

Role: **Engineer (Intelligent Transport Systems)**

Directorate: **Highways**

Salary Band: **Career Grade 6/ 7**

Post reference: **HW19**

Job Evaluation Date: **26.02.2015**

Role statement or purpose: **For the Engineer Level 1 Post**
Delivery of the design, installation and operation of intelligent transport solutions, traffic control and monitoring systems across Greater Manchester. Ensuring timely completion of projects to required quality and within budget provision, which comply with statutory and regulatory obligations.

In addition for the Engineer Level 2 Post

Delivery of the design, installation and operation of complex intelligent transport solutions, traffic control and monitoring systems. Provide training, guidance and support to junior members of staff within team and offer advice and guidance to project sponsors on Intelligent Traffic Solutions.

Reports to: **Engineering Manager**

	Key Role Outputs(KROs) <i>these set out what must be achieved for the post holder to be successful in the role</i>	Key Actions for the Engineer Level 1 post <i>These set out how the KROs will be achieved – the activities required.</i>	Key Actions for the Engineer Level 2 post. <i>These set out how the KROs will be achieved – the activities required.</i>
1.	Effective and efficient design, installation and operation of complex intelligent traffic solutions, traffic control and monitoring systems	Develop and undertake, with support, the installation and operation of intelligent transport solutions, traffic control and monitoring systems using Computer Aided Design (CAD) and other design tools including specialist computer programmes, as necessary	Develop and undertake using own experience and initiative the installation and operation of complex intelligent transport solutions, traffic control and monitoring systems using Computer Aided Design (CAD) and other design tools including specialist computer programmes , as necessary. Identify opportunities to trial innovative intelligent traffic solutions

		<p>Comply with all appropriate design standards, legislation, codes of practice and other technical standards relating to installation and operation of intelligent transport solutions, traffic control and monitoring systems.</p> <p>Provide guidance to non-technical staff and stakeholders involved in the scheme delivery to ensure simple projects achieve client requirements within cost, quality and time constraints.</p>	<p>Comply with all appropriate design standards, legislation, codes of practice and other technical standards relating to installation and operation of complex intelligent transport solutions, traffic control and monitoring systems</p> <p>Provide in-depth advice, guidance and support, to justify schemes being proposed, to other staff and stakeholders involved in the process to ensure complex projects and schemes achieve client requirements within cost, quality and time constraints.</p> <p>Supervise staff to carry out the above.</p>
<p>2.</p>	<p>Procurement and installation of intelligent transport solutions, traffic control and monitoring systems</p>	<p>Undertake the efficient and effective delivery of intelligent transport systems, traffic control and monitoring schemes to required quality, time and cost standards by undertaking, with support and guidance, the procurement, design and supervising their installation;</p> <p>Assist in the provision of technical input in the development of business cases to justify the benefits of intelligent transport solutions traffic control and monitoring schemes.</p>	<p>Determine and undertake the efficient and effective delivery of complex intelligent transport systems, traffic control and monitoring schemes to required quality, time and cost standards by undertaking the procurement, design and supervising their installation;</p> <p>Provide technical input and undertake the development of business cases using own experience and initiative to demonstrate and justify to a wide variety of audiences the benefits of intelligent transport solutions traffic control and monitoring schemes including if appropriate demonstrating</p>

		<p>For simple schemes, prepare quotations, with support, for the delivery and development of intelligent traffic solutions, traffic control and monitoring systems within agreed budget profiles with scheme developers.</p> <p>Monitor design and delivery expenditure to ensure successfully delivery of simple projects within specified time, quality and cost requirements.</p>	<p>the effectiveness of proposals.</p> <p>For complex schemes, prepare quotations using experience and initiative, for the delivery and development of traffic control and monitoring schemes and agree budgets, including fee proposals, with scheme developers.</p> <p>Monitor design and delivery expenditure to ensure successfully delivery of complex projects within time, quality and cost requirements that you have agreed.</p> <p>Supervise staff to carry out the above.</p>
3.	Commissioning of intelligent transport solutions, traffic control and monitoring systems	<p>Commission, with guidance and support, new intelligent transport solutions, traffic control and monitoring systems undertaking assessments to ensure their correct operation and safety.</p> <p>Provide and interpret, with support as required, traffic data to demonstrate implications of design proposals</p>	<p>Commission and assess new complex intelligent transport solutions, traffic control and monitoring systems complex traffic signal control and monitoring systems to ensure optimum operation and safety.</p> <p>Provide and interpret complex traffic data to demonstrate implications of design proposals.</p> <p>Supervise staff to carry out the above.</p>
4.	On-going operation of intelligent transport solutions, traffic control and monitoring systems	<p>Investigate and assess , with guidance as required, the operation of proposed and existing intelligent transport solutions, traffic control and monitoring systems, and implement solutions to resolve problems and issues;</p>	<p>Investigate, assess ,interpret operation and analyse data regarding the operation of complex intelligent transport solutions, traffic control and monitoring systems to identify, recommend (with justifications) and implement</p>

