

## New

Ministry

Transportation and Economic Corridors

### Describe: Basic Job Details

#### Position

Position ID

Position Name (30 characters)

Railway Engineering Specialist

Requested Class

Engineering & Related Level 4

Job Focus

Operations/Program

Supervisory Level

01 - Yes Supervisory

Agency (ministry) code

Cost Centre

Program Code: (enter if required)

#### Employee

Employee Name (or Vacant)

#### Organizational Structure

Division, Branch/Unit

Current organizational chart attached?

Supervisor's Position ID

Supervisor's Position Name (30 characters)

Supervisor's Current Class

### Design: Identify Job Duties and Value

#### Job Purpose and Organizational Context

Why the job exists:

On July 11 2023, Premier Danielle Smith tasked Minister Dreeshen and Transportation and Economic Corridors (TEC) with exploring cost-sharing arrangements with the private sector and/or municipalities that support economic investment in Alberta's transportation network, including public transit, heavy rail and bridge infrastructure that better connects the Calgary and Edmonton airports to their downtowns, regional communities to Calgary and Edmonton, and Calgary to the province's Rocky Mountains parks system.

Reporting to the Director, Railway, this position provides technical advice and project management support for the feasibility assessments and evaluation for passenger rail development in Alberta as well as lead the collaboration with various government and private agencies regarding passenger railway development and locations where freight railways interact with provincial highways. The role will lead efforts between the Province and railway agencies to develop technical engineering and construction specification and standards that ensure safe and efficient operation of railways and provincial highways where they interact, additionally the role will provide engineering advice regarding proposed railway projects under review by TEC.

The handles the technical development of engineering railway specifications, which does not exist for TEC, including identifying, supporting and developing policies, procedures, regulations regulated to passenger railway. The role will participated in the project identification and privatization of passenger railway

projects; and highway projects that intersect with Class 1 freight railways.  
The role will have a direct engineering and technical involvement on the development plan for billions of dollars of investment in passenger rail.

## Responsibilities

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

- Assist the Director, Railway in the development and assessment of passenger rail services, to ensure the most efficient incorporation of the rail mode of travel within the overall framework of multi-modal transportation in the Province.
  - Provide, maintain and disseminate technical information and advice to the Director and Executive Director regarding proposals and the development/assessment of passenger rail services projects.
  - Identify the needs of stakeholders, both internal and external, to plan future rail corridors and the interactions with provincial highways and other modes of transportation.
  - Provide technical advice to the Director and Executive Director regarding proposals to provide passenger rail services projects.
- Provide leadership for the development of technical and procedural standards, guidelines, and policies to ensure the safe and efficient interaction of railways with the provincial highway system and railway projects under review by the Transportation and Economic Corridors (TEC).
  - Develop guidelines to create agreements with railway agencies for light rail transit and heavy rail crossings.
  - Lead the development and review of technical requirements for the construction of at-grade and grade separated crossings with railways and railway projects under review by TEC.
  - Lead the development and review of technical requirements for the operations and maintenance of at-grade and grade separated crossings with railways.
  - Work with other regulatory agencies such as Transport Canada, the Transportation Association of Canada, and other provinces in establishing consistent standards, guidelines, and policies regarding the interaction of railways with provincial highways.
- Reviews complex railway engineering assessment and construction drawings and specifications, and provide technical expertise during the construction and operation of railway projects and railway crossings of highways on the network.
- Provide technical expertise during the construction and operation of railway projects and railway crossings of highways on the network.
  - Use department guidelines to work with a team delivering projects that affect railway crossings to create agreements with railway agencies.
  - Use the provincial standards and guidelines to provide technical advice to teams in the construction and major rehabilitation of rail crossings with provincial highways and railway projects under review by TEC.
  - Use the provincial standards and guidelines to provide technical advice to teams in the operations and maintenance of rail crossings with provincial highways.
  - Provide advice as requested by municipalities in creating agreements with railway agencies, the construction rail crossings, and the operation and maintenance of rail crossings.
  - Assist in conflict resolution with railway agencies to resolve agreement disputes at the working level.
- Manage the department's mandated signal, signing, and other warning systems or devices for crossings of railways with provincial highways.
  - Influence and lead department staff in ensuring technical warrants are applied appropriately in

determining the best application of warning or control systems.

