IN THIS ISSUE

*Of special note are the articles from the Divisions of Project Management and Design, which include information about professional development opportunities that are open to staff from other divisions—in addition to information that is specific to staff in their own divisions.

All of the Divisions in Project Delivery have articles in this edition. Each article is organized in order of the main categories encircled above (as applicable to each Division’s training and development opportunities).

4. Division of Project Management*
7. Division of Design*
10. Division of Construction
12. Division of Engineering Services
14. Division of Environmental Analysis
17. Division of Right of Way and Land Surveys
19. External Training Resources
20. Caltrans Training Resources
I am pleased to present the Professional Development edition of the Project Delivery News. This is a unique and pivotal time for Caltrans. We are experiencing a surge in hiring, and a wave of retirements. Project Delivery is therefore placing a sustained focus on training new employees, developing experienced staff, and engaging in effective succession management processes. The development, education, and growth of employees is always fundamental to the success of an organization, and in this critical era, Caltrans is intensifying efforts to ensure a high quality workforce.

Successful implementation of Caltrans’ Mission, Vision, Goals, and Values requires high-performing teams and individuals. Caltrans is committed to providing a “performance-driven, transparent and accountable organization that values its people, resources and partners, and meets new challenges through leadership, innovation and teamwork.” The primary tool required to achieve our Vision starts with Caltrans employees and their continual professional development.

“Professional development” in Project Delivery encompasses a wide spectrum of educational offerings, including instructor-led classes, online courses, and academies; as well as opportunities for exposure to new challenges, such as rotations, on-the-job training, and other leadership development activities. The articles in this edition highlight specific opportunities in each Division. Please take special note of the articles from the Division of Project Management and the Division of Design, as they describe activities and programs that are applicable to staff in other divisions as well.

Continual professional development helps individuals and project delivery teams thrive, and it is an important aspect of succession planning. Thank you for doing your part to ensure that current and future generations will be able to benefit from the wealth of knowledge that resides within Caltrans.

Karla B. Sutliff
Project Delivery Deputy Director
(Chief Engineer)
The Division of Project Management is responsible for the management and delivery of the Caltrans portfolio of transportation improvement projects. The office of Project Management Professional Development (PDPD) is committed to developing and implementing statewide project management (PM) policy, standards, business processes, tools, and training. PDPD provides instructional materials not only for Project Management staff, but supports training efforts for all of Project Delivery by administering the Learning Management System (LMS) and developing online courses for all Project Delivery Divisions.

The following paragraphs describe the instructional strategies that PDPD employs to enable the continued development of new and experienced staff throughout Project Delivery.

Courses: Classroom

Project Management Overview (formerly Project Management for Beginners) is a 2-day introductory course in PM where real-life scenarios will be used to deliver the fundamentals of what it takes to successfully deliver a project.

Additional classroom courses include:
- Transportation Funding for Caltrans Capital Outlay Projects
- PM with Project Resourcing and Schedule Management (PRSM)
- Project Risk Management - A Scalable Approach
- Project Risk Management for Managers
- PM Overview
- PM Leadership and Partnership Programming Change Process
- Workplan Development PRSM Ad-Hoc Reports Using Jaspersoft
- Architectural and Engineering (A&E) Contracts for PM
- Project Delivery Orientation
- Effective Meetings
- Asset Management

Courses: Online

The Project Delivery e-Learning Center (PDeC) is an online instruction ("e-Learning") platform that is accessible to all Caltrans staff. PDeC serves as a central hub for e-Learning courses and materials related to Project Delivery products and activities.

The PDeC platform includes over 100 classes developed in-house, on a variety of Project Delivery topics. Of those, over 30 training modules are related specifically to Caltrans project management processes and procedures.

PDeC is integrated with Caltrans (CT) Single Sign-On (SSO) and interfaces with the Staff Central LMS. Once a supervisor approves an employee's e-Learning training request via Staff Central LMS, the employee is granted access to the course. Upon completion of the class, the employee training record is automatically updated in Staff Central.

PDeC can be accessed by clicking on the "Enterprise Web Apps" icon on the Caltrans Onramp (shown in the top graphic on the following page) or via this link: https://pdelearning.ctpass.dot.ca.gov/
**eHow**
The PDeC site offers an "e-How" series of short recorded tutorials about a Caltrans, and/or PM topic or process. Over 20 eHow videos on Caltrans PM applications are available via PDeC.

https://pdelearning.ctpass.dot.ca.gov

**LinkedIn Learning and RedVector**
Caltrans provides staff with access to two leading providers of online training content: LinkedIn Learning (formerly Lynda.com) and RedVector. Through these platforms, Caltrans staff has access to thousands of courses, videos, and tutorials. RedVector and LinkedIn Learning are integrated with CT SSO. Employees may search for classes online at the following two links:

https://caltrans.redvector.com
https://ecampus.onramp.dot.ca.gov/

**AASHTO TC3**
The American Association of State Highway and Transportation Officials (AASHTO) Transportation Curriculum Coordination Council (TC3) is a technical service program within AASHTO that focuses on developing training products for technical staff in transportation engineering. TC3 has a library of more than 190 online training modules covering topics in construction, maintenance, and materials.

