State Highway Administration

Graduate Engineer Training Program Handbook

“Building Pathways to Progress!”

Class of 2018

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Congratulations!!

Aleia Hendricks
Program Manager

Organizational Development (OD) Division

State Highway Administration
707 N. Calvert St.
Mail Stop: C-603
Baltimore, MD 21202
410-545-0334

Welcome to the Graduate Engineer Training Program (GETP)! The upcoming years of your participation in this program will be exciting and invaluable to your career with SHA. The Organizational Development team has worked hard to revitalize the GETP program to make it more structured, leadership-focused and relevant to your day to day activities as a Transportation Engineer.

Upon the start of this journey, you will receive: a) developmental training that will enhance your professionalism; b) department modules that will get you acclimated to the line of business across the different areas of SHA and c) advanced training which will fall alongside of your particular interests (i.e. Storm Water Management, bicycle lane design, etc.). In addition to these great opportunities, you will be able to get field experience, mentorship and networking opportunities as well.

We hope you enjoy the experience, take advantage of the opportunities, and have fun getting to know the other participants in your class!

Mission Statement

To provide new transportation professionals with a comprehensive training and development program that supports the State Highway Administration's project development responsibilities and fosters professional development.

Program Sponsors:

Mark Crampton, District Engineer
District Seven

Angela Smith, Deputy Director
Highway Development

Other Program Representatives:

Yvette R. Harris
Chief
Organizational Development Division

Aleia Hendricks
Program Manager
Organizational Development Division

Joshua Lee
Program Coordinator
Organizational Development Division

A Message from Our Sponsors

At the Maryland State Highway Administration (SHA), we believe that building a successful organization is no different than building roads or bridges: it all starts with a solid foundation. Instead of standard construction materials, we rely on our tradition, our values and our people - SHA's most important assets.

We will introduce you to the organization and our goals and demonstrate how we improve ourselves and our teams through our career development programs. We will outline the steps we take to build roads and bridges and we will also discuss our commitment to serving the citizens of Maryland through public participation and customer service.

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. We are happy to share our vision, our beliefs and our values with you.

