Role Description
Principal Manager Data Analytics

Cluster	**Transport**
Agency	**Sydney Trains**
Division/Branch/Unit	Engineering & Maintenance / Asset Management / Asset Management Services & Governance
Location	Burwood / Cyde
Role Grade or Band	TSSM
Senior Executive Work Level Standards	Professional / Technical / Specialist
Kind of Employment	Permanent Full Time
Role Number	TSSM
ANZSCO Code	224700
PCAT Code	12299192
Job Code	81000365
Health Assessment Category - Safety	Non Rail Safety Worker
Vision	Nil
Hearing	N/A - Cat 4 Only
Date of Approval	March 2019
Agency Website	www.sydneytrains.nsw.gov.au

Agency overview

Sydney Trains provides train services throughout the Sydney metropolitan area and was established in July 2013. Its vision is to keep Sydney moving by putting the customer at the centre of everything it does and delivering safe, reliable and clean rail services to the people of Sydney. The organisation is focused on providing sustainable, efficient and cost effective services.

Primary purpose of the role

The Principal Manager Data Analytics will be responsible for developing and driving the overall strategy and vision for Data Analytics in the Sydney Trains Engineering and Maintenance Directorate.

The role will lead and drive all business analytics efforts across the Directorate including data modelling, data standardization, data visualization and other business analytics. Accountable for ensuring that data aggregation and analysis adheres to industry best practices and constantly pushes the boundaries of 'best in class'

Key accountabilities

- Provide technical leadership and collaborate with other technology team leaders to address the complete Smart products and solutions technology stack.
- Support a variety of projects and initiatives through complex data modeling, sampling, and analysis projects
- Lead a continuous learning environment with respect to utilizing the latest methodologies,

technologies, and illustrative best practices to tell stories which can drive business decisions

- Collaborate with business leaders to identify and prioritize the highest impact analytics and data initiatives
- Drive operational excellence through optimization and efficient utilization of data infrastructure and services while driving
- Build a data science practice that will empower the business and continuously set the standard for quality, personalisation, measurement and business effectiveness Review resourcing requirements, identifying digital-related skills gaps and supporting the development or recruitment of appropriate capability;
- Live the NSW Public Sector and organisational values to achieve outstanding outcomes for the organisation and customers
- Execute safety responsibilities, authorities and accountabilities consistent with Sydney Trains safety management system requirements which are defined in SMS document number SMS-02-RG-3058

Key challenges

- Managing stakeholder expectations and requirements to ensure only value-add business solutions are pursued.
- Challenging accepted Sydney Trains analysis and reporting methodologies and recommending improvements to current practice where warranted.
- Assessing and adapting to new and emerging technologies and evolving commercial, technical and regulatory requirements on reporting solutions. For example developing new business solutions to support asset management decisions evolving towards asset condition and criticality to network in failure mode.

Key relationships

Who	Why
Internal	
Deputy Executive Director Asset Management, Engineering & Maintenance	- for reporting, advice and priority setting
Sydney Trains Executives & Deputy Executive Directors	- to provide and receive advice, performance requirements, policy discussion and decisions
Operations, Engineering & Information, Maintenance and Customer Services Directorates	- for collaboration and transfer of information
External	
TfNSW Director for Digital Engineering	- Engagement and alignment of digital strategies
TfNSW Executive Director Digital Projects Delivery	- Engagement and alignment of digital strategies
Dept of Finance Commerce & Innovation	- For alignment to digital strategies
External Subject Matter Experts	- Understanding market changes to digital technology
Universities	- Understanding new technologies within academia

Role dimensions

Decision Making:

- Initiating research (including published papers, internet, reference books), deciding what is relevant and what direction to pursue for required solutions.
- Determining scenarios to be used for proof of concept modelling, determining analysis methodologies, relevant data sourcing and establishment of final business solutions.
- Interpretation of user requirements.
- Recommendations for reporting solutions, requirement deviations, and realisation of benefits sought.
- Implementation of reporting systems including on the job training requirements, user manuals and guides.

Reporting line:

Associate Director, Asset Management Services & Governance

Direct Reports:

Nil

Budget/Expenditure:

Nil

Essential Requirements

- Degree (Masters/MBA preferred) in Computer Science, Data Science, Applied Mathematics, Statistics or related technical field An expert in working with large, complex and disparate data environments and with modern data science practices including machine learning, econometrics and predictive analytics Commercial acumen and high attention to detail with a flare for data integrity and the ability to track down data inconsistencies.
- Deep technical knowledge in one or more areas: IoT Platforms, Telematics, embedded hardware and software, connectivity, cloud architecture, visualization tools & techniques, data analytics, edge analytics, device agent development, firmware development, device design using open source circuit boards and other IoT technical areas.
- Demonstrate expert technical judgement and play a critical role as the technical authority on data analytics, including (IoT) and support the development of the long-term company-wide strategies.

