Metropolitan Washington
Council of Governments

Now Hiring: Transportation Engineer II/III, Air Quality and Climate Change Planning

AGENCY

The Metropolitan Washington Council of Governments (MWCOG or simply COG) is an independent, nonprofit association that brings area leaders together to address major regional issues in the District of Columbia, suburban Maryland, and Northern Virginia. The National Capital Region Transportation Planning Board (NCRTPB or simply TPB) is the federally designated Metropolitan Planning Organization (MPO) for the Washington, D.C. metropolitan area. The TPB is also one of three policy boards that operate at COG. COG is the administrative agent for the TPB, and the TPB is staffed by COG's Department of Transportation Planning (DTP). COG has a staff of about 120 employees, half of whom work in the DTP. COG was founded in 1957. The TPB was created in 1965 and became associated with COG in 1966.

CONTEXT

COG's DTP is divided into five teams. The largest of these teams is the Travel Forecasting and Emissions Analysis Team, which currently has 16 people and whose mission is to provide technical services to both TPB and COG in the areas of 1) regional travel demand forecasting and 2) the estimation of and planning for air pollution from motor vehicles, known as mobile emissions, including both criteria pollutants and greenhouse gas (GHG) emissions.

The team is divided into two groups: the Model Development Group (MDG) and the Model Application Group (MAG). The mission of the MDG is to develop, maintain, and improve the TPB's regional travel demand forecasting models. The MDG is responsible for developing, maintaining, applying, and improving the TPB's family of regional travel demand forecasting models. At any given time, the COG/TPB staff maintains at least two travel demand models: one or more production-use travel models; and one or more developmental travel models. The mission of the MAG is to apply the production-use travel model to regional and corridor studies, including the development of the region's Long-Range Transportation Plan (LRTP) and the assessment of air quality impacts of the LRTP, using the U.S. Environmental Protection Agency's (EPA's) MOtor Vehicle Emission Simulator (MOVES) model. The MAG also plays an important role in conducting air quality planning and climate change planning activities. Transportation networks are a crucial input to the regional model, and both groups support network development.

JOB OFFER

COG/TPB seeks to hire a transportation engineer to work in its Model Application Group (MAG), to be filled at one of two levels, Transportation Engineer II (Grade 7) or Transportation Engineer III (Grade 8), depending on qualifications (see below). The Transportation Engineer position will serve under the direction of a Senior Engineer or Principal Engineer and will focus on a variety of challenging technical tasks.

Examples of work tasks include the following: supporting the federal air quality conformity process; providing assistance with other air quality planning activities, including state implementation plans

(SIPs) for addressing federal air quality standards; participating in climate change planning activities for the onroad transportation sector, including tasks related to vehicle electrification; keeping up to date with federal regulations and guidance pertaining to air quality and climate change planning; providing support for scenario planning activities; conducting reasonableness reviews of various technical data related to air quality and climate planning, and writing technical memoranda and reports. This is a technical position requiring strong quantitative skills and an ability to analyze and interpret technical data, thus also requiring some familiarity with transportation planning, air quality planning, and travel demand forecasting. This person should be passionate about learning, improving technical skills, public service, and making significant contributions that will improve the agency and the region. Work is performed under the general supervision of a higher-level transportation engineer/program manager, but the candidate should exhibit a certain degree of independence and self-direction. COG/TPB offers a friendly, collegial work environment, challenging technical work, with competitive pay and benefits in the Nation's Capital.

COG staff work in a hybrid format. COG staff are currently expected to work in the COG offices three days per week (Tuesday, Wednesday, and a third day chosen in coordination with one's supervisor) and work two days per week from home. COG provides a transit subsidy benefit and many other benefits that make up one's total compensation package (see, for example, https://www.mwcog.org/about-us/human-resources/pay-and-benefits/).

Minimum Qualifications (Education and Experience)
- **Transportation Engineer 2**: _Either_ 1) _Master's_ degree in transportation engineering, civil engineering, transportation planning, urban planning, computer science, or a related field. **OR** 2) _Bachelor's_ degree in a related or non-related field _and_ _two_ _years_ of applicable work experience. **OR** 3) Any combination of education, experience, and training that is equivalent to one of the two preceding qualifications, as demonstrated by college-level courses in areas such as Urban Planning, Environmental Planning, Environmental Engineering, Mathematics, Operations Research, Quantitative Analysis, Statistics, and Computer Modeling.
- **Transportation Engineer 3**: _Either_ 1) _Master's_ degree in transportation engineering, civil engineering, transportation planning, urban planning, computer science, or a related field _and_ _two_ _years_ of applicable work experience. **OR** 2) _Bachelor's_ degree in a related or non-related field _and_ _three_ _years_ of applicable work experience. **OR** 3) Any combination of education, experience, and training that is equivalent to one of the two preceding qualifications, as demonstrated by college-level courses in areas such as Mathematics, Operations Research, Quantitative Analysis, Statistics, and Computer Modeling.

Other Minimum Qualifications
- Ability to work cooperatively in a team environment within and between COG departments.
- Strong analytical and problem-solving skills, with an ability to interpret technical findings and share them with general audiences.
- Solid verbal and written communications skills.
- Strong familiarity with standard business software (Excel, Word and PowerPoint).
- Experience with air quality and climate change planning, including air quality conformity and climate change mitigation strategies.
- Familiarity with emissions modeling (EPA's Mobile or MOVES mobile emissions models) and travel demand forecasting.