		<p>Undertake site visits to assess and ensure the correct operation of intelligent transport solutions, traffic control and monitoring systems Report any identified issues and make recommendations of remedial action.</p>	<p>solutions to resolve problems and issues .</p> <p>Undertake site visits to assess and ensure the correct operation of complex intelligent transport solutions, traffic control and monitoring systems. If appropriate determine rectifying actions required and amend the operation as necessary.</p> <p>Supervise staff to carry out the above.</p>
5.	Project Monitoring.	<p>Prepare draft scheme delivery reports within agreed timescales and maintain accurate records in accordance with recognised procedures.</p> <p>Undertake, ensuring its 'correctness' the inputting of data for the Highways asset systems of equipment and other technical information and data.</p> <p>Monitor, taking corrective action as necessary, and ensure all work is delivered within agreed time, quality and budget requirements.</p>	<p>Draft and finalise scheme delivery reports within agreed timescales and maintain accurate records in accordance with recognised procedures.</p> <p>Manage others to and undertake, ensuring its 'correctness' the inputting of data for the Highway asset systems for equipment and other technical information and data.</p> <p>Monitor, taking corrective action as necessary, and ensure all work is delivered within agreed time, quality and budget requirements.</p> <p>Supervise staff to carry out the above.</p>
6.	Effective communication of scheme design, installation and operation.	<p>Prepare information to allow the outcome of scheme development, assessment, design and operation via appropriate format, such as written report and verbal updates to be presented stakeholders, including</p>	<p>Present outcome of scheme development, assessment, design and operation via appropriate format, such as written report and verbal updates to stakeholders, including responding to complaints from stakeholders.</p>

		<p>responding to complaints from stakeholders.</p> <p>Attend and input into meetings with stakeholders including the Greater Manchester Districts, other public bodies, developers and contractors.</p> <p>Attend meetings with the general public regarding the design, assessment, installation and operation of intelligent traffic solutions, traffic control and monitoring equipment.</p> <p>Develop and maintain successful relationships with all stakeholders.</p>	<p>Represent TfGM at meetings with stakeholders including the Greater Manchester Districts, other public bodies, developers and contractors.</p> <p>Represent TfGM in meeting with Elected Members and the general public regarding the design, assessment, installation and operation of intelligent transport solutions, traffic control and monitoring equipment.</p> <p>Develop and maintain successful relationships with all stakeholders.</p>
<p>Compulsory Outputs (COs) <i>these set out what must be achieved for the post holder to be successful in the role</i></p>		<p>Key Actions for both levels <i>These set out how the COs will be achieved – the activities required.</i></p>	
C1	<p>Ensure you comply with all applicable organisational legislation and policy:</p>	<ul style="list-style-type: none"> • TfGM Safety Management System (In particular section SMS 201 Roles and Responsibilities) • Dignity at Work policy; • Information assurance and security in line with Cabinet Office requirements; • Risk management • TfGM policies and procedures • Equality and diversity legislation • TfGM Vision & Values <p>Act in accordance with TfGM’s behaviours and competencies</p>	
C2	<p>Any other reasonable duties as required from time to time</p>	<p>This is likely to include weekend and early mornings/late evenings.</p>	

Key Interdependencies	
Key Contacts	Greater Manchester District clients and elected members. Highways England Third-party contractors TfGM Bus and Rail Directorate. TfGM Metrolink. TfGM Programme Management Services. Statutory Undertakers. GM Police. Members of the Public. Developers and Project Sponsors
Direct reports	For Engineer Level 2 provide support and guidance to Engineer Level 1, Graduate Engineers and Apprentices.
Budgetary responsibility	Delivery of projects within project management constraints of cost, time and quality
Location	TfGM, 2 Piccadilly Place, Piccadilly, Manchester, M1 3BG

Office Use Only	Updated	Updated	Updated	Updated	Updated
Created					
By: David Bland January 2015	By David Bland January 2016 based on UTC Engineer				

