

TRAINING DEVELOPMENT

WORKBOOK



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INTRODUCTION

Purpose Statement

Training is a vital part of our work at the Washington State Department of Transportation (WSDOT). It is essential to continued improvement, career development, preparing our agency for the future, and much more. Creating and conducting effective training, however, can be challenging. Trainers run up against availability constraints, resource constraints, and uncertainty. What skills or knowledge does the audience need to learn? How can trainers help the audience retain and apply new skills? How can you tell if a training is successful?

WSDOT created this Workbook to help trainers navigate these challenges. It is intended to be used during early training development—to help trainers analyze their training needs and audience, make efficient use of resources, select the best format and instructional strategies, and evaluate measures for tracking success. With this roadmap in hand, trainers will have clear direction for developing training that is focused, engaging, and tailored to the agency needs and audience.

The Workbook, and the companion [Needs Assessment](#) and videos (see call-out box), were created and reviewed by trainers across WSDOT to adapt and scale to your training needs. They may be used collaboratively or singularly and are designed as helpful tools for trainers and subject matter experts (SMEs). They are not products to justify training worth or grant approval. [Click on the video icon to watch a short video introducing the workbook.](#)

HOW DOES THIS WORKBOOK RELATE TO THE NEEDS ASSESSMENT AND VIDEOS?

This Workbook is intended to be used after a trainer has completed the 15 question WSDOT Training Development Needs Assessment. More information on how to use these documents together is below in “How to Use this Workbook.” The [Needs Assessment](#) is available on WSDOT’s website.

WSDOT also created a series of videos to take a deep dive into key questions in the Workbook. These videos are linked throughout the Workbook and highlighted with the video icon.



Assess-Train-Track Framework



The Workbook is organized into three sections: Assess, Train, and Track.

- The **Assess** section helps analyze training needs, Learning Objectives and Outcomes, audience characteristics, and existing resources.
- The **Train** section assists in planning for content organization and format, as well as resource needs.
- The **Track** section determines how to track training success.

The Assess-Train-Track framework promotes an **iterative** and **interconnected** process of planning, conducting, and evaluating training resources.

Workbook Structure

This Workbook is designed as “**step two**” following the WSDOT Training Development Needs Assessment. The Needs Assessment consists of 15 questions and is intended to be a quick, initial assessment of how to best respond to a training need. The Workbook is structured around the same 15 Needs Assessment questions. If a trainer decides to move forward with the training after the Needs Assessment, the Workbook will refine and advance their answers to each question. The product is a clear understanding of your training needs and a roadmap for how to create a focused, engaging, and tailored training to meet the needs of the audience.

The 15 questions, and structure for this workbook are:

Assess

1. What need will this training address?
2. What are the benefits of addressing this need? Are there risks if the need is not addressed?
3. What data, observations, or trends demonstrate this need?
4. Who is the primary audience and what are their roles? Is there a secondary audience and what are their roles?
- 5a-5b. Are there existing **WSDOT** and **external** trainings or resources on this topic? How could they be used?
6. If there are existing WSDOT or external trainings, please clarify how a new WSDOT training would be different or more effective.
7. If there are existing WSDOT or external trainings available, is there a challenge to using them?
8. What are the Goals, Learning Objectives, and Learning Outcomes for this training?

Train

9. What topics does this training need to cover? Mark which topics represent new content, and which represent content that will be integrated from existing resources, if any.
10. What would be required to be a trainer for this training? Do you have someone identified?
11. What format(s) may be the best fit for this training?
12. What current WSDOT training platforms and technology resources must be available for this training to be effective?
13. What staffing or funding resources will be needed to develop and deliver this training?
14. Are there any gaps between needed resources and available resources? How might these gaps be filled?

Track

15. How will you know the identified Learning Outcomes have been tracked and met?

How to Use this Workbook

In this Workbook, there is a section dedicated to each question with step-by-step guidance, key considerations, helpful resources—including videos and worksheets to help think through the details. Some important features to consider in each section include:

- **Navigation:** Please use the “Bookmarks” side panel to quickly navigate to each of the 15 questions.
- **Examples:** The light green “Example” boxes provide examples on how to answer each question. The workbook uses one case study throughout the document, showing how one specific training would answer each question. A summary of the Roundabout Case Study is provided in the call-out box below. Please note that while the case study is based on a real WSDOT training, **the example answers have been modified to illustrate the contents of this Workbook.**
- **Worksheets:** The Workbook contains worksheets throughout, with thought prompts for you to further expand on your training needs assessment. Click on the blank cells to insert your text.
- **Videos:** Some questions have corresponding videos where you can see and hear more about a particular concept, example, or demonstration. Look for the video icon, like the one to the right, throughout the Workbook.
- **Your Answer:** At the bottom of each section is an answer box to fill in your revised or expanded answer to each Needs Assessment question. Click on the blank cells to insert your text. **A form at the end of the Workbook will automatically compile all your answers in one place!**



Roundabout Case Study: Designing Compact Roundabouts

Each of this workbook’s 15 sections provides an example of how to answer the Needs Assessment question at hand. One specific technical training case study, under development by Transportation Operation division in 2023, is used throughout all 15 sections to illustrate how these questions build on each other. This training is focused on teaching design engineers in Transportation Operations the importance and safety benefits of designing compact roundabouts, and how to do this effectively using software. Please note that while the case study is based on a real WSDOT training, the example answers have been modified to illustrate the contents of this Workbook. Read on to learn more about how this training is being developed!



ASSESS

1

Question 1. What need will this training address?

The first step in creating a training is defining what need or issue the training will address. This can be thought of as the training's problem statement, and will guide training development. It will be the north star to look to throughout the training development process.

An example training need statement is shown below. Please refer to your answer to Question 1 in the Needs Assessment, and if needed revise your answer.

Example: Roundabout Case Study | Needs Assessment Question 1: What need will this training address?

As background information, WSDOT is advancing a Safe System Approach, in which engineering controls play an important role. Compact roundabouts are a key engineering control for speed management and safety. However, they are often eliminated as an option too early or are overbuilt resulting in reduced efficacy because design engineers do not have enough knowledge or experience working with the necessary software. **Training is needed for WSDOT design engineers to use the software that will enable them to design and implement compact roundabouts suitable for current demand levels.**

Click on the video icon to watch a short video on deciding whether or not to create a new training. If a new training is needed, learn how to set the stage, identify the problem, and establish a solution.



Strategies for Defining Your Training Need

Strategies and tips for writing an effective problem statement include¹:

- **Think about how things should work:** It helps to compare how things *should* work to how things currently work. The need or problem statement should focus on aspects of the current state that have to change to achieve the desired state, and the transformative actions needed to get there.
- **Pinpoint the root of the issue:** Consider different underlying issues that may be creating the need. Sometimes the root issue comes from an unexpected place, and solutions are inadvertently treating “symptoms” rather than the true cause. This is not always the case, but it is a good practice to evaluate.
- **Be specific:** A specific definition will help guide the creation of a more focused, effective training. General definitions are vulnerable to differing interpretations.
- **Be objective:** Focus on the objective needs of the organization or team and the essence of what needs to be done. Leave out any subjective opinions, personal preferences, or elective items that may distract focus.
- **Ask: “Why is this need important?”** Try to tie your need to the bigger picture of why the need is important. This will help connect your training to the root of the issue, and help you determine how you will ultimately measure the training's long-term success, e.g., Why is it important for staff to learn this; how will this knowledge change or help staff, etc.?

Your Training Need

After reviewing the guidance above, please document any changes to your training need or problem statement.

Your Answer | Needs Assessment Question 1: What need will this training address?

2

Question 2. What are the benefits of addressing this need? Are there risks if the need is not addressed?

Next, consider the benefits of addressing, and the risks of not addressing, the issue you are trying to solve. Some of the benefits and risks may be captured in your answer to Question 1, but it helps to itemize a more comprehensive list of both (1) the benefits of addressing this need *with training* and (2) the risks of ignoring this need (i.e., not training).

Examples of benefits and risks are shown below. Please refer to your answer to Question 2 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 2: What are the benefits of addressing this need? Are there risks if the need is not addressed?

Through this training, designers will gain a more comprehensive understanding of software for designing compact roundabouts. The benefits of having this knowledge and using it to design compact roundabouts include:

1. Improved speed management and safety.
2. Cost savings.
3. Reduced environmental and right-of-way impacts.
4. Better informed decision makers and in-house designers who can assess the operational benefits, impacts to existing resources, and planning level cost estimates.

The risks of not training include maintaining status quo roundabout design practices, which result in overbuilt roundabouts that are less successful at speed management and do not have the same safety benefits. Not training may also deter staff from considering compact roundabouts where they could be helpful traffic management tools.

How to Identify Benefits and Risks

Focus on the Impacts of Training

It is critical to **focus only on benefits that can be accomplished via training** and not things that may be outside your scope like staffing or resource availability. If an issue is partially rooted in staff or resource availability, think critically about how training might improve this issue. When considering a benefit or risk, ask yourself, “How will training accomplish this?” or, “How will training reduce this risk?”

Think Holistically

There is a wide range of potential benefits and risks that may exist. Some general categories include:

- *Impacts to transportation system performance*, such as safety, reliability, mobility, access, equity, and environmental impacts.
- *Impacts to WSDOT's business processes*, such process efficiencies/inefficiencies, leveraging technologies, compliance, and monetary costs or savings.
- *Impacts to our staff, partners, and the traveling public*, such as staff and workforce development impacts, public perception, and coordination and relationships with partners.

Consider Your Audience

Training is ultimately a people-focused activity, and the people you will be training are the vessel for change. Who is your core audience and what is in their control? How will they be able to apply skills from the training to create positive impacts for the agency? If they are not offered training on this topic, what are the risks? How to evaluate your audience will be covered in more detail under [Question 4](#), but it can be helpful to consider your audience at a high-level when identifying impacts.

Your Assessment of Benefits and Risks

After working through this section, please document any changes to your assessment of the benefits and risks that this training will address.

Your Answer | Needs Assessment Question 2: What are the benefits of addressing this need? Are there risks if the need is not addressed?

3

Question 3. What data, observations, or trends demonstrate this need?

Explore if any data, observations, or trends exist that demonstrate your training needs and/or the benefits and risks you have identified. Relevant information could include anything from quantitative data to qualitative data such as observations. The goals here are to inform an objective assessment of the training need, and to explore metrics that could be used later to track training success.

Examples of data that demonstrate a need for training are shown below. Please refer to your answer to Question 3 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 3: What data, observations, or trends demonstrate this need?

Quantitatively, recent roundabout crash data reflects a reduction in fatal and serious injuries at intersections that have roundabouts. Qualitatively, roundabout design is nationally undergoing a period of refinement to improve the criteria for roundabout design, which supports WSDOT's need for training on best practices. Additionally, the Transportation Operations Division conducted a needs assessment for technical training, and roundabout design was identified as a high priority training need to support WSDOT's strategic goal of improving resiliency.

