

Reclassification

Ministry

Transportation and Economic Corridors

Describe: Basic Job Details

Position

Position ID

Position Name (30 characters)

Traffic Engineering Tech.

Current Class

Requested Class

Job Focus

Operations/Program

Supervisory Level

00 - No Supervision

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

Employee

Employee Name (or Vacant)

Vacant

Organizational Structure

Division, Branch/Unit

CPGES, Technical Services/Roadway Engineering

☐ Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

Design: Identify Job Duties and Value

Changes Since Last Reviewed

Date yyyy-mm-dd

2023-05-12

Responsibilities Added:

Expanded the level of technical support to the Traffic Operations Engineer and Traffic Operations Specialist in relation to traffic signals and highway illumination. The expectation of providing technical field support to department staff as well as external stakeholders was also added.

Responsibilities Removed:

Simple drafting assignments was removed from the responsibilities.

Job Purpose and Organizational Context

Why the job exists:

This is a role that works with multidisciplinary technical teams (engineers, technologists, and consultants as required) in providing technical and field support for traffic signals, road markings, road illumination, and sign issues that directly impact safety of the public.

The position will provide technical expertise for department delivered warrant analysis, traffic analysis, design review, and in-service reviews to deliver a safe and efficient highway network. The position also provides input from time to time in development of regulations.

The position will provide technical support for projects by giving advice to department staff, consultants, contractors, other agencies, organizations and the public on matters of traffic operations such as traffic signals, pedestrian and bicycle infrastructure, highway lighting, speed zone studies, pavement markings and signs, barriers systems, railway crossings, and public safety improvements.

The position will work within an engineering and safety framework to optimize the cost effectiveness of highway design and delivery practices in Alberta. The position will also assist in prioritizing projects in making improvements to the highway network that enhance safety along with reducing road user and agency costs on a network basis.

Responsibilities

Job outcomes (4-6 core results), and for each outcome, 4-6 corresponding activities:

Assist in reviewing designs, auditing construction, auditing maintenance, and reviewing the operation of traffic signals. This will include ensuring compliance with relevant regulations and standards and providing technical support to other departments and clients.

- Review the design and audit the construction of traffic signal systems, including traffic signal controllers, cabinets, poles, and related equipment.
- Assist in reviewing and updating maintenance programs for traffic signals and related infrastructure, including signal timing plans, hardware upgrades, and software updates.
- Conduct site visits and inspections to ensure compliance with standards and regulations as well as to identify areas for improvement and optimization.
- Coordinate with internal and external stakeholders, including engineers, contractors, and regulatory agencies, to ensure appropriate operation of signal infrastructure.
- From time to time, provide technical support to other departments and clients, including troubleshooting and resolving technical issues related to traffic signal systems.
- Prepare and maintain technical documents, such as specifications and information databases in the Transportation Information Management System (TIMS).
- Stay up-to-date with new technologies and industry trends related to traffic signal design, construction, maintenance, and operation.

Assist in reviewing designs, auditing construction, auditing maintenance, and reviewing the operation of highway illumination. This will include ensuring compliance with relevant regulations and standards and providing technical support to other departments and clients.

- Review the design and audit the construction of highway illumination systems, including luminaires, poles, foundations, and related equipment.
- Assist in reviewing and updating maintenance programs for highway illumination systems and related infrastructure, including lamp replacement, pole replacement, and electrical upgrades.
- Conduct site visits and inspections to ensure compliance with standards and regulations, as well as to identify areas for improvement and optimization.
- Coordinate with internal and external stakeholders, including engineers, contractors, and regulatory agencies, to ensure appropriate operation of illumination infrastructure.
- From time to time, provide technical support to other departments and clients, including

troubleshooting and resolving technical issues related to highway illumination systems.

- Prepare and maintain technical documents, such as specifications and information databases in the Transportation Information Management System.
- Stay up-to-date with new technologies and industry trends related to highway illumination design, construction, maintenance, and operation.

Provide support in the Ministerial Order process for highway speed limit amendments.

- Prepare submission packages of draft Ministerial Orders for speed limit amendments complete with the briefing note for the Minister and speed map(s) for the Minister's approval.
- Manage and maintain speed limits in TIMS by updating the posted speed layer in Alberta Transportation GIS map to reflect updated speed limit on highway network.

Assist in reviewing designs, auditing construction, auditing maintenance, and reviewing the operation of traffic control devices. This will include ensuring compliance with relevant regulations and standards and providing technical support to other departments and clients.

Review Road marking and signage plan submitted by consultant according to department guidelines / standards and provide comments

- Review the design and audit the construction of traffic control devices such as signs and pavement markings.
- Assist in reviewing and updating maintenance programs for traffic control devices related infrastructure.
- Conduct site visits and inspections to ensure compliance with standards and regulations, as well as to identify areas for improvement and optimization.
- Coordinate with internal and external stakeholders, including engineers, contractors, and regulatory agencies, to ensure appropriate operation traffic control devices.
- From time to time, provide technical support to other departments and clients, including troubleshooting and resolving issues related to traffic control devices.

Provide traffic operation data collection and analysis services for internal reviews of highway operations.

- Undertake field data collection as needed to assess traffic and transportation investigations such as speed data collection, site inspection, and sight distances in the field.
- Prepare graphs, charts and drawings in order to illustrate observation and conclusions.

Provide support in monitoring the department's Tourism Highway Signage Program (THSP).

- Reconcile monthly THSP invoices for payment processing.
- Update the unit prices annually.
- Upkeep spreadsheets of historical THSP expenditure.
- Update existing THSP drawings or develop new drawings as required.

