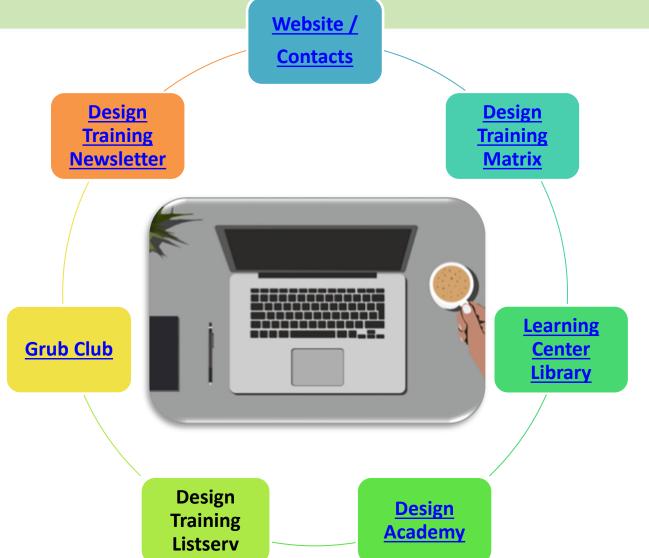
### **Statewide Design Training Overview**





<u>Dan</u> <u>Backman</u>





<u>Carol</u> <u>Winfrey</u>

(Text Blocks are Links to resources)

### **Our Team**



## We are part of the Headquarters Development Division in the Strategic Analysis and Estimation Office.



One awesome team providing many outstanding services supporting Project Development



# How to find training, trainers and be informed

- 1. Design training resources can be found at: <a href="https://wsdot.wa.gov/engineering-standards/project-management-training/training/design-training">https://wsdot.wa.gov/engineering-standards/project-management-training/training/design-training</a>
- 2. There is a list of specialized trainers <a href="WSDOT-Training-Contacts.pdf">WSDOT-Training-Contacts.pdf</a>
- 3. There is a great document describing the specialty groups specialty group descriptions and contact list Reach out early and often!!!!
- 4. There is a "<u>Design Training News</u>" Listserv to receive emails. The Listserv includes the Training Newsletter, Monday Morning Minute, Grub Club, and all other training announcements. There are **600+ subscribers**.

## **Design Training Newsletter**

- Your source for Statewide Training **Opportunities**
- Monthly publication
- Upcoming training opportunities
- Grub Club Schedule
- Cost Trends analysis and estimating links.
- Design Manual Trivia
- Sign up via the Govdelivery/listerve email system

#### **Training Newsletter** November 2025



Project development with an emphasis on design

#### Three-Point Estimating:

Three-point estimating is useful for determining a most-likely value for cost, duration, or resources. This estimating method helps reflect the normal real-world variability affecting projects. Estimates using this method offer a more

Training Newsletter October 2025



Project development with an emphasis on design

#### Pre-Academy Virtual Sessions available in the Learning Center:

As part of the Design Academy, students are required to participate in virtual pre-Academy sessions. These sessions are hosted by our specialty offices, offering subject matter expertise in key areas in support of the design process. If you didn't register for this year's Design Academy you can still benefit from these sessions. These sessions offer an excellent preview of the Academy and deliver information useful to designers. There are now 9 sessions available,

ary as shown . Traffic, and

Training Newsletter September 2025

#### **Contract Plans Reading Course:**

WSDOT Construction Trainers offer the Contract Plans Reading Course. This course is frequently required on intraining plans statewide. This is a self-study course that can be completed on your own schedule. The materials are

#### **Training Newsletter** August 2025

Project development with an emphasis on design.



#### **Design Training Overview**

WSDOT offers many training resources available to employees statewide. Here is a preview of our Design Training Overview document, These resources can be accessed using the embedded links, CLICK HERE to access the overview document.

- Design Training Website and Contacts. This includes resources for WSDOT employees and consultants. Links to common training courses, specialty contacts within WSDOT, project management, and more.
- Design Training Matrix. This document lists common training courses recommended for WSDOT employees organized by job class. This can be used as a guide to determine training priorities.
- Learning Center Library. This online collection of training resources is available to WSDOT employees 24/7. Search for training courses in the "WSDOT Design Training" Library.
- . Grub Club. This live presentation airs twice a month. Presenters from WSDOT and outside guests present on topics intended to increase your useful knowledge base. Click on "WSDOT GRUB CLUB" at the link location.
- Design Academy. Our premier training event! This in-person training exercise takes participants through the Project Development process via virtual and in-person sessions and a team design project.
- Design Training Listserve. Subscribe to this service to be notified of training opportunities, updates, and of course our monthly Design Training Newsletter!