Angela Smith
Deputy Director
Highway Design

Mark Crampton
District Engineer
District Seven

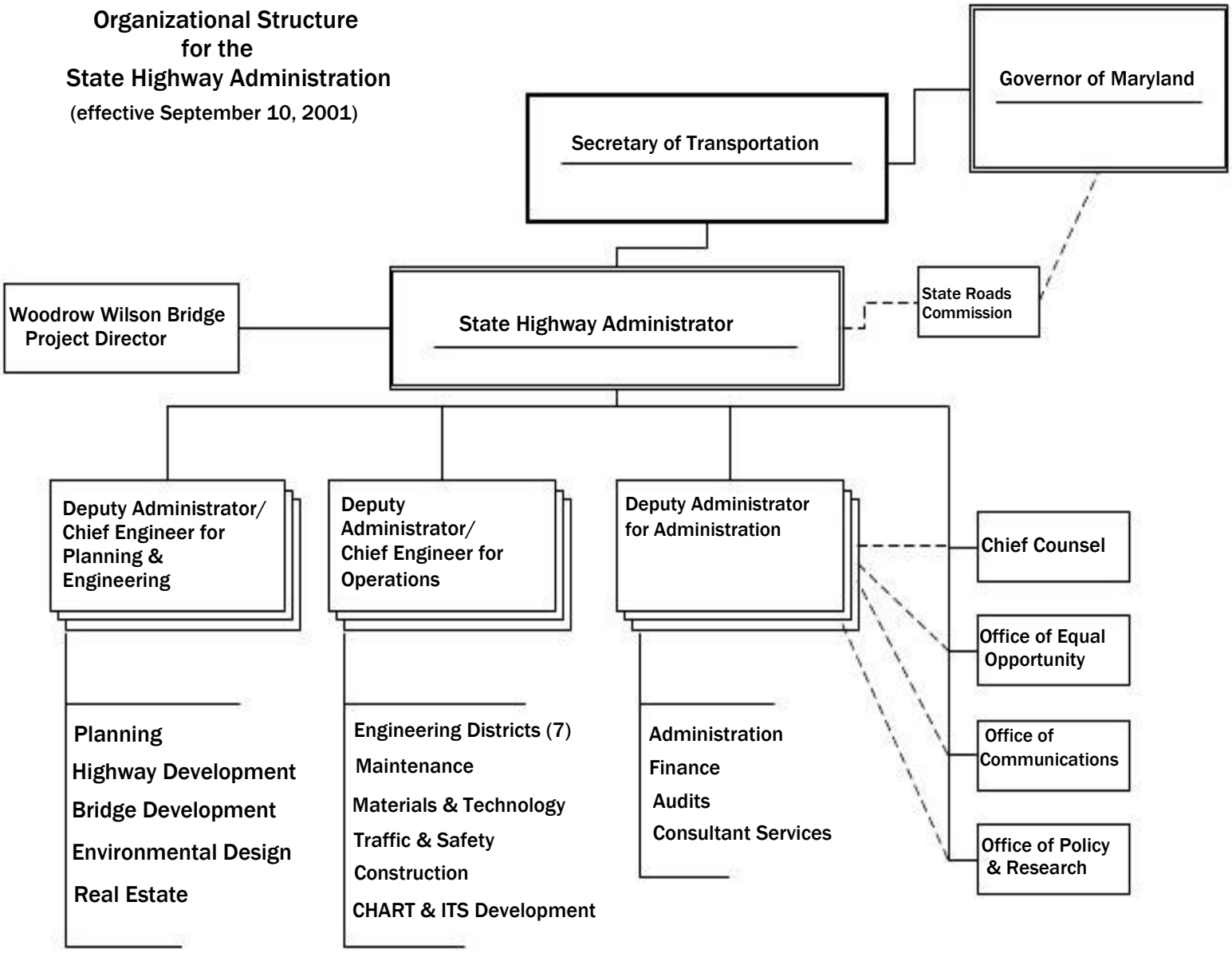
Purpose of this Handbook

The Graduate Engineer Training Program (GETP) provides interdisciplinary training for newly hired transportation engineers at Maryland State Highway Administration (SHA).

This handbook provides information on the procedures and expectations for GETP participants in their first SHA developmental program and will describe what to expect while you are a participant. It will also help to interpret the information about courses, rotations and any changes that may be encountered. It will also act as a guidebook to the organization and rules of the program, allowing for effective participation.

Participants in the program will take technical and professional development training, as well as do rotations in (mainly), the construction side of the organization. Within the first year, participants are encouraged and assisted in finding a mentor. They are then able to properly enhance knowledge, comfort, and goals for their career development and personal growth. For those GETP participants that are interested in preparing or taking the Professional Engineer (P.E.) exam, GETP will also assist in those next steps as well.

Organizational Structure



What We Do at SHA

Road building is an ancient art. Soon after the invention of the wheel, routes for trade and travel were built. The Romans were the world's first great road builders.
Maryland has played a distinguished role in the story of American road building and remains one of the nation's leaders in highway design, construction and maintenance. Some of the most historic highways in America originate in Maryland, including the National Road, which ran from Cumberland to Ohio and was authorized in 1806. The National Road was the new nation's chief route west for many years and existing as U.S. 40 today, remains a principal east-west artery.

Today, SHA is responsible for more than 17,000 lane miles of interstate, primary and secondary roads and more than 2,570 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.

As part of the Maryland Department of Transportation (MDOT), SHA is one of the most visible arms of state government. Whether clearing snow in the winter or making it easier for vacationers to reach the beach in the summer, SHA is the agency Marylanders depend on to keep them moving. Financing for all state transportation projects, including highway construction and maintenance, is provided by the transportation Trust Fund. This unique funding method pools all transportation revenues into one common fund. All motor fuel taxes and other user fees, as well as bond proceeds and federal aid, go into the fund. Each time you buy gasoline, register your automobile or renew your driver's license, you are helping to make Maryland's roads among the best in the nation.

SHA employs approximately 2800 people at our Baltimore headquarters, Hanover complex, and seven districts throughout the state. The Baltimore headquarters includes the offices of Environmental Design, Chief Engineer, Equal Opportunity, Communications, Highway Policy and Technology Utilization, Planning and Preliminary Engineering, Highway Design and Development and Bridge Development as well as the offices of Real Estate, Finance and Information Technology, Legal Counsel and Administration. The Hanover complex includes the offices of Maintenance and Traffic and Safety as well as the Statewide Operations Center, Materials Technology and the Office of Construction.

