

# Role Description

## Principal Systems Analyst



Transport  
for NSW

|                           |                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------|
| Cluster                   | Transport for NSW                                                                       |
| Agency                    | Transport for NSW                                                                       |
| Division/Branch/Unit      | Infrastructure and Place/ Technical and Project Services /Intelligent Transport Systems |
| Location                  | Cleveland Street                                                                        |
| Classification/Grade/Band | USS 11                                                                                  |
| Role Number               | 50008228                                                                                |
| ANZSCO Code               | 261112                                                                                  |
| PCAT Code                 | 1226492                                                                                 |
| Date of Approval          | September 2019                                                                          |
| Agency Website            | <a href="http://www.transport.nsw.gov.au">www.transport.nsw.gov.au</a>                  |

### Agency overview

At Transport, we're passionate about making NSW a better place to live, work and visit. Our vision is to give everyone the freedom to choose how and when they get around, no matter where they live. Right now, we're delivering a \$51.2bn program – the largest Australia has ever seen – to keep people and goods moving, connect communities and shape the future of our cities, centres and regions. At Transport, we're also committed to creating a diverse, inclusive and flexible workforce, which reflects the community and the customers we serve.

Our organisation – Transport for NSW – is comprised of nine integrated divisions that focus on achieving community outcomes for the greater good and on putting our customers at the centre and our people at the heart of everything we do.

### Primary purpose of the role

The Principal Systems Analyst is responsible for managing the design, development, deployment, maintenance, continual improvement and quality assurance of new and existing intelligent transport systems software to meet the evolving needs of clients and to enhance the Sydney Coordinated Adaptive Traffic System (SCATS) suite of products.

### Key accountabilities

- Manage the delivery of software development for intelligent transport systems projects, including requirements analysis, high-level and detailed design, conducting necessary reviews, supervising software coding, testing and documentation, verification and validation, and configuration management.
- Work closely with relevant stakeholders across the project lifecycle to ensure the outputs generated by the software development team meets the requirements of the clients and produces a reliable, safe and stable system.

- Manage system design and development processes for allocated projects by actively implementing quality standards for specification, coding, testing and documentation as embodied in the standard software development life cycle.
- Lead a software development team to deliver high-quality application programs including design, development and maintenance; monitor and appraise work performance and facilitate their ongoing professional development.
- Manage the application of project control mechanisms and processes to ensure the timely delivery of working and reliable applications; provide expert support with the design, coding, testing and documentation, and liaise with other parties across the full software development life cycle.
- Manage the provision of technical support (level 3) for systems developed by the team.
- Ensure that technical and user requirements documentation is maintained, requirements are tracked through to implementation, and that knowledge transfer occurs by conducting workshops.
- Identify and evaluate advanced and emerging technologies and techniques that may enable innovative and effective ITS solutions by engaging in technical, environmental scans and literature research.

## Key challenges

- Balancing the demands of diverse projects on the software development team's capacity, and negotiating priorities with Project Directors, Project Managers and the broader team.
- Addressing and resolving frequently occurring problems and complex technical issues and developing innovative solutions, that may require the application of new problem-solving techniques and approaches
- Keeping up to date with local and global innovations and trends in software development as well as intelligent transport systems, to identify opportunities to introduce new approaches and tools and continually improve the branch's software development capability.

## Key relationships

| Internal                                             |                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Senior Manager SCATS Development and Support         | <ul style="list-style-type: none"> <li>• Receive broad guidance, collaborate to determine high level and strategic priorities, exchange information to drive improvement process</li> <li>• Providing expert advice to support decision making</li> <li>• Escalate complex issues and problems</li> </ul> |
| Project Directors, Project Managers, Product Manager | <ul style="list-style-type: none"> <li>• Work collaboratively to agree development priorities across projects and deliver consistently against commitments.</li> </ul>                                                                                                                                    |
| Technical Services teams                             | <ul style="list-style-type: none"> <li>• Develop and maintain effective working relationships, engage, consult, open channels of communication, provide expert advice and exchange information</li> </ul>                                                                                                 |
| Direct Reports                                       | <ul style="list-style-type: none"> <li>• Provide guidance, motivate to achieve set goals and objectives</li> <li>• Collaborate to measure performance, provide positive and constructive feedback</li> <li>• Establish and maintain a good working relationship</li> </ul>                                |
| External                                             |                                                                                                                                                                                                                                                                                                           |
| Stakeholders                                         | <ul style="list-style-type: none"> <li>• Build effective relationships and share information to ensure effective outputs and keep abreast of the latest trends in the discipline</li> </ul>                                                                                                               |