Types of Quantitative and Qualitative Data

You can draw from a wide variety of quantitative and qualitative information to demonstrate your training need. Some types of quantitative and qualitative data to consider are shown in the table below. [Click here to watch a short video on how to use both quantitative and qualitative data to inform your training success.](#) Additional videos on surveys (bolded in the table) are linked below the table.



QUANTITATIVE DATA		QUALITATIVE DATA	
<ul style="list-style-type: none"> Surveys Gray Notebook Transportation Management Center (TMC) data Environmental impacts Monetary costs Compliance trends Safety data 	<ul style="list-style-type: none"> Time, duration Hiring needs, turnover Congestion data Benefit-cost models National and peer studies Test results 	<ul style="list-style-type: none"> Feedback from colleagues or customers Case studies National best practices Anecdotal information Personal observations 	<ul style="list-style-type: none"> Open-ended surveys Photos, images Changes in strategic vision

The following three videos provide additional information on using surveys, as well as case studies from real WSDOT trainings who used surveys and other data to inform training needs:

Click here to watch a short video on best practices for surveying your audience



Click here to watch a short video highlighting case studies from real WSDOT trainers who used surveys to inform training needs



Click here to watch a short video highlighting case studies from real WSDOT trainers who used other methods of data to inform training needs



The goals for collecting this information include:

- *Informing an objective assessment of the training need.* You need to ask if this training is truly needed, and how important it is. Remember that training should support knowledge transfer, and if data shows that training is not the best option, then it is better to spend your time on other ways to support WSDOT staff. Depending on their learning needs this could be 1-1 mentoring, updating webpages, field visits, creating worksheets, or providing case studies.
- *Creating a baseline* to which the results of the training can be compared.
- *Exploring metrics* to track the usefulness of the training.

QUANTITATIVE DATA AT WSDOT

Explore sources of potentially relevant quantitative data from WSDOT at:

<https://wsdot.wa.gov/about/transportation-data/statewide-gis-maps-data-layers>

Data Supporting Your Training Need

After working through this section, please document the quantitative and/or qualitative data that supports your training need.

Your Answer | Needs Assessment Question 3: What data, observations, or trends demonstrate this need?

4

Question 4. Who is the primary audience and what are their roles? Is there a secondary audience and what are their roles?

To create an effective, focused training, it is critical to understand *who* the target audience is. This section will help you consider who your target (or primary) audience is, who your secondary audience is, and what their backgrounds, needs, preferences, and availabilities are.

Examples of audience descriptions are shown below. Please refer to your answer to Question 4 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 4: Who is the primary audience and what are their roles? Is there a secondary audience and what are their roles?

The primary audience is WSDOT Transportation Operations technical staff involved in engineering design. In particular, staff who may use the relevant software to design compact roundabouts. This includes Region Project Development Engineers, Region Project Engineers and their associated design teams, and Region Transportation Engineers. This audience has a good understanding of roundabouts, but some do not know all the nuances and details of using the software to design compact roundabouts for trucks and buses.

The secondary audience includes broader WSDOT staff that may be involved in planning for a roundabout and would need general knowledge of the best practices and benefits of compact roundabouts. This includes division leads, design engineers, broader Transportation Operations staff, and WSDOT partners (local agencies and tribes). This audience has baseline knowledge of roundabouts as a speed management tool, but some may be less familiar than the primary audience.

In general, both audiences are familiar with transportation operations engineering. There are not any known availability constraints in these groups, outside of regular individual conflicts.

[Click here to watch a short video on how to identify your audience and ensure your materials are best tailored to them.](#)



Identify the Audience

Without a well-defined audience, a misalignment may emerge between the training goals, training content, and audience. For example, the training content may be too general to give your audience the skills they need to accomplish the training goal. Or, the training may be too advanced or lengthy when the need is to broadly raise staff awareness on a given subject. Defining your audience is critical to identifying the right scope for your training.

Some considerations for brainstorming your audience include:

- Think about who will be impacted, involved, or otherwise relevant to your training need.
- Some parties who are not directly impacted may still need to participate in training to some degree. For example, senior leaders, colleagues from other divisions, or external partners may need general awareness of your training topic.

Distinguish between Primary and Secondary Audiences

Many trainings will have a diverse target audience, with a variety of roles and differing levels of expertise. To develop effective training for audience members from different backgrounds, it helps to distinguish between the primary audience and the secondary audience (or audiences).

- **Primary audience:** Staff who are most relevant to or significantly involved in the training need. Their learning of the training content is essential to successfully addressing the need. This is the audience for which the bulk of the training content will be tailored.
- **Secondary audience:** Staff who are tangentially or minorly involved in the training need. Secondary audiences generally require only a high-level overview of the training content. This could include managers and partners that require a general awareness of the training content. There may not be a secondary audience in all cases. Tips on how to engage secondary audiences in training are discussed below, however, it is important to keep your training scope focused on your primary audience since they are the ones who require the knowledge transfer to do their jobs. When in doubt, ask yourself if your curriculum and activities support your primary audience and their ability to learn the material with a focus on their roles and background. If not, the training scope may have expanded too much and could risk its usefulness to your primary audience.

Engaging Your Secondary Audience

If there is a secondary audience for the training, the content and delivery may be developed or adapted to suit different audiences. For example:

- **Condense content needed by the secondary audience into one section.** This enables the secondary audience to participate for only a small portion of the training. This portion could be placed in the beginning, or after a break to minimize disruption. The best timing will depend on training length and content flow.
- **Consider separate ways to engage the secondary audience:**
 - Part of the training could be recorded or distributed as slides to the secondary audience.
 - The secondary audience could participate virtually for all or part of an in-person training.
 - Some secondary audiences may benefit from simply an executive summary of the training's Learning Outcomes, audience, and results. This could be an email, a one-pager, or a short slide deck. Similarly, some audiences may just need a short resource, like a reference sheet of resources or a one-page "cheat sheet" of the training content.

Understand the Audience's Background

You will need to understand not just who your audience is, but also—to the extent you can—their background, perspective, and preferences. For example, what roles do they play in the organization? What is their experience with this subject? What is their day-to-day like? What is their availability to attend different types of training (e.g., a multi-day training, or a virtual training at their desk)? The content should be tailored to enable your specific audience to achieve the goals of your training.

To better define and understand your audience, consider the following:

- What knowledge does the audience already have on this subject?
- Is there a gap between audience knowledge/experience and what is needed to participate in the training?
- Does the audience spend significant time in the field, at a computer, etc.?
- Does the audience have any known preferences for in-person or virtual training?
- Which learning platforms and training delivery methods is the audience already familiar with? Which ones are they not familiar with?

For all of the above questions...

- *If the answer is unknown, are there managers, team leads, or individuals that can help?* If you have limited information and familiarity with your audiences' background and preferences, consider conducting outreach at this stage in the training development—either one-on-one with someone like a team lead, or you could use a survey to cast a wider net.
- *How much variation is there across the audience on these questions?* Generally, primary, and secondary audiences vary in their background and needs for training. If there is a lot of variation *within* your primary audience, however, you will need to consider how best to cater to different backgrounds and perspectives. There are many ways to go about this. For example, if only part of your audience is missing prerequisite knowledge, you could send read-ahead materials or hold an additional session for these participants.

Audience Size and Availability

There are also some logistical reasons for identifying and working to understand your audience. The approximate number of staff that need to take the training should be estimated. This will be important to planning your resource needs and the most effective training format. For example, say your content is best suited to in-person training and interactive learning, but the audience is very large. You will want to know this when designing your training format under [Question 11](#) and identifying resources under [Question 13](#). This will help you later answer questions such as: will the training need to be offered several times to engage everyone? Or, is there an appropriately sized room where everyone can participate?

Along the same lines, think through the audience's availability. This will inform when and how best to offer the training later. Some questions to consider include:

- Does the audience have a busy period or periods over the course of the year/month/week?
- How easy is it for the audience to participate in virtual or in-person trainings?
- Can they join virtual trainings easily from a focused work station?
- Do they work reasonably close to in-person training locations?
- Is it easy for the audience to carve out several hours for training?

SUPPORTING DIVERSITY

Your audience will bring an array of experiences and backgrounds to the training. It is the trainer's responsibility to create an inclusive learning environment. Trainers must be aware that characteristics such as race, ethnicity, gender, religion, sexual orientation, age, and physical qualities and abilities may impact how learners relate to each other, the trainer, and the material.ⁱⁱ Trainers should be mindful of their audience's diverse backgrounds and work to create inclusive training content. Additionally, activities that encourage participants to build connection and foster an open-minded discourse can help, such as:

- Participant introductions (if reasonable for audience size).
- Icebreaker questions (can use a survey tool or show of hands for large groups)
- Activities that encourage interaction between participants such as gamesⁱⁱⁱ, role playing^{iv}, and Think-Pair-Share^v questions.

The State of Washington has created [a guide for incorporating Diversity, Equity, and Inclusion \(DEI\) principles into training development](#), which can be referenced for more information.

ACCOMMODATIONS FOR IMPAIRMENTS

Trainers should understand how to accommodate participants with visual, hearing, mobility, and medical impairments. The National Highway Institute (NHI) recommends a series of best practices for accommodating impairments in trainings. These techniques include giving descriptions of visuals, adapting physical classrooms and course material/delivery, and guidance on potential accommodations to offer and discuss with participants with impairments. The [full guidance from NHI](#) is available in a short online handout.

In addition to inclusion being a strategic goal for the agency, WSDOT is also a government agency that must comply with [accessibility standards](#). These include images and graphics. Here are a few easy ways to ensure your materials are visually accessible:

- Make sure the colors you use on slides and pictures can be seen by all. Run your image or slide through this [website](#) to see how people who see in all different color spectrums may view it.
- Make your entire PowerPoint accessible using [Microsoft's step-by-step instructions](#).
- Also remember to use high quality images. You can find WSDOT images on the [flickr](#) site, or find images using Google but remember to search using the tools option and select usage rights that apply to your training type.
- Provide closed captions. Microsoft Teams Live has this option now built in, just make sure it is enabled when the Live event is created.
- Create alternative text for images for anything that will be posted on the web. This allows a screen reader to explain the image to anyone who is sight-impaired. If you have never seen an example of how this technology works, see this [video](#) to learn more.

Defining Your Audience

The worksheet below is designed to help trainers think through the considerations discussed above. Work through this worksheet to fill in the blanks (no need to fill in all bullets/rows, just as many as is relevant to your training) and refer to the content in this section for guidance. For Step 3, the first two rows show examples from the Roundabout Training case study.