- Interest in regional planning, air quality planning and travel demand modeling.

Ideal Candidate (one or more of these)
- Passionate about learning, improving technical skills, public service, and making significant contributions that will improve the agency and the region.
- Ability to be a change agent, particularly regarding air quality and climate change planning.
- Experience with interpreting federal regulations pertaining to air quality conformity, SIPs, and greenhouse gases.
- Experience with project/task management.
- Experience with climate change planning in the surface transportation sector.
- Experience with scenario planning and greenhouse gas estimation tools.
- Ability to communicate in writing and speaking about complex technical topics to non-technical audiences.
- Experience with geographic information system (GIS) software, such as ArcGIS or QGIS.
- Familiarity with travel demand forecasting models.
- Familiarity with EPA's MOVES model.
- Familiarity with database management systems (DBMSs).

Examples of Work
- Collaboration with staff from other Department of Transportation Planning (DTP) teams and other departments to develop project schedules and scopes of work for the air quality conformity analysis of the long-range transportation plan, state implementation plan activities, and other air quality planning projects.
- Collaboration with staff from other DTP teams and other departments to provide transportation data and conduct review of reports and memoranda related to climate change planning, such as the periodic greenhouse gas inventories prepared by COG's Department of Environmental Programs (DEP) staff (e.g., attend meetings, provide meeting summaries, respond to information and data requests).
- Collaboration with staff from other DTP teams and other departments to provide support for activities related to vehicle electrification (e.g., attend meetings, provide meeting summaries, respond to information and data requests).
- Drafting comment letters to the EPA, and other similar agencies, in response to the proposed changes in emissions standards.
- Assist with analysis and reasonableness checking of travel demand model, EPA's MOVES mobile emissions model, and other model output in support of the air quality conformity analysis, long-range transportation plan performance assessment, greenhouse gas analyses, and scenario/project planning.
- Writing technical memoranda and reports, including the Air Quality Conformity Analysis Report of the Long-Range Transportation Plan.
- Analysis of transportation emission reduction measures (TERMs).
- Making presentations to the TPB Technical Committee, the Travel Forecasting Subcommittee (TFS), the Technical Advisory Committee of the Metropolitan Washington Air Quality Committee (MWAQC-TAC), and other related committees.
- Supporting data requests from outside parties related to air quality conformity and mobile emissions planning.

Starting Salary Ranges (FY 24)
- Transportation Engineer II (Grade 7): $73,728.89 to $86,000, depending on qualifications
- Transportation Engineer III (Grade 8): $84,037.53 to $113,000, depending on qualifications

ADDITIONAL INFORMATION

Application Instructions

To apply for this position, please prepare the following items:
- Cover letter
- Resume
- Salary requirements
- Answers to the supplemental questions
- Please Apply HERE

These items can be either emailed, faxed, or mailed to MWCOG:

Metropolitan Washington Council of Governments
777 North Capitol Street, N.E.
Suite 300, **Attention OHRM**
Washington, DC 20002

Further information can be found on MWCOG's Human Resources webpage
(https://www.mwcog.org/about-us/human-resources/).

MWCOG is an Equal Employment Opportunity (EEO) employer. We do not discriminate on the basis of race, religion, color, sex, age, national origin, disability, sexual orientation or any other class protected by state or federal laws in admission or access to our programs, services, activities, hiring, and employment practices.

Identification/Right to Work

The Metropolitan Washington Council of Governments is committed to compliance with federal and state laws requiring that MWCOG only hires workers who are lawfully entitled to work in the United States (U.S. citizens or nationals and non-citizens with valid work authorization) without discrimination. MWCOG does not sponsor Visas of any type. All persons employed by Metropolitan Washington Council of Governments are required to comply with the Immigration Reform and Control Act of 1986 by presenting documents to verify identity and authorization to work in the United States.

Acceptable forms of identification are listed by the Department of Homeland Security / U. S. Citizenship and Immigration Services on Form I-9, Employment Eligibility Verification.

Supplemental Questions for the Position of Transportation Engineer II or III

Your answers to the Supplemental Questions may be reviewed to help determine if you meet the required skills and how you meet the requested skills for the position to which you have applied. This

review may include an automated scoring process and/or a manual review of all or some of the responses.

Note: The specific questions and scoring process used are determined by each hiring authority. Only those individuals who meet the required skills and most closely match the requested skills will be invited to an interview.

1. Are you eligible to work in the United States without sponsorship of a work visa, both now and in the foreseeable future? *

   ☐ Yes
   ☐ No   If "No," please explain:

2. Describe your experience working with travel demand forecasting models. *

3. Describe your experience working with mobile emissions modeling software, such as MOVES. *

4. Describe your experience working with database management systems (DBMS) and/or GIS.*

5. Describe your experience working with computer programming languages, such as Python or Visual Basic, and software development principles. *

6. Where did you hear about this job? (Check one or more categories) *

   ☐ I'm a COG employee (internal applicant)
   ☐ MWCOG webpage
   ☐ Social media (e.g., Facebook, Twitter, LinkedIn)
   ☐ Indeed.com
   ☐ Printed publication or newspaper
   ☐ Job fair or career event
   ☐ Word of mouth (friend, family, colleague)
   ☐ Radio
   ☐ Email
   ☐ Professional association job board
   ☐ College/university job board
   ☐ Other website
   ☐ Other

7. Specifically, where did you hear about this job? (Write the name) *

* Required question