### **Design Training Newsletter**

### 

#### Three-Point Estimating:

Three-point estimating is useful for determining a most-likely value for cost, duration, or resources. This estimating method helps reflect the normal real-world variability affecting projects. Estimates using this method offer a more balanced and accurate view of what a project might cost. Optimistic, pessimistic, and most-likely values are used to account for the unpredictability of real-world projects. This step incorporates a risk management strategy by providing a range of values, instead of a single-point value. A wide range of values for a single item indicates high uncertainty, suggesting a response action. A narrower range of values indicates higher confidence and less risk for that item.

Three-point estimating uses three cost scenarios:

High estimate (Pessimistic): If prices or quantities are higher than expected.

Low estimate (Optimistic): If prices or quantities are lower than expected.

Most Likely (Anticipated): Opinion of realistic value.

These three numbers combine to get an average cost using a simple formula:

rnese triree numbers combine to get an average cost using a simple form

3-Point Estimating Links:

WSDOT Three-Point Estimating Grub Club Presentation

Three-Point Estimating video from Project Management Aspirant

WSDOT Estimating Template

Estimating SharePoint Resources

Estimated Cost = [ Low + ( 4 × Most Likely ) + High ] ÷ 6

#### Community Engagement Resources:

The Community Engagement (CE) Team now offers an array new tools to support WSDOT needs. First the <u>CE Event Planning Best Practice</u> document provides helpful information for internal or external events. The new <u>Online Open House</u> tool allows for two-way dialogue, mapping tools, and the possibility for more engagement with projects online. In collaboration with Complete Streets, we have developed a <u>Community Engagement Plavbook for Complete Streets</u>, The <u>Community Engagement Plavbook for Streets</u>, The <u>Community Engagement Plavbook for Streets</u>. The <u>Community Engagement Plavbook for Streets</u>, The <u>Community Engagement Plavbook for Streets</u>, The <u>Community Engagement Plavbook for Streets</u>.

owner information and support contact the Community Engagement Program Manager Jesseca Brand.

#### Grub Club 2026— Register by "Expressing Interest" Click HERE to register!

To view the previous Grub Club presentations, access the Grub Club Library HERE.

The Design Training Team is now recruiting for Grub Club presenters for 2026! These popular sessions deliver information on a wide variety of topics relevant to our projects at WSDOT. We invite presenters to share topics to help WSDOT team-members learn more and grow their skillset. If you have a topic you are passionate about and you want to share with the audience, the invitation is now open to you! Contact Mark Gabel for 2026 availability and to reserve a presentation date.

| 12:00 pm to 1 pm  | Presenter                   | Topic                    |
|-------------------|-----------------------------|--------------------------|
| November 5, 2025  | Ning Gong & Adam Dahl       | Estimating in Unifier    |
| November 19, 2025 | Dan Backman & Carol Winfrey | WSDOT Training Resources |

Trivia Question: When is traffic barrier required around a retaining wall? Answer on page 2.

Americans with Disabilities Act (ADA) Information: This material can be made available in an alternate format by emailing the WSDOT Diversity/ADA Affairs team at wsdotada@wsdot.wa.gov or by calling toll free, 855-362-4ADA(4232). Persons who are deaf or hard of hearing may make a request by calling the Washington State Delay of the Parks of t

Title VI Statement to the Public: It is the Washington State Department of Transportation's (WSDOT) policy to assure that no person shall, on the grounds of race, color, national origin or sex, as provided by Title VI of the Civil Rights Act of 1964, be excluded from participation in, be denied the benefits of, or be otherwise discriminated against under any of its federally unded programs and activities, any person who believes his/her Title VI protection has been violated, may file a complaint, with WSDOT's Office of Equal Opportunity (DEO). For additional information programmination obligations, please contract COS's Title V Coordinator at (2800) 705-7000.

Training opportunity articles

Sample of monthly cost trends report

Grub Club Schedule

Design Manual Trivia

### **Swspot** Training Newsletter

#### September 2025 Cost Trends Report:

The September 2025 Cost trends report shows the change in common material costs year-over-year. Below is a sample of the data from this report. CLICK HERE to view this and previous reports.

