Insert Vendor Logo/Name

Course Title:

Detailed-level Design Plan

Draft / Final

Submitted to NHI:
MM / DD / YYYY

Submitted by:
Vendor Name
Vendor Address
Contract Number
Version Number

NATIONAL HIGHWAY INSTITUTE
Training Solutions for Transportation Excellence

Using the Detailed-level Design Plan Template

This template provides the format and lists the required information for a Web Conference Training (WCT) Detailed-level Design Plan. Use the template as a starting point for developing your plan.

- Replace all text in RED with the information indicated or delete if not applicable. Do NOT replace black text. It is boilerplate and represents NHI's curriculum-wide approach.
- Change text color to black after making modifications.
- Update the Table of Contents.
    - Select the Table of Contents
    - Press F9
- Reformat as needed, especially the font (Trebuchet 10 pt. for body text).
- Delete all template instructions.

Note that not all courses have pre-assignments and/or end-of-course exams, and not all courses offer Continuing Education Units (CEUs). Be sure to remove any information that does not apply to your course.

Note: Delete this page after completing your Detailed-level Design Plan.

Contents

1 Overview

1.1 Introduction and Background

This document expands on the information provided in the High-level Design Plan (HDP) for the Course Title development effort and builds the basic course structure. The information in this plan establishes the baseline for the course design and development. There have been no significant changes to the requirements or government furnished information (GFI) since the HDP was approved. **OR** There have been significant changes to the requirements or government-furnished information (GFI) since the HDP was approved. They are detailed in the table below.

Original	Current	Implications
Enter the original GFI title (with version number or date).	Enter the updated information.	Indicate how this has changed or influenced the module.
	Enter new GFI that was received after the HDP was submitted/approved. This should include GFI that was identified as missing or contradictory in the HDP.	Indicate how this has changed or influenced the module.

1.2 Purpose

This document provides a blueprint for Course Title. It assumes the following course hierarchy:

- Course
- Module
- Lesson

Further, it assumes the existence and prior NHI approval of:

- A course goal
- Terminal Learning Outcomes
- Enabling Learning Outcomes

1.3 Level of Detail

The Detailed-level Design Plan (DDP) is a pre-cursor to development of the Instructor Guide, Participant Workbook, and PowerPoint slides. It demonstrates module flow and instructional strategies as well as key teaching points in bullet form.

1.4 DDP Submission

The DDP is submitted following approval of the HDP.

1.5 Prototype Content

Identify the prototype content and provide an explanation of why that module was selected as the prototype. Use the information in section 4.1 of the HDP if the prototype has not changed. If the prototype has changed, explain the decision to change it.

1.6 DDP Structure

This document presents information regarding the design, development, and evaluation of Course Title. It comprises the following sections:

Section	Title	You will find information pertaining to
Section 1	Overview	The purpose of the DDP and how the DDP will use the information from the HDP to determine the course structure and learning outcomes
Section 2	Course Information	The target audience, course criteria, and terminal and enabling learning outcomes
Section 3	Course Design Details	By module: enabling learning outcomes, estimated length, instructional strategies, interactivity level, practice item types, assessment item types, offline assignments, and resources; course assessment strategy
Section 4	Design and Development Plan	The milestones and procedures that will be followed in the process of developing the course and the roles and responsibilities in the design and development process
Section 5	Evaluation Plan	The collection of level 1 and level 2 evaluation data and the roles and responsibilities in the evaluation process
Section 6	Appendix	• Acronym list • Course development schedule

2 Course Information

The course information contained in the section below identifies the target audience and discusses the course criteria, including terminal and enabling learning outcomes.

2.1 Target Audience Profile

The target audience profile is identified to help ensure that the instruction will meet the learner's needs and fill performance gaps. This section defines the target audience for this course.

2.1.1 Learner Profile

Provide as much information as possible about the desired learner for the course, including skills they should have and information they should know prior to attending the training. Describe the current job performances or tasks of targeted participants. The more information you can provide, the more likely the participants will have the appropriate skills and knowledge to fully benefit from the training.

The target audience for this course consists of individuals responsible for:
- Responsibility
- Responsibility
- Responsibility

Prior to taking this course, participants should be able to:
- Skill/ability
- Skill/ability
- Skill/ability

Prior to taking this course, participants should know:
- Information
- Information
- Information

The target audience consists of people in the following positions:
- Job title
- Job title
- Job title

2.2 Course Criteria

The course criteria are basic information required for course development. This section identifies the course criteria.

2.2.1 Course Title

Identify the course title.

2.2.2 Description

Provide a high-level description of the content that will be included in the course.

2.2.3 Prerequisites

List any courses a learner is required to successfully complete prior to taking this course.

2.2.4 Estimated Course Time

This is the number of hours it will take to complete the course, and should include synchronous and asynchronous components.