- Coordinating with regional staff the prioritization of needed improvements within available budgets.
- Manage the department's rail inventory systems to ensure appropriate data is available for executive and budgetary decision making.

## Problem Solving

Typical problems solved:

As the lead for rail interaction with the provincial transportation networks, this role will need to resolve conflicting needs between railway agency needs, federal regulatory requirements, and provincial highway needs.

An example of conflict resolution that was completed by the department was the use of light rail transit crossings of interchange ramps. This required detailed analysis and identification of stakeholders issues to provide an outcome acceptable to the efficient safe and efficient movement of vehicular traffic on the interchange ramps and rail car transit across the ramps.

Types of guidance available for problem solving:

The role will be able to draw on other technical and policy expertise from other groups or individuals within the Technical Standards Branch, Capital Planning, Grants and Engineering Services, Traffic Safety Services and Strategic Initiatives Divisions in TEC.

Transport Canada and the Canadian Transportation Agency have various tools and roles that will be available to assist in problem solving.

Examples of regulations and guidelines that will be used as part of this role and play a part in solving problems include:

- Traffic Safety Act and its Regulations
- Railway Safety Acts (both Provincial and Federal)
- Manual of Uniform Traffic Control Devices for Canada
- Manual of Geometric Design Standards for Canadian Roads
- Alberta Pavement Marking Guide
- Alberta Transportation Highway Geometric Design Guide
- Alberta Transportation Traffic Control Standards
- Alberta Transportation Railway Grade Separation Procedure Manual
- Federal At/Grade railway Crossing Guidelines
- Alberta Highway Signing Manual
- Alberta Traffic Accommodation in Work Zones Manual
- Alberta Transportation and TAC Sign Patterns Manuals
- Road Safety Audit Guide & In-Service Road Safety Operational Review guide

Direct or indirect impacts of decisions:

Advice and decisions made by the specialist role will affect:

- the safety and efficiency of vehicular traffic on provincial highways at rail crossings,
- the national and international economic corridors,
- and budget considerations both at the provincial level and a level of influence at the federal level.

## Key Relationships

Major stakeholders and purpose of interactions:

- Extensive dealing with various types of organizations such as Canadian Transportation Agency, Transport Canada, Transportation Association of Canada, Transport Canada, and various rail and road authorities across the province. Implementation of traffic engineering standards requires the candidate to convince and influence them on the benefit of change based on cost/benefit assessments and/or outcome.
- Experience working with owners of railways (light and/or heavy rail) and the development (planning, design, construction) of passenger rail projects.

## Required Education, Experience and Technical Competencies

Education Level	Focus/Major	2nd Major/Minor if applicable	Designation
Bachelor's Degree (4 year)	Engineering		PEng

If other, specify:

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

- A university degree in engineering or planning or equivalent with 8+ years in experience in the operations, construction, and planning of railways, crossings and new railway (light and/or heavy rail) design and/or construction projects. 4 + years experience with complex heavy rail and light rail transit projects is preferred.
- Registered Professional Engineer (P.Eng.) in Alberta (APEGA), or eligible to register through a reciprocal agreement.
- Experience in collaborating with and leading multi-disciplinary teams of professionals within the department and external to the department, or on passenger railway projects.
- Excellent oral and written communication skills including experience in making presentations to executive management, elected officials, and the public.
- Exceptional personal interactive skills; the capability to work well with people from many different disciplines with varying degrees of technical experience; competence in clear, concise and tactful communication with senior management, clients, peers and staff.
- Strategic, conceptual analytical thinking and decision-making skills.
- Adaptability and flexibility including the ability to manage deadline pressure, ambiguity and change.
- Negotiating skills within a context of political sensitivity and conflicting interests.