Caltrans PDPD, through a yearly subscription, allows all Caltrans staff access to AASHTO TC3 training materials. Employees may enroll via their email address. AASHTO TC3 classes are posted online:

https://tc3.transportation.org/

**Massive Open Online Courses (MOOCs)**
MOOCs are online courses available to the public. MOOCs are a popular way to learn new skills at no cost to the student. Some of the top online training organizations are listed in the following table. Employees taking this and other training on state-time must obtain supervisor approval in advance.

<table>
<thead>
<tr>
<th>MOOC Provider</th>
<th>MOOC Website</th>
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<tr>
<td>edX</td>
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Academies & Forums

PM Academy
Attendees are primarily PMs with 1-5 years of experience, with more experienced PMs comprising about 1/3 of the Academy to help with cross training. The training provides a collaborative forum to discuss high-level management perspective and expectations; and includes key functional unit presentations.

PM Council/Forum via video teleconference (VTC), is a monthly hot topic discussion between with statewide PMs and HQ management team. All meeting materials are housed on the Onramp. Other regular VTC meetings: PRSM Implementation Managers and the PM Data Community Meeting.

Professional Development

PM Certificate Program
This program is intended to give Caltrans Project Managers, and other project team members, the skills to effectively employ processes such as organizing, planning, scheduling, monitoring and controlling a variety of tasks to keep Capital Projects on task, on time, and on budget. The program includes both theoretical and practical problem-solving approaches to project management.

Project Management Institute (PMI) Membership
PMI is the leading not-for-profit professional membership association for the project management profession. PMI membership offers great value, with online access to standards and practices, resources, communities, and volunteer opportunities. Visit PMI online: https://www.pmi.org/
To request PMI membership, email: PDPD@dot.ca.gov

Additional Tools & Resources

Project Delivery Onramp has a breadth of guidance and reference materials online. Project Management staff should be familiar with Project Delivery Orientation, Project Development Procedures Manual (The Gold Book), and Project Management Manual.
https://pd.onramp.dot.ca.gov/guidance

The Division of Project Management has an extensive resource library online: https://projmgmt.onramp.dot.ca.gov/pm-resources
DIVISION OF DESIGN

Office of Professional Development

The Division of Design (Design) is committed to attracting and retaining high performing professionals by developing new employees, and by supporting the continued development of existing staff. The Office of Professional Development (OPD) partners with other project delivery offices, divisions, districts, and external educational agencies to create and implement a comprehensive professional development program to support statewide staff.

Training Needs Assessment for Professional Development
The OPD is devoted to equipping Design staff with required professional knowledge, skills, and abilities (KSAs) by evaluating statewide professional development/training needs. Due to the current wave of retirements, and the recent influx of Senate Bill 1 project funding, design functional units are experiencing a surge in new hires, who are largely unacquainted with Caltrans policies, guidance, and project delivery design processes. The OPD is partnering with Sacramento State University to conduct a KSA needs assessment. The needs assessment findings will be used to update the OPD Strategic Plan which will set Design training priorities and targets for the next several years.

Courses: Classroom
Instructor-led classroom training courses provide immediate and bidirectional feedback between students and instructors, which can maximize learning outcomes. The in-person classroom setting also provides networking and peer learning opportunities among students. Some of the traditional classroom training courses that are scheduled for delivery to new hires and existing employees throughout the coming year are described here:

MicroStation and Civil 3D
MicroStation is the standard drafting software that Caltrans uses to create contract plans for projects on the State Highway System. Civil 3D is the software used by roadway designers to design...
and create the Master Design file. It is critical for designers, especially new hires, to have adequate KSAs related to these programs. The Office of Computer Aided Drafting and Design (CADD) & Engineering Geographic Information System (GIS) Support, in Design, offers training sessions at different levels (introduction, intermediate, and advanced) of MicroStation and Civil 3D classes throughout the year.

**Subject Matter Expert (SME) Courses**

SME’s in Design recently developed and delivered several instructor-led training courses (i.e. Americans with Disabilities Act (ADA) Highway Design, Cost Estimating, Roundabout Design) to update staff on the latest design policies, standards, and procedures.

**Federal Partner Courses**


**Courses: Online**

While there are many benefits provided by traditional classroom training, online courses provide flexibility in scheduling, and enable students to pace training to their individual needs. Online courses are also cost effective by reducing travel expenses often associated with in-person training. By leveraging technology, online courses (also called e-Learning) offer content on-demand, to an unlimited number of students. Design has the following e-Learning courses available via the Project Delivery e-Learning Center (PDeC): Basics in Highway Design, Introduction to Project Development Process, Hydrology, Roadway Drainage, Cross Drainage, Culvert Rehabilitation, Beginning Roundabout Design, and Stormwater Management. More e-Learning courses are currently under development.

