
2020 MDOT STATE HIGHWAY ADMINISTRATION INTERNSHIPS

The Maryland Department of Transportation State Highway Administration (MDOT SHA) Transportation Internship Program (TI) and the Administration Internship Program (AI) exposes college students to careers in the state highway sector within Maryland’s integrative transportation system. Interns are placed in full-time assignments in one of MDOT SHA Offices, mentored by senior-level engineers, higher-level technicians, team leaders or colleagues. With the knowledge gained at their placements, and through shadowing, training, networking and hands on experience, interns make the real world - education connection. This is a paid Internship.

ADMINISTRATION INTERNSHIP PROGRAM (AI)

Currently accepting the following majors:

Accounting (ACT)	Computer Science (CS)	Information Technology (IT)
Business Management (BM)	Information Science (IS)	Human Resources (HR)
Finance (FNC)	Information Systems (ISYS)	

TRANSPORTATION INTERNSHIP PROGRAM (TI)

Currently accepting the following majors:

Aerospace Engineering (AE)	Geographical Sciences (GIS)	Mechanical Engineering (MCHE)
Architecture (ARCH),	Geography (GGPY)	Metallurgy Science (MTLRGS)
Biology (BLGY);	Geography – GIS Concentration	Natural Resource Management
Certified Welding Inspector	Geology (GLGY)	(NRM)
(CWI) or in Training	Geospatial Sciences (GIS)	Natural Science (NSC)
Civil Engineering (CE)	Government and Politics (GVP)	Open Channel Hydraulics (OCHYD)
Computer Science (CMS)	Information Systems (ISYS)	Planning (PLN)
Construction Management (CM)	Information Science (IS)	Public Policy (PP)
Earth Science (ES)	Information Technology (IT)	Stream and Wetland Science (SWS)
Electrical Engineering (ELCE)	Human Resources (HR)	Traffic Engineering (TRE)
Environmental Engineering (ENVE)	Hydrology (HYD)	Transportation Engineering (TE)
Environmental Planning (ENVP)	Landscape Architecture (LSA)	Urban Planning (UBP)
Environmental Science (ENVS)	Materials Engineering (MTE)	Urban Planning/Regional/
Environmental Science and Policy	Materials Science & Engineering	Community Planning (UBPRCP)
(ENVSP)	(MTLS)	Welding (WLD)
Environmental Science and	Mathematics (MTH)	Welding Engineering (WLDE)
Technology (ENVST)	Mechanical Engineering (MCHE)	Water Resources (WR)

NOTE: Students who are underclassmen at a school that offer a program as a major and can not specify the major until they are upperclassmen are also eligible.

▪ **TO APPLY** - Email the following application package by **March 1, 2020**:

1. **Cover letter/Letter of interest**
2. **Complete the [2020 Intern Questionnaire](#) (Click this link)**
3. **Resume**
4. **Unofficial transcript (include current coursework)**

Note: **Application materials MUST be combined in the specified order into a single pdf file identified with your first initial/last name — e.g., JSmith.pdf**

Send your application packages to SHAInternships@mdot.maryland.gov

For Internships currently available see page 2 of this document.

Internships Currently Available

ADMINISTRATION INTERNSHIP PROGRAM (AI)

OFFICE AND MAJORS ACCEPTED

(Note: Ctrl + Click on the OFFICE will bring you to the Office page information)

OFFICE OF AUDITS (OA)

| ACT | BM W/ACT |

OFFICE OF MATERIALS TECHNOLOGY (OMT)

- Human Resources | HR | Various |
- Materials Management Division | CS | ISYS | IS | IT |

OFFICE OF INFORMATION TECHNOLOGY (OIT)

- Software Development Section (SDS) | ACT | BM | FNC | IT |

OFFICE OF CONSTRUCTION

- e-Construction
 - Construction Support Division
-

TRANSPORTATION INTERNSHIP PROGRAM (TI)

OFFICE AND MAJORS ACCEPTED

(Note: Ctrl + Click on the OFFICE will bring you to the Office page information)

DISTRICT 1 (D-1)

- Traffic | CE |

DISTRICT 2 (D-2)

- Project Development | CE |

DISTRICT 4 (D-4)

- Project Development | CE |

DISTRICT 5 (D-5)

- Project Development | CE |
- Traffic | CE |

DISTRICT 7 (D-7)

- Traffic | CE |

OFFICE OF CHART & ITS DEVELOPMENT

| AE | CE | CMS | ENVE | ELCE | UBP | PP | GVP |

- Connected & Automated Trans. Sys. Division

OFFICE OF CONSTRUCTION (OOC)

- Construction Inspection | CE | CM |
(Positions available throughout Maryland)

OFFICE OF ENVIRONMENTAL DESIGN (OED)

| BLGY | ENVE | ENVS | ENVSP | ENVST | NRMES | NSC |

- Environmental Compliance Division
- Environmental Programs Division
- Landscape Programs Division
- Quality Assurance Division
- Water Programs Division

OFFICE OF HIGHWAY DEVELOPMENT (OHD)

| CE | ENVE | UBP |

- Design Technical Service Division
- Highway Design Division
- Highway Hydraulics Division
- Innovative Contracting Division Performance Design Team

OFFICE OF MAINTENANCE (OOM)

| ARCH | CE | CM | ELCE | MTH | MCHE |

- Facility Management
- Highway Maintenance Division

OFFICE OF MATERIALS TECHNOLOGY (OMT)

| CE | GLGY | GIS | ISYS | IS | IT | CMS | MTE | MTLN | TE | UBP | MCHE | MTLRGS | WLDE | CWI |

- Concrete Technology Division
- Engineering Geology Division
- Field Exploration Division
- New Products and Research Team (all Eng. disciplines accepted)
- Pavement and Geotechnical Division
- Soils and Aggregate Technology Division
- Structural Materials & Pavement Markings – Pavement Marking Team
- Structural Materials & Pavement Markings – Structural Materials Metals & Coatings

OFFICE OF PLANNING AND PRELIMINARY ENG. (OPPE)

| CE | GIS | ENVP | UBP | UBPRCP |

- Environmental Planning Div. and Project Mgmt. Div.
- Travel Forecasting and Analysis Division
- Regional Intermodal Planning Division

OFFICE OF STRUCTURES (OOS)

| CE | HYD | OCHYD | WR |

- Structures Remedial Engineering Division
- Structures Engineering Division
- Structures Design/Struc. Hydr.

OFFICE OF TRAFFIC AND SAFETY (OOTS)

| CE | TE | TRE |

- Traffic Engineering Design Division (TEDD)
 - Traffic Development & Support Division (TDSD)
 - The Director's Office (DO)
-

OFFICE OF AUDITS (OA)

LOCATION: MDOT SHA Headquarters, 707 North Calvert Street, Baltimore 21202

Office of Audits provides an important element of the systems of internal control at MDOT SHA that reflect management's concern for the protection of Agency assets, maintenance of high standards of fiscal integrity, and business conduct. The Office of Audits is composed of two divisions: Internal and External.

Internships currently available: Office of Audits (OA)

The Internal Audits Division determines whether the organization's network of risk management, control, and governance processes, as designed and represented by management, is adequate and functioning. Opportunities for improving internal control may be identified during audits.

The External Audits Division performs financial and compliance audits, reviews, and evaluations of contracts and payments to organizations such as professional engineering companies, construction contractors, utility companies, etc. that do business with MDOT SHA.

MAJOR REQUESTED: Accounting or Business Management with a concentration in accounting.

DIVISION ACCEPTING RISING: Junior Seniors

ADDITIONAL REQUIREMENTS: Must have intermediate/advanced skills in MS Word and Excel, as well as excellent communication and professional writing skills.

OBJECTIVE: The Intern will have the opportunity to obtain an understanding of both the internal and external audits and will participate in performing these audits.

The Intern will also have the opportunity to work with different offices throughout MDOT SHA as part of the audit process.

JOB DUTIES: Assist the Lead Auditor in performing testing for the audits being performed.

Learn how to utilize the audit software utilized in the office for completion of audit workpapers.

INTERACTION: Depending on the audit, the Intern will have the opportunity to interact with other offices, the districts, and maintenance shops as the audit testing is being performed.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** Perferable but not required

Travel would be required for meetings outside of the Office location.

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OFFICE OF INFORMATION TECHNOLOGY (OIT)

LOCATION: MDOT SHA Headquarters, 707 North Calvert Street, Baltimore 21202

The SHA Office of Information Technology provides strategic direction and coordination of information technology. This includes soliciting and prioritizing system development activities, performing technology research and planning, and the acquisition, development and maintenance of major IT systems.

Internships currently available: Software Development Section (SDS)

Acquisition, development and maintenance of major business systems, based on client/server architecture, and Internet/Intranet applications

MAJOR REQUESTED: Information Technology

DIVISION ACCEPTING RISING: Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Concentration in configuration management a plus.

NON ACADEMIC: Experience writer, ability to troubleshoot systems.

OBJECTIVE: The focus of this positions is IT Configuration Management and Quality Assurance. The intern will have the opportunity to obtain an understanding of IT configuration management processes and participate in the development of best practices and standard operating procedures as a team member.

JOB DUTIES: Research and document IT quality assurance practices; test websites or software for problems, document any issues and ensure errors are corrected. Intern will work with software tools such as TFS, Salesforce and .NET applications.

INTERACTION: The intern will have the opportunity to work with the MDOT SHA OIT Configuration Manager, the Assistant Director of Software Development, various Senior Managers and/or business stakeholders and all other divisions with OIT.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

Internships currently available: Software Development Section (SDS)

Acquisition, development and maintenance of major business systems, based on client/server architecture, and Internet/Intranet applications

MAJOR REQUESTED: Information Technology or Business – Accounting, Management, Finance, etc

DIVISION ACCEPTING RISING: Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Concentration in business, accounting, etc a plus

NON ACADEMIC: Experienced writer, attention to detail and excellent listening skills, ability to analyze business processes and translate into IT functional requirements for new systems and maintenance of existing systems.

OBJECTIVE: The focus of this positions is IT Business Analysis. The intern will have the opportunity to obtain an understanding of IT business analysis processes and participate in the development of functional system requirements as an IT project team member.

JOB DUTIES: Research and document IT business processes using SHA OIT software such as Visio, MS Suite while performing JAD sessions with business partners. Intern will work with software tools such as TFS, Salesforce and .NET applications.