AUDIENCE WORKSHEET (PART I)	
Step 1: Brainstorm your audience	
Step 2: Sort into primary and secondary audiences	
Primary Audience	
Secondary Audience	

AUDIENCE WORKSHEET (PART II)					
Step 3: Create Audience Profiles					
Audience	Primary or Secondary?	Background Knowledge	Known Training Preferences?	Availability?	Implications for Training Design
<i>WSDOT Transportation Operations engineers involved in design</i>	<i>Primary</i>	<i>Good familiarity with roundabouts, design software</i>	<i>None</i>	<i>Flexible availability, Will need in-person trainings to be in each Region</i>	<i>Training will focus on advanced software/design skills</i>
<i>Broader Transportation Operations staff, broader WSDOT staff such as division leads</i>	<i>Secondary</i>	<i>Baseline familiarity with roundabouts including policy, planning, and benefits</i>	<i>None</i>	<i>May not be available to attend full session (or need to)</i>	<i>Secondary audience will be engaged virtually for part, or sent slides/handouts</i>

After working through this section, please document any changes to your audience description, including your assessment of audience background, preferences, and availability.

Your Answer | Needs Assessment Question 4: Who is the primary audience and what are their roles? Is there a secondary audience and what are their roles?

5a

Question 5a. Are there existing WSDOT trainings or resources on this topic?
How could they be used?

5b

Question 5b. Are there existing external trainings or resources on this topic?
How could they be used?

New training material should build on existing resources, rather than recreate them. Pulling in existing resources can also speed up and enhance your training development. There are many ways to build on and pull in existing resources, which this workbook will cover in [Question 6](#) and [Question 7](#). But first, you'll need to explore if any resources—from WSDOT or external sources—exist on your training topic.

Example assessments of how WSDOT and external resources could be used to help training development are shown below. Please refer to your answers to Question 5a and 5b in the Needs Assessment, and work through the section to revise your answers as needed.

Example: Roundabout Case Study | Needs Assessment Question 5a. Are there existing WSDOT trainings or resources on this topic? How could they be used?

This topic is relatively new for WSDOT, as well as the western U.S. There are no existing WSDOT trainings on the topic.

Example: Roundabout Case Study | Needs Assessment Question 5b. Are there existing external trainings or resources on this topic? How could they be used?

There are existing, external trainings on roundabout design. There are also existing trainings from the software company on how to use their product more generally, not specific to this need.

Resources to Explore

The two tables below catalog some existing trainings developed by WSDOT and external organizations. The tables are not comprehensive, but provide some key resources related to the transportation industry. Contact information is current as of date of publication. They may help you brainstorm other places to explore that may be relevant to your training, for example government websites and industry associations.

When exploring these and other resources for relevancy to your topic, think broadly and consider the following questions.

- Does this resource replicate or cover any part of my training topic?
- Could I adapt any part of this resource to meet all or part of my training need?
- Could this resource be shared as homework to complete ahead of training to shorten my training?
- Would this resource be helpful as part of a related resources list to share with my audience?

WSDOT TRAINING RESOURCES		
NAME	DIRECTIONS/LINK	NOTES
The Learning Center (TLC) trainings (Skillsoft)	https://wsdot.wa.gov/employment/workforce-development/talent-development.htm#learning-center	If you have questions or concerns regarding this internal WSDOT resource, please email the Training Development Unit .
WSDOT website: Engineering & Standards	https://wsdot.wa.gov/engineering-standards	This WSDOT webpage contains links to a wide variety of WSDOT trainings and resources, including manuals, design, planning, project management, environmental guidance, TSMO, and more. Key sub-pages are shown below.
	https://wsdot.wa.gov/engineering-standards/project-management-training/training/environmental-training	Environmental guidance.
	https://wsdot.wa.gov/engineering-standards/transportation-system-management-and-operations-tsmo https://tsmowa.org/	Transportation System Management and Operations (TSMO).
	https://wsdot.wa.gov/engineering-standards/all-manuals-and-standards	Manuals and Standards.
WSDOT Workforce Development Toolkit	https://wsdot.wa.gov/employment/workforce-development/	The toolkit is pending migration to the WSDOT intranet.
Maintenance Academy Training	https://wsdot.wa.gov/employment/workforce-development/telework-resources/technical-training/maintenance.htm	Contact your Regional Maintenance Trainer (PDF 37KB) for more information.
Local Technical Assistance Program (LTAP) resources	Overview page: https://wsdot.wa.gov/business-wsdot/support-local-programs Training page: https://wsdot.wa.gov/business-wsdot/support-local-programs/local-programs-training/e-training	For more information, contact Lynn Noah, LTAP Training Coordinator Lynn.Noah@wsdot.wa.gov (360) 705-7809
WSDOT intranet	https://wwwi.wsdot.wa.gov/	Includes internal WSDOT staff information and resources.
Design Build Summit	DesignBuild@wsdot.wa.gov	Held yearly, by the Design Build Office.
Tribal Government to Government Relations training	https://wsdot.wa.gov/employment/workforce-development/talent-development.htm#learning-center	Offered via TLC.
Design Courses Training Matrix	https://wsdot.wa.gov/sites/default/files/2021-11/Design-Courses-Training-Matrix.pdf	Contact Carol Winfrey, 360-522-06-3, winfrec@wsdot.wa.gov .
WSDOT Transportation Systems Management and Operations (TSMO) webpage	https://TSMOWA.org	WSDOT site for staff and partners to learn more about TSMO strategies.

WSDOT TRAINING RESOURCES		
NAME	DIRECTIONS/LINK	NOTES
Communications Resources	https://wwwi.wsdot.wa.gov/tools-services/communications-resources	Find more resources like the Communications Manual, templates, WSDOT Style Guide, Web Toolkit, and more. Note that this is an internal WSDOT resource.

EXTERNAL TRAINING RESOURCES		
NAME	DIRECTIONS/LINK	NOTES
National Highway Institute (NHI)	https://www.nhi.fhwa.dot.gov/	NHI is the training and education arm of FHWA. They run a wide array of training courses as well as offer guidebooks and other resources. Many of their courses and materials require payment, but some are available online for no-cost.
Federal Highway Administration (FHWA)	Training Federal Highway Administration (dot.gov)	FHWA has free trainings available regarding environmental compliance, freight, safety, and planning. Many trainings tie back into NHI, but there are some webinar recordings available on various topics.
	https://www.fhwa.dot.gov/federal-aidessentials/catmod.cfm?category=environm	FHWA training on NEPA as applied to transportation guidance.
	https://www.fhwa.dot.gov/federal-aidessentials/catmod.cfm?id=122	FHWA training on planning and environmental linkages.
Intelligent Transportation Systems (ITS) Joint Program Office (JPO) Professional Capacity Building Program	https://www.pcb.its.dot.gov/	The U.S. DOT's ITS JPO runs a Professional Capacity Building program focused on current and emerging intelligent transportation technology. This includes trainings, webinars, and technical assistance.
AASHTO	https://www.transportation.org/	AASHTO homepage.
	https://tc3.transportation.org/	AASHTO's Transportation Curriculum Coordination Council (TC3) develops trainings on construction, maintenance, and materials. They have a library of more than 250 online training modules. It is free to all WSDOT employees. Follow enrollment instructions (PDF 3.5MB) to begin learning.
	https://transportation.org/services/technical-service-programs/	AASHTO Technical Service Programs
	https://environment.transportation.org/	Center for Environmental Excellence

EXTERNAL TRAINING RESOURCES		
NAME	DIRECTIONS/LINK	NOTES
Institute of Transportation Engineers (ITE)	https://www.pathlms.com/ite	The ITE learning hub offers training resources to build and develop skills. Many of the trainings come at a cost, but most are discounted and free for ITE members.
National Operations Center of Excellence (NOCoE)	https://transportationops.org/	NOCoE provides webinars, case studies, and other resources to the TSMO community. It is a national organization run by AASHTO, ITE, ITSA, and FHWA.
Transportation Research Board (TRB)	https://trid.trb.org/	TRB's TRID (Transportation Research International Documentation) database contains 1.4 million transportation research papers from TRB and its partners. WSDOT's Library Services can also help you with this research.
Rural Safety Center	https://ruralsafetycenter.org/	
U.S. Geological Survey (USGS)	https://www.usgs.gov/programs/national-geospatial-program/training	USGS provides training on how to utilize the national map products and services.
U.S. Fish and Wildlife Service	https://fws.gov/	Find information related to fish, wildlife, plants, and habitat.
Coastal Training Program	https://coastaltraining-wa.org/	Provides practical, science-based training to professionals who make decisions about shoreline management in Western and Eastern Washington.
Washington State Department of Enterprise Services (DES) trainings	https://des.wa.gov/services/training-and-development	Provide dozens of training opportunities to public service employees.
ESRI Massive Open Online Course (MOOC)	https://www.esri.com/training/mooc/	Massive open online courses show how to apply geospatial thinking and create data-driven insight that improves organizations, communities, and the world.
Society of Wetland Scientists	https://www.sws.org/	Provide best practices in wetland research, education, conservation, preservation, restoration, and management.
Native Plant Salvage	https://www.nativeplantsalvage.org/classes-courses	Water and habitat conservation courses, focused on Thurston County and Salish Sea communities.

You can use the worksheet below to record relevant, existing resources. Please note down how they relate to your training and how you may pull them into your training development.

EXISTING RESOURCES RELATED TO YOUR TRAINING				
Organization and/or Resource Name	Description	Does this resource fulfill your training need? If yes, great! Work with your team to implement this training.	Does this resource cover <u>part</u> of your training need? If yes, how might you leverage it?	Is there a challenge to using this resource? If yes, please note the challenge and refer to Question 7.

Your Assessment of Existing Resources

After working through this section, please document how any WSDOT and external resources may be leveraged for your training development.

Your Answer | Question 5a. Are there existing **WSDOT** trainings or resources on this topic? How could they be used?

Your Answer | Question 5b. Are there existing **external** trainings or resources on this topic? How could they be used?

IS NEW TRAINING NEEDED?

Are there existing trainings or resources that address, or partially address, your training need? This may not be the answer you expected when you started this assessment, but this is a great way to capture efficiencies from WSDOT and partner resources.

If you think this may be the case, continue working through this workbook to detail out your training's Learning Outcomes, preferred format, resource needs, etc. Then you can evaluate how the existing training/resources meet these requirements. Depending on alignment, you may only need to make smaller adaptations or expansions of the current training to meet your goals, audience needs, etc. Question 6 provides some guidance on how existing trainings may need to be adapted. For example, your training development effort could be rescoped to simply update an older training, add a new module, or reframe content for a new audience.

6

Question 6. If there are existing WSDOT or external trainings, please clarify how a new WSDOT training would be different or more effective.