| WSDOT Materials Cost Trend                    |       |            |    |          |     |           |    |          |    |             |      |          |   |
|---|-------|------------|----|----------|-----|-----------|----|----------|----|-------------|------|----------|---|
|   | ,     | Apr-25     |    | May-25   |     | Jun-25    |    | Jul-25   |    | Aug-25      |      | Sep-25   | TREND                                   |
| Highlighted cells - materials not used in DBB | 3 pro | ojects for | re | ferenced | 6 r | no. perio | d  |          | во | LD → Normal | izec | i figure |   |
| ROADWAY EXCAVATION INCL. HAUL                 | \$    | 46.40      | \$ | 49.46    | \$  | 40.75     | \$ | 36.64    | \$ | 36.73       | \$   | 36.19    | -                                       |
| CONC. CLASS 4000 FOR BRIDGE                   |       |            |    |          | \$  | 2,716.97  | \$ | 1,233.27 | \$ | 1,233.27    | \$   | 1,233.27 |   |
| CRUSHED SURFACING BASE COURSE                 | \$    | 72.56      | \$ | 69.38    | \$  | 52.27     | \$ | 44.57    | \$ | 44.99       | \$   | 42.88    |   |
| CEMENT CONC. PAVEMENT                         | \$    | 470.18     | \$ | 470.18   | \$  | 524.52    | \$ | 524.52   | \$ | 524.52      | \$   | 2,345.00 |   |
| HMA CL. 3/8 IN. PG 58-22                      | Ś     | 128.00     | Ś  | 121.68   | Ś   | 122.77    | Ś  | 123.12   | Ś  | 123.12      | Ś    | 122.40   | <b>\</b>                                |
| HMA CL. 1/2 IN. PG 70-28                      | \$    | 144.47     | \$ | 129.87   | \$  | 128.92    | \$ | 127.59   | \$ | 127.59      | \$   | 126.76   | · · · · ·                               |
| COMMERCIAL HMA                                | \$    | 448.02     | \$ | 297.11   | \$  | 319.38    | \$ | 301.49   | \$ | 284.48      | \$   | 241.91   | • |

#### Association of General Contractors (AGC) Partnership with WSDOT:

The WA Association of General Contractors (AGC), Association of Drilled Shaft Contractors- International Association of Foundation Drilling (ADSC-IAFD) and WA State Department of Transportation (WSDOT) have teamed to improve public works construction projects across Washington. This partnership provides project reviews, construction advice, access reviews, staging advice, traffic management advice, and timeline and sequencing. There is an established Roadway Team, Structures Team, and Shaft/Wall team available. Access the flyer at the link below for more info including team contact information.

AGC/WSDOT Team Review Fiver, CLICK HERE!

#### Transportation Research Board + Free Webinars for WSDOT Employees:

As part of the National Academies of Sciences, Engineering, and Medicine, the Transportation Research Board (TRB) mobilizes expertise, experience, and knowledge to anticipate and solve complex transportation-related nelneges. For example, committees, researchers, and staff are currently focused on advancing resilient infrastructure, exploring transformational technology, and carring for the public's health and safety. TRB's mission is divided into three prinary roles: research, convene, advise. TRB offers over 150 publications annually, and currently manages over 350 research projects. Over 1.4 million transportation research records available in their online Transport Research International Documentation database (TRID). TRB's annual Meeting averages over 13,000 attendees, the largest transportation research conference in the world. TRB is offering a free account for WSDOT employees, which includes access to transportation webinars.

#### Click here to access the Transport Research International

ocumentation database.

Click here to sign up for a MvTRB account (free for WSDOT employees).

TRANSPORTATION RESEARCH BOARD

Click here to view scheduled TRB webinars and other events.

Click here for more information on the TRB annual meeting.

#### Trivia Question Answer: When is traffic barrier required around a retaining wall?

Answer: Provide traffic barrier when a new retaining wall is constructed within the Design Clear Zone. Installation of traffic barrier is optional when an existing wall with barrier is being extended and the new wall extension is located outside the project's Design Clear Zone. Retrofit an existing wall without barrier that is located within the project's Design Clear zone by providing traffic barrier. Depending on the application, precast or cast-in place Single Slope Concrete Barrier or Type F Concrete Barrier may be used for both new and existing walls. – Design Manual 730.03(1).

"Anticinating problems and figuring out how to solve them is actually the opposite of worming: it's productive "

-Chris Hadfield

Your hotlines to Design Training Information

Carol Winfrey / winfrec@wsdot.wa.gov - Dan Backman / backmad@wsdot.wa.gov

**Design Courses Training Matrix & Design Training** 



## **Design Training Courses Matrix**

- Training guide for Technicians, Engineers, and Engineering Managers.
- Lists design training available in the Learning Center (LC) and the type of training that it is (links to LC).
- Recommends priorities for the different technician and engineering job classes. Please contact us to tailor your training needs.