**Academies, Seminars & Workshops**

Academies, seminars and workshops provide opportunities for face-to-face interactions that promote professional relationships, and support collaboration in addressing industry and organizational trends. These group settings enable training activities such as simulations, shared discussions, and team exercises that can help students transform theoretical knowledge into implementation strategies.

*The Project Engineer (PE) Academy* provides an overview of the PE’s role in the project development process. (The PE, a registered licensed engineer, is in responsible charge of project development documents and project plans, specifications, and estimates (PS&E)). The PE Academy imparts the Caltrans policies, standards, and best practices needed to deliver quality projects on time, and within budget. Candidates are selected by the PE Academy Coordinator in each District or Region.

*The Design Senior Seminar* offers a statewide forum for sharing solutions to project delivery challenges faced by Design Senior Engineers. Seminars emphasize topics such as: communicating effectively, creating high-performing teams, estimating schedule and resource needs, performing plan reviews, and understanding engineering quality issues.

*The District Design Liaison (DDL) Workshop* facilitates successful implementation of the responsibilities that HQ Design delegated to Design in the Districts/Regions. DDLs help district staff to identify appropriate reference and guidance information, and are on hand to help problem-solve as needed.

*The Hydraulic Engineer Academy* addresses the hydraulic engineer’s role in the planning, project development, and maintenance processes that will improve the delivery of quality projects, enhance partnerships, enhance customer service, and contribute to a greater knowledge base across functional areas.

*The Landscape Architecture Academy* provides a statewide forum to discuss the holistic strategies that landscape architects employ to improve the vitality of the transportation system, the environment, and local communities. Typical topics include: erosion control, native vegetation, mitigation, worker safety, water conservation, natural resource preservation, complete streets, climate change adaptation, visual impact assessment, aesthetics, and design concepts that improve livability and sustainability through transportation projects.

*The District (Senior) Landscape Architect Academy* offers a forum for statewide senior, supervising, and principal landscape architects to collaboratively discuss best practices and innovative strategies for meeting industry and organizational trends.
Rotation Program
The Caltrans Rotation Program is an essential component of the professional development program for new employees. The recently released Statewide Transportation Engineer (Civil) Rotation Program Guidelines defines the program and its requirements. The Rotation Program helps newly hired engineers to develop well-rounded project delivery KSAs by rotating through diverse project delivery functional units. During rotation, new employees will participate in assignments that develop professional expertise, and provide firsthand knowledge of how diverse functional units each contribute to the successful implementation of the Caltrans Mission, Vision, and Goals.

Employees participating in the Rotation Program will be assigned a mentor, who in collaboration with the first line supervisor, provides professional development advice to help meet the employee’s goals. The mentor and employee develop a Rotation Plan together. Once assigned to a rotation job assignment, the mentor contacts the employee regularly to provide guidance throughout the rotation process.

OJT Courses
Five Geometric Design OJT courses cover Highway Design Manual Chapter 100 to Chapter 500: Basic Design Policies, Alignment and Grade, Cross Section Elements, Intersections at Grade, and Interchanges. Training materials are under development for Districts seeking to deliver these five OJT courses in a classroom setting.

Cost Estimating OJT: This course provides students with a basic understanding of the cost estimating methodology used by Caltrans in the project delivery process.

Licensure & Professional Development
A major component of the professional development program is the Professional Licensing Assistance Program, which is available to employees who are eligible to pursue professional licensure (including professional engineers, landscape architects, land surveyors, etc.). The program provides guidance and reimbursement for eligible exam fees, professional license review courses, and related technical publications.

Conclusion
With the influx of new hires, and the anticipated wave of retirements in the near future, it is critical for the OPD not only to train new and experienced employees, but also to retain the institutional knowledge of experienced employees nearing retirement.

The OPD is planning for systematic ways to retain institutional knowledge through succession management activities. Under development is a Succession Plan which will facilitate the efficient passing of institutional knowledge down to the next generation of professionals. Training for existing employees will be offered to address current policies and procedures, and will emphasize methods of recording and disseminating institutional knowledge.

The OPD is also planning for long-term professional development goals. The OPD designed a training curriculum that follows a predefined sequence of courses to maximize student understanding. By following defined paths in the training curriculum, employees can progress to become project engineers, design seniors, supervisors, and mentors/trainers.

Finally, the OPD continuously seeks to utilize the most effective training delivery methods and most cost-efficient means to meet training needs and maximize the return on training investment. A recently updated OPD website helps students find needed professional development/training information within 3 clicks.

Additional Tools & Resources
More information is available on the Caltrans intranet and internet sites:
Office of Professional Development: https://design.onramp.dot.ca.gov/professional-development
Division of Design: http://www.dot.ca.gov/design/
Office of Construction Training and Environmental Compliance

The Division of Construction is committed to developing a knowledgeable workforce that effectively administers and delivers construction projects throughout the state. The Division of Construction 2018-2019 Strategic Priorities includes a focus area that aligns with Project Delivery’s goal: “Plan and Develop Statewide Workforce.” The Office of Construction Training and Environmental Compliance supports this goal by focusing on the training and professional development of construction staff statewide, and by recognizing the competency of skilled and knowledgeable Resident Engineers (RE’s) through the issuance of RE Certificates.

