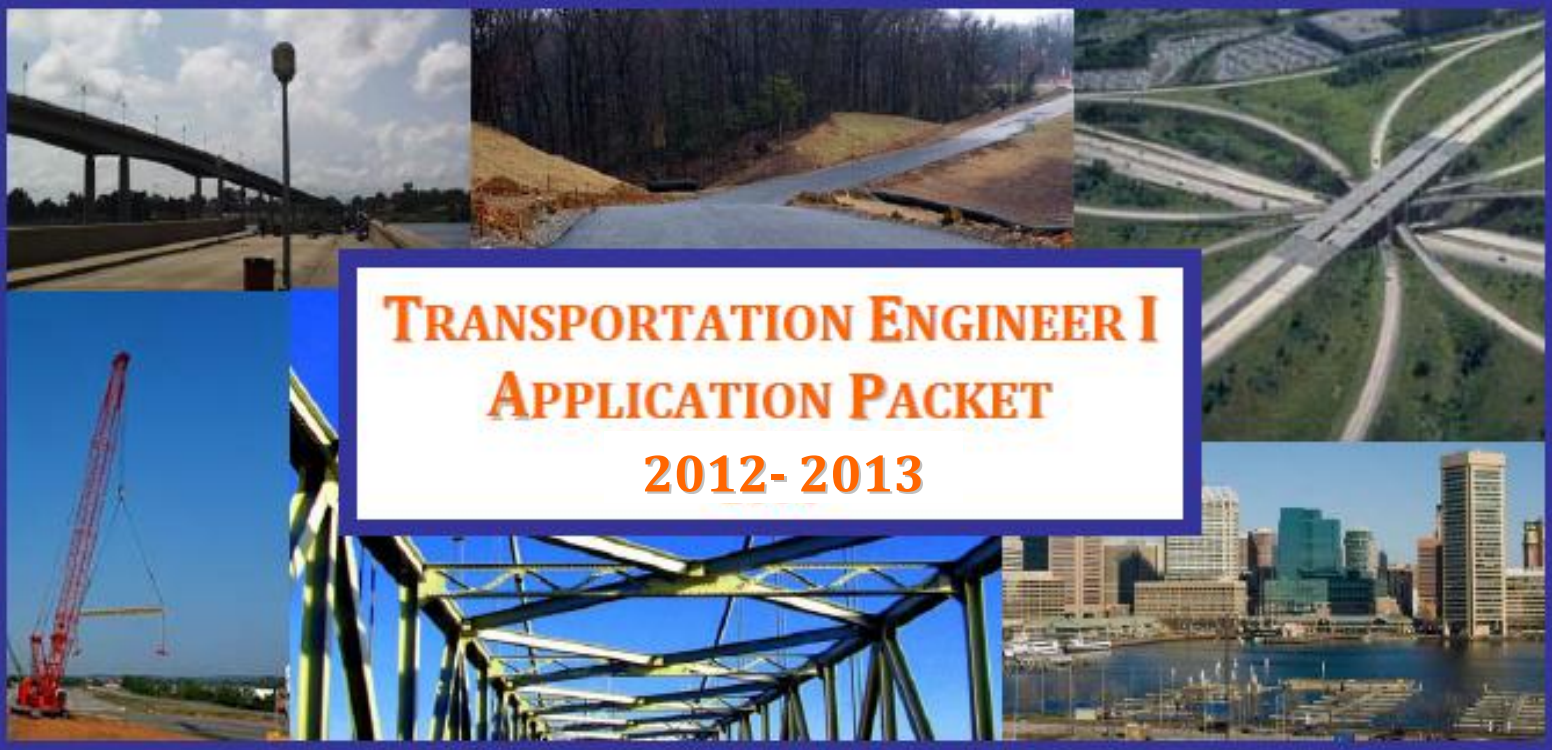
MARYLAND DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ADMINISTRATION

RECRUITMENT & EXAMINATION DIVISION



TRANSPORTATION ENGINEER I APPLICATION PACKET

2012- 2013

www.roads.maryland.gov

At the **Maryland State Highway Administration** (SHA), we are proud of our tradition of excellence. Since its inception as the State Roads Commission in 1908, SHA has continued to build on its foundation of quality and integrity. At SHA, we have exciting entry and advanced level Civil/Transportation Engineering opportunities available.

Why choose SHA?

As an employee in one of our diverse career tracks, you may lead complex, multi-disciplinary projects as well as have the opportunity to serve on nationally scaled initiatives. Individuals within one year of completing a Bachelor of Science in Civil Engineering are encouraged to apply!

Benefits

Transportation Engineer Salary

- $49,468+ starting salary
- Steady growth

Leave

- Two weeks vacation after first year, three weeks after five years, four weeks after 10 years, and five weeks after 20 years
- Seven personal days per year
- 10 paid holidays per year
- Three weeks earned sick leave each year
- Military leave, legal leave, and cash overtime

Health Plan Options

- Medical, prescription, dental, vision, and term life insurance
- Personal accident & dismemberment insurance
- Flexible spending accounts
- Competitive state subsidy for benefit plans (80 percent of cost)

Retirement Plans

- Employees are vested in the contributory pension plan after ten years of service
- 30 year service retirement
- Supplemental retirement plans 401(k) and 457 available

EIT/PE exams

- Review classes are available for the EIT/PE exams
- Fees for the PE may be reimbursed with a passing grade

Education/ Training

- Individualized professional development plans
- Tuition reimbursement for approved courses
- Advanced Education Program for approved graduate programs
- Option to attend courses during work hours only if offered during working hours. (up to six hours a week of administrative leave at supervisor's discretion)
- Graduate Engineer's Training Program
- Supervisory Training Program
- Leadership Development
- Online Learning