If there are existing resources relevant to your training, it is important to define how your training will be different or more effective. This will sharpen your own scope and help determine how best to leverage existing resources. This section provides guidance on how to approach this.

Examples of how existing trainings on a given topic may not meet a new training need is shown below. Please refer to your answer to Question 6 in the Needs Assessment, and work through the section to revise your answer as needed.

If you did not identify any relevant, existing resources in Question 5a or 5b, you may skip ahead to Question 8.

Example: Roundabout Case Study | Needs Assessment Question 6: If there are existing WSDOT or external trainings, please clarify how a new WSDOT training would be different or more effective.

The existing trainings are not specific enough to WSDOT's need, which is to train staff on an advanced application of the relevant software. The software company's existing trainings do not get into the level of detail needed to learn how to design compact roundabouts for trucks and buses. For this training, we are planning to use a consulting team of national leaders in compact roundabout design. They can help WSDOT understand how to work with the software parameters to design successful compact roundabouts.

Beyond the software training, other external resources on roundabout design and best practices do not cover how to design compact roundabouts with the relevant software. Some of these external resources may be leveraged to create overview material on roundabouts in our training.

There are many possible reasons why a new WSDOT training may be needed despite the existence of other trainings on the topic. Some common reasons new training may be needed are shown below.

- *Training that is specific to WSDOT or Washington State* is needed. Existing trainings are national in scope or are specific to other regions.
- *Updated training* is needed. Existing trainings are out of date and new training development is needed.
- *Comprehensive training* is needed on this subject. Existing trainings cover parts of this topic, but new training development is needed to bring all the pieces together.
- *More advanced training* is needed. Existing trainings provide only an introduction.
- *Training specific to the target audience* is needed. Existing trainings are not geared to the target audience. They are too advanced, too introductory, too long, hard to understand, etc.
- *More accessible training* is needed. Existing trainings and resources are not easy for staff to access. Significant training development effort is needed to repackage and reframe existing materials. (Note: this topic is covered more in [Question 7](#).)

Your answers to these questions will help determine how best to incorporate existing resources and how the scope of your training can build on existing resources.

How Your Training Builds on Existing Resources

After working through this section, please document how your training will build on existing trainings.

Your Answer | Needs Assessment Question 6: If there are existing WSDOT or external trainings, please clarify how a new WSDOT training would be different or more effective.

7

Question 7. If there are existing WSDOT or external trainings available, is there a challenge to using them?

If there are existing resources on your topic but there remains a need for new training development, sometimes it is because the existing resources are challenging to use for one reason or another. This section walks through common challenges and ways you may approach them to still leverage existing materials for your training. Depending on what resources exist for your topic, the scope of your training development may shift from developing new training from scratch to making existing resources more user friendly.

An example of how existing trainings on a given topic may be challenging for staff to use is shown below. Please refer to your answer to Question 7 in the Needs Assessment, and work through the section to revise your answer as needed.

If you did not identify any relevant, existing resources in Question 5a or 5b, you may skip to [Question 8](#).

Example: Roundabout Case Study | Needs Assessment Question 7: If there are existing WSDOT or external trainings available, is there a challenge to using them?

Roundabout Case Study

NA—There are no access challenges. Existing trainings are just not the right fit for the training need.

Challenges to Using Existing Training Material, and Solutions

EXISTING TRAINING	CHALLENGE	POTENTIAL SOLUTIONS
Manuals, guidebooks, written resources	Lengthy written materials are too long for busy staff to consume, or find what they need	Convert written resources into an in-person training, webinar, recorded presentation, PowerPoint, graphic, or cheat sheet that focuses on the key takeaways (with page references for more detail).
In-person training	Limited time and mutual availability among staff to organize and conduct in-person training	Create a virtual training (webinar or recorded presentation) or PowerPoint (with notes) from in-person materials.
Virtual training	Staff are not aware of training	Promote training through available communication channels (newsletters, standing meetings, etc.), work with website admins to ensure training is easy to find.
Lecture or presentation	Staff are not engaged in training	Add in interactive and/or learning assessment elements. A wide selection of tools and techniques for this is available at https://www.nhi.fhwa.dot.gov/LearnersFirst/tools-and-techniques.htm . Key examples include group discussions, brainstorming questions, interactive surveys, observational activities, think-pair-share, games, problem solving, and test questions.
Scattered resources on the same or related topics	Staff are not aware of resources or existing resources are hard to find	Focus on clarifying webpages first wherever possible. After that, create a forum for training in the area, such as a lunch and learn series, regular meeting, or a dedicated webpage, SharePoint site, shared folder, or Microsoft Teams Channel.

EXISTING TRAINING	CHALLENGE	POTENTIAL SOLUTIONS
External training	Training is expensive or logistically challenging to attend	The best solution for this challenge may be creating a WSDOT-specific training if the need for WSDOT staff is great enough. Still, external training partners may be open to helping in some way, so it is worth reaching out.

How Will Your Training Adapt Existing Resources?

After working through this section, please document how your training may be able to refresh existing resources to make them more usable. Please note if adapting existing resources will be able to replace part of your training.

Your Answer | Needs Assessment Question 7: If there are existing WSDOT or external trainings available, is there a challenge to using them?

8

Question 8. What are the Goals, Learning Objectives, and Learning Outcomes for this training?

Goals, Learning Objectives and Learning Outcomes work together to get your learners where you want them to be. The case study below shows an example of how the Goals, Learning Objectives and Learning Outcomes were designed to work together. We will break down each component throughout this section.

Example: Roundabout Case Study | Needs Assessment Question 8: What are the Goals, Learning Objectives, and Learning Outcomes for this training?

Goal #1: Make roundabouts safer.

Goal #2: WSDOT design engineers use software to design scalable compact roundabouts.

Learning Objective #1: The class will help students use critical software features so that they can effectively design a compact roundabout.

Learning Outcome #1: Learners practice two ways that the software allows for critical roundabout design features.

Learning Objective #2: The class shows students how to consider design decisions that support the contextual and safety needs of the intersection.

Learning Outcome #2: Learners outline three important design decisions that support the contextual and safety needs of the intersection.

Learning Objective #3: The class will show students how to use appropriate swept-path software settings for near-term system demand that is scalable for future demands.

Learning Outcome #3: Learners demonstrate how to use appropriate swept-path software settings for current system demand and how it is scalable for future demands.

[Click here to watch a short video on how to write effective goals, and the associated Learning Objectives and Outcomes, to ensure your training stays focused and effective.](#)



How to Write a Goal

Identifying the main goal for your training helps answer the question: “Where do we want to end up after this training?” Defining your destination and designing the training to get there is essential. To define your destination, you need to set a goal that encompasses your ultimate intent. What do you want to achieve from this training? What is the positive outcome?

Your Needs Statement from Question 1 may help guide you when writing your goal. Remember to refer to it often as it is your North Star throughout training development! Your goal statement should be broad enough to encompass your training’s overall intent, but specific enough that learners know what they will walk away with.

Draft your goal(s) in the box below.

What is your goal statement?

Roundabout Case Study Example:

Goal #1: Roundabouts are safer.

Goal #2: WSDOT design engineers use software to design scalable compact roundabouts.

Your Goal(s):


How to Write Learning Objectives

Learning Objectives are what the instructor wants to accomplish in the class or training. Learning Objectives look to the future and act as guides to selecting the best format, content, and instructional strategies (e.g., virtual, in-person, hands-on learning).

Here is a basic formula for writing Learning Objectives (i.e., what do you want to teach?):

Learning Objectives = This class will teach learners how to + action verb + task

The following chart is not exhaustive, but it’s a good start to get you thinking of learning levels, corresponding action verbs, and potential behavioral outcomes for learners.



GENERAL LEARNING LEVELS	SPECIFIC LEARNING LEVELS	ACTIONS VERBS FOR LEARNING OBJECTIVES	BEHAVIORAL OUTCOME FOR LEARNERS
Lowest	Knowledge	Define, Memorize, Repeat, Record, List, Recall, Name, Collect, Label, Specify, Cite, Enumerate, Recount	Remember
Low	Comprehension	Restate, Summarize, Discuss, Describe, Recognize, Explain, Express, Identify, Locate, Report, Review, Translate	Understand
Medium Low	Application	Exhibit, Solve, Interview, Simulate, Apply, Employ, Use, Demonstrate, Practice, Illustrate, Calculate	Operate, Apply, Experiment
Medium High	Analysis	Interpret, Classify, Arrange, Differentiate, Group, Compare, Organize, Examine, Survey, Categorize, Dissect, Probe, Inventory, Investigate, Discover, Distinguish, Diagram, Inspect	Compare, Analyze, Distinguish
High	Synthesis	Compose, Plan, Prepare, Imagine, Produce, Incorporate, Develop, Design, Originate, Formulate, Predict, Contrive, Assemble, Construct, Synthesize	Systemize, Evaluate, Formulate
Highest	Evaluation	Judge, Assess, Measure, Appraise, Estimate, Evaluate, Infer, Deduce, Compare, Score, Value, Choose, Conclude, Recommend, Select, Determine	Conclude, Create, Innovate

Draft your Learning Objective(s) in the box below.

What are your Learning Objectives?

Roundabout Case Study Example:

Learning Objective #1: The class will help students use critical software features so that they can effectively design a compact roundabout.

Learning Objective #2: The class will show students how to consider design decisions that support the contextual and safety needs of the intersection.

Learning Objective #3: The class will show students how to use appropriate swept-path software settings for near-term system demand that is simultaneously scalable for future demands.

Your Learning Objective(s):

How to Write Learning Outcomes

The Learning Outcomes are what the **learner will gain** from the training. These Outcomes are much more specific and measurable, and they look to the past. They are what help you know if your class accomplished what you hoped to accomplish. **Each Learning Outcome should correspond directly to your Learning Objectives.**

There is a specific formula to use when developing a Learning Outcome:

Learning Outcomes = Learners + action verb + measurable task

The Outcome should be focused on an **action verb** that describes the trainee recalling or applying what they learned.

Draft your learning outcome(s) in the box below.

What are your Learning Outcomes?

Roundabout Case Study Example:

Learning Outcome #1: Learners practice 2 ways that the software allows for critical roundabout design features.

Learning Outcome #2: Learners outline 3 important design decisions that support the contextual and safety needs of the intersection.

Learning Outcome #3: Learners demonstrate how to use appropriate swept-path software settings for current system demand and how it is scalable for future demands.

Your Learning Outcome(s):

Now put it all together—write your corresponding Learning Objectives and Learning Outcomes together in the box below.

Your Answer | Needs Assessment Question 8: What are the goals, Learning Objectives, and Learning Outcomes for this training?

Goals:

Objective 1:

Outcome 1:

Objective 2:

Outcome 2:

Objective 3:

Outcome 3:

TRAIN

9

Question 9. What topics does this training need to cover? Mark which topics represent new content and which represent content that will be integrated from existing resources, if any.

