technologies into organisation operations or processes to achieve desired outcomes and reduce reliance on manual tasks		●	●	●	●	
	Technology Application	Integrate technologies into operations of the organisation to optimise efficiency and effectiveness of processes		●	●	●		
Workplace Safety and Health	Health and Fatigue Risk Management	Identify and manage risks associated with fatigue within the work environment to ensure all personnel are fit to perform assigned duties	●	●	●	●		
	Work at Heights	Maintain Workplace Safety and Health (WSH) standards and practices when working at heights by establishing safety protocols and complying with regulatory and other Work at Height (WAH) and WSH requirements	●		●			
	Workplace Facilities Safety Management	Implement safety procedures and risk control measures in a public transport workplace environment and public access areas to ensure safety of staff and commuters		●	●	●	●	
	Workplace First-Aid	Assess casualties and apply first aid, Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED) skills and abilities in the workplace	●	●	●			
	Workplace Safety and Health Culture Development	Create and maintain a Workplace Safety and Health culture based on a common set of attitudes, behaviours, and competencies		●	●	●	●	●
	Workplace Safety and Health for Confined Spaces	Perform duties with proper supervision and safety precautions, when working in confined spaces	●		●			
	Workplace Safety and Health for Electrical Safety	Manage safety to minimise risks and hazards when performing electrical-related maintenance activities	●	●	●			
	Workplace Safety and Health for Fire Prevention and Fire Fighting	Formulate and execute fire safety protocols and processes to minimise risk posed to customers during emergency situations involving fire	●	●	●	●		
	Workplace Safety and Health for Incident and Accident Investigation	Investigate Workplace Safety and Health incidents and accidents based on root cause analysis and identification of corrective actions to prevent recurrences		●	●	●	●	
	Workplace Traffic Safety Management	Manage movement of bus fleet and pedestrians at the workplace to minimise traffic risks and hazards	●	●	●	●		

Overview of Technical Skills and Competencies

General Descriptor for Technical Skills and Competencies (TSCs)

Level	Responsibility (Degree of supervision and accountability)	Autonomy (Degree of decision-making)	Complexity (Degree of difficulty of situations and tasks)	Knowledge and Abilities (Required to support work as described under Responsibility, Autonomy and Complexity)
6	Accountable for significant areas of work, strategy or overall satisfaction	Empowered to chart direction and practices within and outside of work (including professional field/ community), to achieve/exceed work results	Complex	<ul style="list-style-type: none"> • Synthesise knowledge issues in a field of work and the interface between different fields, and create new forms of knowledge • Employ advanced skills, to solve critical problems and formulate new structures, and/or to redefine existing knowledge or professional practice • Demonstrate exemplary ability to innovate, and formulate new ideas and structures
5	Accountable for achieving assigned objectives, decisions made by self and others	Provide leadership to achieve desired work results; Manage resources, set milestones and drive work	Complex	<ul style="list-style-type: none"> • Evaluate factual and advanced conceptual knowledge within a field of work, involving critical understanding of theories and principles • Select and apply an advanced range of cognitive and technical skills, demonstrating mastery and innovation, to devise solutions to solve complex and unpredictable problems in a specialised field of work • Manage and drive complex work activities
4	Work under broad direction Hold accountability for performances of self and others	Exercise judgement; adapt and influence to achieve work performance	Less routine	<ul style="list-style-type: none"> • Evaluate and develop factual and conceptual knowledge within a field of work • Select and apply a range of cognitive and technical skills to solve non-routine/ abstract problems • Manage work activities which may be unpredictable • Facilitate the implementation of innovation
3	Work under broad direction May hold some accountability for performance of others, in addition to self	Use discretion in identifying and responding to issues, work with others and contribute to work performance	Less routine	<ul style="list-style-type: none"> • Apply relevant procedural and conceptual knowledge and skills to perform differentiated work activities and manage changes • Able to collaborate with others to identify value-adding opportunities
2	Work with some supervision Accountable for a broader set of tasks assigned	Use limited discretion in resolving issues or enquiries. Work without frequently looking to other for guidance	Routine	<ul style="list-style-type: none"> • Understand and apply factual and procedural knowledge in a field of work • Apply basic cognitive and technical skills to carry out defined tasks and to solve routine problems using simple procedures and tools • Present ideas and improve work
1	Work under direct supervision assigned Accountable for tasks	Minimal discretion required. Expected to seek guidance	Routine	<ul style="list-style-type: none"> • Recall factual and procedural knowledge • Apply basic skills to carry out defined tasks • Identify opportunities for minor adjustments to work tasks

Overview of Generic Skills and Competencies

Generic Skills and Competencies (GSCs)