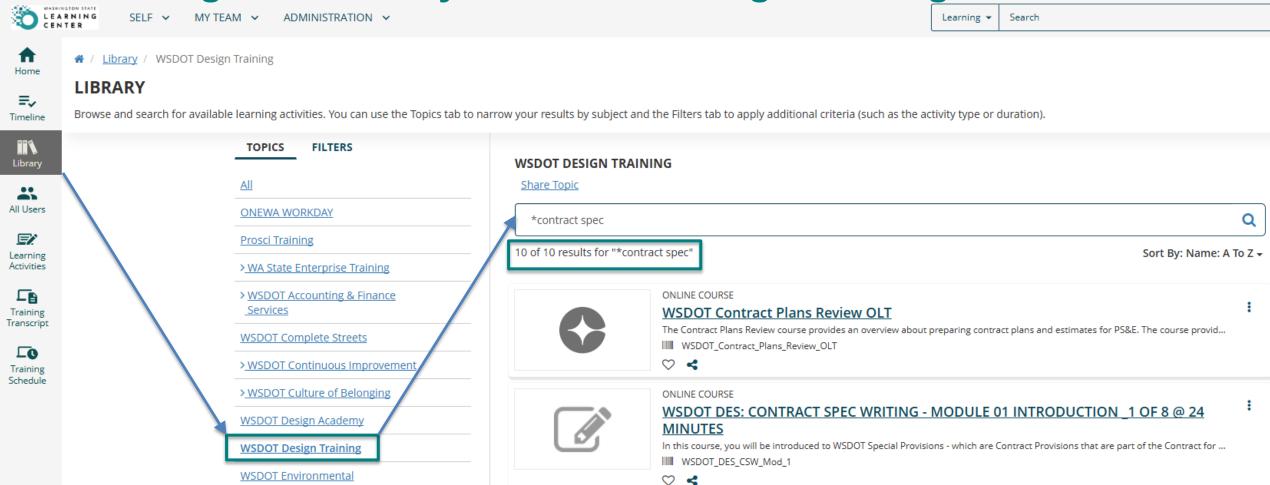
Design Courses Training Matrix - Learning Center (LC) Courses and Priority Recommendations

| LC<br>Group | Learning Center (LC) Course Name     | Hours | Type<br>SS<br>OLT<br>ILT | TT2-3 | TE1-2 | TE3 | Manager | Recommended Attendees  |
|-------------|--------------------------------------|-------|--------------------------|-------|-------|-----|---------|--|
|             |                                      |       |                          |       |       |     |         |  |
| DES         | WSDOT ACCESS CONTROL OLT             | 4     | OLT                      | 3     | 3     | 2   |         | Staff involved with WSDOT owned roadways which all have Limited or<br>Managed Access Control |
| DES         | WSDOT DES: BASIS OF ESTIMATE         | 1     | OLT                      | 3     | 3     | 3   | 3       | Staff involved with project estimates  |
| DES         | WSDOT DES: COGNITIVE BIAS            | 1     | OLT                      | 3     | 3     | 3   | 3       | All staff  |
| DES         | WSDOT DES: CONSTRUCTABLITY IN DESIGN | 4     | OLT                      | 3     | 2     | 1   | 2       | Staff involved in planning, scoping, design, and construction                                |



## Learning Center "WSDOT Design Training" Library

- This library matches the Design Training Courses Matrix.
- Navigate to Library > "WSDOT Design Training" > Search.





## Additional Training Coordinated by....

#### **Monday Morning Minute**

This is a weekly email from the listserv on new and interesting topics.



Mark Gabel
<a href="mailto:gabelM@wsdot.wa.gov">gabelM@wsdot.wa.gov</a>
360-705-7457

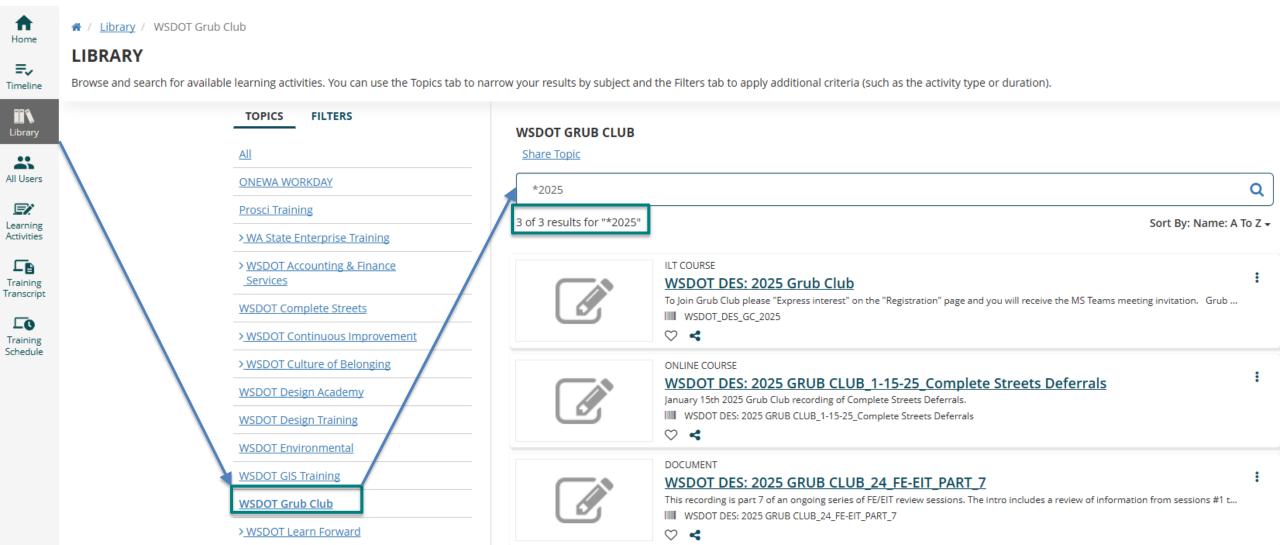
### "WSDOT DES: 2025 Grub Club" – Sample topics:

