

Job Posting

Edmonton

Project Engineer (EIT) - Urban Planning and Economy Job Number: 42609

Are you a result-driven, goal oriented, and self-spirited data enthusiast looking for an exciting opportunity to influence future growth and transportation infrastructure planning decisions for the City of Edmonton? Urban Planning and Economy is looking to grow our team with your specialized experience!

This Project Engineer (EIT) position will function as part of the technical team that develops, maintains and implements advanced spatial economic, land use, and transportation forecasting models to support corporate wide growth, land use and transportation planning initiatives.

With advanced knowledge in discrete choice modeling techniques, statistical estimation and data science, the Project Engineer is required to combine urban economics, urban planning, transportation planning, traffic engineering concepts for developing, operating, and maintaining large scale simulation models.

The understanding of engineering principles and spatial nature of urban settings, proficiency in handling large scale spatial data, and ability to perform complex spatial analytics and statistical computations are critical success factors of this role. Under the guidance of an licensed professional engineer (project engineer or senior engineer), this position will work with a multi-disciplinary team of engineers, economists, urban and land use planners, GIS technicians, and technologists to develop an effective analytic platform to inform potential implications of a planning or strategic decision to a variety of stakeholders, leaders and the City Council.

As the successful Project Engineer in Training you will be responsible for:

- **Assist to develop, maintain, and execute decision support Models**
 - Provide support to develop, implement, and calibrate modelling frameworks such as the Regional Travel Model (RTM) and Edmonton Metro Region Spatial Economic and Transportation (MRSET) model
 - Incorporate engineering and urban planning principles and mathematical and statistical estimation techniques into the modeling frameworks, and develop scripts to update modelling platforms
 - Manage geo-database to process large scale input and output data, conduct calibration routines and post processing of model outputs
 - Provide assistance to maintain, organize, and track forecasting horizons scenarios and geo databases to increase operational efficiencies and optimize service delivery times to the corporate clients and stakeholders
 - Research industry practice on advanced land use and travel demand models and identify potential improvements for the modeling platform to better support the corporate needs
- **Respond to Analytics Service Inquiries**
 - Configure the model runtime environment with the policy and scenario definition and execute model runs for assessment and evaluations.
 - Analyze and evaluate alternative policies and strategies related to urban growth, housing, pricing, road, transit, and travel demand management
 - Assist the project engineer or senior engineer in undertaking predictive analytics using modeling platforms for a broad variety of strategic and planning projects
 - Analyze the effects of regulatory measures and assess the policy implications on land use projects and its impacts on transportation systems
- **Communication and Engagement**
 - Provide assistance in preparing modeling outputs and results with infographics to communicate the story to the senior management
 - Assist in developing interactive visual tools and dashboards through strategic use of technology to communicate modeling results in a method that can be used for decision making
 - Collaborate with teams, groups and subject matter experts from both the inside and the outside of the unit to increase knowledge and understand business needs
 - Prepare technical report for signing engineer's review

Qualifications:

- Bachelor's Degree in Civil Engineering with coursework in Transportation Engineering, Transportation Planning, Discrete Choice Modelling, Land Use Planning, Urban Planning, and/or Urban Economics
- Post Graduation in Transportation Engineering or Urban Planning or in a related discipline is an asset
- Must be registered and in good standing as an Engineer in Training (EIT) with APEGA or similar Professional Engineering Association (or eligible to be registered) and working towards a Professional Engineer (P.Eng) designation
- Understand and apply highly complex technical concepts and choice modeling theories and develop/maintain regional travel model
- Knowledge of discrete choice modeling and statistical estimation, spatial economic and travel behaviour modeling
- Good understanding and ability to apply engineering principles related to land use and transportation planning, urban goods movements, urban transportation economics, cost benefit analysis, land use planning, and urban planning, transit planning, traffic operations, and transportation design
- Strong background in statistical concepts, statistical estimation, exploratory data analysis
- Familiar with open source libraries, packages and hosting repositories such as GitHub
- Strong familiarity with one of the travel demand modeling packages such as EMME, VISUM, TransCAD, CUBE)
- Experience with relational databases, SQL, and scripting languages (e.g. Python)
- Proficient in data processing, undertaking data analysis, and data visualization using scripting tools
- Experience or the ability to assist with the development and explanation of transportation and land use models within a regional transportation and land use planning context
- Strong conflict resolution and negotiation skills with experience in solving complex and sensitive issues
- Strong verbal and written communication skills, including report writing and presenting
- Demonstrated ability and willingness to develop strong relationships and work in a collaborative, integrated manner
- Ability and willingness to delegate and empower others
- Applicants may be tested

The City of Edmonton is committed to inclusive, respectful and equitable workplaces that represent the communities we serve. We continuously improve our systems, policies and practices to remove barriers and ensure our employees, in all their diversity, can succeed. We value applicants with a diverse range of skills, experiences and competencies, and encourage you to apply. To learn more, see the Art of Inclusion: Our Diversity and Inclusion Framework here: <https://bit.ly/3hd2d95>.

The City of Edmonton strives to provide reasonable access and accommodations throughout the application and selection process. If you would like to request an accommodation at any stage of the process, please contact Employment@edmonton.ca.

COVID-19 Notice: The City of Edmonton has implemented a COVID 19-Vaccination Policy. Employees must be fully vaccinated against COVID-19 and provide proof of vaccination. Employees who cannot be fully vaccinated on the basis of a protected legal ground (e.g. medical, religious) may request an exemption. Please note that this policy applies to all employees, including new hires, and volunteers. If your application is successful, you will be asked to provide proof of vaccination or request an exemption.

For more information, please refer to our COVID-19 Vaccination Policy (bit.ly/3IKwb6j) and COVID-19 Vaccination Procedure (bit.ly/39BICMt).

Up to 1 permanent full time position

Hours of Work: 40 hours per week. *The weekly hours of work for this position are currently under review and may change at a future time. Any changes will be made in accordance with the City of Edmonton/Civic Service Union 52 collective agreement and the incumbent will be notified in advance.*

Once the successful candidate receives their Professional Engineer (P.Eng.) designation and meets four (4) years of related work experience, they may be reclassified to a PE2.

Salary: \$31,623 - \$38,438 (Hourly); \$66,028.820 - \$80,258.540 (Annually)

PE2 Salary: \$73, 738 - \$105, 340 (Annually) at 36.90 hours per week

Talent Acquisition Consultant: HR/JB

Classification Title: Engineer In Training (EIT)

Posting Date: Jan 20, 2022

Closing Date: Feb 10, 2022 11:59:00 PM (MST)

Number of Openings (up to): 1 - Permanent Part-time, Full-time

Union: CSU 52

Department: DCMO

Work Location(s): 8th Floor Edmonton Tower, 10111 104 Avenue Edmonton T5J 0J4

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