## **Role dimensions**

### **Decision making**

The role operates with autonomy within the context of their agreed work plan and makes decisions within the limits of delegated authority. The role is accountable for the delivery of assigned work. The role is individually accountable for the quality, integrity and validity of the service provided.

The role defers to the Senior Manager on issues that require a higher level of resolution or delegation.

### **Reporting line**

The role reports to the Senior Manager SCATS Development and Support.

### **Direct reports**

The role has between 3 and 7 direct reports (depending on the nature of the projects the team is responsible for).

The types of roles that could report to the Manager Software Development are:

- Senior Software Engineer
- Software Engineer
- Software Developer
- UI Designer

### **Budget/Expenditure**

The budget/expenditure allocation for this role is to be confirmed as per the TfNSW Financial Delegations

### **Essential requirements**

- Tertiary qualifications in Software Engineering or related discipline with demonstrated experience in managing a team of software developers to deliver a program of work on time, meeting quality and client requirements.





### **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](http://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                       | Level           |
|----------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------|
| <br>Personal Attributes | <b>Display Resilience and Courage</b> | <b>Adept</b>    |
|                                                                                                          | Act with Integrity                    | Adept           |
|                                                                                                          | Manage Self                           | Adept           |
|                                                                                                          | Value Diversity                       | Adept           |
| <br>Relationships       | <b>Communicate Effectively</b>        | <b>Advanced</b> |
|                                                                                                          | <b>Commit to Customer Service</b>     | <b>Adept</b>    |
|                                                                                                          | <b>Work Collaboratively</b>           | <b>Advanced</b> |
|                                                                                                          | Influence and Negotiate               | Adept           |
| <br>Results             | <b>Deliver Results</b>                | <b>Advanced</b> |
|                                                                                                          | Plan and Prioritise                   | Adept           |
|                                                                                                          | <b>Think and Solve Problems</b>       | <b>Advanced</b> |
|                                                                                                          | Demonstrate Accountability            | Adept           |
| <br>Business Enablers   | Finance                               | Intermediate    |
|                                                                                                          | Technology                            | Advanced        |
|                                                                                                          | Procurement and Contract Management   | Intermediate    |
|                                                                                                          | <b>Project Management</b>             | <b>Advanced</b> |
| <br>People Management | <b>Manage and Develop People</b>      | <b>Adept</b>    |
|                                                                                                          | Inspire Direction and Purpose         | Adept           |
|                                                                                                          | <b>Optimise Business Outcomes</b>     | <b>Adept</b>    |
|                                                                                                          | Manage Reform and Change              | Intermediate    |

### Focus capabilities

The focus capabilities for the role are the capabilities in which occupants must demonstrate immediate competence. 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                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal Attributes</b><br>Display Resilience and Courage | Adept | <ul style="list-style-type: none"> <li>Be flexible, show initiative and respond quickly when situations change</li> <li>Give frank and honest feedback/advice</li> <li>Listen when ideas are challenged, seek to understand the nature of the criticism and respond constructively</li> <li>Raise and work through challenging issues and seek alternatives</li> <li>Keep control of own emotions and stay calm under pressure and in challenging situations</li> </ul> |