Courses: Classroom & Online
Instructor-led and online training is offered in the areas of construction orientation, contract administration, field inspection, and “just-in-time” training (a type of training required by some contract special provisions).

Construction Orientation
Newly hired construction field staff will be acquainted to field construction operations with the following training:
- Safety Orientation for Construction is instructor-led training for field staff that covers basic construction safety awareness, and Caltrans construction safety policies and procedures.
- Construction Boot Camp is instructor-led training that familiarizes new inspectors with Caltrans projects and the Construction Manual. Instruction is provided on how to read project plans, document field activities, and prepare payment records.
- Introduction to Construction Stormwater Pollution Prevention Plans (SWPPP) is online training that provides an overview of water pollution control issues on construction sites.
- Environmental Compliance for Construction is online instruction that familiarizes new inspectors with the Environmental requirements of Caltrans jobs, including Aerially Deposited Lead (available in early 2019).

Classroom Contract Administration
- Change Order Process provides an overview of the change order process with hands-on activities.
- Field Office Procedures this course covers the typical documentation of a Construction project, from bid to contract close out, detailing the process for reviewing and filing each document generated by the project.
- Partnering Fundamentals on Caltrans Projects is taught jointly with industry—so that both Caltrans and contractor staff understand the methodology, and the importance of partnering.
- Constructability Review covers the review process of project initiation documents, plans, and specifications at various project phases to identify potential construction issues, utility conflicts, and overall constructability of the project, to reduce construction delays and cost overruns.
- Oversight Project Management instructs participants on the roles and responsibilities of Caltrans field staff engaged in managing oversight projects financed by local agencies.

Classroom Field Inspection
- Structure Inspection for District Employees is designed for District RE’s and Assistant RE’s, and covers structure construction inspection procedures.
- Drainage Inspection provides the fundamentals on preparing, inspecting, documenting, and paying for drainage items of work in accordance with contract documents.
- Landscape Inspection covers the essentials of planting and irrigation installation requirements, and details methods of inspecting landscape architectural features to ensure compliance with contract documents.
- Electrical Systems Inspection provides an overview of basic electrical inspection (taught as needed by district instructors).

Just-in-time Training
Some contract special provisions provide for just-in-time (JIT) training, which is joint training with industry and construction staff, and includes all contractor and Caltrans staff directly involved in the construction operation. Providing JIT training ensures that the people performing the work receive timely instruction about new practices that can improve workmanship, safety,
and project quality. An example of JIT training as required by the contract specifications is the safety training provided to Caltrans field staff who have the potential for lead exposure in Construction activities.

**Project Delivery e-Learning Center**
The Construction training program also provides numerous on-demand online courses via the PDeC platform. With supervisor approval, employees can enroll in PDeC courses via Staff Central LMS. Some of the PDeC classes and tutorials that cover construction topics are listed below:

- **Project Scheduling Series:** Critical Path Method (CPM) Basics; Primavera P6; and Scheduling Review and Analysis. This series utilizes computer simulation modules to enable students without Primavera P6 software to practice scheduling techniques.
- **Disputes Resolution Series:** Disputes Before Acceptance; Alternate Dispute Resolution Process; and Disputes After Acceptance. This series provides instruction on dispute resolution as stated in the Standard Specifications and Construction Manual.
- **Temporary Traffic Control (TTC) Series:** TTC Elements; Freeways and Expressways; Conventional Highways; and Moving Lane Closures. These courses utilize drag and drop technology to practice the selection of TTC elements required for closing lanes and ramps.
- **Concrete Pavement Series:** Design, Materials and Characteristics; Concrete Mix Design; Quality Assurance; Pre-Paving Activities; Paving Activities; and Post-Paving Activities.
- **Temporary Pedestrian Access Routes** addresses the inspection of temporary pedestrian access routes through and around work zones to ensure ADA compliance.
- **Permanent Pedestrian Facilities Inspection** addresses construction inspection of permanent pedestrian facilities to ensure ADA compliance.
- **Respirable Crystalline Silica Safety**
- **Dust Control on Construction Projects**
- **Earthwork Series:** Soils Properties; Equipment; Before Work Begins; Work Begins; Roadway Excavation, Rock Excavation; Compaction; and Embankment Construction
- **Stormwater Pollution Prevention Series:** Introduction to Construction SWPPP; Advanced Construction Site Best Management Practices (BMPs) & Field Applications; Management of Construction Site Dewatering Operations; Construction Site Monitoring Program; and Construction Stormwater Refresher
- **Hot Mix Asphalt (HMA) Series** (under development).
- **Quick Guides** are short video tutorials posted on PDeC. As new video clips are released pertaining to construction, a web link embedded in the "Quick Guides" icon will be pushed out to iPad users in the field.