Now that you have your training need, audience, Learning Objectives, and Learning Outcomes, it's time to design your training. A good first step to anchor the design stage is to outline and sequence the topics—or content—your training will cover. This section provides guidance on how to structure, sequence, and revise your training content. Note that this workbook covers selecting the right format(s) (e.g., presentations, discussions, hands-on activities) for your content in a later section.

Examples of content outlines are shown below. Please refer to your Question 9 answer in the Needs Assessment, and work through the section to revise it as needed.

Example: Roundabout Case Study | Needs Assessment Question 9: What topics does this training need to cover? Mark which topics represent new content and which represent content that will be integrated from existing resources, if any.

This training will kick-off with a brief overview of what a compact roundabout design is and why it is important. The rest of this training is technical, and will cover factors contributing to roundabout design while using the software. For each factor, there will be a brief presentation followed by an in-class exercise. These factors include:

- Truck type, bus size, and composition driving through WSDOT roundabouts
- The effect vehicle assumptions have on designing roundabouts
- Critical design checks required to design a roundabout
- Use of the software to achieve contextual conditions

Goals for Outlining Content

At this stage, a high-level outline of your content serves several goals:

1. *Ensure all content ties to the Learning Objectives and Outcomes.*
2. *Organize and sequence content in a logical flow.*
3. *Assess if any topics can pull from existing resources.*
4. *Anchor and inform next steps in designing your training.*

Let's take a deeper dive into each goal.

1. Ensure all content is tied to Learning Objectives

It is important to keep your Learning Objectives top of mind here. Remember, Learning Objectives help discern the “need to know” content from the “nice to know” content. In this way, they help control the scope of the training. If you cannot tie a topic to a Learning Objective, think critically about what purpose it will serve in your training and if it is valuable enough to keep.

2. Organize and sequence content in a logical flow

This “30,000 foot view” of your training topic is the ideal time to assess sequence and identify gaps in your content. You want to make sure the topics are ordered logically, and that they build off one another. Topics that are prerequisites for understanding other topics should come first. But beyond this there are a variety of ways you can approach order. For example, you can structure according to themes, orient around a process, or sequence your content on a storyline^{vi}.

Learning Objectives can also help organize the sequence of content. To do this, you will define any prerequisite relationships between Learning Objectives and arrange Learning Objectives in a way that shows how they build off and relate to each other^{vii}. Then, you will sequence your topics based on the Learning Objectives they support. Keep in mind that some Learning Objectives may be “standalone”, which gives the trainer more flexibility in where to include that content.

If you have never experimented with outlines or [mind mapping](#) before, now may be the time to do it. There are many ways to organize your thoughts and content at a high level to help you prepare. Outlines tend to be good for linear thinkers, and mind mapping can be great for visual thinkers. There are several SkillSoft videos and templates on Mind Mapping available through [WSDOT Learn Remotely](#).

3. Assess if any topics can pull from existing resources

For Needs Assessment questions 5-7, you may have documented how existing training resources don’t meet the training need. Individual topics within your training, however, may be able to pull from existing resources and give you a jump start on developing content. For efficiency and consistency, it is a good practice to look again at any relevant internal and external resources for applicability. The goal here is to avoid recreating the wheel and, instead, to *build* on existing resources.

4. Anchor and inform next steps in designing your training

Having an outline of your training content will be necessary for completing the next steps in training design and development. For example, you’ll need to know what topics the training will cover to select the best format(s) to teach the content.

Outlining Your Content

There are many approaches to brainstorming and outlining your content. The worksheet below illustrates the key information you want to come away with (topics, sequence, how each topic connects to your Learning Objectives, etc.), but there are multiple ways to get there.

OUTLINE YOUR CONTENT				
#	Topic	Which Learning Objectives does this support?	Any prerequisites? If yes, are they covered before this topic?	Can you pull from existing resources? If yes, please note.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Your Content Outline

After working through this section, please document how your content outline may have been restructured or changed to align more closely with your Learning Objectives. Alternatively, you may use the worksheet above.

Your Answer | Needs Assessment Question 9. What topics does this training need to cover? Mark which topics represent new content and which represent content that will be integrated from existing resources, if any.

10

Question 10. What would be required to be a trainer for this training? Do you have someone identified?

Now is a good time to consider what will be required to be a successful trainer or instructor for this material. The next questions in this workbook dive into selecting your format(s) and evaluating your resources. The person or people leading your course will be a critical consideration. This section provides guidance on defining your trainer requirements.

Example descriptions of trainer requirements are shown below. Please refer to your answer to Question 10 in the Needs Assessment, and work through this section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 10: What would be required to be a trainer for this training? Do you have someone identified?

Roundabout Case Study

- Trainer must be a national expert on roundabout operational and geometric design.
- Trainer should have recent knowledge of evolving national roundabout design guidance and recent safety research supporting current truck usage and freight community concerns.
- Trainer should have national exposure of roundabout best practices.
- Trainer should have experience with hands-on learning, conducting in-classroom problem solving, and answering questions as they practice with the software.

[Click here to watch a short video on being an effective instructor, no matter what platform your training is held in.](#)



Consider the questions in the following worksheet to help define your instructor requirements.

Note: If you plan to be the primary instructor for this training, please use this exercise to assess any additional support needs as well as how your personal strengths and weaknesses (e.g., slide design, public speaking, virtual facilitation) may play into training development and execution.

YOUR INSTRUCTOR REQUIREMENTS	
QUESTION	YOUR ANSWER
What subject area expertise is required? (If expertise is needed on multiple topics, please list all.)	
What level of expertise with instruction, learning technology, facilitation, or public speaking is required?	
How will you work with instructors to develop the training?	
How many instructors do you expect to need? (This would include any support personnel.)	
Do you currently have an instructor(s) in mind? If not, how do you plan to recruit help?	

Facilitation Best Practices

Keep in mind facilitation best practices to help engage your audience and advance your Learning Objectives:

- Manage the agenda: Ensure key points are covered and monitor time to keep the discussion on track.
- Keep the conversation flowing: Have a series of prompts or questions ready to keep the discussion moving forward.
- Ask open ended questions: Adult learners bring experience and facilitators should focus on questions that elicit a longer explanation, a story, or thoughtful analysis.
- Speak the group's language: Try to gain an understanding of terminology and language that is commonly used and would be most effective for your audience.
- Listen and summarize: Capture key points and verbally summarize or note on a whiteboard to keep the group on the same page.
- Ensure broad and balanced participation among the audience: Make sure all perspectives are being represented in the discussion. Solicit comments from participants who have not shared.
- Ensure your visuals are simple and engaging: Look at these [quick "slide makeovers" by Cathy Angell Communications](#) to see how very simple fixes to PowerPoints or slide decks can make all the difference to your learners. **Click here to watch a short video on best practices for creating relevant and well-designed content that allows your audience to apply their knowledge.**
- Use WSDOT's [Graphic Brand Standard & Style Guide](#): Learn more about WSDOT's color palate (great for creating eLearning or slide deck templates), logo usage, and more.



For more practice, check out:

- The Washington State Department Enterprise Services' [course catalogue](#) for offerings on Meeting Management, Facilitation Skills, Presentation Skills, and Train-the-Trainer.
- [NHI's Train-the-Trainer Course](#).
- [Cathy Angell's courses](#) about communicating with non-technical audiences.
- Your local [Toastmasters](#) chapter.

How Your Training Builds on Existing Resources

After working through this section, please document how your training builds on existing trainings.

Your Answer | Needs Assessment Question 10: What would be required to be a trainer for this training? Do you have someone identified?

11

Question 11. What format(s) may be the best fit for this training?

Selecting the right format—in-person, virtual, on-demand, lecture, hands-on—is a critical decision in designing your training. You should consider a variety of factors including training content, audience availability and background, and resource availability. This section walks through how to select the best format, and describes pros, cons, and best practices for using different formats.

Examples of training format selection are shown below. Please refer to your answer to Question 11 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 11: What format(s) may be the best fit for this training?

Roundabout Case Study

The training will be held in-person for the primary audience (participants needing the software training), with a possible hybrid or recording for the secondary audience (participants needing only broader awareness of this topic). The training session will be half-day (3-4 hours). Multiple sessions will be offered, across WSDOT Regions.

During the in-person sessions, the instructor will use presentations, demonstrations, and hands-on practice (where each participant is practicing on their computer) to instruct the class. In-person is the best fit for this hands-on practice approach, as it's easiest for the instructor to see participants work on their individual computers and answer questions as needed.

[Click here to watch a short video on best practices for choosing whether your training should be held in-person, virtually, or hybrid and how to best accommodate your audience in each platform.](#)



In-person, Virtual, or Hybrid?

Selecting format can be thought of as a decision tree—with the first branch being the decision between in-person, virtual, and hybrid approaches. This decision should be rooted in what works best for your content, audience, and Learning Objectives.

Following this decision, you'll select instructional strategies (e.g., presentations, demonstrations, group discussions, case studies, games) that best suit your content, audience, and Learning Objectives. Many instructional delivery methods can be adapted to be in-person, virtual, or hybrid, but some methods are better suited to one or another and you may need to make adaptations. For these reasons, it's best to know upfront if the training will be in-person, virtual, or hybrid.

Some benefits and challenges of each approach are shown below. This list is not exhaustive, but highlights some key considerations.

WHAT IS A HYBRID APPROACH?

*In this workbook, a **hybrid** approach to training is defined as training that offers in-person and virtual participation simultaneously.*

Hybrid training can mean different things to different people. Alternative ways to combine in-person and virtual training are discussed below.

	IN-PERSON	VIRTUAL	HYBRID
Benefits	Enhanced ability for team building and networking. Can increase engagement and retention (participants less likely to multitask).	Convenient (no travel), especially for staff working remotely. Easier to create on-demand training and recordings.	Option between in-person and virtual allows participants to select what is best for them. Could increase participation.
Challenges	Additional logistics and physical resource needs. Recording the training can be more difficult (capturing audience inputs).	May be limited by technology (e.g., online learning platforms, internet connections). Audience engagement (easier to multitask).	Creating an inclusive learning experience for in-person and virtual audiences. Engaging in-person and virtual learners equally.
Good for...	Training using hands-on methods, or group discussions. Longer trainings (e.g., more than a half day).	Audiences dispersed across different locations. Shorter trainings (half-day or less).	Audiences with varied needs and travel availabilities.
WSDOT Resources	Training rooms and reservations, field demonstration sites, car rentals, equipment check-outs (please refer to your program or the WSDOT Outlook Calendar for more information). For more resources and guidance, see Question 12 .	Microsoft Teams, Microsoft Teams Live, Video and editing software, Articulate eLearning, equipment check-outs (please refer to your program for a list of available equipment)	Microsoft Teams, videos, or OWL cameras, equipment check-outs (please refer to your program for a list of available equipment)

Alternatives for Combining In-Person and Virtual Learning

In this workbook, a hybrid approach to training means offering both in-person and virtual participation simultaneously. In this case, in-person and virtual learners attend the same training session, and the trainer designs the course to engage both types of learners. Typically, the trainer joins the in-person participants, and uses virtual learning platforms to provide content for and engage the virtual participants.