GSC	GSC Description	Proficiency Levels		
		Basic	Intermediate	Advanced
Communication	Convey and exchange thoughts, ideas and information effectively through various mediums and approaches.	Communicate information with others to respond to general inquiries and to obtain specific information.	Articulate and discuss ideas and persuade others to achieve common outcomes.	Negotiate with others to address issues and achieve mutual consensus.
Computational Thinking	Develop and use computational models, tools and techniques to interpret and understand data, solve problems and guide decision-making.	Use computational models, tools and techniques to identify patterns in a problem and develop a solution.	Modify existing computational models, tools and techniques to develop different solutions.	Develop and create computational models, tools and techniques to implement new solutions and apply to other problems.
Creative Thinking	Adopt a fresh perspective to combine ideas or information in new ways and make connections between seemingly unrelated fields to create new ideas and applications.	Connect ideas or information from related fields or applications to address an immediate issue.	Connect or combine ideas or information from unrelated fields or applications to generate multiple ideas to bring about a specific outcome.	Create original applications or ideas to reveal new possibilities and reshape goals through high level of innovativeness.
Decision Making	Choose a course of action from various alternatives using a reasoned process to achieve intended goals.	Make decisions of simple or routine nature to achieve intended goals using given information and guidelines.	Make decisions in a complex setting to achieve intended goals using a structured process and multiple sources of available information.	Make decisions in a volatile and ambiguous setting using a structured process and limited sources of available information to achieve intended goals.
Developing People	Help others to learn and develop their capabilities to enhance their performance and achieve personal or professional goals.	Use demonstration and explanation to teach a familiar task to inexperienced co-workers.	Provide coaching to others to develop their skills and knowledge on their jobs to enhance performance.	Provide mentorship to help others in their professional and personal development to improve performance and further their careers.
Digital Literacy	Use ICT tools, equipment and software to create, evaluate and share information digitally with others.	Perform basic functions using software programmes pertaining to computer operating systems and file management, and search online information.	Use available software features to create and edit documents, customise templates and reports and evaluate online information.	Use available software features to enhance documents, analyse and manipulate data, and use ICT to organise, share and communicate information clearly and coherently.
Global Mindset	Awareness of diversity across global cultures and markets. Seek opportunities to adopt successful practices and ideas.	Demonstrate understanding of global challenges and opportunities and how to transfer best practices across cultures. Respect cultural differences and needs of a diverse workforce.	Develop global networks and manage virtual relationships while balancing both local and global perspectives. Adopt a local and global perspective when making decisions.	Build the organisation's capabilities to compete in a global environment. Manage tension between corporate requirements, global and cultural differences.

Overview of Generic Skills and Competencies

Generic Skills and Competencies (GSCs)

GSC	GSC Description	Proficiency Levels		
		Basic	Intermediate	Advanced
Interpersonal Skills	Manage relationships efficiently and communicate with others effectively to achieve mutual consensus and outcomes.	Recognise own internal feelings and emotional states to manage interpersonal relationships in social situations.	Detect and decipher emotions of others to manage interpersonal relationships in social situations.	Influence, guide and handle others' emotions to build instrumental relationships and manage conflicts and disagreements.
Leadership	Lead others to achieve objectives in the most effective way. Provide an inclusive workplace that cultivates workplace relationships and teamwork, and foster the development of others.	Demonstrate professionalism to set a good example at peer level. Support others through own initiative and enthuse others through own positive and energetic approach.	Lead by example at team level. Encourage and guide others to adopt a point of view, make changes or take action. Provide a team environment that facilitates relationships building, teamwork and the development of others.	Lead by example at organisational level. Inspire, motivate and guide others to adopt a point of view, make changes or take action. Cultivate an open, cooperative and collaborative learning culture for the organisation.
Lifelong Learning	Seek out opportunities to enhance one's knowledge and skills. Access and acquire new knowledge and skills actively for continual learning.	Organise and manage own learning by setting learning targets. Identify learning approaches to achieve work or career goals.	Engage in collaborative learning by discussing one's learning with others and soliciting feedback to continually improve oneself.	Conduct self-reflective practices to review one's learning to facilitate continual growth in one's career or profession.
Managing Diversity	Work well with people from different ethnic, social, cultural and educational backgrounds and understand the concerns and interests of diverse work groups.	Demonstrate sensitivity to the cultural characteristics, values, beliefs, and behaviors of another ethnic or cultural group.	Build relationships with different ethnic or cultural groups by engaging in cross-cultural cooperative projects.	Manage conflicts arising from different ethnic or cultural groups and work effectively in cross-cultural settings.
Problem Solving	Generate feasible and efficient solutions to solve problems and capitalise on new opportunities.	Identify easily perceivable problems and follow given guidelines and procedures to solve the problems.	Identify less perceivable problems and use problem solving tools and techniques to solve the problems.	Anticipate potential problems beyond the current scope and apply higher order problem solving tools and techniques to turn problems into opportunities.
Resource Management	Efficient and effective deployment and allocation of resources when and where they are needed. Include planning, allocating and scheduling of resources to tasks, which typically include manpower, machines, money and materials.	Use resources to ensure optimum and efficient use of resources.	Deepen insights into the planning, allocation and deployment of resources to anticipate needs. Plan the allocation and deployment of resources efficiently and effectively.	Establish strategies for the allocation and deployment of resources efficiently and effectively.