**Academies & Workshops**
The RE Workshop and RE Academy are open to field staff who are interested and eligible to become RE’s.

*The RE Workshop* is a two-day classroom-based course that teaches the fundamentals of Caltrans contract administration, including the use of proper forms and filing system in accordance with the Caltrans standard specifications, and *Construction Manual*.

*The RE Academy* is a week-long course which covers the administrative functions associated with construction projects. Upon completion, students will be able to analyze issues related to contract documents and the *Construction Manual*, proactively manage projects, and be able to provide required project documentation.

**On-the-Job Training**
On-the-job training is highly effective for the professional development of Construction staff. Experienced construction personnel are often paired with newer staff to serve as informal mentors. The mentor has in-depth knowledge of current Construction...Continued on page 19
The Division of Engineering Services (DES) is the lead for the design, construction, and oversight of bridge and other transportation structures. DES is multidisciplinary, and is committed to providing quality products and services in a timely manner.

DES aims to meet its strategic goals and initiatives through a variety of targeted strategies. By leading our workforce to modernized training and professional development opportunities, and implementing a formal quality management system, DES will continue to deliver quality products and services to clients and stakeholders, even as attrition rates rise.

Courses: Classroom & Online
A number of DES subdivisions are focusing on leadership training in an effort to develop staff for advancement into roles left open from attrition and separations. With on-the-job training, out of class assignments, and leadership courses provided by the Learning and Development Office, experienced leaders have many opportunities to develop staff to take on key positions, ensuring a smooth transition of responsibilities.

There’s been a paradigm shift to modernize training and development and more frequently, training of all categories is being delivered online. Not only can online training be a valuable resource for empowering and developing a confident workforce, but it aligns with the DES strategic initiative to use resources effectively. By offering training on demand, the impact of training on indirect costs can be minimized. Often with lower or no tuition costs, flexible delivery hours, and a full assortment of topics, online training can complement any traditional training plan.

Online training supports DES goals to mitigate the loss of knowledge and experience leaving the organization by way of retirements and separations.

To that note, the DES Workforce Development Branch has been working closely with experienced subject matter experts in the Office of Earthquake Engineering to turn the Caltrans-developed Csi Bridge Training, a traditional, two-day classroom course, into an online learning experience. Using recording equipment and screen capture software, each instructor’s presentation has been reproduced in video form. These videos can be viewed in succession, at one’s own pace or individually to refresh a student’s understanding of an engineering concept or CSiBridge software feature. Several modules of this course are available now on the Engineering Services section of the Project Delivery e-Learning Center (PDeC).

Through PDeC, DES students have access to additional technical courses, such as the DES Transportation Engineer (TE) Civil Rotation Program prerequisite courses, Introduction to Bridge Design (A and B). Along with those offerings, students can find content of technical interest provided through Caltrans partnerships with the American Association of State Highway and Transportation

DIVISION OF ENGINEERING SERVICES

DES Workforce Development Branch
Officials’ Transportation Curriculum Coordination Council (AASHTO TC3), the National Highway Institute and RedVector. Additionally, through PDeC, knowledge seekers have access to a variety of Massive Open Online Courses (MOOC) on individual topics and entire programs taught at university levels.

DES Workforce Development Branch was an early adopter of the Lynda.com/LinkedIn Learning training platform. From courses on Microsoft Excel to soft skill courses on communication and change management, this resource allows students to take initiative in achieving their professional development goals.

Rotation Program
In an effort to develop newly hired Transportation Engineers (TE) a review team was assembled to refine and update the DES TE Civil Rotation Program guidelines. In its updated form, the DES Rotation program seeks to quickly and efficiently bring rotators to journeyman level through training and assignments in Design, Construction and supplemental experiences such as Geotechnical Services or Project Management. New standardized rotation assignment lengths facilitate the movement of rotators between these assignments after successfully completing their 12-month probation period. Simple process changes like this serve to support rotators as they advance forward in their careers.

Additional Tools & Resources
DES subdivisions are dedicated to supporting the DES strategic initiatives, using quality management tools, training and professional development to reach them. The DES implementation of a formal Quality Management System (QMS) and Internal Auditor standards (conforming to ISO 9001 and ISO 19011 guidelines) was accomplished through training services sourced from industry leaders.

This coordinated effort has provided the organizational structure to consistently identify and document roles and responsibilities, objectives, stakeholders, stakeholder requirements, processes, procedures and key performance indicators in each subdivision, office and branch. This program represents the foundation of the DES succession planning goals by facilitating knowledge transfer to current and future employees. Additional training on internal audit methods and practices serves to measure our deliverables, thereby efficiently utilizing DES resources. By adopting these practices as an organization, we can sustain the ability to deliver the high-quality projects Caltrans is known for.