Additional Benefits

- Free public transportation services
- State Employees Credit Union (SECU) membership for employee and family

The Maryland State Highway Administration (SHA), a modal of the Maryland Department of Transportation (MDOT) is responsible for more than 16,000 lane miles of interstate, primary and secondary roads and more than 2,500 bridges. SHA employees plan, design, build and maintain these roads and bridges to the highest safety and performance standards possible while paying close attention to sociological, environmental, ecological and economic concerns. SHA employs 3,200 people at our Baltimore headquarters, Hanover complex, and seven districts throughout the state. The Baltimore headquarters location includes, Office of Environmental Design, Office of Chief Engineer, Office of Equal Opportunity, Office of Communications, Office of Highway Policy and Technology Utilization, Office of Planning and Preliminary Engineering, Office of Highway Development and Office of Structures as well as the offices of Real Estate, Finance and Information Technology, Legal Counsel and Administration. The Hanover complex, located in Hanover, MD includes the Offices of Maintenance, Construction Inspection Division Office of Material technology and Traffic & Safety as well as the Statewide Operations Center. Our seven district offices handle most of the day-to-day responsibilities of constructing and maintaining highways in Maryland's 23 counties, while the Office of Traffic & Safety (OOTS) installs and maintains all SHA signal systems. Roadway signs are manufactured by OOTS, but the majority of sign maintenance occurs at the district level. Similarly, the Office of Materials and Technology, located in Hanover, MD, tests and investigates construction and maintenance materials, assisted by four regional labs throughout the state.

About Our Engineering Offices

About the Divisions

SHA is responsible for the construction, operations and maintenance of Maryland's State Highway system. Each division listed below, works closely together in order to develop and maintain one of the best highway systems in the country.

Office of Structures (GETP Optional Rotation)

The Office of Structures is responsible for the design, inspection and maintenance of approximately 2,500 bridges and other structures throughout the state. The specific functions of each division within the Office of Structures are as follows (all GETP Optional Rotations):

Structures Design Division

The Structures Design Division performs the design for all structures on the state maintained system, which includes new bridges, bridge replacements, deck replacements, culverts, retaining walls and noise abatement walls. This division is also involved extensively in the bridge replacement program for all county owned bridges.

Structures Hydraulics Division

The Structures Hydraulics Division provides hydrology and hydraulic studies (the study of water flow and how it affects the area of the structure and the surrounding areas) and determines sizes of proposed structures over streams, rivers and wetlands. This unit also evaluates potential problems as it relates to fish and other marine life and provides recommendations where necessary to insure their passage.

Structures Inspection & Remedial Engineering Division

The Structures Inspection and Remedial Engineering Division keeps state highway structures safe for the traveling public through a continuous and regular condition inspection (both above and below water) of all existing structures. In addition, this division provides for structural analysis, routine maintenance, preventive maintenance, as well as repair and replacement contracts that address structural needs. The evaluation of all permits involving overweight moves and their affect on structures is also a full time assignment to this area.

Quality Assurance Division
The Quality Assurance Division assists Structures Design Division engineers, consultant designers and construction contractors by assuring that the shop drawings meet contract plans and specifications for materials, sizes and construction methods. This division is responsible for checking detailed fabrication or erection shop drawings containing construction materials such as; reinforcing steel bars, structural steel, timber, precast-prestressed concrete items, sheet piling, etc. with the contract documents. The detailed plans of the components necessary to construct the structure are checked for stress calculations and construction methods. These components include concrete formwork, temporary sheeting and shoring, cofferdams, falsework, erection and demolition procedures. Prior to fabrication and construction in the field, it is essential that any flaws during the shop drawing submittal process are detected. This will assist in preventing delays and possible claims during construction.

Office of Construction
The Office of Construction oversees contract bids, awards and notices. They set the standards for construction by compiling detailed specifications. This office also analyzes contractor's claims, develops construction utility policies and sets MBE goals.

Office of Construction (Required GETP Rotation)
The Office of Construction's major areas of responsibility include: contract processing (bid openings, bid protests, contract award, contract execution, notice to proceed), payments to contractors; establishment of MBE goals and approval of Affirmative Action Plans, approval of change orders, construction inspection (administering the construction engineering manpower management system statewide, assignment of inspection personnel, management of supplemental consultant inspection contracts), training, statewide utilities (relocation, determination of prior rights, billing, coordination), claims avoidance/resolution, establishment of policies and procedures and related support functions.

Construction Inspection Division
The Construction Inspection Division is responsible for the efficient and timely management of SHA's Construction Program by supplying qualified inspection personnel statewide. The field staff, which consists of technicians and engineers, is responsible for the thorough inspection and documentation of work performed. Inspection includes compliance with all specifications and contract requirements; testing and visual inspection conducted to assure quality materials are incorporated into the completed construction; enforcement of traffic requirements to assure the safety of workers and travelers in a construction work zone; and contractor compliance with environmental requirements.

Office of Highway Development (GETP Optional Rotation)
The Office of Highway Development (OHD)is the office within the State Highway Administration (SHA) responsible for the design as well as the management of the design, environmental permitting and access for most state and federal roadways in Maryland. Our 7 divisions work closely together to provide, improve and promote the safety and functionality of Maryland's Highway system through innovative approaches in planning, design and engineering solutions in a manner that integrates efficient accessibility, greener environment and economic improvements to Maryland's communities. The specific function of each division is as follows (GETP Optional Rotations available for the first five listed):

Highway Design Division
The Highway Design Division (HDD) is responsible for the management of consultant staff and in-house design of most of SHA's major capital investment projects, including budgetary management of the Major Projects Program. HDD serves as the lead SHA Division in developing complex major projects, coordinating the needs and activities of the local community and all SHA support divisions. HDD is also responsible for implementation of the traffic barrier program at SHA and is involved in the SHA-Safety Audits for our roadways. HDD employs a staff team of expert licensed engineers to provide design services to other divisions in OHD.