Capabilities for the role

The NSW Public Sector Capability Framework applies to all NSW public sector employees. The Capability Framework is available at www.psc.nsw.gov.au/capabilityframework

Capability summary

Below is the full list of capabilities and the level required for this role. The capabilities in bold are the focus capabilities for this role. Refer to the next section for further information about the focus capabilities.

NSW Public Sector Capability Framework		
Capability Group	**Capability Name**	**Levels**
Personal Attributes	**Display Resilience and Courage**	**Adept**
	Act with Integrity	Intermediate
	Manage Self	Intermediate
	Value Diversity	Adept
Relationships	**Communicate Effectively**	**Advanced**
	Commit to Customer Service	Adept
	Work Collaboratively	**Advanced**
	Influence and Negotiate	Adept
Results	**Deliver Results**	**Advanced**
	Plan and Prioritise	Intermediate
	Think and Solve Problems	**Advanced**
	Demonstrate Accountability	Adept
Business Enablers	Finance	Adept
	Technology	**Advanced**
	Procurement and Contract Management	Intermediate
	Project Management	**Adept**

Focus capabilities

The behavioural indicators provide examples of the types of behaviours that would be expected at that level and should be reviewed in conjunction with the role's key accountabilities.

NSW Public Sector Capability Framework		
Group and Capability	**Level**	**Behavioural Indicators**
Personal Attributes **Display Resilience and Courage**	**Adept**	• Be flexible, show initiative and respond quickly when situations change • Give frank and honest feedback/advice • Listen when ideas are challenged, seek to understand the nature of the criticism and respond constructively • Raise and work through challenging issues and seek alternatives • Keep control of own emotions and stay calm under pressure and in challenging situations
Relationships **Communicate Effectively**	**Advanced**	• Present with credibility, engage varied audiences and test levels of understanding • Translate technical and complex information concisely for diverse audiences • Create opportunities for others to contribute to discussion and debate • Actively listen and encourage others to contribute inputs • Adjust style and approach to optimise outcomes • Write fluently and persuasively in a range of styles and formats
Work Collaboratively	**Advanced**	• Build a culture of respect and understanding across the organisation • Recognise outcomes which resulted from effective collaboration between teams • Build co-operation and overcome barriers to information sharing, communication and collaboration across the organisation and cross-government • Facilitate opportunities to engage and collaborate with external stakeholders to develop joint solutions

Results

Deliver Results	**Advanced**	• Drive a culture of achievement and acknowledge input of others
		• Investigate and create opportunities to enhance the achievement of organisational objectives
		• Make sure others understand that on-time and on-budget results are required and how overall success is defined
		• Control output of business unit to ensure government outcomes are achieved within budget
		• Progress organisational priorities and ensure effective acquisition and use of resources
		• Seek and apply the expertise of key individuals to achieve organisational outcomes
Think and Solve Problems	**Advanced**	• Undertake objective, critical analysis to draw accurate conclusions that recognise and manage contextual issues
		• Work through issues, weigh up alternatives and identify the most effective solutions
		• Take account of the wider business context when considering options to resolve issues
		• Explore a range of possibilities and creative alternatives to contribute to systems, process and business improvements
		• Implement systems and processes that underpin high quality research and analysis

Business Enablers		
Technology	**Advanced**	• Show commitment to the use of existing and deployment of appropriate new technologies in the workplace
		• Implement appropriate controls to ensure compliance with information and communications security and use policies
		• Maintain a level of currency regarding emerging technologies and how they might be applied to support business outcomes
		• Seek advice from appropriate technical experts to leverage information, communication and other technologies to achieve business outcomes
		• Implement and monitor appropriate records, information and knowledge management systems protocols and policies
Project Management	**Adept**	• Prepare clear project proposals and define scope and goals in measurable terms
		• Establish performance outcomes and measures for key project goals, and define monitoring, reporting and communication requirements
		• Prepare accurate estimates of costs and resources required for more complex projects
		• Communicate the project strategy and its expected benefits to others
		• Monitor the completion of project milestones against goals and initiate amendments where necessary
		• Evaluate progress and identify improvements to inform future projects