This year, DES stands to add approximately 150 new hires and recruitments. As one of the larger divisions under Project Delivery, the addition of this new workforce will demand our training and professional development opportunities to be flexible and available at the student’s convenience. Adhering to our QMS will provide the structure for this new workforce to meet the DES strategic goals with success.

Additional information about the topics discussed in this article is available on DES intranet and internet sites:
- Transportation Engineer Civil Rotation Program https://des.onramp.dot.ca.gov/transportation-engineer-civil-rotation-program
- DES Internet: http://www.dot.ca.gov/des/
The Division of Environmental Analysis (DEA) administers Caltrans' responsibilities under federal and state environmental law. DEA develops and maintains Caltrans environmental standards, policies, procedures, and practices that are implemented by the Caltrans District Environmental Branches. Program staff work with the districts to identify and assess the effects of Caltrans projects on the state’s natural and cultural environments, and identify ways to avoid or mitigate those effects.

DEA currently offers a broad spectrum of training opportunities ranging from in-person courses, online trainings, seminars, and academies. The curriculum is rich in content and deliveries span the entire state.

Environmental Staff Development (ESD), within the Office of GIS, The National Environmental Policy Act (NEPA) Assignment, Environmental Management Systems, Innovation, and Staff Development (GNEIS), is increasing the session deliveries of key courses in order to meet the growing staff brought on by the recent surge in hiring.

At the same time, ESD is improving course content, developing new tools to train experienced staff, and emphasizing training opportunities intended to improve the retention of environmental staff in the Districts. ESD is embracing the challenge of training the influx of new hires while also bringing together experienced staff to tackle the complex issues faced by Environmental units across the state.

Courses: Classroom & Online
Increasing Course Deliveries
ESD is providing a significant increase of trainings, both in-person and online, geared to bring new hires the information that they need to be successful in their new positions and adhere to the Caltrans and DEA Mission, Vision, and Goals.

Since online training is such an effective way to provide course materials that are readily available at any time, ESD recently hired an
additional staff member to specifically focus on e-Learning development.

As recruitment and retention continues to be challenging within the environmental units statewide, especially in the urban Districts, it is important to use all available avenues within Caltrans to enhance the quality of work and job satisfaction of environmental staff. ESD has been using feedback from course evaluations and discussions with staff throughout the state to guide development of new materials. Future offerings will be designed to optimize learning and workforce empowerment to help improve environmental staff’s job satisfaction.

ESD is also committed to supporting the development of experienced staff. The first Environmental Senior Seminar will be offered in May 2019 to provide a forum for senior staff to meet and discuss topics such as risk management, effective communication, leadership, and succession planning.

Updating Course Content
ESD is currently updating courses to modernize the content, and to adapt to the high percentage of recent college graduates joining Caltrans Environmental units. Courses will emphasize employees’ practical knowledge to aid them in improving project delivery in their Districts.

To deliver training content, ESD is employing effective and innovative tools and platforms such as PREZI presentations (which can provide more dynamic presentations as compared to traditional slide-show presentations), new workbooks, interactive quizzes, drone footage review, and strategic use of project field reviews to local projects and partner agencies.

ESD is using performance metrics to monitor the effectiveness of updated training materials. The average FY17/18 net increase between pre- and post-test assessments was 32%; and ESD has set targets to meet or exceed that average in the coming year. By meeting performance goals, ESD is assured that the updated content is increasing student retention of the training information, thereby enabling new staff to contribute to successful project delivery.

Academies, Seminars & Workshops

Environmental Academy
The week-long Academy provides an overview of Caltrans Environmental processes through interactive lectures and exercises. Topics cover the full spectrum of environmental specialties, highlighting projects, and discussing the interrelationships between Environmental, Project Delivery, and other functional areas.
## Training Deliveries

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<td>22,687 student hours</td>
<td>+6,315 student hours</td>
<td>+38.57%</td>
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The ESD training plan for the current fiscal year (FY) 18/19 has scheduled 47 training sessions for a total of 22,687 student hours. Last FY, ESD delivered 30 sessions for a total of 16,372 student hours. This is a planned increase of 17 in-person trainings (+56%) and 6,315 student hours (+38%). In addition to the in-person trainings, ESD delivered 25 online courses in FY17/18 with 178 students participating.

### Training for Local Partners/Consultants

ESD, in partnership with the University of California, Davis, developed the Caltrans Environmental Compliance Program for Local Agency Partners and Consultants to provide training on environmental compliance and the Caltrans environmental process. This fiscal year, ESD plans to at least triple the number of offerings delivered for California Environmental Quality Act (CEQA) and NEPA compliance. ESD will also participate in the delivery of a cultural practitioner’s course to focus on a baseline of environmental regulatory requirements for Caltrans projects, techniques to help expedite project delivery, and strategies to facilitate effective communication between Caltrans, local partners, and consultants.