Innovative Contracting Division
The Innovative Contracting Division (ICD) is responsible for the planning, implementation and coordination of SHA's design-build program and developing new policies and best practices as they apply to innovative contracting. ICD provides direction regarding design, policy, and project schedule in the management and coordination of these projects within the Office of Highway Development (OHD) as well as other SHA staff. ICD also develops policies, specifications, procedures, standards and reviews related to the compliance of SHA facilities with respect to the American's with Disability (ADA) requirements. This division is also responsible for implementing Construction Management projects within OHD and the Construction Review section.

Highway Hydraulics Division
The Highway Hydraulics Division (HHD) works on planning, design, construction, and maintenance aspects of SHA operations and is responsible for providing engineering -- as well as project management services -- for drainage, stormwater management, erosion and sediment control, stream stabilization, and small stream crossings. We are responsible for obtaining non-point source permits related to stormwater management, sediment control, National Pollutant Discharge Elimination Systems (NPDES) and Total Maximum Daily Load (TMDL) regulations for **all** SHA projects and operations. We also support the Wetland and Waterways Permit process by preparing Joint Permit Applications (JPAs) on behalf of Highway Design, Community Design, District Special Projects, and Maintenance. We also provide engineering services for meeting waterway and floodplain regulations.

Plats and Surveys Division
The Plats and Surveys Division (PSD) plays a key role in the Planning, Design and Construction processes at MDOT, SHA, and other State Agencies. The early and continuous access to field surveys and property boundary information is the basis for developing a good foundation for any project. PSD explores and uses state of the art technology such as aerial photogrammetry, GPS, RTK and robotic survey equipment to ensure the quality, accuracy and speed with which this information is delivered. Primary functions of PSD are the identification of topographic features and property boundaries that can influence the design and costs of projects as well as property impacts that are developed and shown on SHA R/W Plats. As the custodian of field survey information, PSD maintains an up-to-date inventory of existing survey data.

Community Design Division
The Community Design Division (CDD) is responsible for the design and management of SHA's Community, Safety and Enhancement program and sidewalk retrofit program. CDD also designs or provides oversight for portions of SHA's System Preservation Program, Highway Safety, Intersection Capacity and Resurfacing Programs as well as planning, design and budgetary management of SHA's Type II Noise Barrier Program. As a national pioneer in Context Sensitive Design practices, CDD developed and uses the award-winning handbook 'When Main Street is a State Highway: A Handbook for Communities and Designers' to develop context-based roadway improvements.

Design Technical Services Division (No Rotation)
The primary mission of the Design Technical Services Division (DTSD) is to set policy and provide design guidance to all of SHA and local MD governments on highway development and manages the development and publication of standard details and specifications. In support of that effort, DTSD maintains OHD's computer and web applications, including an Integrated Design System aimed at the development of design productivity tools to improve work flow and manage highway assets. Construction contracts for many divisions and districts are advertised for bids by DTSD, who is currently leading the effort at SHA for electronic bidding. DTSD is also responsible for providing GIS applications, products and database management for SHA and the State of Maryland, as well.

Access Management Division (No Rotation)
The primary mission of the Design Technical Services Division (DTSD) is to set policy and provide design guidance to all of SHA and local MD governments on highway development and manages the development and publication of standard details and specifications. In support of that effort, DTSD maintains OHD's computer and web applications, including an Integrated Design System aimed at the development of design productivity tools to improve work flow and manage highway assets. Construction contracts for many divisions and districts are advertised for bids by DTSD, who is currently leading the effort at SHA for electronic bidding. DTSD is also responsible for providing GIS applications, products and database management for SHA and the State of Maryland, as well.

Office of Materials Technology (GETP Optional Rotation*)*
The mission of the Office of Materials Technology (OMT) is to ensure material quality in Maryland which is done through material related services to the planning, design, construction and maintenance offices of the Maryland State Highway Administration (SHA). These services are also rendered to other transportation modal administrations, counties and municipalities.

New Products & Research Team
The New Products & Research Team is responsible for deciding which new products and processes merit investigation and evaluation by the administration. Upon completion of evaluation, the committee will document and publish its findings in the Maryland Products Evaluation Listing (MPEL) database and submit them with recommendations to the Chief Engineer for approval or disapproval relative to use, procedures, specification changes and policies.

Materials Management Division
The Materials Management Division (MMD) is responsible for district and contractor support, source of supply review process, materials clearance, independent assurance auditing and the Materials Management System (MMS). The district support services are provided through five Area Materials Engineer (AME) teams. The AME's serve as the first point of contact for district and contractor personnel on all material related matters and call on the four material laboratory divisions, as necessary, to troubleshoot problems. MMD is also responsible for the approval, testing/inspection and materials signoff to the districts for all Access Permit projects.

Asphalt Technology Division
The Asphalt Technology Division (ATD) is responsible for the acceptance of all asphalt materials used on SHA contracts. This includes both laboratory and field quality assurance responsibilities as well as special studies and troubleshooting in asphalt related materials. ATD focuses their efforts on the acceptance of materials provided by asphalt producers and works closely with construction personnel in the placement of materials.