This approach offers several benefits (see table above), but also brings some challenges. Primarily, it can be difficult to engage virtual learners equally—especially in whole-group discussions and activities. If hybrid training may cause this or other issues with your training, there are alternative ways to offer in-person and virtual options. These include:

- **Separate sessions for in-person and virtual:** This approach is less efficient for the trainer, but may be a good solution if you expect engaging virtual participants will be challenging. Or if training content and activities will need to be significantly adapted for virtual vs. in-person participants.
- **In-person and virtual components that all participants join:** The training doesn't need to be all in-person or all virtual. If parts of the training would benefit from in-person, but conducting the entire training in-person creates a resource, time, or travel challenge, consider dividing the training into in-person and virtual components. This could mean offering most of the training in-person, and offering pre-work, post-work, or knowledge tests virtually. Or it could mean offering most of the training virtually and scheduling a separate in-person component for a site-visit or hands-on demonstration.
- **Recorded, on-demand virtual learning:** If you want to engage a secondary audience virtually, this may be a good option. In this case, the secondary audience is comprised of staff who do not need to attend the full training and activities, but can benefit from awareness of the content. The recording would generally happen separately from an in-person session to protect participant privacy, but could happen during the in-person session if technology and content allows.

For recorded presentations, your video and audio quality are important! Consider contacting WSDOT's Visual Engineering Resource Group (VERG) for a brief tutorial on how to make the most of your virtual set up. Also, don't forget that you can record in Microsoft Teams or Live. Contact your IT team for more help.

Additional Formats

Your main formatting decision will be between in-person, virtual, and hybrid training. However, there are additional approaches you may want to consider. Many of these can be thought of as extra "layers" of formatting on top of the decision between in-person, virtual, and hybrid.

- **On-demand (virtual):** Virtual trainings can be recorded for on-demand access. This gives participants flexibility in timing their training, and expands the training audience. This is best suited to shorter trainings comprised of lectures and activities that participants can do independently.
- **Bootcamp:** Trainings with large scopes may require a big time commitment from participants. In this case, the training can either be offered as an immersive, multi-day "bootcamp", or be broken into a series over a longer period (see below). A bootcamp may be the right approach if staff need to be trained quickly, or if spacing out the training will create challenges (e.g., later activities require good recall of earlier activities, such as a role-play exercise followed by a discussion revisiting that exercise). In general, bootcamps should be more interactive as participants are being asked to focus for longer blocks of time. They are better suited to in-person for greater engagement and feedback, but virtual is possible if interactive activities are carefully selected.
- **Serial:** On the other end of the spectrum from a bootcamp, breaking a large training into a series may be an easier approach logistically, especially if the training content can be easily broken up. The series could be offered weekly, monthly, or whatever works best for the trainer and audience. For some trainings, a regular series could even help with retention, as the content and skills are revisited each session.
- **Lunch and Learns:** These are recurring trainings, typically presentations and discussions, offered during a recurring lunchtime period (e.g., the first Wednesday of every month at noon). This can be a great approach when the Learning Objective is awareness building. Typically lunch and learns are more casual and participants do not need to attend every session.
- **Job shadowing:** Job shadowing is immersive, generally in-person training where the learner shadows the "trainer" while the trainer goes about their regular job and provides informal training throughout the day. Job shadowing could be one day or many days depending on the training need. This can be an effective approach for onboarding where the job and training needs are niche and don't warrant creating a formal training for a larger audience.

SELECTING YOUR FORMAT	
Instructions	YOUR ANSWER
Will the training be in-person, virtual, or hybrid?	<input type="checkbox"/> In-person <input type="checkbox"/> Hybrid <input type="checkbox"/> Virtual <input type="checkbox"/> Other
What are the benefits of using this format for your training?	
What are the potential challenges of using this format for your training?	

SELECTING YOUR FORMAT	
Instructions	YOUR ANSWER
Why is this the best format for your content and audience?	
Could this format create any issues for your content or audience? If so, what steps could you take to mitigate this?	

Length and Breaks

There is a variety of research and recommendations for scheduling breaks to optimize focus and productivity. In general, most sources recommend taking an approximately 15 minute break every 50 to 90 minutes^{viii, ix, x} for optimal focus, with a longer break at lunch (30 to 60 minutes). At most, a break should be taken every 120 minutes. Much of the research is for work in general, not specifically for training, but the findings still serve as a useful guideline. Learning something new, after all, requires just as much if not more focus.

The best length between breaks, in the range of 50 to 90 minutes, will depend on your content. If the training is heavy on presentation, more frequent breaks may be required. If you have activities that are more interactive, less frequent breaks may work as the activities will break up the time. In general, virtual trainings should offer more frequent breaks than in-person trainings.

HOW OFTEN SHOULD YOU SCHEDULE BREAKS?

In general, offer a 15 minute break every 50 to 90 minutes. Offer more frequent breaks for virtual trainings and presentations.

If your training spans lunch, also offer a 30-60 minute lunch break.

Best Practices for Virtual and Hybrid

In the years following the large migration into virtual work during the COVID-19 pandemic, many employees are still partly or mostly virtual. Trainers and audiences are, generally, still honing their virtual training and learning skills. Fortunately, technologies for virtual learning have risen to meet the challenge, audiences are becoming increasingly familiar with virtual platforms, and some best practices are beginning to emerge:

- **Virtual trainings should occur in shorter increments.** Breaks should be given every 50-90 minutes, and the overall training time per day should not exceed four hours.
 - See sample agendas below for how WSDOT scheduled an in-person and virtual version of a Traffic Signal Operations Course.
- **Engaging activities and exercises throughout the training are key.** Use engaging instructional strategies to get more of your audience participating, such as breakout rooms, interactive polls, or role playing. More information on engaging instructional strategies is below.
- **Pair your training time with pre-work,** or assignments in between lessons, to help reduce the time needed for the actual training. Content that would typically be delivered via a lecture or presentation is well suited to this.
- **Leverage your virtual training platforms.** Many platforms like Microsoft Teams support breakout rooms and polling (this [how-to](#) from Microsoft walks through how to set up breakout, and [this one](#) explains setting up polling). Virtual whiteboarding platforms may also be a good option in some cases.
- **Introduce the audience.** If audience size permits, each person can quickly introduce themselves (e.g., name, role, location) at the beginning. If size or time are constraints, consider creating a roster ahead of time and sending it in the chat or via email so everyone knows the group. An ice breaker question as part of introductions is a great way to help participants connect.

In-Person Sample Agenda

WS DOT Traffic Signal Ops Course (In Person)Pacific Time
min

DAY 1 - Monday - April 17, 2023		
Welcome & Introduction to the Course	30	8:30 AM
L1: Introduction to Intersections	45	9:00 AM
L2: Signalized Intersection Operations Analysis	45	9:45 AM
BREAK	15	10:30 AM
L3: Signal Equipment Fundamentals	45	10:45 AM
L4: Signal Timing Basics, Part 1	45	11:30 AM
LUNCH	60	12:15 PM
L5: Signal Timing Basics, Part 2	45	1:15 PM
L6: Detection	35	2:00 PM
BREAK	15	2:35 PM
L7: Detection Based Controller Settings	45	2:50 PM
Summary and Discussion	25	3:35 PM
Adjourn		4:00 PM
DAY 2 - Tuesday - April 18, 2023		
Intro to the Day	15	8:30 AM
L8: Coordinated Timing Concepts	60	8:45 AM
L9: Developing a Timing Plan	60	9:45 AM
BREAK	15	10:45 AM
Activity	60	11:00 AM
LUNCH	60	12:00 PM
L10: Multimodal Considerations	45	1:00 PM
Activity and Discussion	60	1:45 PM
Course Feedback	15	2:45 PM
Adjourn		3:00 PM

Virtual Sample Agenda

WS DOT Traffic Signal Ops Course (VIRTUAL)

min Pacific Time

DAY 1 - Monday - April 17, 2023

Welcome & Introduction to the Course	30	9:00 AM
L1: Introduction to Intersections	45	9:30 AM
L2: Signalized Intersection Operations Analysis	45	10:15 AM
BREAK	20	11:00 AM
L3: Signal Equipment Fundamentals	55	11:20 AM
Adjourn		12:15 PM

DAY 2 - Tuesday - April 18, 2023

Intro to the Day, Activity	45	9:00 AM
L4: Signal Timing Basics, Part 1	45	9:45 AM
L5: Signal Timing Basics, Part 2	30	10:30 AM
BREAK	20	11:00 AM
Activity	55	11:20 AM
Adjourn		12:15 PM

DAY 3 - Wednesday - April 19, 2023

Intro to the Day	10	9:00 AM
L6: Detection	35	9:10 AM
L7: Detection Based Controller Settings	45	9:45 AM
BREAK	20	10:30 AM
L8: Coordinated Timing Concepts	50	10:50 AM
Activity Prep	20	11:40 AM
Adjourn		12:00 PM

Day 4 - Thursday - April 20, 2023

Intro to the Day	10	9:00 AM
L9: Developing a Timing Plan	45	9:10 AM
BREAK	20	9:55 AM
L10: Multimodal Considerations	45	10:15 AM
Activity and Discussion	45	11:00 AM
Course Feedback	15	11:45 AM
Adjourn		12:00 PM

Instructional Strategies

Once you have determined the format of your training (in-person, virtual, hybrid, etc.), you are ready to explore which instructional strategies will best convey your content to your audience. There is a wide range of instructional strategies—anything from presentations and group discussions to games and role-playing exercises. Instructional strategies should be selected based on your Learning Objectives, content, format, audience, and the skillset of your instructor(s).

Some instructional strategies are better suited to in-person or virtual training, but most can be adapted for any situation with careful consideration. Some common instructional strategies are discussed in this section, and more exhaustive lists can be found from the following resources:

- National Highway Institute (NHI), Learners First, Tools and Techniques: <https://www.nhi.fhwa.dot.gov/LearnersFirst/tools-and-techniques.htm>
- Top Hat, Instructional Strategies: The Ultimate Guide for Professors: <https://tophat.com/blog/instructional-strategies/>

Presentations or Lectures

Presentations or lectures are traditional and popular instructional strategies, and will very likely be at least part of your training. They are relatively easy strategies for both in-person and virtual trainings, and they convey larger amounts of information efficiently. However, it is important to consider if a presentation or lecture is the best fit for your Learning Objectives, content, and audience. They are one-side forms of communication with limited opportunities for engagement. Their effectiveness also varies based on how dynamic and skilled the trainer is at giving them. There are several ways to increase engagement in presentations and lectures, including adding opportunities for questions, knowledge checks, and polls throughout.