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 and 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 Materials Technology Lab in Hanover tests and investigates construction and maintenance materials. Each division of the organization works closely with the others to achieve the highest standards possible

How a Road is Built and Maintained

Providing the best possible highway service demands carefully short and long term planning, solid construction and consistent maintenance. However, a lot more goes into building a road than these three simplified steps. Once a road is complete the work doesn't end there. A new road project begins with a need. Whether it's the public, local agencies or elected officials begin the discussion, about new projects, its SHA's regional planners and project engineers who work on area-wide plans and project development studies.

Adopt-A-Highway

SHA provides an opportunity for volunteers of numerous communities, civic, family and business groups to become involved in the improvement of our environment by helping to keep Maryland State Highways litter free. The Adopt-A-Highway groups agree to pick-up litter along two-mile stretch of roadway for a two year period (four pick-ups per year); SHA provides the groups with safety information, vests, hats, metal road sign (with name of group/organization) and roll-up safety sign. The benefits of the Adopt-A-Highway Program speak for itself. Taxpayers save hundreds of thousands of dollars each year thanks to the volunteers who clean other people's trash from the Free State's roads.

Bridge Design

SHA has statewide responsibility for all new design, rehabilitation and inspection of bridges. SHA's hands-on bridge inspection program has been used by the Federal Highway Administration as a model for other states.

Construction

Most of SHA's projects are bid to private construction contractors. SHA's districts, including the inspection staff manage Maryland's construction program.

Customer Service

SHA's goal of providing superior customer service is vital to our success. Serving our customers may involve answering telephones or letters, holding public meetings, informing the public of a road closing, making sure bills are paid promptly or acquiring property needed for construction projects. SHA is dedicated to addressing the needs of Marylanders. Our customer service policy is quite simple: we respond to our customers the way we would like to be treated, honestly, courteously, politely and efficiently. The key to SHA customer service is caring.

District Offices

SHA serves Maryland through seven engineering districts. A district includes a number of counties, with a district office serving as its headquarters. Each district is responsible for the management of highway and bridge construction contracts as well as all maintenance functions such as pavement repairs, bridge repairs, snow removal, roadside management and equipment maintenance. The districts are also responsible for traffic engineering operations. While they share these common duties, the geography, climate and location of each district make it unique.

Diversity

SHA's work force reflects the rich diversity of the ever changing communities and customers we serve. SHA is committed to recruit, hire, promote and retain a highly qualified work force that is diverse in nature. Our goal is to provide employees with opportunities, programs and support systems for success at all levels.

Environmental Design

The environment is another important priority for SHA. Our goal is to continue to improve the quality of the highway environment. Included among these efforts are highway landscaping, streetscapes, wetland preservation, creation and roadside vegetation maintenance, wildflower planting and reforestation.

Funding

Before a road can be built, MDOT must be sure enough money will be available to cover planning, design and construction costs.

Highway Design

Highway engineers produce final designs for all projects, develop contract plans and specifications and prepare construction contracts for bids.

Maintenance

After a highway construction project is complete, SHA's long-term job has just begun. District maintenance personnel continue to keep the roads in good condition with improvements and repairs in the areas of safety, drainage and ride-ability. They keep the highways safe and clear in the winter; mow grass in the spring, summer and fall and are concerned with both the physical condition and appearance of the roadways all year long. Maintenance personnel also respond to emergency weather incidents, hazardous spills and natural disasters.

Planning

SHA's cooperative planning process forecasts travel patterns, evaluates alternate methods of transportation and analyzes environmental and community impacts of proposed projects.

Planning (cont.)

During the preliminary planning process we ensure that proposed projects are compatible to local conditions and are environmentally friendly. We even have archeologists who conduct investigations at future construction sites.

Quality Materials

SHA provides quality assurance and materials testing for SHA's construction and maintenance activities. We handle engineering geology and geotechnical exploration services to SHA and other transportation agencies, conduct specialized field testing in support of pavement and bridge management systems, designs, pavements and perform research on new technology, procedures and materials.

Real Estate

From time to time we may need to acquire land easements necessary for construction of highway projects by appraising the value of property and determining fair compensation for the property owner.