Interaction: The intern will have the opportunity to work with the MDOT SHA OIT staff, various business staff including engineers and finance staff, the Assistant Director of Software Development, various Senior Managers and/or business stakeholders and all other divi

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

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OFFICE OF MATERIALS TECHNOLOGY (OMT)

LOCATION: MDOT SHA Hanover Complex, 7450 Traffic Drive, Hanover 21076

The Office of materials Technology assures that the quality of the materials used on the Maryland roadway system are designed, produced and placed to meet the system preservation, safety and environmental needs of the State's communities.

Internships currently available: Human Resources (HR)

General Human Resources functions including transactions, benefits, recruiting etc.

MAJOR REQUESTED: Human Resources, Various

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

NON ACADEMIC: Real world experience interfacing with employees and learning the types of employee situations and scenarios that an HR Professional encounters.

OBJECTIVE: The focus of this position is to perform general Human Resources functions. The intern will assist in HR transactions, obtain an understanding of the types of situations involved in Human Resources and the ability to work with a wide variety of people in different job roles.

JOB DUTIES:

- Learn and understand HR transaction and interpret policies and procedures for state and local government.
- The Intern will have the opportunity to help streamline processes and create data bases for more efficient tracking.
- Send out important HR related information to OMT staff.
- Maintain confidential employee information including, HIPAA, FMLA regulations and THRSR Polices
- Prepare recruitment packages, prepare for interviews and interface with internal and external customers.

Interaction: The intern will work with the HR team and all divisions within OMT and will have the opportunity to interact with employees of different levels throughout the organization.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Travel would be required for meetings outside of the Office location.

Internships currently available: Materials Management Division (MMD)

The division is responsible for district support, independent assurance audits and the Materials Management System. Area materials engineers are the first point of contact for district personnel. Statewide access permit projects are also supervised by the division. Project Material Clearance is coming under this division.

MAJOR REQUESTED: Information Systems, Information Science, Information Technology, Computer Science

DIVISION ACCEPTING RISING: Junior Senior Graduate

ADDITIONAL REQUIREMENTS: 40 hours per week, concentration with database management systems, query building and reporting using MS Office suite.

NON ACADEMIC: Excellent written and verbal communication skills

OBJECTIVE: The intern will participate in the data entry, analysis, review and preparation of various material testing and inspection reports by utilizing a web-based Material Management System (MMS) and other in-house built applications that directly support the Office of Materials Technology (OMT) business processes. The intern will also participate in the review of various database design activities including but not limited to troubleshooting existing bugs/fixes, logical design of a new database structure, review of existing and new logical designs and application development in an MS Access platform to support the material acceptance and clearance business processes of OMT. The Materials include soils, aggregates, asphalt, concrete, cement, structural materials and pavement markings etc.

JOB DUTIES: The intern will work under the direct supervision of the Materials Management Systems Team leader. All work will be performed in an office setting by using various computerized tools including Microsoft Office Suite products (MS Access, MS Excel, MS Word etc.) and other database related tools such as SQL Developer. The ideal intern should possess strong data management, analysis and reporting skillsets by using the tools mentioned above. In addition, the ideal candidate should possess excellent written and verbal communication skills to effectively and efficiently accomplish assignments by collaborating with other MMS team members, OMT lab quality personnel and customers from other MDOT SHA offices.

Interaction: OMT lab quality personnel, customers from other MDOT SHA offices and outside contractors, database administrators, software developers, Civil Engineers.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

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OFFICE OF CONSTRUCTION (OOC)

LOCATION: 7450 Traffic Drive, Hanover, MD 21076

Office of Construction is composed of six major teams to support SHA's Construction Program. These are the Directors Office, Construction Support Division, Engineering Support Division, Utilities, Contract Award Division and Contract Payment Division. The Office of Construction's major areas of responsibility include: processing and execution of contracts from bid to award, management of supplemental inspection contracts, statewide training, coordinating statewide utilities, claims avoidance/resolution, processing change orders, processing contract payments, administering the construction management system, and establishment of policies/procedures.

Internships currently available: Construction Support Division (CSD)

The Office of Construction's Construction Support Division includes but is not limited to management of supplemental inspection contracts, statewide training and the statewide Partnering program.

MAJOR REQUESTED: [Information Technology](#)

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Seniors Graduate

NON ACADEMIC:

ADDITIONAL REQUIREMENTS: [SharePoint experience](#)

OBJECTIVE: The focus of this position will be to assist the Construction Support Division with improving their internal tracking system and processes so that numerous tasks not done multiple times through the use of fillable forms, digitizing into SharePoint as an example.

JOB DUTIES: Develop web applications for the Construction Support Division such as fillable forms /databases etc.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

OFFICE OF CONSTRUCTION (OOC)

LOCATION: 7450 Traffic Drive, Hanover, MD 21076

Office of Construction is composed of six major teams to support SHA's Construction Program. These are the Directors Office, Construction Support Division, Engineering Support Division, Utilities, Contract Award Division and Contract Payment Division. The Office of Construction's major areas of responsibility include: processing and execution of contracts from bid to award, management of supplemental inspection contracts, statewide training, coordinating statewide utilities, claims avoidance/resolution, processing change orders, processing contract payments, administering the construction management system, and establishment of policies/procedures.

Internships currently available: E-Construction Division (ECD)

e-Construction is the use & application of digital tools to improve the process of delivering & operating the built environment. We provide a more safe, efficient, more collaborative & ensuring we get a better outcome at every stage. Digital construction could take many forms, it might be simple tolls that make communication easier & reduce the need for travel. It could be the improvement or automation of a manufacturing process, advancements in plant or materials, cloud-based computing & filing systems & software applications. Digital tools & technologies around us we've come to see them be applied in the construction industry & we've seen them enable innovations from within the industry itself.

MAJOR REQUESTED: [Information Technology](#)

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Seniors Graduate

NON ACADEMIC: [SharePoint experience](#)

OBJECTIVE: The focus of this position will be to assist the Office of Construction with improving their internal tracking system and processes so that numerous tasks not done multiple times through the use of fillable forms, digitizing into SharePoint as an example.

JOB DUTIES:

- Develop web applications that would include fillable forms.
- Capturing Business Requirements and Current.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

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DISTRICT 1 (D-1)

LOCATION: 660 West Road, Salisbury, MD 21802

Engineering District 1, responsible for the Lower Eastern Shore—Dorchester, Wicomico, Somerset and Worcester Counties.

Internships currently available: Traffic (TRF)

Traffic Engineering, Operations and Safety within District 1.

MAJOR REQUESTED: [Civil Engineering](#)

DIVISION ACCEPTING RISING: [Freshman](#) [Sophomore](#) [Junior](#) [Seniors](#) [Graduate](#)

NON ACADEMIC: Experience with Microsoft Office (Word, Excel, Access) is preferred.

JOB DUTIES:

- Investigate and respond to inquiries concerning various aspects of highway safety and traffic operations sent in by citizens, various elected officials, Secretary of Transportation and the Administrator, etc. via phone, email or letter.
- Attend various public informational and technical meetings related to SHA design and construction projects. This may include reviewing and commenting on Traffic Signal, Signing, Marking, or Temporary Traffic Control Plans for these projects.
- Assist in conducting Traffic Analysis and Traffic Operational Studies. This may include reviewing crash patterns along our roadways or calculating the Level of Service (LOS) of a roadway and developing improvements recommendations.
- Perform Traffic Signal Warranting Studies
- Conduct Sign Inventories and conduct speed studies
- Evaluate Work Zone hours using lane closure analysis program
- Perform before and after studies of low-cost improvement sites.
- Maintain and update computerized reports used by traffic engineers

INTERACTION: The intern will have the opportunity to work with the Office of Traffic and Safety and District 1-Maintenance, Project Development and Construction.

LOCAL TRAVEL REQUIRED: **Yes** **RELIABLE VEHICLE REQUIRED:** **NO**

Travel to safety improvement locations as needed.

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DISTRICT 2 (D-2)

LOCATION: 615 Morgnec Road, Chestertown, MD 21620

District 2 Office encompassing SHA operations in Caroline, Cecil, Kent, Queen Anne's, and Talbot Counties.

Internships currently available: Project Development

District 2 Project Development is responsible for the design and preparation of system preservation projects in Caroline, Cecil, Kent, Queen Anne and Talbot County, Maryland. System preservation projects include: Intersection Capacity Improvements; Safety and Spot Improvements; Sidewalk and Drainage Improvements, Safety and Resurfacing, and District Engineer's Quick Action. In addition, Project Development includes the District Utility Section responsible for utility design review and coordination and inspection of construction occurring through Utility and Access Management (developer) permits.

MAJOR REQUESTED: [Civil Engineering](#)

DIVISION ACCEPTING RISING: [Freshman](#) [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

NON ACADEMIC: Use of Microstation, Microsoft Office, good oral and written communication skills.

ADDITIONAL REQUIREMENTS: [Must have a valid State driver's license and a reliable vehicle. Field work may be required.](#)

OBJECTIVE: Develop experience, skills, and understanding of highway project development from the concept phase, through development of design plans, special provisions, and engineering cost estimates.

JOB DUTIES: Learn basic roadway and geometric design (horizontal and vertical alignments, ADA pedestrian and bicycle facilities, storm drain design, pavement design, roadside barriers design, etc.) using MicroStation and InRoads software through on-the-job training

Learn cost estimating, scheduling, project management and permit submission for both in-house and consultant led design projects

Assist with field investigations and plan reviews

Develop milestone reports as well as Sidewalk/Bicycle Waivers

Assist with project milestone distribution/submittals and attend public informational meetings

Review utility plans and assist in utility inspections

INTERACTION: Attending project meetings in the SHA Maintenance Shops, attending public information meetings, meeting with representatives of other SHA Divisions and Offices.

LOCAL TRAVEL REQUIRED: [Yes](#) **RELIABLE VEHICLE REQUIRED:** [Yes](#)

Travel to project sites and SHA Maintenance Shops within Caroline, Cecil, Kent, Queen Anne's, and Talbot Counties. PLEASE NOTE: The position is located on the Eastern Shore of Maryland, near Delaware, and is not reasonably commutable from the Baltimore or DC area.