Concrete Technology Division
The Concrete Technology Division (CTD) is responsible for ensuring material quality of all concrete and related materials used on SHA construction projects as well as other modal agencies and municipalities. This includes both laboratory and field quality assurance responsibilities as well as special studies and troubleshooting in concrete and cement materials. The laboratory operations in CTD require special expertise in chemistry and testing procedures. Field operations in CTD take on a variety of products including ready-mix concrete, pre-cast and pre-stressed structures.

Soils and Aggregate Technology Division
The Soils and Aggregate Technology Division (SATD) is responsible for the evaluation and approval of all soils, aggregates, geotextiles and recycled materials used on SHA contracts. This includes laboratory testing, field quality assurance, special studies and troubleshooting for soils/aggregate as well as any recycled materials.

Structural Materials and Coatings Evaluation Division
The Structural Materials and Coatings Evaluation Division (SMCED) is responsible for the acceptance of all structural components, coating systems, pavement marking materials, and other materials not covered by the other three material divisions throughout the state of Maryland which includes laboratory and quality assurance responsibilities as well as forensic investigations and troubleshooting.

Engineering Geology Division
The Engineering Geology Division (EGD) conducts geologic groundwater studies, blasting and vibration studies and HAZMAT site assessments. EGD also develops geotechnical designs for earthen and rock slopes and foundations, conducts geotechnical studies for roadways and structures, develops and reviews contract specifications related to all materials, as well as maintains the Maryland Standard Method of Test (MSMT) Manual and the Materials Sections of the MDSHA Spec Book.

Field Explorations Division
The Field Explorations Division (FED) provides all field testing services for preliminary engineering and network level evaluations. The services provided by FED include friction testing for network and project level, and special testing for the police, pavement performance data collection with ARAN, non-destructive pavement and bridge testing and subsurface exploration (soil and rock drilling, well monitoring/installation and pavement coring).

Pavement and Geotechnical Division
The Pavement and Geotechnical Division (PAGD) is responsible for all routine pavement and geotechnical design necessary to advertise construction contracts. The engineers in PAGD will serve as the single point of contact for all project development offices within SHA prior to advertisement. PAGD will also work closely with district operation engineers to support the design services required to treat pavements under area wide maintenance contracts. In addition, PAGD handles all pavement management data processing and analysis responsibilities which support several SHA business plan goals and performance measures.

Office of Planning & Preliminary Engineering (OPPE) (GETP Optional Rotation)
The Office of Planning & Preliminary Engineering (OPPE) is responsible for the management of all activities required to obtain location, engineering and environmental approvals for major capital projects. Core activities are completed by small teams of 3-6 people within the office. Full project teams can be very large and include representatives from within the State Highway Administration, Federal Highway Administration, Mass Transit Administration and local governments. The selection of the scope, location, design, and mode choice for improvements are influenced by review and resource agency input. Also influenced is the public participation process which takes into consideration engineering standards, travel demand requirements, natural environmental, cultural and socio-economic issues, community support and budgetary constraints. The Office of Planning & Preliminary Engineering (OPPE) is structured as follows (all GETP Optional Rotations):

Highway Information Services Division
The Highway Information Services Division is responsible for data collection and support, traffic monitoring, highway mapping and GIS Development.

Program Development Division
The Program Development Division authorizes and maintains funding for projects through the technical development of the Consolidated Transportation Plan (CTP), Statewide Transportation Improvement Program (STIP), and Statewide Planning and Research Program.

The Project Management Division
The Project Management Division is responsible for engineering, environmental and public involvement activities needed to obtain location and environmental approvals.

Regional Intermodal Planning Division
The Regional Intermodal Planning Division performs planning and liaison activities necessary to develop SHA's portion of the CTP, STIP and Long Range Plan. Additionally, this division conducts feasibility studies, and evaluates the needs for, and determines locations of, Park & Ride facilities, and handles bicycle/pedestrian affairs.

Environmental Planning Division
The ELPD is responsible for ensuring compliance with federal and state environmental requirements (National Environmental Policy Act/Maryland Environmental Policy Act and related laws and regulations) and obtaining project specific environmental approval for all SHA projects.

Travel Forecasting and Analysis Division
The TFAD supports project planning activities at OPPE and other highway project activities at various SHA Offices/District and other agencies by providing reliable travel demand forecasts and performing analysis of traffic operations, air quality and noise-related impacts.

Office of Traffic & Safety (GETP Optional Rotation)

The Office of Traffic & Safety consists of the Traffic Development and Support Division, Traffic Engineering Design Division, Traffic Safety Division, Intelligent Transportation Systems Division, Motor Carrier Division and the Traffic Operations Division. The specific functions of each division within the Office of Traffic & Safety are as follows (all GETP Optional Rotations):

Traffic Development & Support Division
The Traffic Development and Support Division provides large-scale support and traffic engineering development for projects that are in planning, as well as for projects that are in the design and operation phases. Additionally, this division maintains Maryland's Work Zone Traffic Control standards and regularly reviews Maintenance of Traffic for major design plans and construction projects. This Division also develops signal timing charts for all traffic control signals throughout the State of Maryland.

Traffic Engineering Design Division
The Traffic Engineering Design Division is responsible for the preparation, production, oversight, and design of all traffic control devices statewide. This includes the development and preparation of contracts, special provisions, engineer's estimates and specifications. This Division supports other SHA divisions in performing specialized design work to implement unique solutions to complex traffic operational issues. Each District Office also has its own Traffic Section.

