

2020 DDOT Internship Program

Research, Development & Technology Transfer

PaveDC Internship



In 2018, Mayor Muriel Bowser launched the PaveDC initiative to eliminate roads in poor condition by 2024 in Washington, D.C. The District Department of Transportation (DDOT) created a cross-functional PaveDC team to collaborate on this initiative and has made significant progress. Within two years, DDOT has paved more than 150 miles of roads, which significantly improves roadway conditions in DC and saves vehicle owners millions of dollars. Also, the team has developed a new way to communicate paving plans and share construction status with the residents.

Project Description



PaveDC team has developed a prioritization model to rank transportation infrastructure asset's repair needs, using Tableau and ArcGIS products. Model outputs were used to identify candidates for 2018 and 2019 DDOT paving plans. The PaveDC team seeks a summer intern with strong data science background to join the PaveDC team and bring the prioritization into a new level by adding three improvements.



First, the current prioritization model involves multiple steps of data processing and analytics in several data tools. The intern will automate the prioritization process using Python and its data science libraries.



Second, DDOT relies on a roadway pavement condition dataset for decision-making, but the dataset is currently updated once every year. The intern will develop an approach to update condition data as paving work automatically gets completed by using data in the agency's project management systems so DDOT can track infrastructure conditions in a real-time manner.



Third, the intern will research and create a roadway deterioration model that fits Washington, D.C. Deterioration factors to consider include utility work permits, traffic volumes, and new development projects. At the end of this summer internship, the incumbent shall deliver an improved prioritization model coded by Python with real-time roadway condition data and a deterioration model. The new modal shall help DDOT make paving decisions at any time when needed.

The intern will be reporting to the Manager of the Performance Management Division and working closely with other PaveDC team members.

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Intern Skills

- Strong Python coding, data science, and research skills
- Knowledge with transportation/roadway pavement preferred
- Ability to work independently or within a team environment

Educational Background

- Graduate student pursuing a master's degree or a Ph.D. in relevant majors such as data science, urban studies, transportation engineering, information, or a related field.

Bi-weekly stipends range from \$1,440 to \$1,600

To apply, visit www.hutrc.org/internships