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DISTRICT 4 (D-4)

LOCATION: Baltimore & Harford Co., 320 West Warren Road, Hunt Valley 21030

Internships currently available: Project Development (PD)

District 4 Project Development is responsible for System Preservation projects Baltimore and Harford County and is comprised of approximately 2,297 lane miles of which 440 lane miles are interstates. These projects are part of the following project programs: Intersection Capacity Improvements; Safety and Spot Improvements; Safety and Resurfacing; Bicycle and Sidewalk Retrofit; and District Engineer's Quick Action. In addition, Project Development includes a separate Utility review and permit section covering all utility projects and repairs on State of Maryland roadways within District 4.

MAJOR REQUESTED: [Civil Engineering](#)

DIVISION ACCEPTING RISING: [Freshman](#) [Sophomore](#) [Junior](#) [Senior](#)

NON ACADEMIC: Experience using Microsoft Office software, good time management and analytical thinking skills, and valid driver's license and willingness to perform field work.

OBJECTIVE: An intern in Project Development would work under and assist an experienced engineering team leader, and one or more other civil engineers and technicians of varied experience.

JOB DUTIES:

- Learn basic roadway and geometric design (horizontal and vertical alignments, ADA pedestrian and bicycle facilities, pavement design, roadside barriers, etc.) using MicroStation and InRoads software through on-the-job training.
- Learn cost estimating, scheduling, project management and permit submission for both in-house and consultant led design projects.
- Accompany team members on site visits and partnering meetings for projects in construction.
- Interact with additional SHA divisions to understand their support roles in the project development process.
- Attend project milestone meetings and review project documents and provide comments.
- Assist in utility plan reviews and attend inspections.

INTERACTION: Our office utilizes outside engineering firms for design and assessment activities and the intern will get to interact with them during project updates and field meetings.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

Travel may need to visit project locations and field offices with other staff members.

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DISTRICT 5 (D-5)

LOCATION: 138 Defense Highway, Annapolis, MD 21401

Internships currently available: Project Development (PD)

District 5 Project Development is responsible for System Preservation projects Anne Arundel, Calvert, Charles and St. Mary's Counties. These projects are part of the following project programs: Intersection Capacity Improvements; Safety and Spot Improvements; Safety and Resurfacing; Bicycle and Sidewalk Retrofit; and District Engineer's Quick Action. In addition, Project Development includes a separate Utility Office.

This office also issues lane closure permits for utility/district office permit work and approves lane closure permits for the district utility section, as well as bridge and Office of Traffic & Safety work in the district.

MAJOR REQUESTED: [Civil Engineering Major with Traffic/Transportation Engineering focus.](#)

DIVISION ACCEPTING RISING: Junior Seniors Graduate

NON ACADEMIC: Experience with Microsoft Office Suite. Written and verbal communication skills.

ADDITIONAL REQUIREMENTS: [Valid driver's license and reliable vehicle.](#)

OBJECTIVE: An intern in Project Development would work under and assist an experienced engineering team leader, and one or more other civil engineers and technicians of varied experience.

JOB DUTIES:

- Learn basic roadway and geometric design (horizontal and vertical alignments, ADA pedestrian and bicycle facilities, pavement design, roadside barriers, etc.) using MicroStation and InRoads software through on-the-job training.
- Learn cost estimating, scheduling, project management and permit submission for both in-house and consultant led design projects.
- Accompany team members on site visits and partnering meetings for projects in construction.
- Interact with additional SHA divisions to understand their support roles in the project development process.
- Attend project milestone meetings and review project documents and provide comments.
- Assist in utility plan reviews and attend inspections.

INTERACTION: The District 5 geographical area of responsibility will allow interns to be involved in a mix of urban, suburban, and rural transportation issues. Interns will also interface with other Maryland Department of Transportation (MDOT) agencies in order to resolve design challenges involving hydraulics, environmental, structural, traffic and geotechnical engineering

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** Yes

Travel throughout Anne Arundel, Calvert, Charles, and St. Mary's Counties for daily field work and occasional travel to Baltimore City for meetings.

DISTRICT 5 (D-5)

LOCATION: 138 Defense Highway, Annapolis, MD 21401

Internships currently available: Traffic (TRF)

District 5 Traffic Office provides traffic engineering and access management services to enhance safety and mobility along all State highways in Anne Arundel, Calvert, Charles, and St. Mary's Counties.

MAJOR REQUESTED: [Civil Engineering Major with Traffic/Transportation Engineering focus.](#)

DIVISION ACCEPTING RISING: Junior Seniors Graduate

NON ACADEMIC: Experience with Microsoft Office Suite. Written and verbal communication skills.

ADDITIONAL REQUIREMENTS: [Valid driver's license and reliable vehicle.](#)

OBJECTIVE: This is a traffic engineering intern position. The intern will shadow veteran engineers in applying engineering theories, principles, and standards to a variety of transportation projects.

JOB DUTIES:

- Assist in various traffic engineering analyses (e.g. signal warrant analysis, radar speed studies, queuing analysis, etc.) and develop solutions that will improve safety, capacity, and traffic operations by collecting data, performing field work, ordering traffic counts, requesting crash data, and computer modeling using Synchro/SimTraffic software.
- Develop minor geometric design plans, condition diagrams, and work orders using CADD software such as Microstation.
- Review traffic impact studies (TIS) prepared for planned residential or commercial development projects. Ensure developer plans reflect approved mitigation measures and are consistent with the Access Management Manual guidelines.
- Review various design plans (e.g. signal design, traffic control plans, roundabout design, etc.) to ensure the plans meet all standards and regulations and the proposed improvements are consistent with work listed in Office of Traffic and Safety's electronic design request (eDR) database.
- Conduct the field review of school zones and isolated intersections to ensure that all existing traffic signals, signs, and pavement markings comply with the Manual on Uniform Traffic Control Devices (MUTCD) and that they are visible to the driver. This also includes ensuring the proper operations of traffic signal timing plan.
- Review accidents which result in a fatality or which involve a pedestrian or cyclist to determine whether the roadway was a contributing factor and recommend improvements accordingly.
- Attend milestone meetings and review documents for major planning and construction projects by the Office of Planning and Preliminary Engineering and the Office of Highway Development.
- Manage the Customer Care Management System (CCMS) database and provide direct contact with our customers via phone, email or in-person regarding their traffic concerns.

INTERACTION: The District 5 geographical area of responsibility will allow interns to be involved in a mix of urban, suburban, and rural transportation issues. Interns will also interface with other Maryland Department of Transportation (MDOT) agencies in order to resolve traffic issues at airports, bridges, transit, and toll facilities.

LOCAL TRAVEL REQUIRED: Yes RELIABLE VEHICLE REQUIRED: Yes

Travel throughout Anne Arundel, Calvert, Charles, and St. Mary's Counties for daily field work and occasional travel to Baltimore City for meetings.

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DISTRICT 7 (D-7)

LOCATION: 5111 Buckeystown Pike, Frederick, MD 21704
Carroll, Frederick, and Howard Counties

Internships currently available: Traffic (TRF)

MAJOR REQUESTED: [Civil Engineering](#)

DIVISION ACCEPTING RISING: [Seniors](#)

NON ACADEMIC: Experience working on computers and in an office setting

ADDITIONAL REQUIREMENTS: [Must have a valid State driver's license](#)

OBJECTIVE: Assist the District 7 Traffic Engineering staff by performing traffic studies, plan review, etc.

JOB DUTIES: Perform field reviews and prepare reports

INTERACTION: Meet with construction personnel and internal customers from other SHA offices

LOCAL TRAVEL REQUIRED: [Yes](#) **RELIABLE VEHICLE REQUIRED:** [Yes](#)
Travel to meetings and construction job sites

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OFFICE OF CHART & ITS DEVELOPMENT (CHART)

LOCATION: MDOT SHA Hanover Complex, 7491 Connelley Drive, Hanover 21076

We are the core advanced traffic management center for MDOT SHA and lead the agency's Transportation Systems Management & Operations, which includes the Connected & Automated Vehicles (CAV) program. We manage and respond to crashes, planned major events, roadway emergencies, weather etc and use our subject matter experts to actively prepare the agency for new technologies and Intelligent Transportation Systems (ITS).

Internships currently available: Connected & Automated Trans. Sys. Div. (CATS)

CATS actively investigate technologies, policies, and new research, and generates strategies to prepare MDOT SHA for the integration of emerging transportation technologies and the inclusion of artificial intelligence to proactively manage the transportation network. The Division serves as the agency's subject matter expert on Connected & Automated Vehicles and promotes a collaborative environment with stakeholders to generate new mobility solutions.

MAJOR REQUESTED: [Aerospace Engineering](#); [Civil or Environmental Engineering](#); [Computer Science](#); [Electrical Engineering](#); [Urban Planning/Planning](#); [Public Policy](#); [Government and Politics](#)

DIVISION ACCEPTING RISING: [Junior](#) [Senior](#) [Graduate](#)

OBJECTIVE: The successful candidate will support CATS by applying their field of education to how emerging technologies will support a Connected & Automated Vehicle ecosystem, from engineering design to policy and socio-economic impact. The intern will have the opportunity to develop and possibly implement processes to facilitate the integration or deployment of technology within MDOT SHA, and possibly influence statewide integration of emerging technologies throughout our communities.

JOB DUTIES: Investigate technologies relating to Connected & Automated Vehicles and report on how they might be integrated into the agency; participate in webinars, calls, and meetings with a variety of stakeholders, including internal and external customers to MDOT SHA; generate strategies that may be used to support a safe, efficient, and equitable transportation network through the deployment of connected and automated vehicle technologies; assist the Division Chief; as applicable, lead consultants through a project task; create and/or present material to internal and external stakeholders.

Interaction: Significant external coordination, especially with other Transportation Business Units also investigating CAV initiatives, including the Secretary's Office, MTA, MDTA, MVA, and MPA, and also local jurisdictions, including Cities, Counties, and MPOs; and finally, private sector companies who act as subject matter experts. Internally to MDOT SHA, likely interaction with the Office of Traffic and Safety, Office of Planning and Preliminary Engineering, Office of Policy and Research, Districts, and others, as needed.

LOCAL TRAVEL REQUIRED: [Yes](#) **RELIABLE VEHICLE REQUIRED:** [No](#)

Travel may occasionally be required for meetings outside of the Office location, with likely carpool situation.