Overview of Generic Skills and Competencies

Generic Skills and Competencies (GSCs)

GSC	GSC Description	Proficiency Levels		
		Basic	Intermediate	Advanced
Sense Making	Organise and analyse data and information accurately to identify relationships and detect patterns and trends to gain insights for decision-making.	Identify relationships and linkages within different components of data.	Interpret data to uncover patterns and trends between various sources of data.	Analyse data relationships, patterns and trends to gain important insights and make informed decisions.
Service Orientation	Commit to exceeding both internal and external customers' needs. Proactively identify customer needs and sustain a culture of service excellence within the organisation.	Exceed customer needs and expectations and handle service challenges with a positive mindset. Demonstrate an understanding of the organisation's service vision, mission and values.	Anticipate customer needs and expectations and elicit feedback from customers to improve service. Build relationships with customers to create and sustain customer loyalty.	Model, lead, train and motivate staff with a focus on sustaining a culture that encourages commitment to service excellence and high performance.
Teamwork	Work collaboratively and effectively with others to contribute to group efforts to achieve identified objectives.	Contribute to a positive and cooperative working environment by fulfilling own responsibilities and providing support to co-workers to achieve team goals.	Facilitate work team activities, provide assistance and support needed by team members and promote ownership and commitment among team members to work goals to improve team performance.	Establish teams, design and assess tasks to continually improve team effectiveness and cultivate a sense of organisational ownership and a cooperative working environment.
Transdisciplinary Thinking	Understanding of concepts across multiple disciplines, with the capacity to synthesise the knowledge and insights to guide decisions and foster cooperation.	Research and adapt concepts from outside one's field of expertise to supplement one's core knowledge and proficiency.	Co-relate material from diverse knowledge bases to guide decisions and policy making. Participate in reflective and trans-disciplinary communities within and outside the organisation.	Synthesise knowledge and insights across disciplinary boundaries to aid strategic decisions and foster cooperation within and outside of the organisation.
Virtual Collaboration	Use online collaborative communication tools to work as teams to accomplish tasks or projects.	Participate and contribute in a virtual team. Set up appropriate online collaborative tools and supporting equipment.	Use interactive collaborative tools to foster cohesion and commitment among virtual team members to achieve goals. Keep up-to-date with innovative online collaborative tools and applications to enhance one's proficiency in engaging in virtual collaboration.	Leverage on diverse team talent, latest online collaborative technologies and virtual platforms to produce collaborative behaviour and achieve technological savviness in virtual collaboration.

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Go-Ahead Singapore

SBS Transit Ltd

SMRT Buses Ltd

SMRT Trains Ltd

Tower Transit Singapore

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- The Union who have provided their views and support on behalf of their members
- Various Government and Government-Linked Agencies for their assistance
- Education and Training Providers for their inputs on skills and competencies development
- Organisations for their contributions in the development and validation of the Skills Framework for Public Transport

Wage Information

Bus

Indicative Monthly Salary *(\$)

BUS FLEET ENGINEERING	
Technician	
Technical Specialist	2,400 – 5,415
Senior Technician	
Senior Technical Specialist	
Section Supervisor/Foreman	3,200 – 5,325
Master Technical Specialist	
Workshop Supervisor/Senior Foreman	
Deputy Workshop Manager	
Engineer	3,000 – 7,600
Workshop Manager	
Engineering Manager	
BUS OPERATIONS	
Bus Captain	2,400 – 4,160
Senior Bus Captain	2,900 – 4,670
Chief Bus Captain/Master Bus Captain	3,800 – 6,590
Senior Interchange Officer/Senior Interchange Assistant/Interchange Officer/Interchange Assistant	2,955 – 4,175
Senior Depot Officer/Senior Depot Assistant/Depot Officer/Depot Assistant	
Senior Interchange Supervisor/Interchange Supervisor	
Senior Depot Supervisor/Depot Supervisor	2,725 – 6,000
Chief Bus Controller/Bus Operations Control Centre Controller	
Interchange Manager	
Depot Operations Manager/Depot Manager	3,700 – 7,600
Deputy Bus Operations Control Centre Manager	
Bus Operations and Control Centre Manager	

Rail

Indicative Monthly Salary *(\$)