Your training will almost certainly include a presentation or lecture at some point. Your goal is to apply this strategy wisely to best meet your Learning Objectives and keep your audience engaged.

For more information: <https://www.nhi.fhwa.dot.gov/LearnersFirst/lectures-and-interactive-lectures.htm>

Group Discussions

Group discussions are another traditional, popular, and relatively easy strategy to apply to a wide variety of training—virtual, in-person, hybrid, etc. You can conduct the discussion with the whole audience or break into small groups (breakout rooms). Discussions can be focused on a series of questions or on a task, such as brainstorming or an evaluation. Challenges include participants disengaging because they are less outspoken, worried about being misunderstood, or simply multitasking. Consider alternate strategies for engagement such as Think-Pair-Share which is highlighted below.

SELECTING INSTRUCTIONAL STRATEGIES

Ultimately, you want to select instructional strategies that help your audience meet your Learning Objectives.

A lot of considerations can go into this selection. Key considerations include:

- *The specific training content.*
- *Organizational or audience culture and preferences.*
- *Available technology and resources.*
- *The strengths/weaknesses of your instructors (e.g., facilitation, public speaking).*

HOW DO I USE BREAKOUT ROOMS IN MICROSOFT TEAMS?

This how-to from Microsoft walks through how to set up breakout rooms for any need.

Many virtual learning platforms support breakout rooms, which can facilitate meaningful discussion on a more intimate level. This can be a useful way to gain feedback from all participants, especially ones who may not feel comfortable speaking in a larger setting.

Report-outs

If you are conducting breakout discussions, think ahead if you will ask the groups to “report-out” to the full group after. This is a common practice—it helps provide motivation and can benefit the larger group by sharing more perspectives—but it requires some advanced planning. It’s important to allot time for the report-out and make sure each group knows the expectations for the report-out in advance. Typically each group is asked to designate someone who will report-out. If your training has many small groups, the time required for report-outs may outweigh the benefits.

Instructional Strategies for Engagement

Get creative and brainstorm some effective ways to engage and train your audience, beyond traditional presentations and lectures. Aim to include at least one—or more!—instructional strategies that promote audience engagement. Audience engagement boosts learning and retention. For example, [studies have shown that learners retain a large majority of new information, about 75 percent, when given the chance to participate in a hands-on practice activity¹](#). Some popular strategies are highlighted below, and more ideas are available from NHI’s Learner’s First resource: <https://www.nhi.fhwa.dot.gov/LearnersFirst/tools-and-techniques.htm>.



DEMONSTRATIONS

- Add some “show” to your “tell”! Show a concept you are teaching through a live or recorded demonstration. Ask the audience to predict the result, then discuss.
- You may be able to find a video online demonstrating your concept.
- For more information, visit NHI’s Learner’s First summary of [Demonstrations](#).



HANDS-ON PRACTICE

- Create a hands-on activity so your audience can practice what they learn.
- Examples include a step-by-step tutorial, a problem to solve individually or in small groups, or a worksheet.
- For more information, visit NHI’s Learner’s First summary of [Hand-on Practice](#)



CASE STUDIES

- Take a deep dive into a case study. You can either work through the case study with the whole group, or present it as a problem for participants to work through, and then report out on.
- Case studies are a great way to apply learning to real-life situations.
- For more information, visit NHI’s Learner’s First summary of [Case Studies](#).

¹ <https://www.nhi.fhwa.dot.gov/LearnersFirst/hands-on-practice-activities.htm>



INTERACTIVE POLLS

- Interactive polls and surveys can be used for a variety of purposes, such as ice breakers, assessing your audiences' baseline knowledge, knowledge checks/quizzes, or collecting thoughts and information from your audience to help shape discussions.
- For more information, visit NHI's Learner's First summary of [Interactive Polls](#).
- Refer to [these instructions](#) for adding a poll to your MS Teams meeting or chat.



WORKBOOKS AND STRUCTURED NOTES

- Create a workbook to go along with your training, with structured places for your audience to take notes and fill-in-the-blanks. You can use a slide deck as a starting point. Include prompts for your audience to fill in information at key points, this helps participants stay engaged and recognize their own learning and progress.
- For more information, visit NHI's Learner's First summary of [Structured Notes](#).



THINK-PAIR-SHARE

- Think-Pair-Share is a method to engage your whole audience on a discussion topic. Here, participants consider a question, then take turns sharing their answer with a partner (or trio). Sometimes participants disengage during large group discussions, and Think-Pair-Share helps overcome that while extending the benefits of discussion to all.
- For more information, visit NHI's Learner's First summary of [Think-Pair-Share](#).



ROLE PLAYING

- Role playing exercises give your participants a chance to apply their knowledge in a simulated scenario interacting with other participants. It's a helpful method to practice skills that involve communication, but can be applied creatively to any skill. Participants can gain further knowledge from debriefs after the role play.
- For more information, visit NHI's Learner's First summary of [Role Playing](#).

SELECTING YOUR INSTRUCTIONAL STRATEGIES

STRATEGY	USE? (Y/N)	WHERE AND HOW?
Presentation or Lecture		
Group Discussion		
Demonstrations		
Hands-on Practice		

SELECTING YOUR INSTRUCTIONAL STRATEGIES		
STRATEGY	USE? (Y/N)	WHERE AND HOW?
Case Studies		
Interactive Polls		
Workbooks and Structure Notes		
Think-Pair-Share		
Role Playing		

Learning Styles and Training Format

Understanding learning styles can help select instructional strategies, and design an effective training for your whole audience. There are three primary learning styles^{xi}:



- **Visual**

- Learning by looking, seeing, viewing, and watching.
- Methods: Slides, graphics, videos, prepared flipcharts or whiteboards, reading silently, demonstrations.



- **Auditory**

- Learning by listening, hearing, and speaking.
- Methods: Lectures, group discussions, sharing.



- **Kinesthetic**

- Learning by experiencing, moving, and doing.
- Methods: Role-plays, simulations, practice demonstrations, writing, note-taking.

More than likely you will not know how your audience learns best, but a good rule of thumb is to include a variety of instructional strategies that can appeal to all learning styles.

Your Training Format

After working through this section, please document what format(s) you plan to use for your training and why.

Your Answer | Needs Assessment Question 11: What format(s) may be the best fit for this training?

12

Question 12. What current WSDOT training platforms and technology resources must be available for this training to be effective?

Pulling the training format(s) you selected in Question 11, the next step is to match your training format to available training platforms, in-person training resources, and other technologies. This section provides guidance on exploring available WSDOT resources. The following sections will walk through evaluating other needs such as staffing and funding, and evaluating any gaps.

Examples of technology needs are shown below. Please refer to your answer to Question 12 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 12: What current WSDOT training platforms and technology resources must be available for this training to be effective?

Roundabout Case Study

- Training room with projector and screen.
- Internet access.
- Ability to utilize WSDOT computers and supplemental monitor with Microstation and truck-swept path (Autoturn) software.
- Virtual learning platforms to engage possible hybrid audience (MS Teams).

WSDOT provides a variety of training resources depending on what learning method your content and audience dictate.

- **In person:** Training rooms and reservations, field demonstration sites, car rentals, equipment check outs. Work with your [Specialized Training Contacts](#) for a list of commonly used training locations in your area. To add a location to the Learning Center, contact the [Workforce Development Unit](#).
- **Virtual:** Microsoft Teams, Microsoft Teams Live, Video and editing software, Articulate eLearning, equipment check outs.
- **Hybrid:** Microsoft Teams, videos, or OWL cameras, equipment check outs.

Consider your lighting, camera, and microphone quality if hosting anything virtually—a quick consultation with WSDOT's [Visual Engineering Resource Group \(VERG\) office](#) can get you on the right track.

Your Technology Needs

After working through this section, please document the technologies you anticipate needing for your training.

Your Answer | Needs Assessment Question 12: What current WSDOT training platforms and technology resources must be available for this training to be effective?

13

Question 13. What staffing or funding resources will be needed to develop and deliver this training?

Beyond the currently available resources discussed in Question 12, trainings often need staff support and occasionally other resources to be implemented successfully. In this section, please evaluate any additional resource needs for your training, with an emphasis on (1) support staff needs and (2) essential needs beyond WSDOT's current training platforms and technologies.

Examples of staffing and other needs are shown below. Please refer to your answer to Question 13 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 13: What staffing or funding resources will be needed to develop and deliver this training?

Roundabout Case Study

This training was identified through the Transportation Operations planning, budgeting, and prioritizing activities. These processes have identified funding and resources for the following needs:

- Funding for consultant-led training development and execution.
- Staff time for development and participation.

Consider and itemize any additional resource needs this training may have, beyond the currently available training resources at WSDOT (see Question 12). The intended focus is on support staff needs—for developing and conducting the training—and essential needs. In the following section (Question 14), this workbook will help assess any gaps that exist.

Some examples of support staff and other essential needs include:

- Subject Matter Experts to create content and lead training.
- Trained facilitators.
- Support staff for managing the training (running slides or exercises, taking notes on a whiteboard, setting up technology).
- Staff or consultant support for creating visuals, slides, videos, etc.
- Funding associated with a field visit.
- Procuring materials for in-person training exercises.

Your Resource Needs

After working through this section, please document what additional staffing or funding resources are needed for this training.

Your Answer | Needs Assessment Question 13: What staffing or funding resources will be needed to develop and deliver this training?

14

Question 14. Are there any gaps between needed resources and available resources? How might these gaps be filled?

Taking the resource needs identified in Question 13, the next step is to assess the gap between these needs and available resources. This section walks through that assessment and provides some resources and considerations for addressing gaps.

An example resource needs gap assessment is shown below. Please refer to your answer to Question 14 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 14: Are there any gaps between needed resources and available resources? How might these gaps be filled?

Roundabout Case Study

This training was identified and planned for through the Transportation Operations planning, budgeting, and prioritizing activities. All major resources needs have been met. Trainees would benefit from larger screens to facilitate design exercises throughout the workshop. The team will explore if there is an existing way to access larger screens for this training.

Pulling the needs identified in Question 13, consider existing resources that could meet each need. If existing resources only partly meet a need, or do not exist for a need, note down the gap. Existing resources may include colleagues or WSDOT programs.