| 1st Wed of the month             | Amy Kim & Sarah<br>Thomasson                      | DES – Facility Professional Services – Energy;<br>Radio station or Forest Learning Center project |
|----------------------------------|---|---|
| 3rd Wed of the month             | Scotty Ireland, Forrest Dill,<br>Mark Steingrebe. | Cost Estimating, practical experience from the OR fish passage bundles                            |
| 1st Wed of the month             | Mark Gabel  | Design Academy, Project Management and other tips   |
| 3rd We of the month              | Tony Leingang, Steve<br>Haapala, John Romero      | Work zone traffic control   |
| 1 <sup>st</sup> Wed of the month | Mark Sujka  | Risk Management – Design Academy  |



### **Grub Club Library and Recordings**

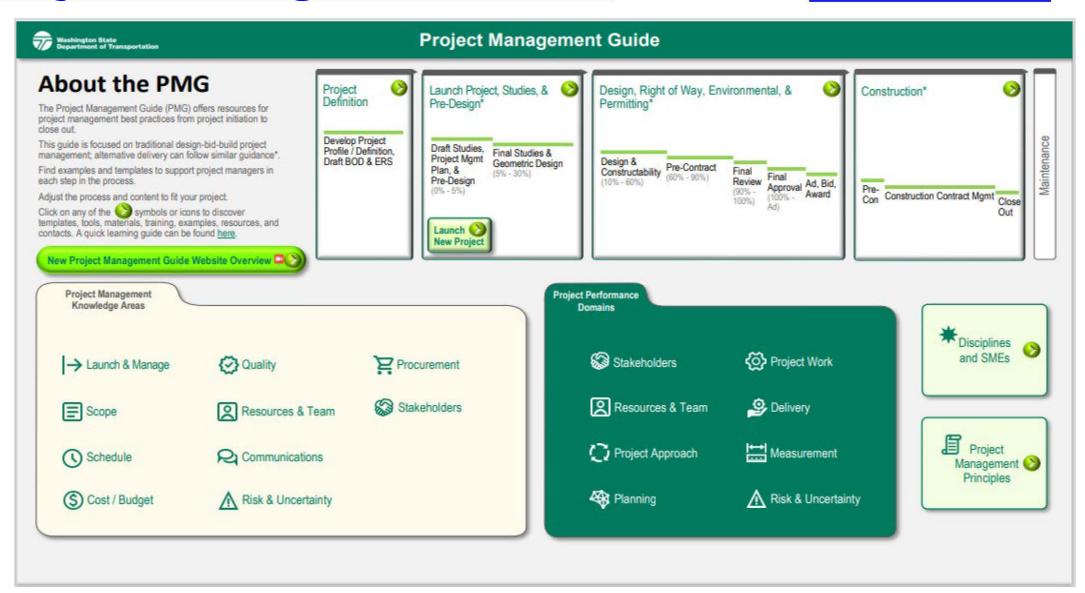
Grub Club is a yearlong series of 1-hour of bi-weekly sessions that offer a diverse array of topics and presenters. Time to sign up by using "Express Interest" in WSDOT DES: 2026 Grub Club





### **Project Management Guide**

#### Watch Overview Video



## Design Academy – Once per Year



Premier Design Training event. It takes participants through the Project Development process via virtual and in person sessions by key support groups, as well as a team design project.

#### WHO?

Design Academy is recommend for design engineers, team leaders, support offices, and others interested in the design process.

#### WHY?

This blended learning experience has virtual instructor led preacademy sessions and 4 days of in person training.

#### HOW?

Region and division management identify the students. Inform your region or division manager contact of your interest in attending Design Academy.