Motor Carrier Division
The Motor Carrier Division is responsible for the formulation and monitoring of motor carrier safety programs, hauling permits for oversize/overweight vehicles and loads, and maintenance of our Truck Weigh/Inspection Station (TWIS) facilities. The Motor Carrier Safety Assistance Program (MCSAP) Team works with the Federal Motor Carrier Safety Administration and police departments in the State to devise, implement and monitor motor carrier safety programs. The Hauling Permits Team issues permits for vehicles and loads that are oversize and/or overweight to minimize damage to our roads and bridges. The TWIS Team works with the State Police and SHA district offices to maintain the TWIS facilities and make needed improvements. MCD has a Technical Support Team that maintains all MCD computer equipment and specialized computer programs that are needed by other teams.

Capital Programs Division
The Capital Programs Division oversees the safety, congestion and traffic management programs for the OOTS and the District offices for both engineering and fiscal management approvals. All engineering studies, traffic regulations and fiscal management requests are approved by the Capital Programs Division with justification from offices requesting these approvals. The Capital Programs Divisions also oversees the OOTS A & G budget, awarding projects to contractors, and setting up cost sharing on traffic control device projects. The Capital Programs Division oversees the state's program areas in Red Light Camera, Freeway Incident Traffic Management, Logo (specific service signing), Traffic Calming and New Traffic Control Products Traffic Committee. This division also works with the procurement part of OOTS's annual fixed assets budgets, procurement of equipment, materials and services for OOTS, maintaining credit card files, and ensuring we adhere to all state, federal and local guidelines with respect to procurement and financial management.

Maryland Highway Safety Office
The Maryland Highway Safety Office (MHSO) is a division within the Office of Traffic and Safety. It carries the unusual organizational designation of "office" rather that the typical "division" designation because of its unique role for an SHA unit. The MHSO is the designated highway safety office for the State of Maryland. As such, it has leadership and coordination responsibilities for the state's overall highway safety program, including safety program areas not usually associated with a highway agency. Areas of particular emphasis include impaired, aggressive, and inattentive driving; occupant protection; young and older drivers; pedestrian, bicycle and motorcycle safety; traffic records; and program management.

District Traffic Engineering Offices
The District Traffic Offices utilize engineering principles to facilitate the safe and efficient flow of all traffic (vehicles, bicycles, and pedestrians) along Maryland roads. Safety is a priority – plans are implemented to reduce the number of injuries and fatal crashes. Studies are conducted to determine appropriate speed limits, the need for traffic signals, potential locations for roundabouts or geometric modifications, and opportunities for signing, lighting and pavement marking

enhancements. In addition, they review traffic impact studies related to new development, oversee the Temporary Traffic Control aspect of work zones and handle citizen/ community inquiries.

Traffic Operations Division

TOD is made up of eight (8) sections and teams and is one of the largest divisions in the State Highway Administration. The day to day activities include constructing, inspecting, modifying, testing, maintaining, and repairing Traffic Control Devices (TCD's) Statewide. The Sign Operations Section and Statewide Sign Team manufacture and install overhead and ground mounted signs. The Statewide Sign Team also responds to emergency sign and sign structure damage 24/7. The Signal Operations Section maintains, modifies and monitors signals statewide and also responds to emergency calls and incidents 24/7. The Facility and Grounds Maintenance Team maintains the Hanover Complex facilities and grounds. The Traffic Control Device Inspection Section inspects, and approves the signal and sign contractors' work statewide. The Inventory and Procurement Team monitors and controls inventory which supports OOTS' shops and all of the activities listed above. The Traffic Operations Support Section (TOSS) provides expert testimony in court cases relating to traffic signal function and maintenance and designs repairs to TCD's involved in construction and accident damage. And finally, TOD oversees the Security Team which provides 24/7 security guard service to the Hanover Complex.

Application & Interview Process

The State Highway Administration is both an exciting and dynamic place to work! We are proud of our tradition of excellence and hold only the highest standards of professionalism, honesty, and integrity. We strive for continuous improvement in our products, while maintaining customer satisfaction as a primary goal. At SHA, we have exciting and advanced level Civil/Transportation Engineering opportunities available in a variety of areas including Office of Structures, Bridge Hydraulics, Construction Inspection, Highway Design, Highway Hydraulics, Planning & Preliminary Engineering, Traffic & Safety, Materials Technology, and Land Surveying Engineering.

General Information

Filling out the Application: By applying online at http://jobs.mdot.state.md.us., your application, including résumé and transcripts, is evaluated using a structured system of scoring. Office-specific as well as general classification requirements must be reviewed and evaluated to ensure a fair and unbiased appraisal of your employment potential. Because we rely so heavily on the accuracy and completeness of your application and the potential score derived from its evaluation, it is important that you fill out the application in its entirety. Incomplete applications will delay the process and may result in your application not being considered for employment.

The Evaluation Process:

Please note: Your application will not be reviewed until all information is received. When applying for the Transportation Engineer I position, all required information (including transcripts) must be submitted within 60 days of your initial application. If not received within 60 days you will be dis-approved and must re-apply.

It may take a few weeks to process your application, but do not hesitate to call us to ensure we have received it and to track its progress (410-545-5552 or toll-free at 1-877-743-9311). If your qualifications match up with what we need, and we have a position open in the area(s) you selected, we may contact you for an interview. A majority of our positions are available in Baltimore City and Baltimore County. If an area you have selected for an interview does not have any available openings at the time of your application, we will keep your application on file until September 30, 2013.