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OFFICE OF CONSTRUCTION (OOC)

LOCATION: MDOT SHA Hanover Complex, 660 West Road, Salisbury 21802

The Office of Construction (OOC): Provides oversight statewide for SHA's Construction Program, sets policy and support all SHA offices that contribute to building a safe, mobile highway system that enhances Maryland's communities, economy and the environment.

Internships currently available: Construction Inspection (CID)

Note: Positions Available throughout the State of Maryland

Construction Inspection Division (CID) consists of field construction inspection staff which includes technicians and engineers responsible for the thorough inspection and documentation of work performed by contractors.

MAJOR REQUESTED: [Civil Engineering or Construction Management Majors](#)

DIVISION ACCEPTING RISING: [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Must commit to 40-hours per week. Must have a valid Drivers License and reliable vehicle.

OBJECTIVE:

- To learn or improve and expand inspection skills in Construction.
- To learn how to read and interpret contract documents and related reference materials to assure quality construction.
- To learn how to read and interpret construction plans.
- To learn how to use of proper construction inspection methods & techniques.
- To learn how to conduct basic testing methods of materials used in highway and bridge construction.
- To learn how to Perform simple drafting duties to include basic engineering computations; prepare charts, tables and graphs for use in reports for the proper documentation of construction projects.

JOB DUTIES: This program offers paid hands-on experience while working outdoors with CID project engineers. The work will entail inspecting bridges, roads and highways to ensure contract specifications are followed throughout SHA's seven districts. The Transportation Intern functions as a Construction Inspector.

This is the entry level of work performing a variety of technical engineering support tasks. Specific duties depend on job assignments and may include, in a learning capacity: inspecting construction and maintenance projects; performing tests on soils and materials; evaluating methods for maintenance operations; serving on a survey crew; contract specifications and construction notes; calculating quantities for construction projects and maintenance activities; reading plans, maps, or right of way plats; and collecting and recording traffic and planning data.

Interns work under the continuing supervision of an engineer or higher-level engineering technician. Working conditions vary, depending on assignments; and are performed in the office or in the field during survey and inspection assignments with exposure to varying weather conditions and rough terrain with requirements for walking, standing, bending, and lifting loads weighing up to 40 lbs. This position may also be required to work nights and weekends. This work may require working in close proximity with traffic on Maryland highways; requires hand/eye coordination in the efficient operation of computers and other office machines, survey and other equipment.

INTERACTION: The Intern will interact with the public, contractors, state employees daily. The Intern may also participate in construction meetings such as pre-construction, partnering, pre-pour (concrete)...

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** Yes

This position will be assigned task(s) in the field on road, highway or bridge construction project. During the day the intern must have a reliable vehicle in order to get from the field office to different tasks during the day and be able to get on to and out of a task site safely. Student's in the Construction Inspection program will be reimbursed for both commute and job miles.

OFFICE OF ENVIRONMENTAL DESIGN (OED)

LOCATION: MDOT SHA Headquarters, 707 North Calvert Street, Baltimore 21202

Office of Environmental Designs mission is to protect, restore, and enhance the natural and built environmental associated with Maryland's highway system. It uses core values (Integrity, Accountability, Teamwork and Innovation) to support its vision to be a leader in environmental design, compliance & stewardship.

Internships currently available: Environmental Compliance Division (ECD)

The Environmental Compliance Division (ECD) ensures that all SHA facilities and operations achieve sustainable multi-media environmental compliance with State, Federal, and Local environmental permits, laws and regulations.

MAJOR REQUESTED: Environmental Science and Technology, Natural Science, Environmental Engineering, Environmental Science and Policy, Landscape Architecture (LSA) and Geospatial Sciences (GIS)

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Must possess a valid driver's license

NON ACADEMIC: Experience working with Computers, Office Environments, Developing Training, Multi-Media Communications

OBJECTIVE: The focus of this position is to develop and improve Environmental Trainings provided by the Environmental Compliance Division. This Intern will have the opportunity to learn about multi-media environmental compliance and the training that is necessary to be compliance at the Federal, State and Local levels.

JOB DUTIES: This Intern will review current trainings for areas to be improved. Additionally, they will work on the development of a new training for facilities on ways to complete Quarterly Visual Monitoring.

INTERACTION: This individual will work with other inside of OED and maintenance shops.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** Yes
May need to travel to meets at Shops besides Hanover

Internships currently available: Environmental Programs Division (EPD)

Core responsibilities include wetland/waterway permitting and wetland/stream mitigation

MAJOR REQUESTED: Environmental Science; Natural Resource Management; Biology, Earth Science, related sciences; Landscape Architecture (LSA); and Geospatial Sciences (GIS)

DIVISION ACCEPTING RISING: Junior Senior

ADDITIONAL REQUIREMENTS: 18 years or older, GIS knowledge and experience, SharePoint knowledge and experience.

NON ACADEMIC: Computer experience, comfortable working outdoors

OBJECTIVE: Focus of the position is wetland and waterway delineations, permitting, mitigation and data management. Intern will have the opportunity to gain understanding of Maryland wetland/waterway permit process for transportation projects and participate in the workflow electronically through Sharepoint.

JOB DUTIES: Assist with wetland delineations, data collection, permit related document preparation and mitigation monitoring. Organize digital files into a central location.

INTERACTION: Intern will have the opportunity to work with other offices such as Districts, OHD, OOS and OPPE.

LOCAL TRAVEL REQUIRED: Yes

RELIABLE VEHICLE REQUIRED: Yes

Travel required for field work across the state and meetings outside of SHA headquarters.

Internships currently available: Landscape Programs Division (LPD)

The Landscape Programs Division promotes an integrated vegetation management approach to roadside green assets and provides innovative, context sensitive landscape architectural design solutions, technical management and support for highway projects and roadsides. LPD promotes environmental stewardship, safety, functionality, and ensures compliance with all state, federal, and local laws and specifications to foster a fiscally responsible environmental ethic

MAJOR REQUESTED: Environmental Science and Technology; Natural Science; Environmental Engineering; Geospatial Sciences/Geography – GIS Concentration; Landscape Architecture (LSA); and Geospatial Sciences (GIS)

DIVISION ACCEPTING RISING: Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Must have a valid Driver's License, GIS experience, Graphic Communication experience

NON ACADEMIC: Experience working with Computers and Microsoft Office, Office Environments, Outdoor Field Environments (Roadsides, Forests, Meadows, Streams, Wetlands), Multi-Media and Graphic Communications

OBJECTIVE: The focus of this position is to provide the intern with the opportunity to learn about corridor management zones and environmental asset mapping (GIS based data capturing) while assisting LPD to inventory and support adaptive management/wetland mitigation sites, TMDL sites, and landscape asset management sites.

JOB DUTIES: The intern will assist LPD staff to capture field data, process field data using GIS software, develop corridor management mapping, and help identify service needs for OED Environmental Assets Statewide.

INTERACTION: The intern will work with LPD field personnel, inspectors, and potentially other divisions within OED (Environmental Programs Division and Water Programs Division).

LOCAL TRAVEL REQUIRED: Yes

RELIABLE VEHICLE REQUIRED: Yes

May need to travel throughout the state to perform field assessments and coordinate with LPD field personnel and inspectors.

Internships currently available: Quality Assurance Division (QAD)

QAD reviews and rates construction and maintenance projects for environmental compliance to meet Delegated Authority from Maryland Department of the Environment (MDE).

MAJOR REQUESTED: Civil or Environmental Engineering; Environmental Science and Policy; Construction Management; Landscape Architecture (LSA); and Geospatial Sciences (GIS)

DIVISION ACCEPTING RISING: Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: 40 hours/week, valid driver's license, vehicle, 18 years or older.

NON ACADEMIC: Computer knowledge

OBJECTIVE: The intern will have the opportunity to obtain first-hand knowledge of environmental compliance and how it is integrated into the construction and maintenance process.

JOB DUTIES: To review projects for environmental compliance and assess ratings. Enter, compile and monitor data and reports, participate in on-line training, attend project meetings, update and enhance current on line related program documents.

INTERACTION: Interact with construction and maintenance projects and related design, regulatory, permitting, construction, maintenance offices and contractor representatives.

LOCAL TRAVEL REQUIRED: Yes

RELIABLE VEHICLE REQUIRED: Yes

QAD is a statewide inspection compliance program where traveling from project to project is necessary.

Internships currently available: Water Programs Division (WPD)

The WPD team develops and applies water resource science through engineering to reduce pollutants to local waterways, improve aquatic habitat, and to ultimately restore the health of the Chesapeake Bay. Pollutant removal strategies employed by WPD include stream restoration, stormwater management, tree planting, and various operational activities (street sweeping, inlet cleaning, etc.).

MAJOR REQUESTED: Civil Engineering; Geographical Sciences (GIS); Construction Management; Environmental Engineering; Environmental Science and Policy; Environmental Science and Technology; Stream and Wetland Science; Landscape Architecture (LSA); and Geospatial Sciences (GIS)

DIVISION ACCEPTING RISING: Junior Senior Graduate

OBJECTIVE: Interns will be integrated into a multi-disciplinary team within one of the fastest growing and important facets of engineering within the Chesapeake Bay area. The goal of WPD's intern program is to expand intern job experience while gaining program efficiency through intern support and innovative ideas.

JOB DUTIES: Interns will support the WPD team through project planning, engineering review, standards development, administrative tasks, construction support, and potentially self-managed small projects.

INTERACTION: This position will have the opportunity to work with several offices/divisions that collaborate to deliver our program. Subjects include water resource engineering, environmental permitting, landscape architecture, etc.

LOCAL TRAVEL REQUIRED: No

RELIABLE VEHICLE REQUIRED: No

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OFFICE OF HIGHWAY DEVELOPMENT (OHD)

LOCATION: MDOT SHA Headquarters, 707 North Calvert Street, Baltimore 21202

The Office of Highway Development (OHD) is responsible for delivery of the Administration's Capital Program for construction and is divided into several operational divisions, including the Highway and Community Design Divisions, Highway Hydraulics Division, Design Technical Services Division, Plan Review Division and the Plats and Surveys Division.

Internships currently available: Design Technical Service Division (DTSD)

The Design Technical Services Division provides technical guidance to MDOT SHA and maintains OHD's computer equipment and web applications including CADD and GIS.

MAJOR REQUESTED: [Civil Engineering](#)

DIVISION ACCEPTING RISING: [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Must be committed to 40-hours per week, must be 18 years old, must be able to provide transportation to work by himself/herself.