#### **Contact Your Registration Coordinators:**

| NWR Sno King      | Hung Huynh            |
|-------------------|-----------------------|
| NWR Mt Baker Area | Shane Spahr           |
| NCR               | Michael Roy           |
| OR                | Karen Boone           |
| SWR               | Caroline Bricheux     |
| SCR               | Brent Schilperoort    |
| ER                | Thomas Brasch         |
| HQ                | Your division manager |
| Mega              | Dawn Yankauskas       |
| WSF               | Chun-Ho Chen          |

(Attendees are selected by Region/Division Managers)



## Virtual and In Person Sessions



Pre-Academy
Sessions provide
lecture intro to
all the topics to
jumpstart

They are done live and then recording is available for make up.

learning.

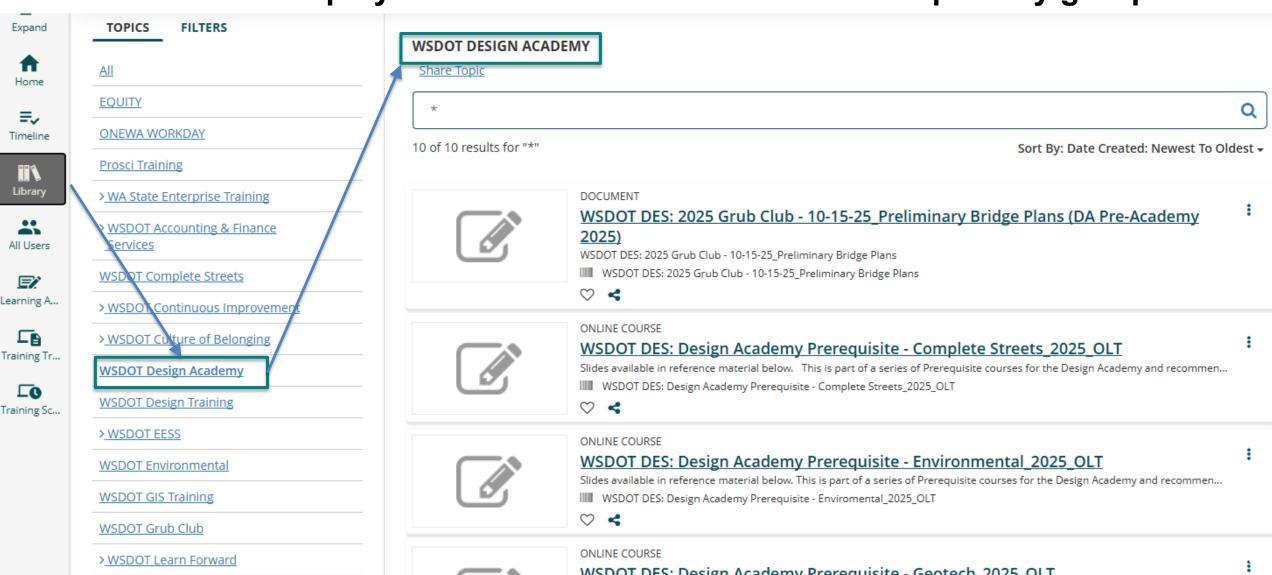
| Pre-Academy Session           | Interactive Sessions at Conference |  |  |  |  |  |  |
|-------------------------------|------------------------------------|--|--|--|--|--|--|
| Design Documentation (course) | Creating a Balanced Design         |  |  |  |  |  |  |
| Design Analysis (course)      | Creating a Balanced Design         |  |  |  |  |  |  |
| n/a                           | Hydraulics Fair                    |  |  |  |  |  |  |
| Real Estate Services          | Real Estate Services               |  |  |  |  |  |  |
| Traffic                       | Traffic                            |  |  |  |  |  |  |
| Environmental                 | Environmental                      |  |  |  |  |  |  |
| Geotech                       | Geotech                            |  |  |  |  |  |  |
| Utilities                     | Utilities                          |  |  |  |  |  |  |
| Right of Way                  | Right of Way                       |  |  |  |  |  |  |
| Bridge and Structures         | Bridge and Structures              |  |  |  |  |  |  |
| Estimating: Unit Bid Price    | n/a                                |  |  |  |  |  |  |

In person
engaging and/or
hands on
experience with
the topic.

This goes deeper into subjects and prepares student to incorporate them into their team project

### **Pre-Academy Sessions**

- Available in the learning center for student make up and reference.
- All WSDOT employees can use as an overview of the specialty groups.