Statewide Operations Center

The Statewide Operations Center (SOC) assists all areas of SHA by monitoring highway traffic activity through a high-tech facility located in Hanover, Maryland. This 24-hour-a-day, seven-day-a-week communication center allows for efficient incident response through state-of- the-art technology. The SOC is home to the Coordinated Highways Action Response Team (CHART) program. This innovative program utilizes advanced technologies, including closed-circuit television cameras, Traveler Advisory Radio (TAR), Variable Message Signs (VMS) and pavement weather sensors to assist in monitoring responses and clearing roadway incidents and backups. The SOC also houses Maryland's Emergency Operations Center (EOC), which is activated for natural and man-made emergencies (snowstorms, hurricanes, nuclear facility exercises, etc.).

Training and Development

We believe SHA is a place where people can both enjoy their work and advance in their careers and our Leadership & Developmental Programs make these things possible. Employees may take advantage of various programs targeted for their career and personal growth and SHA encourages employees to become involved in decisions affecting their professional growth as well. The Leadership & Developmental programs will also help you continue to expand and flourish through the SHA University Catalog and Curricula Guide, Cornerstone On Demand (CSOD – online training courses), Student Learning Center, and workforce planning and development.

GETP Program Elements

1 On-Boarding

The program aids in your transition to being an SHA employee.

2 Training Curriculum

Go through a series of technical and developmental trainings that integrates SHA policy and reinforces skills necessary for becoming a quality employee.

3 Career Development

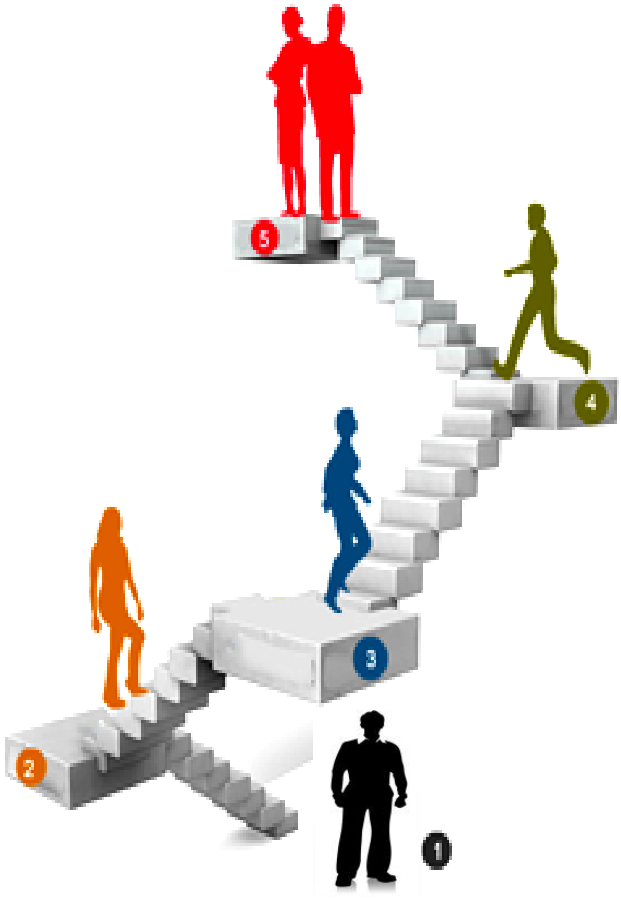
The program assists in mentorship, PDPs, and any other goals associated with professional development.

4 Rotations

Complete a 6-month rotation and acquire working knowledge of other departments in the organization.

5 PE/EIT Prep

The program funds opportunities to take PE/EIT prep courses.



Program Elements

Project Development Process

SHA's Graduate Engineering Training Program allows you to receive an education that stretches beyond the classroom. You are able to work with SHA engineers, form bonds with other participants and have the satisfaction of seeing a project through from start to finish. Engineers that have completed this program report that they are not only more astute as civil engineers, but feel a connection to the organization and value the bonds that they developed with their graduating peers.

The project development process is one of the first aspects of SHA to which you will be introduced, such as SHA's Thinking Beyond the Pavement Initiative, a context-sensitive approach to integrating the surrounding communities and environment in Maryland transportation projects. Sessions are held where you, as the engineer, will examine the State's transportation project planning process and conduct a case study. You will have an opportunity to review the state funding process for SHA-related projects and studies and learn more about project management. Procedural discussions in concept development, preliminary engineering, project design, and detailed engineering, real estate acquisition and construction will give you a hands-on experience in managing a project from initiation to completion.