2.2.5 Terminal Learning Outcomes (TLOs) and Enabling Learning Outcomes (ELOs)

Terminal Learning Outcomes (TLOs) are identified at the course level. A TLO is a statement identifying the performance outcome(s) at the end of the course. Enabling Learning Outcomes (ELOs) occur throughout the formal learning experience and can be considered steps in accomplishing the TLO. ELOs are identified at the module and/or lesson level.

Identify terminal learning outcomes and enabling learning outcomes. Use behavioral, measurable verbs for the outcomes; avoid subjective qualifiers and ambiguous verbs that reflect internal cognitive functions, such as ‘understand’ or ‘realize’. Only include the learning outcomes applicable to this DDP. For traceability, number the terminal learning outcomes in the following manner:

1. Terminal Outcome
    - 1.1. Enabling outcome
    - 1.2. Enabling outcome
    - 1.3. Enabling outcome
2. Terminal Outcome
    - 2.1. Enabling outcome
    - 2.2. Enabling outcome
    - 2.3. Enabling outcome

2.2.6 GFI Updates

List all GFI that was used in the development of content in this DDP. Include version numbers and/or dates.

3 Course Design Details

Course content, structure, and assessment strategies are identified in this section.

3.1 Module Matrices

The module matrices are maps that visually represent the content in each module. Each module matrix represents the content, learning outcomes, instructional treatment, and assessment strategy for the module and lessons.
NOTE: Create a new Module Matrix for each module in your course.

3.1.1 Module Matrix: Module Title

Description: Briefly explain the chunking strategy for this module. Explain why this content belongs here. Example: This module provides a cross-cultural analysis of the color blue. Western, Eastern, and Aboriginal cultures are considered. The significance of blue to each culture is considered in everyday life, the visual arts, the literary arts, and folk lore, superstition, and religion.				
Terminal Learning Outcome(s) (TLO) for this module:				
Enabling Learning Outcomes (ELO): Upon completion of this module the learner will be able to: • Enabling Learning Outcome x.1 • Enabling Learning Outcome x.2 • Enabling Learning Outcome x.3				
Estimated Time: xx hours		**Interactivity:** poll; chat; notetaking; whiteboarding; group discussion; small group chat; link to external resources; demonstration		
The table below explains how the inherent features of Acrobat Connect will be used to present, provide an opportunity to practice, and test each ELO. Provide the following information in the table: **Instructional Strategy**:Describe how each ELO will be treated. For example: compelling quote or data, examples, storytelling, case study, testimonial, expert coach… **Graphics/Audio/Video**: Describe any graphics, audio, and/or video that will be used. **Knowledge Check**: Include the types of knowledge checks you will use. For example: polling; multiple choice question; true/false question; verbal Q/A; written Q/A **Assessment Item**: Include the types of assessment items you will use for this topic. For example: matching, multiple choice, true or false. Include draft assessment questions below. Each ELO must have at least one assessment question.				
ELO #	**Instructional Strategy**	**Graphics/Audio/Video**	**Knowledge Check**	**Assessment Item**
ELO x.1				

Offline Assignments: Identify any pre- or follow-up assignments required for this module and provide the format of the assignment: document; web site; WBT	
GFI and Resources: List specific resource location, such as page number	

<table>
<tr><td>Lesson X:
(include if lessons are used. Add additional table for each lesson within the Module)</td><td colspan="3">Lesson Title:</td></tr>
<tr><td>Estimated Time: xx hours</td><td colspan="3">Interactivity: poll; chat; notetaking; whiteboarding; group discussion; small group chat; link to external resources; demonstration</td></tr>
<tr><td colspan="4">Description: Brief description of lesson content. Briefly explain the chunking strategy for this lesson.
For example: This lesson analyzes the color blue within Eastern cultures. Each culture is examined separately first followed by differentiation and comparison of all cultures' history with the color blue.</td></tr>
<tr><td colspan="4">Enabling Learning Outcomes (ELO):
Upon completion of this lesson the learner will be able to:
• Enabling Learning Outcome x.1
• Enabling Learning Outcome x.2</td></tr>
<tr><td colspan="4">The table below explains how the inherent features of Acrobat Connect will be used to present, provide an opportunity to practice, and test each ELO.
Provide the following information in the table:
Instructional Strategy:Describe how each ELO will be treated. For example: compelling quote or data, examples, storytelling, case study, testimonial, expert coach…
Graphics/Audio/Video: Describe any graphics, audio, and/or video that will be used.
Knowledge Check: Include the types of knowledge checks you will use. For example: polling; multiple choice question; true/false question; verbal Q/A; written Q/A
Assessment Item: Include the types of assessment items you will use for this topic. For example: matching, multiple choice, true or false. Include draft assessment questions below. Each ELO must have at least one assessment question.</td></tr>
</table>

ELO #	Instructional Strategy	Graphics/Audio/Video	Knowledge Check	Assessment Item
ELO x.1				

GFI and Resources: List specific resource location, such as page number

3.2 Course Assessment Strategy

{Vendor name} will implement an assessment strategy that meets the course's specific assessment requirements. Standard NHI assessment types will be used to support the course assessment requirements.