### Additional Tools & Resources

ESD is developing new tools to promote training opportunities, including access to a training calendar, release of a course catalog, and website upgrades. A recently released Microsoft Outlook calendar can be added to an employee’s existing calendar to view upcoming courses. The DOT Environmental Training calendar, accessible from the Outlook Address Book, displays upcoming FY18/19 courses as calendar appointments that are color-coded by Environmental functional units: General Courses (Green), Biology (Blue), Cultural (Orange), Environmental Engineering (Red). Detailed course information is updated within the calendar appointment as the course date becomes closer, and includes details about registration dates in LMS, room blocks, and travel guidance.

ESD recently released a Training Catalog that lists all the courses with detailed descriptions. This catalog will be available in hard copy, and is available electronically on the ESD website.

This year the ESD website will be renovated to shift the focus to trainees and the tools they need to obtain available training. These new tools empower staff to be proactive in their career development at Caltrans.

### Conclusion

ESD is enjoying an exciting training year, packed with course deliveries, updated content, and new tools. These combined new opportunities and tools will help our organization deliver projects in California and help staff meet career development goals within Caltrans Environmental. By updating access and content to reflect the needs of the new and future workforce, and creating material that is focused on practical knowledge and techniques to help improve project delivery, ESD can continue to strengthen the institutional knowledge of the Caltrans Environmental workforce.

The DEA intranet and internet sites have more information about the topics discussed in this article:

- DEA Staff Development Overview: https://env.onramp.dot.ca.gov/environmental-staff-development
- Environmental online training: http://www.dot.ca.gov/env/training.html
- DEA website: http://www.dot.ca.gov/env
DIVISION OF RIGHT OF WAY AND LAND SURVEYS

Office of Strategic Innovation

The Division of Right of Way administers the statewide program for right of way acquisition and real property management in support of the Caltrans Mission, Vision and Goals. An effective Right of Way (RW) program is essential to the success of Caltrans; and training is essential to the success of the RW program. Caltrans can hire attorneys with law degrees, engineers with engineering degrees, but there is not a Right of Way Degree for aspiring Right of Way Agents. Caltrans seeks out high quality applicants with four-year degrees, and trains them to be world-class Right of Way Agents (Agents).

Courses: Classroom & Online
The Project Delivery Training Catalog FY 2018-19 lists courses available to Right of Way staff, such as: Resolution of Necessity (RON) Generator. This course provides staff working in RW Acquisition an understanding of special statute applications in the condemnation process. It also provides an interactive workshop on how to use the RON Generator to produce a complete RON package.

Right of Way training also utilizes instructional materials offered by professional third-party vendors. Right of Way works with two main professional organizations: The International Right of Way Association and The Appraisal Institute. Both offer courses throughout the state. Caltrans Agents attend many of these courses to complement their professional education.

Academies & Workshops
Academies are a central focus of the RW training effort. RW offers three weeks of academies. The first Right of Way One Week, is an overview of the project delivery process with a Right of Way focus. It also includes exposure to the Caltrans Mission, Vision, and Goals; and discusses the impact of RW work on the public, and how to successfully navigate a RW career. The following two week academies are often taken months later, and a month or two apart from one another. They cover right of way engineering, legal aspects of right of way, appraisals, and acquisitions.

Rotations & On-the-Job Training
Formal and informal job rotation programs exist in some districts. These staff members have opportunities to work in multiple areas within Right of Way and can become experienced and well-rounded Agents before finding a niche to settle into for several years and hone their expertise.

The smaller districts tend towards a jack-of-all trades approach for the first few years. A new Agent might have assignments in multiple disciplines at the same time. There is not a formal rotation, but a type of generalist training that lends itself to also creating a well-rounded Agent with different types of experience and training. The districts exercise a great degree of freedom when it comes to on-the-job-training. The caliber of our Agents, and the impressive quality of their work is a testament to the success of different practices in the field.

Additional Tools & Resources
More information about Right of Way professional development and training opportunities is online:
https://row.onramp.dot.ca.gov/
http://www.dot.ca.gov/row/
Office of Land Surveys

The Office of Land Surveys (OLS) provides management and coordination of the California Department of Transportation’s Surveys function. Land Surveys manages surveying equipment and inventory; develops and procures cost-effective and advanced surveying systems; and maintains surveying standards and procedures that foster quality surveying projects.

Caltrans OLS is a nationwide leader, recognized and respected by peers for its professional Transportation Surveyor series career path, use of cutting edge technology and for providing innovative geospatial products and services to deliver transportation solutions that improve California’s economy and livability.

Courses: Classroom & Online
In support of ongoing career learning, OLS offers in-depth fundamentals such as Error Analysis, CA Coordinates, US Public Land Surveys System, Legal Description Writing Techniques and more.

Continuous and close collaboration with universities, and software and hardware developers, enables OLS to innovate, employ safer and more efficient methods of data collection and processing (such as Civil 3D, Trimble, and various terrestrial laser scanning systems), and to offer advanced Train-the-Trainer courses for Districts to further provide on-site, on-the-job training.