NON ACADEMIC: Experiencing using Microsoft Word, Excel, Outlook

OBJECTIVE: The focus of this position is specifications and standards. The intern will have the opportunity to obtain experience of working on specifications and standards, assisting the development of the yearly specification book, updating standards.

JOB DUTIES: Review and edit specifications, work with others to manage specification files, update standards, assist Team Leader for any specification related work

INTERACTION: The intern will have the opportunity to work with the MDOT SHA's Office of Highway Development, Design Technical Service Division.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

Internships currently available: Highway Design Division (HDD)

The Highway Design Division is responsible for the design, project management, and advertisement of major projects, such as new roadways, major reconstruction or lane additions on highways, or new interchanges, as well as the system preservation projects such as new roundabouts, intersection improvements or minor geometric improvements. The HDD is also responsible for the traffic barrier program and maintaining technical expertise of the office with regards to highway design.

MAJOR REQUESTED: [Civil Engineering](#)

DIVISION ACCEPTING RISING: [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Focus of study on transportation engineering preferred.

OBJECTIVE: The intern will have the opportunity to gain hands on experience in the project development and project management of large capital projects while learning from experts in the field and assisting staff.

JOB DUTIES: Attendance at partnering meetings, meeting minutes, and completion of contractor requests for information; Site reviews/field work/data retrieval; plan sheet drafting; use of Book of Standards; review of consultant scope of work; development of cost estimates; request letter/memo drafting; locate as-built plans; report editing; correspondence development; plan development, reproduction and distribution; development of waivers (bike/ADA); specification development; development of Maintenance of Traffic (MOT) concepts.

The selected candidate for this position may utilize Microstation and InRoads, as required, to assist in the development of engineering drawings and plans and may also utilize Microsoft Word, Excel, and PowerPoint programs in their work responsibilities.

INTERACTION: The intern will have the opportunity to work with MDOT SHA's District Offices and other offices during the course of their day.

LOCAL TRAVEL REQUIRED: Yes

RELIABLE VEHICLE REQUIRED: TBD

Internships currently available: Highway Hydraulics Division (HHD)

The Highway Hydraulics Division (HHD) is responsible for engineering, inspection, and project management services for drainage, storm water management (SWM), erosion and sediment control (ESC), stream stabilization, and small stream crossings for The State Highway Administration (SHA) facilities and is responsible for ensuring permitting related to National Pollutant Discharge Elimination System (NPDES), SWM, and ESC requirements.

MAJOR REQUESTED: [Civil Engineering](#), [Environmental Engineering](#)

DIVISION ACCEPTING RISING: [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Additional classes in any of the following: Water resources concentration, fluids, hydraulics, hydrology, streams, GIS

OBJECTIVE: The HHD is looking for a student with a Civil or Environmental Engineering major and interest in water resources with regards to transportation, to provide engineering design, drafting, and support for these types of projects.

JOB DUTIES:

- Field work to complete outfall inspections to support compliance with the NPDES, aid drainage complaint investigations, roadway project design criteria and verify construction activities of projects managed by the Division.
- Using computer software such as Microstation, InRoads Storm and Sanitary, StormCAD, excel, TR-55, and WinTR-20 to support engineers in storm drain and culvert design; water quality facility design, SWM best management practices, ESC facilities and stream restoration.
- Project submission support to various reviewing authorities; geographic information systems (interns would work on GIS efforts related to identifying drainage facilities and its condition to develop priority of repair).
- Project review for compliance with environmental regulations; and database management related to HHD permit processes.
- Assist with SHA's ESC Training and Certification Program or PRD Storm Water Management Design, Map and Plans Training.

INTERACTION: Coordination within the OHD may be possible to do a more complete roadway design for the group project. In addition, staff working on the SWM Asset program will have many opportunities to coordinate with GIS professionals in the Data Governance Divisio

LOCAL TRAVEL REQUIRED: Yes

RELIABLE VEHICLE REQUIRED: No

Field inspections and site visits will be part of the internship to expose students to a wide variety of facilities and experience.

Internships currently available: Innovative Contracting Division (ICD) Performance Design Team

Develops Performance based objectives for projects and programs. Leads concept development and preliminary design for all projects within the office. Performs Practical Design, constructability, and cost estimate reviews of all projects at all milestones and leads guidance and training in these areas.

MAJOR REQUESTED: [Civil Engineering](#), [Urban Planning](#)

DIVISION ACCEPTING RISING: [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Focus of study on transportation or construction engineering.

OBJECTIVE: Primary duties will include cost estimating and construction engineering. The intern will have the opportunity to gain hands on experience developing cost estimates for a variety of projects while learning from experts in the field and assisting staff with design support for projects in construction. The position will also assist in the development of guidance that is used throughout the organization. Secondary duties will include the development of conceptual designs using MicroStation and InRoads.

JOB DUTIES: Work with a multi-disciplinary team to review projects using both bid-based and cost-based estimating techniques and provide recommendations for cost adjustments. Refine guidance based on cost trends. Develop a prediction algorithm to better project inflation for construction projects. Research and apply innovative treatments to challenging design problems to ensure projects meet the needs for the least cost.

INTERACTION: The intern will have the opportunity to work with MDOT SHA's Office of Construction during the bid review process and with District construction staff and consultants as part of the design support for construction projects.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No
Travel to and from various MDOT SHA offices and field investigations will be beneficial.

Internships currently available: Innovative Contracting Division (ICD) Performance Design Team

Develops Performance based objectives for projects and programs. Leads concept development and preliminary design for all projects within the office. Performs Practical Design, constructability, and cost estimate reviews of all projects at all milestones and leads guidance and training in these areas.

MAJOR REQUESTED: Civil Engineering, Urban Planning

DIVISION ACCEPTING RISING: Junior Senior

ADDITIONAL REQUIREMENTS: Must be committed to 40-hours per week.

NON ACADEMIC: Experience working with Microsoft Office and MicroStation or AutoCAD

OBJECTIVE: The focus of this position is drafting and review of planning and construction documents. The Intern will have the opportunity to obtain an understanding of the project development process from planning to construction

JOB DUTIES: Develop concept plans and layouts, estimate construction quantities, review of construction plans for accuracy, potential constructability and utility conflicts, attend meeting for various projects, and perform field investigations.

INTERACTION: The Intern will have the opportunity to interact with members of all seven OHD divisions, Office of Planning and Preliminary Engineering, Office of Traffic and Safety, Office of Materials technology, and the Office of Construction.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No
Travel to and from various MDOT SHA offices and field investigations will be required.

Internships currently available: Innovative Contracting Division (ICD) Performance Design Team

Develops Performance based objectives for projects and programs. Leads concept development and preliminary design for all projects within the office. Performs Practical Design, constructability, and cost estimate reviews of all projects at all milestones and leads guidance and training in these areas.

MAJOR REQUESTED: Civil Engineering, Urban Planning

DIVISION ACCEPTING RISING: Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Focus of study on transportation or construction engineering.

OBJECTIVE: Primary duties will include cost estimating and construction engineering. The intern will have the opportunity to gain hands on experience developing cost estimates for a variety of projects while learning from

experts in the field and assisting staff with design support for projects in construction. The position will also assist in the development of guidance that is used throughout the organization. Secondary duties will include the development of conceptual designs using MicroStation and InRoads.

JOB DUTIES:

Working with a multi-disciplinary team, the intern may review projects using both bid-based and cost-based estimating techniques and provide recommendations for cost adjustments. Refine guidance based on cost trends. Develop a prediction algorithm to better project inflation for construction projects. Research and apply innovative treatments to challenging design problems to ensure projects meet the needs for the least cost.

INTERACTION: The intern will have the opportunity to work with MDOT SHA's Office of Construction during the bid review process and with District construction staff and consultants as part of the design support for construction projects.

LOCAL TRAVEL REQUIRED: Yes RELIABLE VEHICLE REQUIRED: No

Travel to and from various MDOT SHA offices and field investigations will be beneficial.

Internships currently available: Innovative Contracting Division (ICD) Performance Design Team

Develops Performance based objectives for projects and programs. Leads concept development and preliminary design for all projects within the office. Performs Practical Design, constructability, and cost estimate reviews of all projects at all milestones and leads guidance and training in these areas.

MAJOR REQUESTED: Civil Engineering, Urban Planning

DIVISION ACCEPTING RISING: Junior Senior

ADDITIONAL REQUIREMENTS: Must be committed to 40-hours per week.

NON ACADEMIC: Experience working with Microsoft Office and MicroStation or AutoCAD.

OBJECTIVE: The focus of this position is drafting and review of planning and construction documents. The Intern will have the opportunity to obtain an understanding of the project development process from planning to construction.

JOB DUTIES:

Working closely with a team of engineers, they may develop concept plans and layouts, estimate construction quantities, review of construction plans for accuracy, potential constructability and utility conflicts, attend meeting for various projects, and perform field investigations.

INTERACTION: The Intern will have the opportunity to interact with members of all seven OHD divisions, Office of Planning and Preliminary Engineering, Office of Traffic and Safety, Office of Materials technology, and the Office of Construction.

LOCAL TRAVEL REQUIRED: Yes RELIABLE VEHICLE REQUIRED: No

Travel to and from various MDOT SHA offices and field investigations will be required.

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OFFICE OF MAINTENANCE (OOM)

LOCATION: MDOT SHA Hanover Complex, 7491 Connelley Drive, Hanover 21076

The Office of Maintenance provides leadership and support to all maintenance operations and personnel in order to improve our highway system, facilities and equipment.

Internships currently available: Facility Management (FMNT)

The Facilities Management Division provides guidance, support and resources to enable all Districts and Offices to properly maintain facilities owned by MDOT SHA, including over 700 buildings statewide. The types of facilities served includes Office Complexes, District Offices, Maintenance Shops, Salt Barns & Domes, Welcome Centers, Weigh Stations and supporting facilities.

MAJOR REQUESTED: [Architecture, Civil Engineering, Electrical Engineering, Mathematics, Mechanical Engineering](#)

DIVISION ACCEPTING RISING: [Freshman](#) [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: N/A

NON ACADEMIC: N/A

OBJECTIVE: The focus of this position is Facility Asset Management. The Intern will have the opportunity to participate in the development of an Asset Management System for MDOT SHA's facility assets such as HVAC systems, roofs, vehicle lifts, generators, etc.