The Interview Process: Typically, you will be contacted within four weeks of your submission to discuss the completeness of your application (if necessary), to schedule a writing sample (via email), and/or to schedule an interview. Interviews are generally the last Thursday of each month. Additionally, because offices only interview when they have vacancies, you may be contacted for an interview during future months. If you apply to multiple offices (i.e., Planning Design Division and Office of Structures), you could receive interviews and/or offers at different times; please keep this in mind when evaluating an initial offer. Most interviews are held at SHA headquarters located in Baltimore, Maryland, but you can opt to complete the interview via phone if you are unable to come to this location. (Applicants must live at least 300 miles round trip to be considered for a phone interview).

Writing Sample

All applicants are required to complete the State Highway Administration Transportation Engineer I Writing Sample. This must be done before scheduling and interview. All applicants must be in front of a computer at the time of the Writing Sample and will have 45 minutes to complete and e-mail back to the Recruitment & Examination Division. This must be done between the business hours of 7:00 a.m. and 3:00 p.m., Monday through Friday, excluding Holidays.

What to Expect on the Interview

Our interview process may be much different than what one might expect or read about in preparing for a job interview. The interview will be conducted by a panel of three to four employees and be composed of two parts:

1. **The Informational Section**
   This portion of the interview is informal and will not be used to evaluate your performance. We will begin with an overview of the office and the position for which you are interviewing, and then discuss general questions you may have. There is a time limit on the interview, so don't spend too much time on this portion. If you receive an offer, you will be encouraged to come back and visit the office to learn much more about our organization and culture before you make a final decision.

2. **The Test Section**
   Like the application, this portion of the interview is structured and scored to ensure a fair and unbiased appraisal of your performance. During this portion of the interview the panel may take turns reading prepared questions. They will be looking for certain benchmarks in your answers, but will not provide you with feedback on your answers. Be as thorough as possible. You may be asked questions regarding customer service, diversity, your general background, and your technical skills. The technical questions may be related to coursework, computer skills, school projects, or other areas that will demonstrate your understanding of basic concepts related to the position. Each candidate is given the same list of questions for that particular office or division.

Please Note: Effective June 30, 2009 The Maryland State Highway Administration will no longer sponsor new employees in application of the H-1B Visa. All applicants must be legally authorized to work in the United States under the Immigration and Reform Control Act of 1986. The incumbent in this position will be a member of a covered bargaining unit and will be required to pay a bi-weekly service fee to the exclusive representative of the bargaining unit.

Name _____ Last Four Digits of SSN _____

Maryland Department of Transportation
State Highway Administration

TRANSPORTATION ENGINEER I - APPLICATION PACKET

MINIMUM QUALIFICATION:
You must possess an Accredited Bachelor's Degree in Civil Engineering or be completing the degree requirements within the next twelve (12) months. All applications that do not meet this minimum qualification will not be processed.

Notes: Persons currently registered as Professional Engineers in the State of Maryland, or in a state with comparable requirements, are considered to have met the education requirements.

The information you provide in this application packet will be used to place you on a list of eligible candidates for each section in which you are interested (refer to page 5). Please read the directions for each section carefully before beginning that part of the application.

To complete the TE I application on-line, please visit http://jobs.mdot.state.md.us, click on Current Job Openings, and then Transportation Engineer I for the State Highway Administration.

If you have any questions, please call the Recruitment and Examination Division at 410-545-5552 or toll free at 1-877-743-9311. Please send all completed materials to:

RECRUITMENT AND EXAMINATION DIVISION
707 N. CALVERT STREET, ROOM C-602
BALTIMORE, MD 21202

CHECKLIST (✓) FOR PACKET COMPLETION:

- ☐ Application for Employment (page 2)
- ☐ Education and Coursework (page 3)
- ☐ Relevant Experience (page 4)
- ☐ Oath Attesting to Accuracy of Information (page 4)
- ☐ Employment Options (page 5)
- ☐ Transcripts (may be unofficial) from all Accredited Colleges/Universities where you completed engineering related courses. This should include all junior or community colleges.
- ☐ Foreign Education Credential Evaluation, if applicable (refer to page 3)
- ☐ Current Resume (resumes alone will not be accepted and can be more than 1 page), which **must** include:
  - ☐ All Colleges/Universities attended
  - ☐ Engineering employment, including specific duties (refer to the top of page 4)
  - ☐ Two (or more) business/academic references, including name, title, address and phone number
  - ☐ E-mail address and/or fax number where you can be reached

Name _____ Last Four Digits of SSN _____

Application for Employment
Transportation Engineer I

OFFICE USE ONLY
_____ APPROVED
_____ DISAPPROVED
_____ PENDING
_____ BY
_____ REASON

Please fill out this application completely. Omissions may result in your application not being considered for employment. Résumés may **NOT** be substituted for this application. Type or print clearly. Information provided is confidential and will only be used by authorized personnel. Applicants who are within twelve (12) months of receiving a Bachelor's degree in Civil Engineering can be approved for the process **pending completion** of the degree. Qualified applicants may be subject to background and reference checks.

Last Four Digits Social Security Number: _____

Phone # where you can be reached during your University or College's winter break: ( ) _____

Print Name: _____
Last First Middle

Address: _____

_____
City County State Zip Code

Home Phone: ( )_____ Work Phone: ( )_____ E-mail: _____

Please check (✓) where you will accept employment.

____ Garrett
____ Allegany
____ Washington
____ Frederick
____ Carroll
____ Montgomery
____ Baltimore City
____ Baltimore County
____ Howard
____ Harford
____ Cecil
____ Kent
____ Prince Georges
____ Charles
____ Calvert
____ St. Mary's
____ Anne Arundel
____ Queen Anne's
____ Talbot
____ Caroline
____ Dorchester
____ Wicomico
____ Somerset
____ Worcester

How did you hear about us? Please check (✓).