## NSW Public Sector Capability Framework

| Group and Capability                               | Level    | Behavioural Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Relationships</b><br>Communicate Effectively    | Advanced | <ul style="list-style-type: none"> <li>• Present with credibility, engage varied audiences and test levels of understanding</li> <li>• Translate technical and complex information concisely for diverse audiences</li> <li>• Create opportunities for others to contribute to discussion and debate</li> <li>• Actively listen and encourage others to contribute inputs</li> <li>• Adjust style and approach to optimise outcomes</li> <li>• Write fluently and persuasively in a range of styles and formats</li> </ul>                                                                                                                                 |
| <b>Relationships</b><br>Commit to Customer Service | Adept    | <ul style="list-style-type: none"> <li>• Take responsibility for delivering high quality customer-focused services</li> <li>• Understand customer perspectives and ensure responsiveness to their needs</li> <li>• Identify customer service needs and implement solutions</li> <li>• Find opportunities to co-operate with internal and external parties to improve outcomes for customers</li> <li>• Maintain relationships with key customers in area of expertise</li> <li>• Connect and collaborate with relevant stakeholders within the community</li> </ul>                                                                                        |
| <b>Relationships</b><br>Work Collaboratively       | Advanced | <ul style="list-style-type: none"> <li>• Build a culture of respect and understanding across the organisation</li> <li>• Recognise outcomes which resulted from effective collaboration between teams</li> <li>• Build co-operation and overcome barriers to information sharing, communication and collaboration across the organisation and cross-government</li> <li>• Facilitate opportunities to engage and collaborate with external stakeholders to develop joint solutions</li> </ul>                                                                                                                                                              |
| <b>Results</b><br>Deliver Results                  | Advanced | <ul style="list-style-type: none"> <li>• Drive a culture of achievement and acknowledge input of others</li> <li>• Investigate and create opportunities to enhance the achievement of organisational objectives</li> <li>• Make sure others understand that on-time and on-budget results are required and how overall success is defined</li> <li>• Control output of business unit to ensure government outcomes are achieved within budget</li> <li>• Progress organisational priorities and ensure effective acquisition and use of resources</li> <li>• Seek and apply the expertise of key individuals to achieve organisational outcomes</li> </ul> |
| <b>Results</b><br>Think and Solve Problems         | Advanced | <ul style="list-style-type: none"> <li>• Undertake objective, critical analysis to draw accurate conclusions that recognise and manage contextual issues</li> <li>• Work through issues, weigh up alternatives and identify the most effective solutions</li> <li>• Take account of the wider business context when</li> </ul>                                                                                                                                                                                                                                                                                                                             |

## NSW Public Sector Capability Framework

| Group and Capability                                   | Level    | Behavioural Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                        |          | <p>considering options to resolve issues</p> <ul style="list-style-type: none"> <li>• Explore a range of possibilities and creative alternatives to contribute to systems, process and business improvements</li> <li>• Implement systems and processes that underpin high quality research and analysis</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Business Enablers</b><br>Project Management         | Advanced | <ul style="list-style-type: none"> <li>• Prepare scope and business cases for more ambiguous or complex projects including cost and resource impacts</li> <li>• Access key subject-matter experts' knowledge to inform project plans and directions</li> <li>• Implement effective stakeholder engagement and communications strategy for all stages of projects</li> <li>• Monitor the completion of projects and implement effective and rigorous project evaluation methodologies to inform future planning</li> <li>• Develop effective strategies to remedy variances from project plans, and minimise impacts</li> <li>• Manage transitions between project stages and ensure that changes are consistent with organisational goals</li> </ul> |
| <b>People Management</b><br>Manage and Develop People  | Adept    | <ul style="list-style-type: none"> <li>• Define and clearly communicate roles and responsibilities to achieve team/unit outcomes</li> <li>• Negotiate clear performance standards and monitor progress</li> <li>• Develop team/unit plans that take into account team capability, strengths and opportunities for development</li> <li>• Provide regular constructive feedback to build on strengths and achieve results</li> <li>• Address and resolve team and individual performance issues, including unsatisfactory performance in a timely and effective way</li> <li>• Monitor and report on performance of team in line with established performance development frameworks</li> </ul>                                                       |
| <b>People Management</b><br>Optimise Business Outcomes | Adept    | <ul style="list-style-type: none"> <li>• Initiate and develop longer-term goals and plans to guide the work of the team in line with organisational objectives</li> <li>• Allocate resources to ensure achievement of business outcomes and contribute to wider workforce planning</li> <li>• Ensure that team members base their decisions on a sound understanding of business principles applied in a public sector context</li> <li>• Monitor performance against standards and take timely corrective actions</li> <li>• Keep others informed about progress and performance outcomes</li> </ul>                                                                                                                                                |