Project Meetings

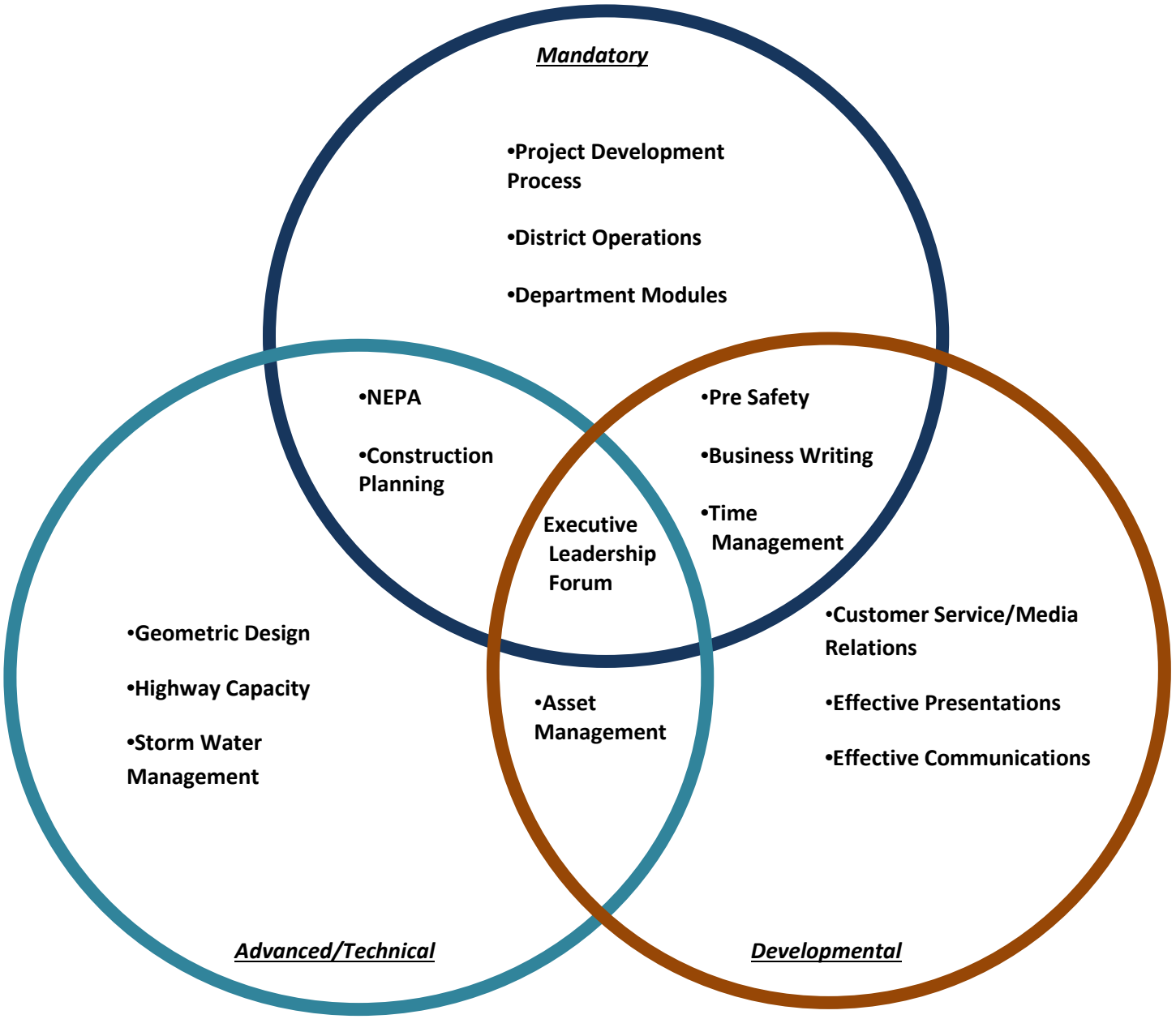
Meetings with fellow engineers and the public are important in obtaining feedback, making successful decisions and advancing the progress of transportation projects. As a GETP participant, you are able to attend several meetings as an observer and participant. You will gain an understanding of the discussion and decision process and how to design an effective, visual and oral presentation.

Rotational Assignments

You will be able to complete a rotational construction assignment, where a portion of your time is spent in the field. This rotation lasts six months and is your opportunity, as a new engineer, to continue building your personal career development experience. A second rotation is optional, and is decided upon by you and your manager.