JOB DUTIES: Assist in the development of condition assessment procedures and protocols, routine preventative maintenance work plans and workflow / asset tracking through internet-based databases such as Maximo.

Interaction: The Intern will have the opportunity to work with all Districts and Offices who are the facility asset owners. They will also have exposure to budget management support staff in the Office of the Chief Engineer.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** Yes

Travel would be required when reviewing the condition of facility assets statewide.

Internships currently available: Highway Maintenance Division (HMD)

Maintenance Training and Certification Team

MAJOR REQUESTED: [Construction Management](#)

DIVISION ACCEPTING RISING: [Freshman](#) [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Must have a valid Driver's License, 18 yrs or older

NON ACADEMIC: Experience with heavy equipment would be helpful, but not required

OBJECTIVE: The intern will have the opportunity to see how heavy equipment is used in roadway construction and maintenance.

JOB DUTIES: Assist Maintenance Training and Certification Team with equipment certification testing.

Interaction: The intern would interface with FMT's and Shop Management from various shops and districts.

LOCAL TRAVEL REQUIRED: YES **RELIABLE VEHICLE REQUIRED:** Yes

Travel would be required to the shop/district where training and/or testing is scheduled.

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OFFICE OF MATERIALS TECHNOLOGY (OMT)

LOCATION: MDOT SHA Hanover Complex, 7450 Traffic Drive, Hanover 21076

The Office of materials Technology assures that the quality of the materials used on the Maryland roadway system are designed, produced and placed to meet the system preservation, safety and environmental needs of the State's communities.

Internships currently available: Concrete Technology Division (CTD)

The Concrete Technology Division is responsible for the acceptance of all concrete materials used on MDOT SHA contracts. This includes both laboratory and quality assurance responsibilities as well as special studies and troubleshooting.

MAJOR REQUESTED: Civil Engineering, Transportation Engineering

DIVISION ACCEPTING RISING: Freshman Sophomore Junior

ADDITIONAL REQUIREMENTS: Knowledge of concrete testing would be helpful. Know and utilize Excel and Microsoft word. Forty hours per week.

OBJECTIVE: The Concrete Technology Division is responsible for the acceptance of all concrete materials used on MDSHA contracts. This includes both laboratory and quality assurance responsibilities as well as special studies and troubleshooting.

JOB DUTIES: Working in the concrete lab performing quality assurance testing and test data documentation of test samples.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

Internships currently available: Engineering Geology Division (EGD)

The Engineering Geology Division (EGD) provides technical expertise on geology, hydrogeology, geotechnical engineering and specifications to all Offices and Districts within the SHA along with new product evaluation and research services.

MAJOR REQUESTED: Civil Engineering, Geology, Geographical Sciences (GIS)

DIVISION ACCEPTING RISING: Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Must have a valid State driver's license.

NON ACADEMIC: Experience with computers.

OBJECTIVE: The objective of these positions will be to assist the geotechnics team with rating highway slopes for geotechnical asset inventory.

JOB DUTIES: Preparing field work requests and guidelines for soil and structure foundation surveys in order to obtain samples to determine properties and characteristics of soil and rock. Field work may include auger borings, Standard Penetration Test (SPT) borings, Cone Penetrometer Testing (CPT), Dilatometer Testing (DMT), Pressure meter Testing (PMT), and non-destructive geophysical testing.

Performing geotechnical analyses including bearing capacity analysis, slope stability and seepage analysis, settlement/consolidation analysis.

Preparing Geotechnical Reports: describing geotechnical related features of the project, subsurface information and soil characteristics; documenting geotechnical findings and evaluations; containing recommendations (including specifications and details) for embankment foundation treatment, fill and cut slope design, soil and subgrade treatment, groundwater control, subgrade drainage, alternative earth retaining structures and ground improvement techniques.

Providing support to District Construction personnel during construction of the roadway and structure portions of projects to resolve urgent and emergency situations resulting from pavement and/or geotechnical problems.

Reviewing significant features exposed during construction to compare actual conditions to those anticipated by design, and to make corrective recommendations as necessary. This typically involves solving problems related to drainage, excavation, compaction, foundations, landslides, sediment and erosion control, and ground improvement techniques. Preparing memos, technical reports, specifications and details to assist in processing Change Orders and Redlines.

Evaluating chronic, urgent and emergency situations resulting from pavement and/or geotechnical problems. Providing services to District Maintenance teams to troubleshoot pavement and/or geotechnical problems. These services are typically provided to address land-slides/slope failures, structural backfill, erosion, earth retaining and drainage structure failures, subsurface failures, etc. Preparing recommendations and details to monitor and solve geotechnical related maintenance issues. These recommendations generally require immediate responses as many of these hazards can result in safety related issues.

Providing geotechnical engineering support and reviewing Geotechnical Reports on County, Access Permits Division and MTA projects within State jurisdiction.

Interaction: Interns will interact with outside vendors and internal engineering staff throughout MDOT SHA, including District offices, offices and division within SHA.

LOCAL TRAVEL REQUIRED: Yes RELIABLE VEHICLE REQUIRED: No

Driving long distances to rate geotechnical features, and local driving for project meetings may be required.

Internships currently available: Field Exploration Division (FED)

The Field Explorations Division provides all field-testing services for preliminary engineering and network level evaluation. This includes pavement, bridge, soils, foundation, traffic and other special testing.

MAJOR REQUESTED: [Civil Engineering](#)

DIVISION ACCEPTING RISING: [Junior](#) [Senior](#) [Graduate](#)

NON ACADEMIC: Good communication knowledge, Experience working with Computers, Experience in using Excel

OBJECTIVE: To assist with career development through real work experiences that provide interns with opportunities to explore their interests and develop professional skills and competencies. Also, allowing interns to experience all aspects of Field Exploration Division from the beginning to end of projects.

JOB DUTIES: The Field Explorations Division provides all field-testing services for preliminary engineering and network level evaluation. This includes pavement, bridge, soils, foundation, traffic and other special testing. The intern will support the office and field team with various duties as follows:

- Provide quality control of field work requests and subsurface field data.
- Develop final project deliverables utilizing Bentley software suite and SHA specific software.
- Coordination and cataloging of subsurface sample deliveries and storage for statewide projects.
- Processing and development of production reports for network level performance.
- Occasional travel to various project sites statewide to monitor projects for criteria compliance and progress.
- Attend preliminary project meetings.

The intern will report directly to the Assistant Division Chief and will conduct all task assignments for all drilling team staff. Work will be conducted with close supervision initially, with general supervision as the intern gains experience.

Interaction: The scholar may also gain exposure to bridge deck testing and network level pavement data collection

LOCAL TRAVEL REQUIRED: No RELIABLE VEHICLE REQUIRED: No

Internships currently available: New Products and Research Team (NPR)

The New Products and Research Team is a part of the Engineering Geology Division and is responsible for managing and processing all transportation related materials and products that are submitted to MDOT-SHA to be used on highway projects. The team manages the product database (MPEL), Qualified Products List (QPL), and Research Initiatives.

MAJOR REQUESTED: All Engineering Disciplines will be considered

DIVISION ACCEPTING RISING: Sophomore Junior Senior

ADDITIONAL REQUIREMENTS: Valid License

NON ACADEMIC: Efficient use of computers and software's including Excel, Microsoft Word etc..

OBJECTIVE: The candidate will function as an Engineering Assistant on the New Products and Research Team. This employee will support OMT's New Products and Qualified Product evaluations along with Research Initiatives.

JOB DUTIES:

- Coordinating OMT's New Product and Qualified Product evaluations submitted for use on SHA projects
- Supporting the NPR Team in data collection essential for New & Qualified Product evaluations, data collection for implementation, and developing Work Plans for product pilot programs. Evaluations include gaining knowledge with AASHTO, ASTM, and MSMT standards.
- Product Evaluation: Work with technical leads throughout MDOT-SHA to evaluate product applications submitted by vendors and /or manufacturers. Develops reports and work plans as needed in the evaluation process.
- Monitor research projects assigned
- Receive and update list of all research project expenditure monthly

Interaction: Interns will interact with outside vendors and internal engineering staff throughout MDOT SHA, including District offices, the Office of Highway Development

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Visiting construction and filed sites where products are placed for field evaluation.

Internships currently available: Pavement and Geotechnical Division (PAGD)

Responsible for providing pavement and geotechnical design recommendations for all highways constructed, maintained, or rehabilitated by Maryland SHA.

MAJOR REQUESTED: Civil Engineering, Materials Engineering

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Must have a valid State driver's license

OBJECTIVE: interns will function as an engineering assistant on a design team and/or assist Pavement Management staff

JOB DUTIES: Design duties include: Conducting field surveys to identify and quantify pavement and soil conditions; review existing records to identify historical pavement conditions and construction history; processing field and office data to establish functional and structural condition; develop preliminary designs, attend meetings; perform task-oriented assignments to write recommendations.

Pavement Management duties include assisting staff with: ARAN pavement condition data processing, including Wisecrax processing applying pattern recognition techniques in order to pick up pavement crack information from pavement images; processing pavement construction and paving unit cost data and information to data fill Pavement Management Database; development of pavement system preservation reports and Key Performance Areas (KPA) reports to provide updated rehabilitation progress and network level pavement condition

information; traveling across Maryland- working with district construction and maintenance personnel collecting pavement accomplishments and our field units collecting pavement condition data.

Interaction: The interns will have the opportunity to interact with other design offices (OHD, OOS), District offices, and the Office of Construction.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Travel may be required of meetings and field visits outside the office location.

Internships currently available: Pavement and Geotechnical Division (PAGD)

Responsible for providing pavement and geotechnical design recommendations for all highways constructed, maintained, or rehabilitated by Maryland SHA.

MAJOR REQUESTED: Civil Engineering, Materials Engineering

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Must have a valid State driver's license

OBJECTIVE: interns will function as an engineering assistant on a design team and/or assist Pavement Management staff

JOB DUTIES: Conducting field surveys to identify and quantify pavement and soil conditions; review existing records to identify historical pavement conditions and construction history; processing field and office data to establish functional and structural condition; develop preliminary designs, attend meetings; perform task-oriented assignments to write recommendations.