Academies
OLS has long provided valuable Caltrans-specific knowledge and skills training through their use of in-house Subject Matter Experts (SMEs). Surveying training classes, like the Surveys Academy and Surveys for Right of Way, first implemented in the 1970s and 80s, have been updated as new technologies and innovative workflows have changed the way we do business. The popular Surveys Academy 1 is offered to new staff as an introduction to the program, and to raise awareness of software, hardware, rules, regulations, policies and resources available and specific to their work. Surveys Academy 2 allow students to network with and learn from other functional areas of Project Delivery.

Rotations & On-the-Job Training
For employees seeking licensure or professional development, OLS offers mentorships, rotational opportunities, and on-the-job training throughout the various areas of Land Surveys.

Licensure & Professional Development
For staff preparing for professional licensure, the Land Surveyor (LS) and Land Surveyor in Training (LSIT) exam review course workbooks, and online videos, continue to provide valuable training resources.

Land Surveys training has been, and will continue to be, one of our best tools for recruiting and retaining a highly skilled and professional workforce.

Additional Tools & Resources
More information about Office of Land Surveys professional development and training opportunities is online: http://www.dot.ca.gov/landsurveys/
AASHTO T3 provides a training curriculum related to construction, maintenance, and materials. TC3 offers over 190 web-based training courses with additional courses planned.  [https://tc3.transportation.org/](https://tc3.transportation.org/)

**The Mineta Transportation Institute (MTI)** in partnership with the Lucas College, and Graduate School of Business at San Jose State University, offers graduate studies and certificates in Transportation Management. Accredited courses are offered through videoconferencing at San Jose State University and Caltrans district offices.  [https://transweb.sjsu.edu/](https://transweb.sjsu.edu/)

**External Training Resources**

**MOOCs (Massive Open Online Courses)** are online courses with free participation and open access via the web. Caltrans lists top providers: [https://projmgmt.onramp.dot.ca.gov/project-delivery-professional-development-pdpd/](https://projmgmt.onramp.dot.ca.gov/project-delivery-professional-development-pdpd/)

**RedVector** is a provider of online education for industries including architecture, engineering, and construction. Caltrans provides access to RedVector’s training library here: [https://caltrans.redvector.com](https://caltrans.redvector.com)

**The Transportation Research Board (TRB)** a unit of the National Academy of Sciences, Engineering and Medicine, performs independent and interdisciplinary research and outreach. TRB offers regular live and archived webinars: [http://www.trb.org](http://www.trb.org)

**The Federal Highway Administration (FHWA)** provides and supports programs and initiatives that offer webinars and online instructional content related to transportation design, construction, and maintenance. Access the programs listed below via the FHWA website: [www.fhwa.dot.gov/](http://www.fhwa.dot.gov/)

- **National Highway Institute (NHI)** provides training for transportation professionals in areas such as construction, design, environmental analysis, and right of way.
- **Every Day Counts (EDC)** provides online instructional content related to innovations in project delivery, system performance, and safety.
- **Strategic Highway Research Program (SHRP2)** provides online instructional content related to project delivery, cutting costs, and increasing safety.
Caltrans Training Resources

**The Project Delivery Training Catalog** is available online. Course descriptions summarize the content, length, and format of course. Staff contact information related to each course is also provided. [http://dpm-reports.dot.ca.gov/PDPTraainingCatalog/index.html](http://dpm-reports.dot.ca.gov/PDPTraainingCatalog/index.html)

**Caltrans Project Delivery e-Learning Center (PDeC)** is a platform that hosts e-Learning courses and materials, and is a central training hub accessible to all employees. Access PDeC courses via the apps page in CTPASS, or this direct link: https://pdelearning.ctpass.dot.ca.gov

**Caltrans Workforce Planning** offers "Lessons from Leadership," a set of interviews with Caltrans Executive Staff which promote leadership development and knowledge transfer. [https://hr.onramp.dot.ca.gov/lessons-leadership](https://hr.onramp.dot.ca.gov/lessons-leadership)

**Caltrans Mentorship Program** is a voluntary activity that matches Caltrans senior employees (mentors) with newer staff (mentees) to assist mentees with career development. Mentoring is an effective way to prepare for long-term career goals. The program is open to all classifications in all divisions. [https://hr.onramp.dot.ca.gov/mentorship-program](https://hr.onramp.dot.ca.gov/mentorship-program)

**Caltrans Learning Development Office** provides training related to professional and leadership development. Training includes online and classroom sessions related to basic and advanced staff skills, and leadership courses such as the Supervisory Training Program, and the Leadership Training Program. [https://ldo.onramp.dot.ca.gov/](https://ldo.onramp.dot.ca.gov/)

**Caltrans eCampus** provides access to a leading online learning platform, LinkedIn Learning (formerly Lynda.com), with over 5,700 courses and over 250,000 video tutorials. Discover courses, and monthly featured instructional materials via the Onramp. [https://ecampus.onramp.dot.ca.gov/](https://ecampus.onramp.dot.ca.gov/)