

**Opportunity Title:** Geospatial Transit and Transportation Accessibility Analysis

Fellow

**Opportunity Reference Code:** DOT-2016-0004

**Organization** U.S. Department of Transportation (DOT)

**Reference Code** DOT-2016-0004

**How to Apply** A complete application consists of:

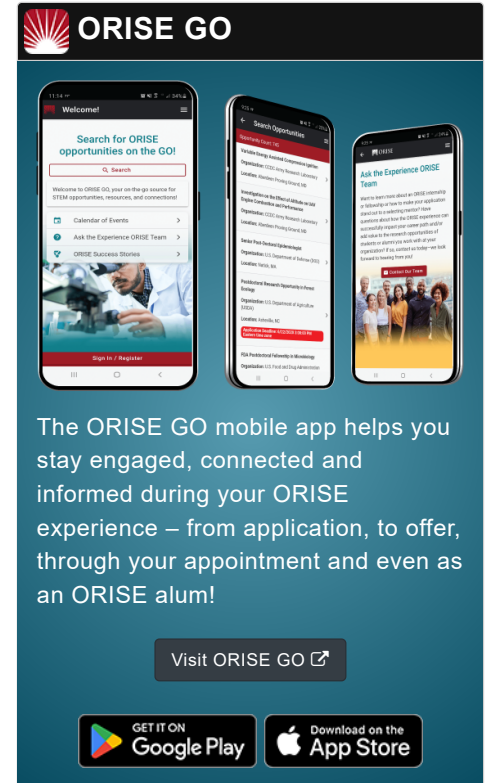
- An application
- A current resume/CV
- Transcripts – For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. Selected candidate may be required to provide proof of completion of the degree before the appointment can start.

All documents must be in English or include an official English translation. If you have questions, send an email to [SciEdPrograms@orau.org](mailto:SciEdPrograms@orau.org). Please include the reference code for this opportunity in your email.

**Application Deadline** 7/28/2017 12:00:00 AM Eastern Time Zone

**Description** Are you ready to build a resource that will provide our communities across the Nation with the accurate, reliable data we need to measure the connectivity of the transportation network? Do you want to help DOT, planning agencies, and researchers do a far better job of demonstrating the importance and role of transit in American society, and identify and address gaps in access to public transportation? Take an appointment with our team as we transform national transportation analysis, and where you enhance and analyze the National Transit Map and explore transportation deserts. This post-graduate research project and developmental opportunity is currently available at the U.S. Department of Transportation. The appointment will be served within the Bureau of Transportation Statistics in Washington, DC as a Geospatial Transit and Transportation Accessibility Analysis Fellow.

The goal of the project is to further develop DOT's National Transit Map and BTS' Geospatial Workbench for Analyzing Transportation Deserts, Connections and Accessibility. The participant will collaborate with individuals from DOT's operating administrations and offices under the Secretary of Transportation, to connect, understand, analyze, and visualize National Transit Map data with other DOT databases and data sources outside of the Department. The participant will improve the National Transit Layer—national data feeds that provide open, machine readable spatial and tabular data about the nation's transit systems stops, routes, and schedules and create interactive mapping apps to provide tools such as calculators for determining distances from transit stops, trip frequency, and



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time-of-day coverage. The participant will also enhance the Geospatial Workbench, an interactive web-based mapping tool and dashboard for visualizing, analyzing, and better understanding transportation accessibility and connectivity and potential gaps especially in areas that may be dependent on non-auto transport. The work will help demonstrate the importance and role of transit in American society and to identify gaps in access to public transportation. It will also support research, planning and analysis on the benefits of transit and the use of existing transportation networks to connect residents to jobs, education, health, government, and other essential services.

Who are we? We are the U.S. Department of Transportation's Bureau of Transportation Statistics (BTS). The BTS is the Principal Federal Statistical Agency that provides objective, comprehensive, and relevant information on the extent and use of the Nation's transportation system, how well the system performs, and the effects of the system on society and the environment. You will have an appointment with the Office of Spatial Analysis and Visualization (OSAV). The OSAV develops geospatial information and visualization tools, conducts spatial and network analyses, develops performance measures related to the transportation network and geographic accessibility provided by the network, prepares maps for BTS publications, coordinates the transportation layer of the National Spatial Data Infrastructure, and publishes the National Transportation Atlas Database (NTAD). OSAV employs high quality cartography and innovative web applications to produce relevant, high quality, timely, comparable, complete, and accessible geospatial products and statistical visualizations.

### **Participant Benefits**

The selected candidate will receive a stipend as support for living and other expenses during this appointment. Stipend rates are determined by DOT officials and are based on the candidate's academic and professional background. The candidate may also be eligible to receive a health insurance allowance and reimbursement for travel expenses. This appointment is full-time for one year and may be extended in increments of up to one year, contingent upon project needs and funding availability.

### **Nature of the Appointment**

Participants will not enter into an employee/employer relationship with ORISE, ORAU, the DOT, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

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**Qualifications** The successful applicant has received a Bachelor's degree (master's degree desired) in related field required (preferably in Geographic Information Systems, Geography, Social or Behavioral Science, Computer Science, Information Systems, Math or Statistics, Earth or Geo Science, Engineering, Business, Graphic Design, Data Science, Data Visualization, Media Arts).

The ideal candidate will have a combination of the following:

- Demonstrated ability to transform information and data into documents, reports, and similar products that tell a compelling story
- Demonstrated ability to work with and connect multiple data systems and sources
- Experience analyzing data to identify patterns and trends
- Experience presenting results in a clear, effective, and attractive manner to inform next steps
- Experience with data tools and techniques, including the application of modern programming languages and open source software. Experience should include geospatial information systems
- Strong written and verbal communications skills
- Ability to work across various offices and work units to obtain information, collaborate on data-related projects, and validate findings and conclusions
- Ability to work with subject matter experts to identify and mitigate data limitations
- A self-starter with the ability to perform work with limited supervision and changing outcome goals
- Knowledge of U.S. transportation systems
- Experience using various programming languages to create processes that identify variation, investigate patterns and perform data interpretation against large datasets
- Comprehensive experience with the ESRI suite of products (ArcGIS Desktop, ArcGIS Server, ArcSDE, ArcObjects, JTX/Workflow Manager)
- Demonstrated knowledge and use of industry standard database tools and languages including standard SQL Oracle/Microsoft/Postgres Relational Databases and geodatabase extensions to relational databases, SQL
- Experience working with forecast data and information a plus, but is not required
- Experience with statistical analysis and econometric modeling a plus, but is not required

**Eligibility Requirements**










- **Citizenship:** U.S. Citizen Only
- **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree.
- **Discipline(s):**
  - **Business** (1 )

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- **Communications and Graphics Design** (4 )
- **Computer, Information, and Data Sciences** (16 )
- **Earth and Geosciences** (21 )
- **Engineering** (27 )
- **Environmental and Marine Sciences** (14 )
- **Life Health and Medical Sciences** (45 )
- **Mathematics and Statistics** (10 )
- **Other Non-Science & Engineering** (6 )
- **Social and Behavioral Sciences** (28 )