Pavement Management duties include assisting staff with: ARAN pavement condition data processing, including Wisecrax processing applying pattern recognition techniques in order to pick up pavement crack information from pavement images; processing pavement construction and paving unit cost data and information to data fill Pavement Management Database; development of pavement system preservation reports and Key Performance Areas (KPA) reports to provide updated rehabilitation progress and network level pavement condition information; traveling across Maryland- working with district construction and maintenance personnel collecting pavement accomplishments and our field units collecting pavement condition data.

Interaction: The interns will have the opportunity to interact with other design offices (OHD, OOS), District offices, and the Office of Construction.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Travel may be required of meetings and field visits outside the office location.

Internships currently available: Soils and Aggregate Technology Division (SATD)

The Soils and Aggregate Technology Division is responsible for the evaluation and approval of all soils, aggregates, geotextiles and recycled materials used on MDSHA contracts. This includes laboratory testing, field quality assurance, special studies and troubleshooting. This Division focuses their efforts on the acceptance of materials and their sources and works closely with construction personnel in the placement of these materials. The Soils and Aggregate Technology Division works closely with the Materials Management Division to ensure coordination between OMT and District personnel for quality assurance and acceptance of construction materials.

MAJOR REQUESTED: Civil Engineering

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Have the ability to lift 45 lbs, standing for long periods time and working in a dusty environment

NON ACADEMIC: Have experience with MS Office and working in an laboratory setting

OBJECTIVE: SATD is seeking engineering interns for the Laboratory Operations Team. The activities of the Laboratory Operations Team include soils and rock aggregate testing and research in support of the planning,

design, construction and maintenance of highway infrastructure projects statewide. The intern will be part of the SATD Laboratory Operations Team providing support to the Division Chief, Assistant Division Chief, as well as Soils and Aggregate Laboratory Team Leaders and other staff.

JOB DUTIES: The intern will perform most of the work in the laboratory environment and some office and field duties/tasks.

The duties/tasks will include applying commonly used soil and aggregate sampling and testing standards and procedures, such as the American Society of Testing and Materials and American Association of State Highway and Transportation Officials to characterize materials, including:

- Atterberg Limit
- Moisture Content
- Specific Gravity
- Material Classification
- Grain Size Analysis
- Soil Strength
- Rock Strength
- Geotextile Testing and Acceptance
- Data Analysis
- Literature Review
- Technical Report Preparation and Review
- Approval of Soil and Aggregate Sources
- Assisting Field Operations Team in Field QA (Moisture and Density Equipment and Technician Verification)

Projects the intern will be expected to participate in:

- Aggregate Friction Research
- Soil Modulus Testing and Research
- Active Construction Projects – Material Testing and Approval of Soil and Aggregate Sources
- Preliminary Engineering Projects - Material Testing and Approval of Soil and Aggregate Sources
- Project Site and Plant Visits

Interaction: SATD works closely with the Materials Management Division to ensure coordination between the Office of Materials Technology and Office of Construction District personnel for quality assurance and acceptance of construction materials.

LOCAL TRAVEL REQUIRED: No **RELIABLE VEHICLE REQUIRED:** No

Internships currently available: Structural Materials & Pavement Markings/Pavement Marking Team (SMPMD PM)

SMPMD provides guidance & support in regard to structural materials and pavement marking materials.

MAJOR REQUESTED: [Civil Engineering, Materials Science & Engineering, Traffic Engineering, Urban Planning, etc.](#)

DIVISION ACCEPTING RISING: [Freshman](#) [Sophomore](#) [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Driver’s License

NON ACADEMIC: Computer experience.

OBJECTIVE: Intern to gain experience in Pavement Markings.

JOB DUTIES: The duties of the internship will involve assisting the staff of the Structural Materials & Pavement Markings Division – (Pavement Marking Section) with various duties as follows:

Evaluating the properties of pavement marking materials used on Maryland roadways in the field.

Supporting the pavement marking asset management with data entry into the computer system.

Some field work may require night work, infrequent or out of town travel.

Updating or creating charts to report Pavement marking production.

Research efforts towards new or existing pavement markings

Interested applicants should have a strong aptitude & interest in computers and engineering.

The intern will report directly to the team leaders and will conduct task assignments for all team staff engineers. Work will be conducted with close supervision initially, with general supervision as intern gains experience.

Interaction: Interact with contractors and other inspectors.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Various contracts that they work on.

Internships currently available: Structural Materials & Pavement Markings/Structl Mtrls Metals & Coatings (SMPMD SM)

SMPMD provides guidance & support in regard to structural materials and pavement marking materials.

MAJOR REQUESTED: Civil Engineering, Materials Science & Engineering, Traffic Engineering, Mechanical Engineering, Metallurgy Science Engineering, Welding, Welding Engineering, Certified Welding Inspector or Training or Certification, Construction Management, etc.

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Not afraid of heights.

NON ACADEMIC: Computer experience.

OBJECTIVE: Intern to gain experience in Structural materials, Metals & Coatings.

JOB DUTIES: The duties of the internship will involve assisting the staff of the Structural Materials & Pavement Markings Division – (Structural Materials and Metals & Coatings Section) with various duties as follows:

- Evaluating the properties of structural materials used on Maryland roadways in the lab and field (Bridges, Sign Structures, Etc.).
- Work will include a mix of time in the office creating spreadsheets & data entry, lab testing of structural materials, and field quality assurance inspection of metals & coatings materials.
- Some field work may require night work, infrequent or out of town travel.
- Interested applicants should have a strong aptitude & interest in computers, mechanics, welding, testing & not be afraid of heights.

The intern will report directly to the team leaders and will conduct task assignments for all team staff engineers. Work will be conducted with close supervision initially, with general supervision as intern gains experience.

Interaction: Interact with contractors and other inspectors.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Conducting Facility, field & lab inspection and testing of various structural materials used in bridge and sign structure projects.

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OFFICE OF PLANNING AND PRELIMINARY ENG. (OPPE)

LOCATION: MDOT SHA Headquarters, 707 North Calvert Street, Baltimore 21202

OPPE's mission is to plan a sustainable highway system in Maryland for all users of our roadways through partnerships, innovative approaches, and engineering solutions in a manner that strengthens Maryland communities and diverse natural environments with a cost-effective manner for the citizens of Maryland.

Internships currently available: Environmental Planning Div. & Project Mngmnt Div. (EPLD)

EPLD's mission is to ensure that projects comply with the National Environmental Policy Act/Maryland Environmental Policy Act and related federal/state laws and regulations. We secure federal/state environmental approvals for MDOT SHA and other projects through the completion of project reviews, technical studies and analyses, public involvement, and environmental documentation. This compliance is necessary to ensure that impacts to environmental resources are avoided, minimized and mitigated and that these impacts are balanced with project needs, and project decisions are made in the best overall public interest.

MAJOR REQUESTED: GIS or Environmental Planning

DIVISION ACCEPTING RISING: Junior Senior

ADDITIONAL REQUIREMENTS: Must be committed to up to 40 hours a week

NON ACADEMIC: Experience working with GIS, Microsoft Office Suite applications, printers, copiers and scanners

OBJECTIVE: The focus of this position is development of GIS data layer for use by both MDOT SHA and Maryland Department of Natural Resources (DNR).

JOB DUTIES: The intern will be working with DNR's GIS program software in the Land Acquisition and Planning Property Management group to determine how to mitigate MDOT SHA's encroachment on DNR lands that are impacted by Land and water Conservation Fund federal funding. The intern will have close oversight by other GIS analysts as well as deed and plat research analysts.

The intern would also assist with high level planning efforts for the Project Management Division (PMD) to help identify transportation needs, develop environmental inventories, and assist project managers with study briefings and reports. A portion of this effort may include utilizing GIS applications to help analyze, organize, and present information for the use of project teams, as well as for presentations to managers.

Interaction: The intern will have the opportunity to work with both MDOT SHA and the DNR Land Acquisition and Property Management Group

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** Yes

Meetings with DNR and Maryland Environmental Service may require travel to those offices in Annapolis and Millersville, MD.

Internships currently available: Travel Forecasting and Analysis Division (TFAD)

This Division is responsible for forecasting traffic and analyzing traffic needs and solutions for projects and studies across MDOT. This Division supports travel demand models both regional (Metropolitan Planning Organizations) and statewide (Maryland Statewide Transportation Model), performs traffic operations and simulation modeling, and plays a major support role for Transportation Systems Management and Operations (TSMO) and connected and autonomous vehicles efforts.

MAJOR REQUESTED: Civil Engineering

DIVISION ACCEPTING RISING: Junior Senior Graduate

ADDITIONAL REQUIREMENTS: 32-40 hour work week over the summer

OBJECTIVE: Travel Forecasting and Analysis Division is looking for a highly motivated individual that is interested in learning about travel forecasting and traffic modeling. This position will be a hands-on learning experience to gain skills that are in high demand across the transportation engineering field.

JOB DUTIES: Assist with developing travel forecasts for feasibility studies; assist with performing and/or evaluating traffic operational analyses; request/analyze traffic count and traffic safety data; perform field reviews and observations of traffic conditions; review and comment on Traffic Impact Studies along state roadways; assist with the development of final study reports and technical papers/presentations.

Interaction: The intern will have the opportunity to work closely with the skilled engineers in the Travel Forecasting and Analysis Division as well as coordinate with other offices such as Highway Development, Office of Traffic and Safety, CHART, and other Divisions

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Travel to meetings outside of HQ may be required. However, in these cases the intern will accompany someone from the office to the meeting.

Internships currently available: Regional Intermodal Planning Division (RIPD)

RIPD is responsible for long-range transportation planning and the coordination of the MDOT SHA program with local governments and regional transportation agencies.

MAJOR REQUESTED: [Urban Planning/Regional/Community Planning](#), [Civil Engineering](#), [Geography](#)

DIVISION ACCEPTING RISING: [Junior](#) [Senior](#) [Graduate](#)

ADDITIONAL REQUIREMENTS: Knowledge of GIS applications is required and 32-40 hours work week over the summer.

OBJECTIVE: The intern will have the opportunity to assist in coordinating and learning about various planning activities and participate in the development and public involvement for the MDOT Consolidated Transportation Plan (CTP) and long-range plan, the Maryland Transportation Plan.