_____ Newspaper
_____ College recruitment
_____ Employment office
_____ Bulletin Board
_____ Heard about from an employee
_____ Interest File
_____ Internet (please list which site):
_____
_____ Other (specify):
_____

Please check (✓) availability below.

____ Full-Time Employment Only
____ Part-Time Employment Only
____ Full-Time and/or Part-Time

Did you graduate from high school or have you obtained a GED?

_____ Yes _____ No _____ Year
Name of High School _____
Address _____

Applicants are requested to voluntarily provide the information below for statistical purposes only. Failure to do so will not affect your chances for employment.

____ Male
____ Female

Birth Date: _____

Languages Spoken:
_____
_____

Ethnic/Race Identification

____ Hispanic or Latino Origin
Select one or more of the following races. If multiracial, check all that apply.
____ American Indian or Alaska Native
____ Asian
____ Black or African American
____ Native Hawaiian or Other Pacific Islander
____ White

AN EQUAL OPPORTUNITY EMPLOYER
www.roads.maryland.gov
Arrangements and/or accommodations will be provided upon request for differently-abled persons.
Maryland Relay Service - www.mdrelay.org - (voice) 1-800-201-7165, (TTY/HCO) 1-800-735-2258, (Spanish) 1-800-877-1264

Name _____ Last Four Digits of SSN _____

Education and Coursework

Transportation Engineer I

If you have not already obtained copies of all your college/university transcripts to enclose with this application, you or your college/university must submit your transcripts to us as soon as possible after submitting your application.

If any of your colleges/universities had a "non-traditional" credit allotment system or schedule (i.e. trimester classes, less than 120 credits to graduate, etc.), please explain that system in the space provided below. You may attach an additional sheet, if necessary.

_____

_____

_____

_____

Additional Coursework (not listed on transcripts):

Please list below all engineering courses that do not appear on your transcripts. Specifically, focus on those courses you are taking now or will be completing within the next 12 months.

Course Title	Course #	# of credits	Date to be completed

Your University Registrar's phone number: ( ) _____

IMPORTANT NOTICE TO ALL APPLICANTS WITH FOREIGN EDUCATION CREDENTIALS

As the State Highway Administration does not evaluate foreign school credentials, **you must contact an independent evaluation service,** such as the services listed below.

To determine whether your foreign school credentials are equivalent to a college education in the United States and to help us review your transcripts fairly, you will need to have your foreign school credentials evaluated on a **course by course basis**.

World Education Services, Inc.
P.O. Box 57206
Washington, D.C. 20037
phone number: 1-800-937-3897
www.wes.org

Evaluation Service, Inc.
P.O. Box 1455
Albany, NY 12201
phone number: 518-672-4522
fax number: 518-672-4877

Education Credential Evaluation
P.O. Box 514070
Milwaukee, WI 53203-3470
Fax: (414) 289-3411
e-mail: eval@ece.org
www.ece.org

Please remember that it remains necessary for you to submit copies of all transcripts from your undergraduate and/or graduate programs. If we do not receive this information as requested, your application will **NOT** be considered as meeting the minimum degree requirements and will result in disqualification from the application process.

Name _____ Last Four Digits of SSN _____

Relevant Experience

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Resume:

On your resume, please list and describe all previous civil/transportation engineering related jobs you have held, starting with your most recent. For every job, include the company name and phone number, your job title and dates of employment, number of hours worked per week, number of persons supervised and your reason for leaving. Please also include your specific job duties.

Advanced Engineering Licenses:

Please check (✓) each appropriate box if you have registered to take or have passed any of the following examinations.

Professional Examination	Registered to Take	Passed	Date of Exam (Month/Year)
Engineering in Training/Fundamentals in Engineering			
Surveyor in Training			
Fundamentals of Surveying			
Professional Land Surveying			
Professional Engineer			
Other:			
Other:			

Engineering/Professional/Social/Community Organizational Offices Held:

Please list below all professional organizations in which you have held a leadership role. Be as specific as possible regarding the dates of offices held.

Organization	Office Held (i.e. President/Secretary)	Dates of Office

Name _____ Last Four Digits of SSN _____

Veteran status - Please check below:

☐ I am a veteran ☐ I am a disabled veteran ☐ I am a spouse of a ***disabled*** veteran ☐ I am not a veteran

If you indicated veteran status, you MUST submit documentation* of this status prior to the completion of the recruitment for which you are applying. Be sure to note the recruitment you are applying for on the documentation. Please fax (410-865-1301), email (mdotvets@mdot.state.md.us), or mail (MDOT Headquarters, Recruitment and Exams Unit, 7201 Corporate Center Drive, Hanover, MD 21076). ***THIS DOCUMENTATION MUST BE SUBMITTED EACH TIME YOU APPLY.***

*Documentation may include any of the following: Honorable discharge or certificate of service (Form DD 214), United States Unformed Services ID card (DD Form 2), evidence of service connected disability [for example, letter from Veteran's Administration dated within the last six (6) months], spouse enlistment, induction or entry to active duty, marriage license or certificate of marriage, and/or death certificate or other acceptable proof showing date of spouse's death.

Have you ever been convicted of a crime (misdemeanor or felony) other than a minor traffic violation? ☐Yes ☐No
If yes, give details below. Attach additional pages if needed. A conviction is not an automatic disqualification to employment.