Training Courses

Below is a list of the training modules you will be involved in during the first two years of the program:



Construction Rotations

Rotations

The wealth of opportunities available to GETP Participants can be explored during the second year in the program. This involves carrying out duties within a current construction project for 6 months. The approximately timeline for rotations are as follows:

January – February:	**Begin discussing potential locations/projects**
February – March:	**Get necessary documents signed and mailed**
April – until:	**Carry out construction rotation**

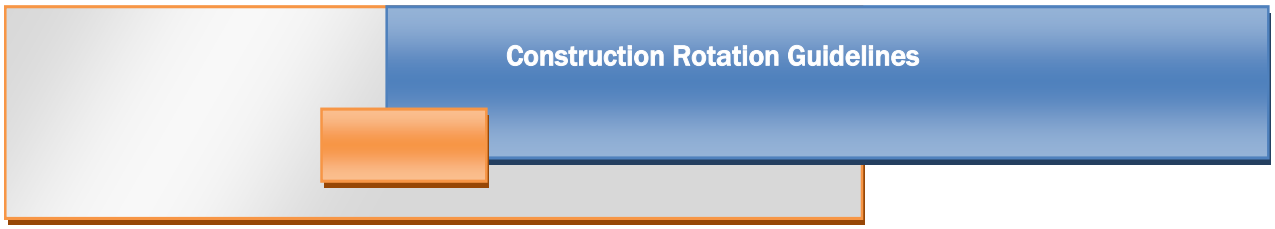
Participants choose their rotations in consultation with their Supervisors. It is expected that most rotations will be in the construction area, but a rotation may be done in another area upon proof of adequate construction experience. For participants who wish to do multiple rotations, permission from the GETP Program Manager, Host Construction Project Engineer and home Supervisor is required. Following the completion of the Post Rotation Document along with completion of all given training modules, participants will be eligible for graduation as well as other opportunities involving professional licensing.

Registration

Registration for construction rotations requires only two forms:

- GETP Rotation Request Form
- Rotation Memorandum Agreement

These forms require information regarding current office, requested location and project, and signatures from the participant, supervisor, Assistant District Engineer, etc. Rotations aren't approved until original forms are reviewed and signed by the GETP Program Manager.



1. The Engineer will be encouraged to look at the SHA Assignment List(s) and/or Ad Schedule(s) to check availability of at least 2 or 3 different projects for the upcoming Spring/Summer season after one year of program participation.

2. Once an Engineer has selected projects of interest they are urged to speak with their Supervisor for approval of a favorable timeframe for all concerned. Engineer will then contact the GETP Program Manager who will then set-up and conduct a pre-rotational meeting with the Engineer/Supervisor/and respective PE/ADE/Area Engineer (in person, via telephone or e-mail) to confirm all particulars (project availability, timeframe, etc.).

3. GETP Program Manager will provide Construction Inspection Division (CID) with a list of Engineers and their prioritized projects in late March.

4. CID will schedule the required Safety orientation, typically in mid-April. Safety awareness (hard hats & vests), field manuals and personnel procedures are covered in orientation. **No Engineer will be allowed to rotate without orientation and without the proper safety equipment.**

5. Once the orientation is complete, the GETP Program Manager will e-mail the Engineer/Supervisor a confirmation of their rotation start and end dates as well as where and when to report. This e-mail should copy the Assistant District Engineer Construction, Area Engineer, District's Administrative Office, Construction Inspection Division (Margaret Martin) and mTRACK Time Keeper (Debbie Mullineaux).

6. During the middle of the rotation, GETP Program Manager will contact the Engineer to make sure they are being utilized productively. This may be done by an actual scheduled visit to the site, an e-mail or a phone call. While on rotation, should a problem arise, they will be instructed at their initial conference to let somebody know of their dissatisfaction.

7. Prior to the end of the Engineer's rotation, the GETP Coordinator will remind the ADE Construction/Area Engineer, via e-mail of the Engineer's end date. This e-mail should copy: Engineer, Supervisor, District's Administrative Office, Construction Inspection Division and the Regional Construction Engineers.

8. GETP Program Manager will contact Construction Inspection Division to attend post construction rotation meeting with the Engineer.

Additional Info

Absence

In the case where anyone is unable to attend a training module, please notify the Program Manager as soon as possible with the reason so that accommodations will be made. Too many absences may stand in the way of graduating from the program with the rest of the GETP Class.