JOB DUTIES: Intern duties will include but are not limited to working with databases; preparing spreadsheets; drafting customer responses; preparing, reviewing and analyzing statistical data; researching best practices, policies, and laws; and assisting RIPD with preliminary studies. Interns may accompany staff to on-site visits or attend field reviews and/or meetings for projects in pre-planning, planning, or design. The intern will participate in liaison activities with State, MDOT, metropolitan planning organization (MPO), and county and municipal elected officials and staff. Depending on assignments, the intern may have opportunities to present results from preliminary studies to MDOT SHA managers.

Interaction: The intern will participate in liaison activities with State, MDOT, metropolitan planning organization (MPO), and county and municipal elected officials and agencies.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

The intern will accompany RIPD staff to represent MDOT at meetings and participate in liaison activities.

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OFFICE OF STRUCTURE (OOS)

LOCATION: MDOT SHA Headquarters, 707 North Calvert Street, Baltimore 21202

The Office of Structures is responsible for the structural and hydraulic design, rehabilitation, maintenance, inspection, and quality assurance of approximately 2,500 bridges and 3,500 smaller structures on Maryland's highway system. inspection, bridges for MDOT SHA.

Internships currently available: Structures Remedial Engineering Division (SRED)

The Structures Remedial Engineering Division is responsible for the design of rehabilitation of bridges for MDOT SHA.

MAJOR REQUESTED: Civil Engineering

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

OBJECTIVE: To provide interns of all academic levels the opportunity to work in a real-world civil engineering setting. To provide experiences pertaining to the evaluation, design, and construction of bridge rehabilitation projects. In addition, our objective is to develop more interest in bridge and highway-based engineering fields.

JOB DUTIES: Perform engineering follow up inspections of bridges and structures with team members. Rate and analyze bridges based on section loss and changes in loads, design and develop rehabilitation plans, and participate in constructability discussions and field resolutions.

Interaction: Interns may have situations where they and their design team will work with MDOT SHA district personnel, MDOT SHA environmental personnel, and federal agencies such as the United States Coast Guard or the Army Corp. of Engineers.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

The intern will be expected to travel to the Baltimore headquarters. Site visits will be required, but interns will attend these sites in a state vehicle driven by a team member.

Internships currently available: Structures Engineering Division (SED)

The Structures Engineering Division's primary purpose is to design bridges and other highway structures, and prepare plans, specifications and engineer estimates so the projects can be advertised for construction.

MAJOR REQUESTED: Civil Engineering

DIVISION ACCEPTING RISING: Freshman Sophomore Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Some knowledge of basic CADD skills is very useful, as are basic computer skills.

OBJECTIVE: Interns in the OOS Structures Engineering Division will be exposed to entry-level type design activities. Interns will be placed within an established team and will work on bridge and structure projects assigned to that team. The interns will report to the team leader and receive support from design engineers and technical staff. The teams are small, making it easy for a supervisory engineer to observe the skills of their interns, and make assignments in accordance with his/her abilities. The goal of the intern program is to provide interns with an understanding of what it is like to work in an office that designs bridges and other structures, while they perform their assignments during the summer.

JOB DUTIES: In the Structures Engineering Division, the intern will work with engineers applying structural engineering theories, principles, and standards to a variety of transportation structures. The team will be involved with the design of new bridges, bridge deck replacements, bridge rehabilitation and repairs, culverts, and retaining walls. Based on their ability, the intern will assist the engineers in the analysis and design of the structures, foundation design, preparation of plans using CADD, and the development of construction cost estimates. There will also be opportunities for an intern to visit the field and see various types of bridge construction.

Interaction: As a member of a design team in the Structures Engineering Division, interns will have opportunities to interact with other project team members in areas such as the Bridge Hydraulics Division, Highway Design Division, Highway Hydraulics Division, Environ

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

When travel is required for field visits, it will be provided by OOS, not the intern.

Internships currently available: Structures Design/Struc.Hydr. (SDSH)

Performs hydrology and hydraulics studies to determine the type (bridge or culvert) and size of the structures needed at highway stream crossings.

MAJOR REQUESTED: Hydrology and/or Open Channel Hydraulics, and/or Water Resources

DIVISION ACCEPTING RISING: Junior Senior Graduate

ADDITIONAL REQUIREMENTS: Interest in water related engineering

OBJECTIVE: The opportunity to assist in developing hydrology and hydraulics (H&H) computer models and to become familiar with the appropriate software

JOB DUTIES: Assist engineers in performing hydrology and hydraulics studies and field investigations.

Interaction: Meetings/discussions with structural engineers, environmental scientists and stream morphologists to discuss design goals and requirements

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Trips to project sites to perform field investigations and/or surveys.

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OFFICE OF TRAFFIC AND SAFETY (OOTS)

LOCATION: 7491 Connelley Drive, Hanover, MD 21076

OOTS plays a major role in assuring that state highways operate safely and efficiently. OOTS provides a wide range of traffic engineering, traffic operations, and traffic safety support to MDOT SHA's Districts and other units that enable them to carry out their highway responsibilities. It also houses SHA's Motor Carrier Division and serves as the lead agency for Maryland's commercial vehicle safety programs.

Internships currently available: Traffic Engineering Design Division (TEDD)

TEDD is responsible for the design of traffic signals, highway signing, marking, lighting and intelligent transportation systems statewide. TEDD provides design support to a variety of internal and external stakeholders and the division's efforts have a direct impact on the safety and efficiency of Maryland's roadway network. TEDD's engineers work as part of various teams within the division. Typical duties include field reviews, computer aided design and drafting, and project management activities.

MAJOR REQUESTED: Civil Engineering; Transportation Engineering (TE); Traffic Engineering (TRE)

DIVISION ACCEPTING RISING: Junior Seniors Graduate

NON ACADEMIC: Candidates should have good research skills, ability to think analytically and strong written communication and math skills. Experience using computer-based word-processing, spreadsheet and database management is beneficial.

ADDITIONAL REQUIREMENTS: Experience using Microstation or AutoCADD to assist in the development of engineering drawings is welcome. A valid driver's license and willingness to perform fieldwork is essential

OBJECTIVE: An intern in OOTS will work with a team leader and one or more experienced engineers on solving engineering problems at the planning, analysis and design phases of a project.

JOB DUTIES MAY INCLUDE:

- Drafting, designing and reviewing of traffic control device plans using the principles of engineering;
- Field investigation and preliminary project information collection
- Development of cost estimate, project report, memo, and/or correspondence
- Assist with milestone distribution and maintaining and managing project files
- Developing signal timing plans using simulation tools like Synchro, calibrating models based on real time data.
- Analyzing crash data and providing mitigation strategies based on the analysis
- Conducting traffic engineering studies like traffic signal warrant analysis, roundabout analysis, speed and gap studies
- Assisting Director and Deputy Directors in evaluating issues with quick turnaround times and special projects.

INTERACTION: The intern will interact with MDOT SHA District Traffic and Engineering Design offices, Office of Highway Design, Office of Construction and Office of Materials Technology.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Intern may be expected to drive to field sites for investigation. Intern will be using OOTS pool vehicle.

Internships currently available: Traffic Development & Support Division (TDSD)

TDSD- TDSD contributes to the development and organizational support of new and expanded traffic engineering and safety functional programs and practices. Its nine teams provide guidance, expert advice and day to day support for the overall statewide traffic engineering, management, and safety programs. Team engineers have work related to the following: Traffic Engineering Studies, Work Zone Safety, Roundabout Reviews, Automated Speed Enforcement, Highway-Rail Crossing Safety, MUTCD Guidelines, Pedestrian and Bike Standards, Signal System Timing, Crash Studies, Advanced Intersection Studies, and Traffic Engineering Research.

MAJOR REQUESTED: Civil Engineering; Transportation Engineering (TE); Traffic Engineering (TRE)

DIVISION ACCEPTING RISING: Junior Seniors Graduate

NON ACADEMIC: Candidates should have good research skills, ability to think analytically and strong written communication and math skills. Experience using computer-based word-processing, spreadsheet and database management is beneficial.

ADDITIONAL REQUIREMENTS: Experience using Microstation or AutoCADD to assist in the development of engineering drawings is welcome. A valid driver's license and willingness to perform fieldwork is essential

OBJECTIVE: An intern in OOTS will work with a team leader and one or more experienced engineers on solving engineering problems at the planning, analysis and design phases of a project.

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- Conducting traffic engineering studies like traffic signal warrant analysis, roundabout analysis, speed and gap studies
- Assisting Director and Deputy Directors in evaluating issues with quick turnaround times and special projects.

INTERACTION: The intern will interact with MDOT SHA District Traffic and Engineering Design offices, Office of Highway Design, Office of Construction and Office of Materials Technology.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Intern may be expected to drive to field sites for investigation. Intern will be using OOTS pool vehicle.

Internships currently available: The Director's Office (DO)

DO – The Director's Office is the heart of OOTS, with policy and decision making at the forefront of daily duties.

MAJOR REQUESTED: Civil Engineering; Transportation Engineering (TE); Traffic Engineering (TRE)

DIVISION ACCEPTING RISING: Junior Seniors Graduate

NON ACADEMIC: Candidates should have good research skills, ability to think analytically and strong written communication and math skills. Experience using computer-based word-processing, spreadsheet and database management is beneficial.

ADDITIONAL REQUIREMENTS: Experience using Microstation or AutoCADD to assist in the development of engineering drawings is welcome. A valid driver's license and willingness to perform fieldwork is essential

OBJECTIVE: An intern in OOTS will work with a team leader and one or more experienced engineers on solving engineering problems at the planning, analysis and design phases of a project.

JOB DUTIES MAY INCLUDE:

- Drafting, designing and reviewing of traffic control device plans using the principles of engineering;
- Field investigation and preliminary project information collection
- Development of cost estimate, project report, memo, and/or correspondence
- Assist with milestone distribution and maintaining and managing project files
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- Analyzing crash data and providing mitigation strategies based on the analysis
- Conducting traffic engineering studies like traffic signal warrant analysis, roundabout analysis, speed and gap studies
- Assisting Director and Deputy Directors in evaluating issues with quick turnaround times and special projects.

INTERACTION: The intern will interact with MDOT SHA District Traffic and Engineering Design offices, Office of Highway Design, Office of Construction and Office of Materials Technology.

LOCAL TRAVEL REQUIRED: Yes **RELIABLE VEHICLE REQUIRED:** No

Intern may be expected to drive to field sites for investigation. Intern will be using OOTS pool vehicle.

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