Oath Attesting to Accuracy of Information

Transportation Engineer I

I understand that this Application Packet and all attachments to it are a part of my examination and the oath attesting to the accuracy of my application applies to all information presented in this package and attachments. I also understand that any misleading or inaccurate information will result in not receiving credit for that element of my score and/or disqualification from the application process. I further understand that the elements as described above will be used to compute my final score. In addition, I understand that qualified applicants may be subject to background and reference checks.

Printed Name _____ **Date** _____

Signature _____

Examination Packet revised 08/21/2012

Name _____ Last Four Digits of SSN _____

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Please select the engineering area(s) in which you would accept employment. This allows hiring managers to review only those candidates who are seeking a career in their particular section. Please be sure to select all areas in which you would accept employment as you will not be able to change your options until after your name expires from our list.

☑ Select only if you have the knowledge, relevant coursework, and desire to work in that section. You may check ☑ more than one area.

OFFICE OF STRUCTURES

Structural Design: This office is responsible for design, inspection, and maintenance of all bridges in the State system. **Coursework in Structural Analysis, Steel Design, Concrete Design, and one of the following: Foundation Design, Geotechnical Design, or Soil mechanics, is required.** ☐ I have the knowledge, relevant coursework, and desire to work in this section.

Structure Hydrology and Hydraulics Division: In this division, engineers typically perform hydrologic and hydraulic studies of large streams/ rivers with over one square mile in drainage area. This includes hydraulic design of bridges and culverts, scour studies, and flooding evaluations. **Coursework in Hydrology and Open Channel Flow, and a minimum of two (2) of the following is required: Water Resource Engineering, Geographic Information Systems (GIS), Surveying, Hydraulic Structures, River Mechanics, Sediment Transport, Stream Channel Instability, Advanced Hydrology, Advanced Open Channel Flow, or a Water Resources Focused Seminar/Capstone Course is required.** ☐ I have the knowledge, relevant coursework, and desire to work in this section.

OFFICE OF HIGHWAY DEVELOPMENT

Highway Design: A new engineer in the Highway or Community Design Division will be responsible for the geometric design of a roadway project and management of the overall design, schedule and budget of the project, resulting in a complete set of plans, specifications and estimate for construction. **Coursework in Transportation Engineering or Highway Engineering is required.** ☐ I have the knowledge, relevant coursework, and desire to work in this section.

Highway Hydraulics: Part of the Office of Highway Development, this division is responsible for analysis, design and environmental mitigation of the highway network, emphasizing drainage infrastructure enhancements including storm drains, culverts, channels, streams, and stormwater management control measures. Erosion and sediment control is also a focus. Stormwater management design emphasizes sustainable facilities that are integrated as early as the project concept phase. This division also performs the duties necessitated by the National Pollutant Discharge Elimination System permit, including discharge characterization, outfall monitoring, and pollutant load reductions to promote watershed ecosystem recovery for the Chesapeake Bay. **(BS Civil and/or Environmental Engineering ONLY)** ☐ I have the knowledge, relevant coursework and desire to work in this section.

Name _____ Last Four Digits of SSN _____

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Land Surveying: This division is made up of two sections: The Survey section (responsible for topographic, boundary, photogrammetric, geodetic control layout, hydraulic cross sections, and construction/right of way stake-out surveys, the CADD mapping of the various surveys, and oversight of Subsurface Utility Engineering surveys) and the Plats section (develops SHA right of way plats for the acquisition and conveyance of real property; responsible for re-establishing existing right of way and property line determinations, boundary survey data processing, and land records research and analysis). Coursework in Plane Surveying, Surveying, Geodetic/Traverse Control, Global Positioning System (GPS), or Survey Boundary Law is required. Additional suggested coursework includes Computations (Trigonometry, horizontal curves, spirals, COGO), and CADD drafting. **(BS Geomatics, Land Surveying, or Civil Engineering ONLY)** ☐ I have the knowledge, relevant coursework, and desire to work in this section.

OFFICE OF PLANNING & PRELIMINARY ENGINEERING: This office is responsible for obtaining location, design, and environmental approvals for State highway improvements. A new engineer in the Project Management Division would be responsible for conducting preliminary engineering, giving presentations to and coordinating with other internal SHA offices, local government representatives, elected officials, community representatives and environmental agencies on key project related issues. Engineers also perform comprehensive planning, community liaison functions and transportation studies. ☐ I have the knowledge, relevant coursework, and desire to work in this section.

OFFICE OF TRAFFIC & SAFETY: This section is responsible for the study, planning, design, installation and operation of all traffic control devices along the State system. **Coursework in Traffic and Transportation Engineering is necessary**. ☐ I have the knowledge, relevant coursework, and desire to work in this section.

OFFICE OF MATERIALS TECHNOLOGY: This section is responsible for the management and design of geotechnical and pavement structures, engineering and evaluation of geologic features, as well as the testing and inspection of constructed and fabricated materials used in the construction and maintenance of roads and bridges. **Applicants should have coursework in Pavement Design/Management, Geotechnical Engineering, and the Material Sciences**. ☐ I have the knowledge, relevant coursework, and desire to work in this section.

OFFICE OF CONSTRUCTION

Construction Inspection: The Construction Inspection Division's (CID) goal is to have the Transportation Engineers it hires to progress to Project Engineers (PE) on major construction projects. These projects include multi-million dollar contracts for highways, bridges and interchange construction. To facilitate your progression to the PE level you will be enrolled in our Transportation Engineer Rotation Program. This self-directed four year program is designed to help the entry level engineer learn about the various aspects of construction management and administration. ☐ I have the knowledge, relevant coursework, and desire to work in this section.

Thank you for your interest in employment with the Maryland State Highway Administration.