## Design Academy - 2025



### September 29 – October 2, 2025



- -Our premier training event
- -In-person and virtual combination delivery
- -8 required pre-Academy sessions (virtual)
  - + 2 Training Courses:
    - -Design Documentation
    - -Design Analysis
- -9 in-person interactive sessions
- -10 teams working on real WSDOT projects
- -4<sup>th</sup> Design Academy since re-inception in 2023
- -Each Academy builds upon previous lessons learned, to deliver an ever-improving experience

**Attendees selected by Region/Division Contacts** 



Example of student experience at interactive sessions





Hydraulics session: virtual reality inspection

Hydraulics session: stream simulation table



Example of student experience at interactive sessions







Example of student experience at interactive sessions

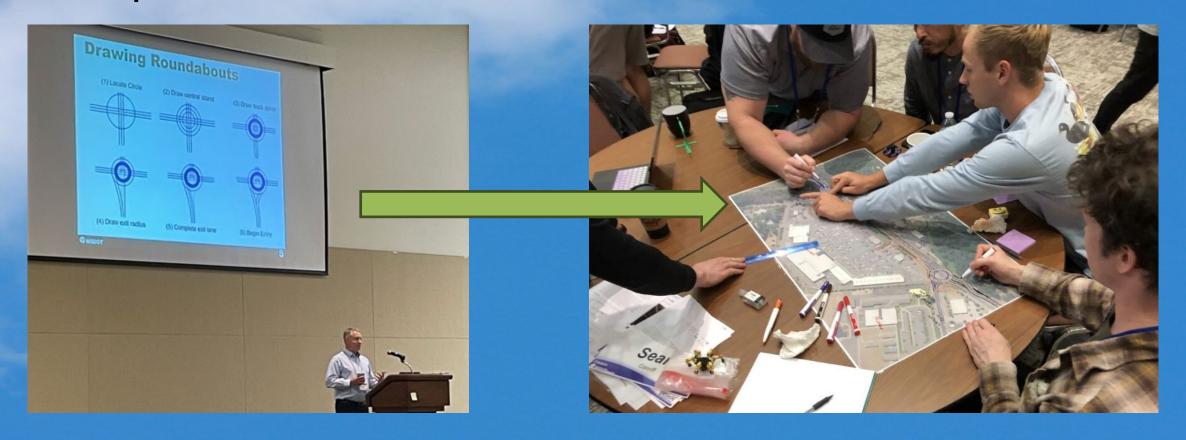




Hydraulics Session: Student learning about remote culvert inspection equipment

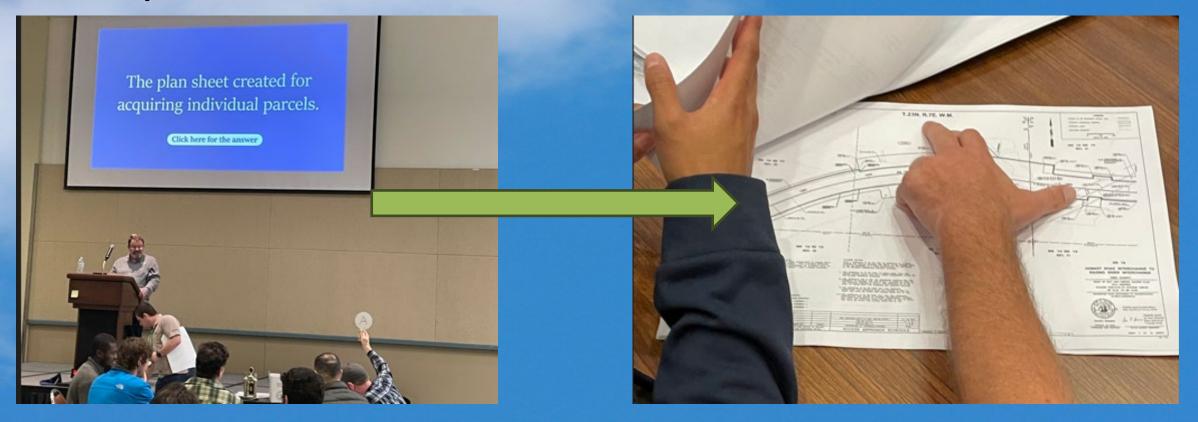


Example of student exercises at interactive sessions



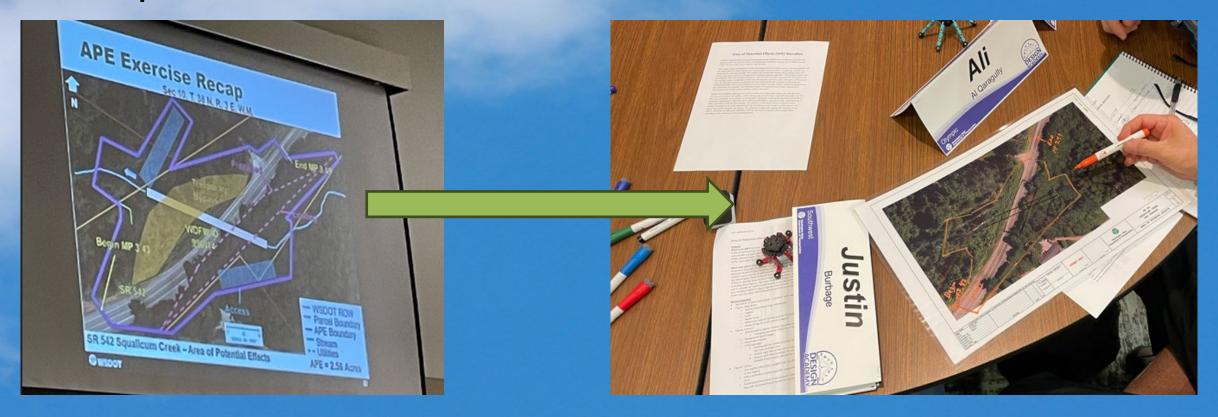


Example of student exercises at interactive sessions





Example of student exercises at interactive sessions



## Team Project



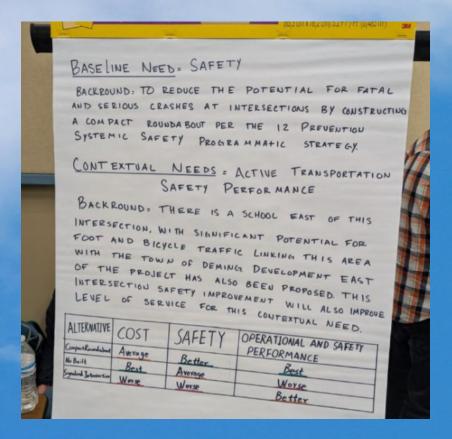
- Students are assigned to a team and a design project prior to the academy. 10 teams, with approximately 8 Students, with Team Guides and Subject Matter experts available.
- Students gain base knowledge, interact with the experts, and demonstrate learning through discovery and real-world experience.
