



Traffic Systems Engineer
Regular Full Time
\$83,856 to \$112,506 CAD Annually

The City of Markham, an award-winning municipality with more than 353,000 residents, is Canada's high-tech capital and most diverse community, enjoying a rich heritage, outstanding community planning and services, and a vibrant local economy. Committed to being a model of public service excellence, with a workforce that is representative of the population we serve, we are looking for people who share our values and are champions of innovative practices. Diversity is one of Markham's strategic priorities, and we strive to develop and maintain an environment that is inclusive and creates a sense of belonging for all.

Applications are now being accepted for the above regular full-time position in the Engineering Department, Development Services Commission. To apply, please submit your cover letter and resume on-line by **January 28, 2022**.

Job Summary:

Reporting to the Manager, Traffic Engineering, this position is responsible for providing direction, leadership and guidance for technical and analytical operational support for the City's traffic systems. The position will:

1. lead, review and approve new and/or modifications of various traffic system assets, including the ongoing modernization of the traffic signal network;
2. be responsible for the management of associated operating/maintenance contracts and day-to-day activities;
3. conduct research, studies and analysis of traffic data for the development and implementation of optimized and safe movement of traffic; and
4. assist in developing and implementing strategies, policies and procedures related to traffic operations, prepare technical reports and recommendations for management and Council.

Key Duties & Responsibilities:

1. Technical and Analytical Functions:

- Prepares, analyzes, implements and evaluates traffic signal timing and adjustments to maximize the effectiveness and safety of all movements on the City's road network, utilizing the capabilities of coordinated signal control along key municipal road corridors, and directs Consultants retained for these activities.
- Coordinates and manages projects as well as technical reports/studies. Initiates and prepares project definition reports and terms of reference for consulting assignments. Reviews technical reports prepared by consultants and contractors and makes comprehensive recommendations and analysis to senior management.
- Directs and manages consultants and staff teams related to the maintenance and operations of the traffic signal system to optimize its performance with available



resources.

- Conducts studies, research and analyzes data in assigned areas to initiate, develop and make recommendations for revisions and changes to City traffic policies and procedures and to resolve complex technical issues/problems related to traffic system operations.
- Reviews and investigates intersection capacity analysis and identifies an action plan in the preparation of signal timing plans for implementation.
- Provides data, analytical support and recommendations to special task groups to facilitate the development of strategic and operational traffic systems plans to address critical systems issues.

2. Quality Assurance and Due Diligence Activities:

- Assesses, analyzes and monitors traffic system operations along the City's road network and recommends changes to optimize traffic capacity and safety.
- Ensures the Traffic Engineering software programs are maintained and updated to meet ongoing operational demands.
- Prepares and co-ordinates the preparation of background data to assist and defend related insurance claims.
- Assists in the review of detailed traffic signal design layouts and construction contract specifications
- Assists in conducting on-site inspections of traffic signal construction projects

3. Research, Data and Reporting Functions:

- Conducts studies, researches and analyzes technical data and information, prepares detailed written reports and makes recommendations to resolve technical issues and to develop revisions to traffic management procedures and traffic impact studies along the City's road network.
- Uses Traffic Engineering software programs to obtain traffic data; analyzes data, makes recommendation and prepares report for management and City Council.
- Investigates, coordinates and prepares correspondence, reports and assessments on the operational performance of the City's road network including responses to public complaints and claims.
- Responsible for managing projects and initiatives associated with leveraging new, innovative technologies to improve the movement of people within the City's road network.

4. Team and Financial Functions:

- Provides technical leadership and direction to staff regarding traffic system operations.
- Acts as a resource to provide guidance and expertise with respect to traffic system assets and associated Traffic Engineering software programs.
- Provides interpretation of relevant legislation, by-laws and regulations, drawings and



data for staff.

- Assists with the implementation and training of staff related to revisions in work procedures and practices.
- Assists in the development of the operating plans and annual budget requirements of the traffic control systems section.
- Assists in the development and administration of traffic signal design and construction contracts.

5. Liaison, Communication and Customer Service Activities:

- Liaises with adjacent road and enforcement agencies to assist in the uniformity of road operational policies.
- Liaises with staff, internal and external agencies, contractors, police, public etc. on related data and traffic system issues.
- Represents the department on assigned task forces and working groups related to the development of traffic control signal operations policies and procedures.
- Represents the City on traffic system and operations issues with public groups, agencies and technical organizations as directed.
- Liaises with and coordinates the work of consultants on projects and technical studies.

6. Other Duties:

- Performs other related duties, as assigned, that are in accordance with Department and Corporate Objectives.

Qualifications & Competencies:

- University Degree in Engineering related to Traffic and Transportation Engineering.
- Registration as a Professional Engineer (P.Eng.) and membership in good standing with Professional Engineers Ontario.
- Eligible for certification with the International Municipal Signals Association (IMSA). Level 1, 2 and 3 certifications would be an asset.
- Minimum 5 years of experience in traffic signals design and operation.
- Thorough working knowledge of engineering principles and practices of transportation operations, traffic signal operations, planning, design and construction and Ministry traffic policies and procedures.
- Experience in the planning, development and implementation of advance traffic management systems
- Experience in Business Process Improvements (BPI) and project management, including research and analysis; previous demonstrated experience in efficiency analysis and change management an asset.
- Proficiency and experience with traffic signal optimization software such as Synchro is an asset.
- Ability to read and interpret roadway/signal drawings and applicable technical manuals and specifications.



- Thorough working knowledge on various components within a traffic signal controller cabinet, including an ability to program traffic signal timing plans.
- Valid Ontario Class “G” driver’s license to use on corporate business.
- Knowledge of and demonstrated ability in corporate core competencies including customer service, communication, teamwork, initiative/self-management and accountability, and flexibility/adaptability.
- Knowledge of relevant legislation, regulations and standards including Highway Traffic Act, Occupational Health and Safety Act, Ontario Traffic Manuals.
- Knowledge of safe work practices as they relate to working with high speed and heavy traffic.
- Effective presentation skills related to the results of technical traffic analysis and recommendations.
- Ability to prepare letters and reports on technical and non-technical issues.
- Ability to work outside normal business hours as required.

Core Behaviours:

- **Service Excellence:** Meets or exceeds service standards when interacting with customers in the community and in the organization.
- **Change & Innovation:** Responds positively and professionally to change and helps others through change.
- **Teamwork & Relationship Building:** Interacts with others in an inclusive, collaborative and respectful way that creates effective working relationships.
- **Communication:** Communicates in a clear, professional and respectful way; demonstrates active listening.
- **Accountable & Results Oriented:** Demonstrates ethical behaviour and accountability, aligns with City values, and abides by relevant policies and legislation.
- **Management & Leadership:** Demonstrates self-management, professionalism and engagement; leads by example.

The City of Markham is committed to inclusive, accessible and barrier free employment practices and to creating a workplace that reflects and supports the diversity of the community we serve. Please let us know if you require an accommodation and we will work with you to ensure a barrier free hiring process.

The City of Markham has established a mandatory vaccination requirement for staff related to the COVID-19 pandemic. As a result, should you be a successful candidate for a position with the City of Markham you will be required to provide proof of full vaccination upon a conditional offer of employment. Should you require accommodation in accordance with the Human Rights policy with respect to your vaccine status, you will be required to disclose that at the time of conditional offer so that an accommodation can be developed prior to your start date.