Communication

Training information will be provided through the Cornerstone On Demand System (CSOD). Upon having access to CSOD, scheduled trainings will be visible to the GETP Class. A reminder will be sent 30 days from the day of training, and then again 5 days from the day of training.

Additional communication will be executed through email. Reminders for training may come from the Program Manager as a precautionary measure. If for any reason there is a need to reschedule or cancel a training the participants will be notified in advance.

If there are any questions or concerns feel free to contact the Program Manager directly (see page 3).

GETP Site

The Program has a page on SHA's Intranet with more information about the program and links to some resourceful documents. In that same area of the Intranet, you can view the pages for other developmental programs following the success of matriculating through GETP.

September 2015

Dear GETP Rotation Participant:

As a part of the Graduate Engineer Training Program (GETP) requirement, you are obligated to complete a *six month construction rotation. In order for this to be a smooth transition for all concerned, please follow the GETP Rotation process instructions below:

- You must fully complete the entire top portion of the GETP Rotation Request Form, (inclusive of the "Description of Function(s) You Would Like To Learn/Perform" section) as well as read the Guidelines For SHA's Rotational Assignments (GFSRA) and sign Page 5 of this document. Please then give both forms to your Supervisor for signature/approval and to your Division Chief and/or Senior Manager for signatures/approvals as well. Once these signatures have been obtained, forward the GETP Rotation Request Form and Page 5 to the GETP Program Manager (HQ/C-603).

- The Program Manager will then forward this document to the new ADE Construction and/or new Supervisor/Manager at the Host Office for their signatures/approval as well. Once your GETP Rotation Request Form and Page 5 of your GFSRA has been fully approved by all parties, the GETP Program Manager will sign off on the document and forward a copy to the respective Administrative Chief, Unit Training Coordinator, Debbie Mullineaux, mTRACK System Administrator (MS C-508) and to Margaret Martin, Deputy Director – Field Operations, (OOC Hanover – 226).

- Per the GFSRA, during any voluntary rotational assignment, the Host Office becomes the employee's assigned office for official business and the employee must abide by the rules/regulations of the Host Office. It is the Host Office Hiring Manager's responsibility to inform rotational employees of their leave/call-in procedures. The Host Office will be charged for the rotating employee's time. As such, the Host Office is responsible for any changes that need to be made in mTRAK.

- Once your GETP rotation is complete, you must inform the GETP Program Manager and your Home Office Administrative Chief as the Home Office Administrative Chief will be responsible for finalizing all changes in mTRAK.

- Once you return to your Home Office, it is mandatory that you complete the Rotation Evaluation location on Page 6 of the GFSRA. Please complete and forward to the GETP Program Manager within 30 days of your return. The Host Office Supervisor is also responsible to complete the evaluation located on Page 7 of the GFSRA, within 30 days as well. We will not be able to mark your GETP rotation as complete until we receive these items.

* GETP rotations may be approved by a Senior Manager for a period of less than six months. Rotations may also be approved outside of the Construction area for those engineers currently working in Construction. Approvals are given on a case by case basis. These forms must be used for either type of GETP rotation.

You must keep the GETP Program Manager and your Home Office Administrative Chief abreast of any and all changes that may occur during your rotation timeframe, inclusive of when you actually return to your Home Office once the GETP rotation has actually been completed. This way you will be given the necessary credit to graduate from the GETProgram.

We are certain that your GETP Rotation will provide you with the newfound knowledge and skills that you are seeking to be successful in your career. Should you have any questions, feel free to contact Aleia Hendricks, GETP Program Manager, directly at 410-545-0334. My best to you in this endeavor!

Yvette R. Harris

Chief, Developmental Programs
Organizational Development Division

c: Margaret Martin, Deputy Director, OOC
Debbie Mullineaux, mTRAK System Administrator
Aleia Hendricks, GETP Program Manager
Joshua Lee, GETP Program Coordinator
Administrative Chief
Unit Training Coordinator

GETP Post-Rotational Meeting Notes

DATE: _____

Eng. Name:

Project: **Time Frame:**

Pro. Eng/ADE: **District:**

Conducted By: Aleia Hendricks

1. Tell us about your rotation…

_____
_____
_____
_____
_____
_____

2. Were your learning expectations met?

_____
_____
_____
_____
_____
_____

3. How were you treated out in the field?

_____

_____

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_____

4. What did you like / dislike?

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5. Any general recommendations for this program?

_____

_____

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_____