Develop and manage publications of technical manuals, guidelines, standards, and any data related to traffic engineering on the intranet/internet to ensure the most up-to-date information is observed and consistently adopted for highway planning, design, construction and maintenance.

- Provide support in the development and updating of the department's traffic engineering standards, guidelines, and warrants.
- Develop, update and submit web contents for web publishing of technical manuals, guidelines and standards.
- Provide technical support in the development of TIMS by conducting timely user acceptance testing (UAT), performance quality assurance testing and business scenario testing on TIMS functionalities (Oracle Forms in the areas of Speed Limits and the Sign Panel Catalogue, and Geographic

Information System (GIS) Tier II in the area of Speed Limit Zones Maintenance).

- Attend TIMS meetings, as required, to report issues related to speed limits and the Sign Catalogue, and discuss areas/needs for improvements and upgrading.

Problem Solving

Typical problems solved:

Traffic signal timings are a common issue.

An example would be: trying to balance the efficiency of movement in all directions while maintaining a high level of safety for road users, including vulnerable road users such as pedestrians, when a particular turning movement was backing up traffic on straight through lanes with an increase in collisions. The problem was solved by adding a left turn movement with a protected advance phase of the signals and increasing capacity for a problematic turning movement; there was also a subsequent decrease in collisions at the location.

Types of guidance available for problem solving:

The position may draw on other technical expertise within the department, the Transportation Association of Canada guidance, other transportation jurisdiction's guidance, consultants, Regional staff, engineering standards, and department guidelines for input in formulating solutions.

Direct or indirect impacts of decisions:

The safety and cost effectiveness of the highway network is impacted by decisions and recommendations from this position.

Key Relationships

Major stakeholders and purpose of interactions:

- Department Project Sponsors and Administrators - to provide guidance in planning, design, and delivery of projects.
- Other technical experts in the department - to provide guidance in planning and design of projects and the interactions with other groups (examples include Highway Planning, Bridges, Geotechnical and Utilities, and Pavement Engineering).
- Consultants - to provide guidance in planning, design, and delivery of projects.
- Municipalities - to provide guidance in planning, design, and delivery of projects.
- Leadership in the section - to provide guidance and assistance with action requests in planning, design, and delivery of projects.
- Public - responding with advice in regards to traffic engineering related questions.

Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Diploma (2 year)	Engineering		Other

If other, specify:

Certified Engineering Technologist (CET)

Job-specific experience, technical competencies, certification and/or training:

- Must be a Certified Engineering Technologist (CET) with the Association of Science & Technology Professionals of Alberta (ASET) or be sufficiently qualified to obtain this certification with ASET.
- Knowledge of traffic engineering standards, warrants, practices, specifications, and guidelines currently in use in Alberta.
- Knowledge of practices followed for traffic engineering standards, warrants, practices, specifications, and guidelines in other jurisdictions such as Provinces and States is an asset.
- Extensive knowledge of traffic engineering principals and theory related to traffic control devices and traffic safety.
- General knowledge of Intelligent Transportation Systems, highway maintenance, planning and

roadway design.

- Knowledge of Traffic Safety Act, Manual of Uniform Traffic Control Devices for Canada, Highway Capacity Manual Utilize Synchro, and HCS (Highway Capacity Software).
- Knowledge of internal traffic management application and procedure such TSSA, RCIA and guidelines would be considered an asset.
- Knowledge of the province's highway construction, rehabilitation, maintenance programs, long range planning, functional planning, and programming processes is an asset.
- Computer skills for routine office work (preferred some skill in traffic modelling and design).
- Communication skills are critical due to the highly interactive nature of the role with internal and external stakeholders.
- Technical writing and presentation skills are essential.

Behavioral Competencies

Pick 4-5 representative behavioral competencies and their level.

Competency	Level					Level Definition	Examples of how this level best represents the job
	A	B	C	D	E		
Drive for Results	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<p>Takes and delegates responsibility for outcomes:</p> <ul style="list-style-type: none"> • Uses variety of resources to monitor own performance standards • Acknowledges even indirect responsibility • Commits to what is good for Albertans even if not immediately accepted • Reaches goals consistent with APS direction 	<p>The role supports the Ministry's business plan and reaches goals consistent with APS direction.</p> <p>The position may not agree with the appropriate solution to a technical issue, but accepts it is best for Albertans.</p>
Creative Problem Solving	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<p>Engages the community and resources at hand to address issues:</p> <ul style="list-style-type: none"> • Engages perspective to seek root causes • Finds ways to improve complex systems • Employs resources from other areas to solve problems • Engages others and encourages debate and idea generation to solve problems while addressing risks 	<p>The position must utilize various problem solving techniques and must collaborate effectively with multi-disciplinary teams to create solutions.</p>
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<p>Takes a long-term view towards organization's objectives and how to achieve them:</p> <ul style="list-style-type: none"> • Takes holistic long-term view of challenges and 	<p>Decisions and advice provided by this position must anticipate long-term impacts and stakeholder perspectives as projects can have a large impact</p>

		<p>opportunities</p> <ul style="list-style-type: none"> • Anticipates outcomes and potential impacts, seeks stakeholder perspectives • Works towards actions and plans aligned with APS values • Works with others to identify areas for collaboration 	for a long period of time.
Agility	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Identifies and manages required change and the associated risks:</p> <ul style="list-style-type: none"> • Identifies alternative approaches and supports others to do the same • Proactively explains impact of changes • Anticipates and mitigates emotions of others • Anticipates obstacles and stays focused on goals • Makes decisions and takes action in uncertain situations and creates a backup plan 	When problem solving, the position identifies alternative approaches and supports other in doing the same to ensure the best outcomes for safety and cost effectiveness.

Benchmarks

List 1-2 potential comparable Government of Alberta: [Benchmark](#)