YOUR RESOURCE NEEDS ASSESSMENT		
ADDITIONAL STAFF AND RESOURCE NEEDS (QUESTION 13)	EXISTING RESOURCES	GAPS

YOUR RESOURCE NEEDS ASSESSMENT		
ADDITIONAL STAFF AND RESOURCE NEEDS (QUESTION 13)	EXISTING RESOURCES	GAPS

Addressing Gaps

If there are significant needs beyond current resources, you may be able to re-scope or approach the training need differently. Consider the following strategies for addressing resource gaps.

Leverage Existing Trainings

Re-explore existing trainings and resources to see if your training needs could be met by adapting existing resources. See Question 5 for a list of existing resources. You may be able to decrease the scope of your training development by instead focusing on making existing resources more usable or current for staff.

Alternative Approaches

Consider if your resource needs could be met a different way. For example, could some of these needs become part of a student intern role?

Planning

Highlight the training need and any resource gaps *now* may enable training and resource planning for the future. Communicate the training and resource need to your colleagues and collaborate to look for solutions.

National research organizations often solicit input on research agendas and ask for needs statements. Having your training need ready may help leverage national partners working on similar needs.

Your Gap Assessment

After working through this section, please document your assessment of any gaps in your resource needs.

Your Answer | Needs Assessment Question 14: Are there any gaps between needed resources and available resources? How might these gaps be filled?

TRACK

15

Question 15. How will you know the identified Learning Outcomes have been tracked and met?

The last step in training development is identifying tracking methods to ensure your Learning Objectives are met. Knowing how you will track *before* you begin training is critical so you can develop materials accordingly and so the audience understands how their performance will be measured. This section walks through different approaches to track the success of your training.

An example methodology for tracking training success is below. Please refer to your answer to Question 15 in the Needs Assessment, and work through the section to revise your answer as needed.

Example: Roundabout Case Study | Needs Assessment Question 15: How will you know the identified Learning Outcomes have been tracked and met?

Participant learning and progress towards the Learning Outcomes will be tracked informally during the training through the instructor's assessment of the hands-on practice exercises. Learning Outcome achievement will additionally be evaluated after the training via evaluation forms and a follow-up assessment with key WSDOT staff after the training.

The training will also offer follow-up trainings as opportunities for learners to ask questions and work on any issues encountered while applying their skills. This will serve as an additional way to track success.

In the longer-term, safety data related to roundabouts and review of constructed roundabout will be used to track if the training's ultimate goals to improve roundabout design and the safety improvements associated with design were successful.

[Click here to watch a short video on the process of selecting appropriate tracking metrics to evaluate training effectiveness.](#)



Question 15
Video

Tracking based on Learning Outcomes

Your Learning Outcomes should point you towards your tracking methodology. An effective Learning Outcome will state the desired training outcome and should be specific enough to measure if this outcome has been met. If you find that you cannot track whether your Learning Outcomes have been met or not, they likely need to be revised to be more specific.

TRACKING BASED ON LEARNING OUTCOMES	
YOUR LEARNING OUTCOME(S)	TRACKING METHOD

Tracking Methods

There are a variety of ways to track if Learning Outcomes are being met. Some examples of different tracking methodologies are described below. Many of these methods can be used either during or after the training itself, depending on what fits best for your Learning Outcomes and audience.

Tests and Quizzes

Tests and quizzes are an effective and efficient way to measure learning. Questions can be formatted a wide variety of ways depending on the Learning Outcomes—true/false, multiple choice, open ended, etc. Tests and quizzes can be given throughout the training, at the end, or after a certain period has passed. Tests and quizzes may be particularly well suited to virtual audiences and/or large audiences given the ease of administration and growing capabilities to give tests virtually. An example of measuring a learning outcome might be: “90% of students scored 95% or higher on the post-class test.”

- Best practices for creating tests and quizzes: <https://www.nhi.fhwa.dot.gov/LearnersFirst/test-questions.htm>

Before-and-After Assessments

Before-and-after assessments allow instructors to create a baseline and measure learning compared to that baseline. Before-and-after assessments are generally a test, quiz, or rubric that is given at the beginning and at the end of a training. Sometimes before-and-after assessments are conducted as self-assessments, where participants would rate their skills in an area at the beginning and end of the training. An example of measuring a learning outcome with self-assessments would be: “Ninety percent of students reported an increase in their skill of identifying hazardous decisions in roundabout design.”

Rubrics and Assessment Checklists

Rubrics and assessment checklists are structured assessments to help consistently track learning across participants. A rubric is a matrix that scores performance based on descriptions tied to each score. They are useful for tracking Learning Outcomes where there is a continuum of performance. An assessment checklist is simply a checklist that itemizes your performance criteria and denotes whether the learner has or has not met the criteria. They are useful for tracking Learning Outcomes with a “yes” or “no” answer.

- Best practices for using rubrics: <https://www.nhi.fhwa.dot.gov/LearnersFirst/rubrics.htm>
- Best practices for using checklists: <https://www.nhi.fhwa.dot.gov/LearnersFirst/assessment-checklists.htm>

Surveys

Surveys can be a helpful tracking tool, especially for self-assessments. For Learning Outcomes tied to, for example, business processes or institutional issues (e.g., improving business processes, increasing

collaboration), self-assessment surveys can help determine if the training is having the intended effects. WSDOT has access to a variety of survey tools including [SurveyMonkey](#).

A few examples of survey questions might include:

- What is one way you intend to apply what you learned?
- On a scale of 1 (not at all helpful) to 5 (extremely helpful), rate each of the following topics:
- What did you like best about the class?
- Is there something that would have made the class more useful to you?

Practice Exercises

- More applied Learning Outcomes may be more tied to actions than quizzable information. In these cases, creating a practice exercise to assess these actions could be the most effective way to assess and track success. For example, “Ninety-five percent of participants correctly implemented the appropriate swept-path software settings for current system demand.”

Follow-up Assessments

For most Learning Outcomes, success hinges on knowledge gained during training than being applied in the workplace. However, in some cases, this transfer may be more challenging than others. If transferring and applying knowledge is a concern, a follow-up assessment should be part of your tracking methodology. You can conduct these in a variety of ways. Tests, quizzes, rubrics, checklists, and surveys can all be readily conducted after the training. Or, if you are looking for more in-depth information, follow-up interviews with participants or group leaders can provide great information for tracking Learning Outcomes.

Performance Data

If you identified data (quantitative or qualitative) that supports the need for your training (see Question 3), assessing this data before and after the training is a great way to track success. For using this data, you should define your baseline, the intervals at which you’ll assess the data (monthly, quarterly, etc.), and how you will measure success in the data (e.g., if the measure reaches a certain number or ratio, is trending up/down).

How Your Training Builds on Existing Resources

After working through this section, please document how your training will build on existing trainings.

Your Answer | Needs Assessment Question 15: How will you know the identified Learning Outcomes have been tracked and met?

YOUR ANSWERS

The form below compiles your answers to the 15 “Your Answers” boxes at the end of each section. These boxes are intended to give you space to refine and expand upon your answers to the Needs Assessment questions after you work through the Workbook. Once complete, please use the compiled answers below as a roadmap for developing your training.

Your Answer | Needs Assessment Question 1: What need will this training address?

Your Answer | Needs Assessment Question 2: What are the benefits of addressing this need? Are there risks if the need is not addressed?

Your Answer | Needs Assessment Question 3: What data, observations, or trends demonstrate this need?

Your Answer | Needs Assessment Question 4: Who is the primary audience and what are their roles? Is there a secondary audience and what are their roles?

Your Answer | Question 5a. Are there existing **WSDOT** trainings or resources on this topic? How could they be used?

Your Answer | Question 5b. Are there existing **external** trainings or resources on this topic? How could they be used?

Your Answer | Needs Assessment Question 6: If there are existing WSDOT or external trainings, please clarify how a new WSDOT training would be different or more effective.

Your Answer | Needs Assessment Question 7: If there are existing WSDOT or external trainings available, is there a challenge to using them?

Your Answer | Needs Assessment Question 8: What are the goals, Learning Objectives, and Learning Outcomes for this training?

Goals:

Objective 1:

Outcome 1:

Objective 2:

Outcome 2:

Objective 3:

Outcome 3:

Your Answer | Needs Assessment Question 9: What topics does this training need to cover? Mark which topics represent new content and which represent content that will be integrated from existing resources, if any.

Your Answer | Needs Assessment Question 10: What would be required to be a trainer for this training? Do you have someone identified?

Your Answer | Needs Assessment Question 11: What format(s) may be the best fit for this training?

Your Answer | Needs Assessment Question 12: What current WSDOT training platforms and technology resources must be available for this training to be effective?

Your Answer | Needs Assessment Question 13: What staffing or funding resources will be needed to develop and deliver this training?

Your Answer | Needs Assessment Question 14: Are there any gaps between needed resources and available resources? How might these gaps be filled?

Your Answer | Needs Assessment Question 15: How will you know the identified Learning Outcomes have been tracked and met?

END NOTES

ⁱ Indeed, *How to Write a Problem Statement (With an Example)*, <https://www.indeed.com/career-advice/career-development/how-to-write-a-problem-statement>

ⁱⁱ National Highway Institute, *Learners First: Respecting Diversity*, <https://www.nhi.fhwa.dot.gov/LearnersFirst/respecting-diversity.htm>

ⁱⁱⁱ National Highway Institute, *Learners First: Games*, <https://www.nhi.fhwa.dot.gov/LearnersFirst/games.htm>

^{iv} National Highway Institute, *Learners First: Role-playing*, <https://www.nhi.fhwa.dot.gov/LearnersFirst/role-playing.htm>

^v National Highway Institute, *Learners First: Think-Pair-Share*, <https://www.nhi.fhwa.dot.gov/LearnersFirst/think-pair-share.htm>

^{vi} Washington University in St. Louis, Center for Teaching and Learning, *Designing a Course*, <https://ctl.wustl.edu/resources/designing-a-course/>

^{vii} National Highway Institute, *Principles of Adult Learning & Instructional Design*, <https://www.nhi.fhwa.dot.gov/downloads/freebies/172/pr%20pre-course%20reading%20assignment.pdf>

^{viii} Neil Patel, Inc., *When, How, and How Often to Take a Break*, <https://www.inc.com/neil-patel/when-how-and-how-often-to-take-a-break.html>, December 11, 2014.

^{ix} Drake Baer, Fast Company, *Why You Need to Unplug Every 90 Minutes*, <https://www.fastcompany.com/3013188/why-you-need-to-unplug-every-90-minutes>, June 19, 2013.

^x Derek Thompson, The Atlantic, *A Formula for Perfect Productivity: Work for 52 Minutes, Break for 17*, <https://www.theatlantic.com/business/archive/2014/09/science-tells-you-how-many-minutes-should-you-take-a-break-for-work-17/380369/>, September 17, 2014.

^{xi} National Highway Institute, *The Circle of Learning*, https://www.nhi.fhwa.dot.gov/resources/docs/circle_of_learning.pdf