- There is a virtual meet and greet for teams to get acquainted before the Academy, 8 hours working time during the Academy, and an open house for teams to present their project at the end.

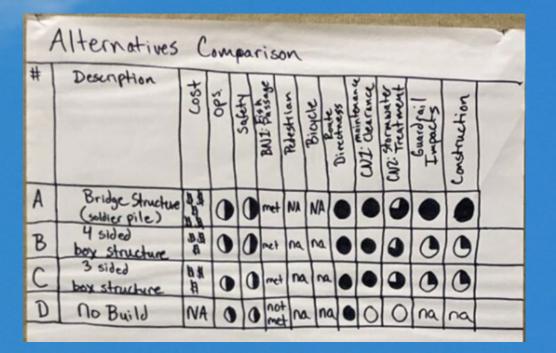






Example of student team project work





Baseline and contextual needs + alternative comparison

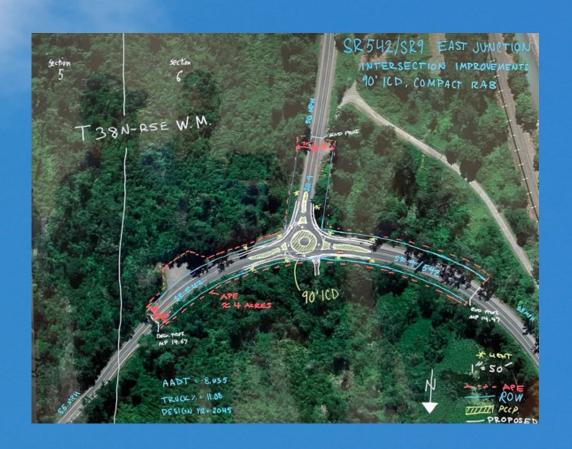
Alternative comparison table



Example of student project work



Student cross-section with active transportation and complete streets incorporated



Alternative sketch with traffic, APE, ROW limits shown



A big thank you to all who attended and helped deliver the Best Design Academy ever!



Design Academy 2025 was the BIGGEST and BEST yet, 80 students, 10 teams, and ≈40 facilitators.

## Design Training Survey Coming

- ☐ Our design training team is committed to developing and delivering high quality training that our customers need *and* want.
- ☐ Completing this brief survey will inform and guide our training priorities.



The survey will be open December 8th through 19th

## **Developing Training Opportunities**



### **Pending Results of Design Training Survey:**

- -Intersection Design Course
  - -2 offerings planned
  - -Feb 10-12 2026 (8am-12noon)
  - -March 10-12 2026 (8am-12noon)
- -Risk Workshop Training
- -PE Review Courses
- -Geometrics Courses

### Learner Centered with Engagement as Our Goal

"Tell me and I forget. Teach me and I remember. Involve me and I learn." ~ Benjamin Franklin

### **Contact Design Trainers:**

Dan Backman 564-669-4742 dan.backman@wsdot.wa.gov

Carol Winfrey 360-522-0603 carol.winfrey@wsdot.wa.gov



11-19-25 DB and CW