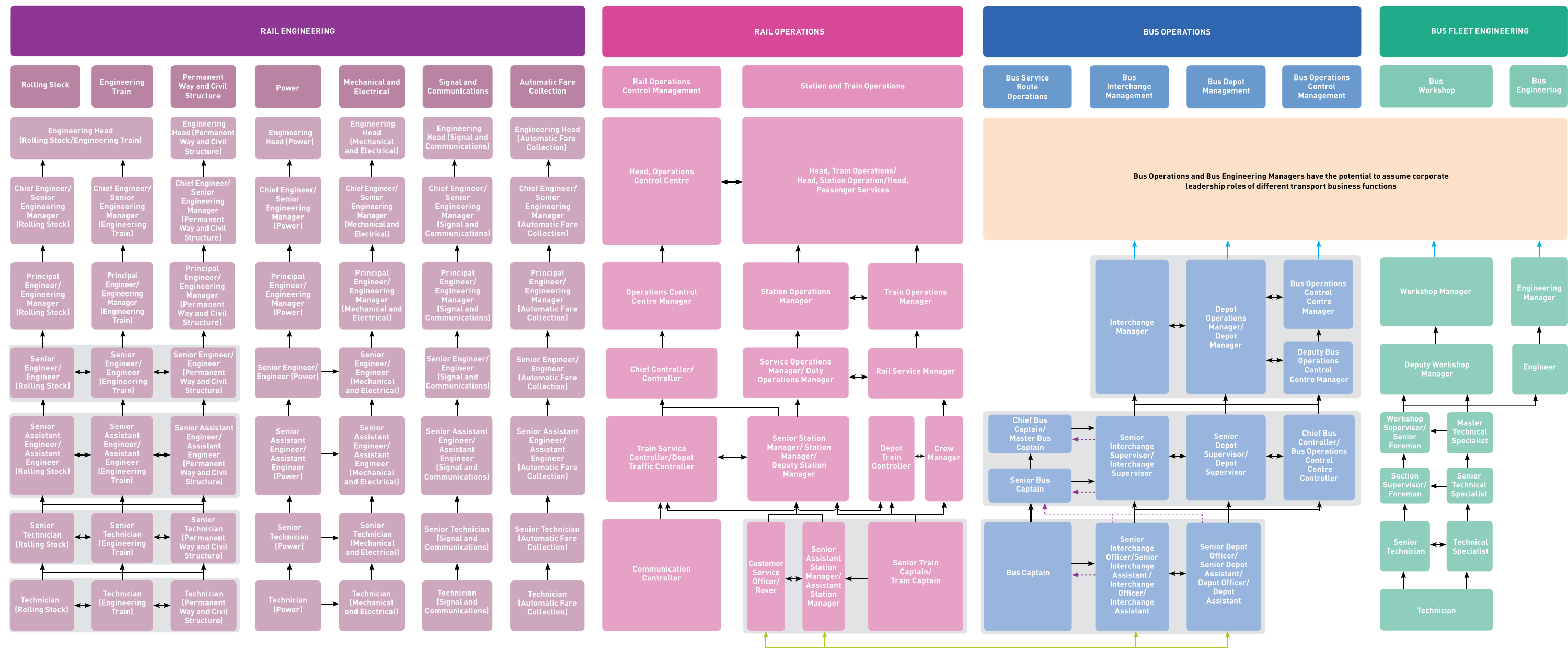
RAIL ENGINEERING	
Technician	2,330 – 4,500
Senior Technician	
Senior Assistant Engineer/Assistant Engineer	
Senior Engineer/Engineer	2,990 – 6,100
Principal Engineer/Engineering Manager	
Chief Engineer/Senior Engineering Manager	5,340 – 15,000
Engineering Head	
RAIL OPERATIONS	
Communication Controller	
Customer Service Officer/Rover	2,270 – 4,200
Senior Train Captain/Train Captain	
Senior Assistant Station Manager/Assistant Station Manager	
Depot Train Controller	
Crew Manager	
Senior Station Manager/Station Manager/Deputy Station Manager	
Train Service Controller/Depot Traffic Controller	3,300 – 5,840
Rail Service Manager	
Service Operations Manager/Duty Operations Manager	
Chief Controller/Controller	
Train Operations Manager	
Station Operations Manager	
Operations Control Centre Manager	5,900 – 12,500
Head, Train Operations/Head, Station Operations/Head, Passenger Service	
Head, Operations and Control Centre	

Source: Data provided by Public Transport Operators

*The above data reflects the monthly gross salary range in the sector. It includes basic pay and variable components based on individual employer's salary structure. Actual salaries may differ due to market conditions and company/organisation policies.

SKILLS FRAMEWORK FOR PUBLIC TRANSPORT

Career Pathways



The Career Map serves as a reference to reflect the typical job roles and possible career pathways in the Public Transport sector, which may vary depending on each company's structure and business context. The career progression pathways would depend on individual performance, capability, experience, aspiration, as well as company needs.

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