## 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		
Systems Thinking	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Takes a long-term view towards organization's objectives and how to achieve them: <ul style="list-style-type: none"> <li>• Takes holistic long-term view of challenges and opportunities</li> <li>• Anticipates outcomes and potential impacts, seeks stakeholder perspectives</li> <li>• Works towards actions and plans aligned with</li> </ul>	This position will need to view work completed with railways in a holistic and long-term view as the outcomes and anticipated outcomes will affect road and rail users potentially for decades after decisions are made.

		<p>APS values</p> <ul style="list-style-type: none"> <li>• Works with others to identify areas for collaboration</li> </ul>	
Creative Problem Solving	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	<p>Works in open teams to share ideas and process issues:</p> <ul style="list-style-type: none"> <li>• Uses wide range of techniques to break down problems</li> <li>• Allows others to think creatively and voice ideas</li> <li>• Brings the right people together to solve issues</li> <li>• Identifies new solutions for the organization</li> </ul>	<p>The interaction between railways and the provincial highway system can be complex due to various stakeholder needs and requires creative problem solving to achieve positive outcomes.</p>
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"> <li>• Identifies alternative approaches and supports others to do the same</li> <li>• Proactively explains impact of changes</li> <li>• Anticipates and mitigates emotions of others</li> <li>• Anticipates obstacles and stays focused on goals</li> <li>• Makes decisions and takes action in uncertain situations and creates a backup plan</li> </ul>	<p>This position will need to be able to identify alternatives and be able to promote the alternatives as passenger rail services are assessed and the interaction of the rail system with provincial highways in Alberta is evolving to include more complex light rail transit and heavy rail interactions.</p>
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"> <li>• Uses variety of resources to monitor own performance standards</li> <li>• Acknowledges even indirect responsibility</li> <li>• Commits to what is good for Albertans even if not immediately accepted</li> <li>• Reaches goals consistent with APS direction</li> </ul>	<p>This position will be the driver in navigating the complex regulatory and engineering environment and solving the associated challenges to ensure timely delivery of safe and efficient railway projects and crossings.</p>
Develop Networks	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	<p>Leverages relationships to build input and perspective:</p> <ul style="list-style-type: none"> <li>• Looks broadly to engage stakeholders</li> <li>• Open to perspectives</li> </ul>	<p>This position will need to build relationships with railway operators, federal regulatory agencies, other provincial counterparts, municipal</p>

		towards long-term goals <ul style="list-style-type: none"> <li>• Actively seeks input into change initiatives</li> <li>• Maintains stakeholder relationships</li> </ul>	officials, and other department staff to achieve the goals of the position.
Build Collaborative Environments	<input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Collaborates across functional areas and proactively addresses conflict: <ul style="list-style-type: none"> <li>• Encourages broad thinking on projects, and works to eliminate barriers to progress</li> <li>• Facilitates communication and collaboration</li> <li>• Anticipates and reduces conflict at the outset</li> <li>• Credits others and gets talent recognized</li> <li>• Promotes collaboration and commitment</li> </ul>	This position will need to build relationships with railway operators, federal regulatory agencies, other provincial counterparts, municipal officials, and other department staff to resolve conflict, share resources, and achieve positive outcomes.
Develop Self and Others	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	Encourages development and integration of emerging methods: <ul style="list-style-type: none"> <li>• Shapes group learning for team development</li> <li>• Employs emerging methods towards goals</li> <li>• Creates a shared learning environment</li> <li>• Works with individuals to develop personal development plans</li> </ul>	There is limited railway expertise in TEC and this new position will need to develop knowledge and processes, goals for the TSB Section, and any Eng 2 staff reporting to the position.

**Benchmarks**

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