Engineer – Urban Traffic Control – Level 1 and Level 2 Career Grade <i>(Knowledge, skills and experience required at selection stage)</i>			
E	Essential Experience:	Level Required	
		Engineer Level 1	Engineer Level 2
E1	Knowledge and experience of intelligent transport solutions and traffic and highway engineering design	Basic	Significant
E2	Knowledge, understanding and experience of all legislation relating to traffic and highway engineering	Basic	Significant
E3	Understanding of the use of computer systems and programmes related to traffic and highway engineering design	Intermediate	Significant
E4	Experience of dealing with multiple stakeholders including members of the public.	Basic	Significant
E5	Knowledge and awareness of the safety implications of working with intelligent transport solutions, traffic control, monitoring and associated equipment.	Intermediate	Significant
E6	Experience of decision making and risk analysis in a fast moving environment.	Basic	Significant
E7	Ability to monitor expenditure to ensure that financial targets are met.	Basic	Intermediate
E8	Experience of preparing clear, concise and well structured reports for a variety of audiences, including the ability to analyse and interpret complex data.	Basic	Significant
E9	Able to communicate face-to-face to a variety of audiences in an effective manner to ensure satisfactory outcomes are achieved, adapting messages as required.	Intermediate	Significant
E10	Negotiating ability to ensure satisfactory outcomes are achieved.	Basic	Significant
D	Desirable experience:		
D1	Project management experience; particularly in understanding project management principles, cost monitoring and control and financial management.	Basic	Intermediate
EQ	Essential Qualifications – Technical, Vocational or educational:		
EQ1	An MSc, Degree, BTEC, HND or HNC in Civil, Electrical, Electronic or Mechanical Engineering or other numerate discipline such as Physics, Mathematics or Geography appropriate to the technical aspects of this post.	Full qualification	Full qualification
DQ	Desirable Qualifications		
DQ1	Membership of an appropriate professional Institution	Full	Full

EA Essential Attributes:			
EA1	The ability to work effectively as part of a team involved in the development, design and operation of intelligent transport solutions and traffic control monitoring and associated equipment.	Demonstrable	Demonstrable
EA2	Use initiative to investigate and analyse transport issues and develop and agree solutions with stakeholders.	Intermediate	Significant
EA3	Effective written and verbal communication skills, adapting the style of communication as necessary to meet the needs of all stakeholders.	Demonstrable	Demonstrable
EA4	Ability to establish and maintain accurate records and reporting systems.	Demonstrable	Demonstrable
EA5	Self-motivation and personal drive to complete tasks to required timescales and quality standards.	Demonstrable	Demonstrable
EA6	Flexibility to adapt to changing workload demands and new organisational challenges with a willingness to work outside normal office hours to assess and ensure the network is operating efficiently.	Demonstrable	Demonstrable
EA 7	Personal behaviour that is in line with the TfGM statement of values and behaviours.	Demonstrable	Demonstrable
EA8	Personal commitment to ensure services are equally accessible and appropriate to the diverse needs of service users	Demonstrable	Demonstrable
EA9	Sets clearly defined objectives and plans well in advance and takes account of risk and changes; manages time effectively in order to deliver against milestones and commitments.	Demonstrable	Demonstrable
DA Desirable Attributes:			
DA1	Experience of working in the operation and design of intelligent transport solutions or significant experience in traffic or transportation	Demonstrable	Demonstrable

- Basic: Ability to provide at least one example and an understanding of the relevant task/ principle
- Intermediate: Ability to provide more than one example and an understanding of the relevant task/ principle
- Significant: Ability to provide a number of examples and an in-depth understanding of the relevant task/ principle
- Demonstrable: Ability to provide evidence of ability to undertake the relevant task

Notes on progression through the career grade

- Progression beyond the bar to the higher grade will depend on both individual competency and whether there is a business requirement to operate at the higher level. It is not automatic.
- Post holders are considered for progression where there is evidence that they meet the criteria.
- Managers should ensure that all employees affected fully understand how career grades work, how they will be assessed and what criteria and levels of performance are required.
- Managers must assess the performance of all career grade post holders on a regular basis, during one to one meetings and at their performance review. Criteria for assessments must be fair, objective and consistent with the career grades.
- A career grade is not related to performance related pay. Progression through a career grade is dependent upon an employee performing against agreed criteria and will be discussed with the line manager. To help the employee progress, training needs should be identified though the performance review process and one to one meetings.