3.2.1 Assessment Requirements

All NHI courses that offer Continuing Education Units (CEUs) must include a scored end-of-course exam. Early identification of assessment requirements increases the ability of the Instructional Systems Designer (ISD) to develop valid assessment questions (i.e., map directly to enabling and terminal learning outcomes) and reduces the overall development effort by eliminating costly rework of assessment items.

The table below identifies the assessment type and its corresponding requirements. The Notes and Comments column identifies design implications or ramifications, and provides a rationale for unique features or elements required.

Assessment Type	Requirements	Notes and Comments
Knowledge Check	• Included within the content • Answers are evaluated for accuracy, but not scored and tracked • Provides correct answer and corrective feedback	Per the NHI WCT Standards and Style Guide: • If embedded throughout a lesson, set up one Quiz for every knowledge check question • If located at the end of a module, set up a Quiz with multiple knowledge check questions
End-of-Course Exam	• Applicable only at the course level • Scored and tracked • Requires score of 70% or better to receive CEUs • Displays summary page with score	Per the NHI WCT Standards and Style Guide, set up a Quiz with multiple knowledge check questions.

3.2.2 End-of-Course Exam Assessment Item Types

The following table identifies the types of assessment items used in the end-of-course exam.

Assessment Item Type	Description	Example Instructional Uses
Rank or Order (using standard matching question)	Multiple items with a text entry box beside each item	• Place the steps of a process or procedure in the correct order • Determine most-likely to least-likely outcome based on provided information • Identify historical chronology of significant events • Differentiate between two items by identifying the characteristics
Matching	Multiple items with a text entry box beside each item; additional items listed on a separate section of the screen	• Match basic term and definitions • Identify the best answer to a question • Determine appropriate consequences for actions or decisions
Multiple Choice	Multiple items with one correct answer; radio buttons	• Determine most likely outcome for an event • Determine the most appropriate response for practicing soft skills
Text Entry	Text entry field requiring a word or short phrase	• Provide a short answer to a question • Offer a description of a concept • Input specific information in a software or form simulation
True or False	Radio button providing two possible answers: True or False	• Identify the validity of a statement with an either/or answer option
Multiple Select	Checkboxes allowing multiple answers to be selected	• Describe through multiple characteristics • Determine an appropriate subset

3.2.3 End-of-Course Exam Development Process

General standards for validity and reliability in online assessments will be followed. These standards are:

- Traceability (see NHI WBT Standards and Style Guide for instructions)
- Standardized and industry-accepted design and development tools (e.g., Bloom's Taxonomy)
- Active SME involvement during the development and evaluation of each assessment item

4 Design and Development Plan

Once this DDP has been approved, course development continues with the design and development phases according to the content and instructional strategies described in this document. The design and development processes* are:

- Design and develop prototype
- Develop PowerPoint slides
- Develop Facilitator Guide
- Develop Participant Workbook
- Develop End-of-Course Exam
- Conduct Pilot
- Revise course materials

*The processes are not necessarily completed in this order.

4.1 Design and Development Procedures

The design and development phase consists of four segments: the prototype, the draft materials, the pilot, and the final materials.

4.1.1 Prototype

The prototype provides a functional sample of the content designed and developed in accordance with the WCT standards and instructional strategies identified in this document. Changes required for WCT standards and instructional strategies are identified and documented early in the design phase. Global changes made at the prototype phase are considerably less time- and cost-intensive than later in the design or development process.

The prototype will consist of approximately 20 PowerPoint slides, as well as a sampling of interactivity using the features of FHWA's Web conferencing tool. The purpose of the prototype is to illustrate:

- Learner-directed approach
- Use of interactive features of Acrobat Connect Professional to engage learners and allow practice
- Creativity
- Accuracy of content
- Visual treatment of content
- Writing style
- Adherence to standards
- Use of blended elements (e.g., asynchronous WBT elements)

The {identify prototype module/lesson/section} is designated as the prototype. Rationale for this selection as the prototype includes the following:

- Cognitive level of content is reflective of the majority of the course.
- Content for this section is among the most stable or best-documented in the GFI.
- This content is the foundation for other content in the course, and its development will facilitate the development of other content.
- {Include anything else that is appropriate and relevant for picking your prototype.}

The prototype will be delivered in the Web conferencing tool and presented during a synchronous Web meeting. **OR** The prototype PowerPoint file will be delivered to NHI for review. A feedback session will be facilitated to obtain NHI feedback, which will then be incorporated into a final prototype, delivered to NHI as a .ppt file.

Milestones for the prototype include:

- Input from Subject-Matter Experts (SMEs) during prototype development
- Delivery of draft prototype for review by NHI and project team
- Review and consolidation of team comments by project team lead
- Submission of consolidated comments to {Vendor name} by project team lead
- Delivery of final prototype that incorporates project team comments
- Acceptance of the prototype by NHI and project team

4.1.2 Draft Materials

{Vendor name} will set up a virtual learning environment in the NHI-assigned Acrobat Connect Professional meeting room. Layouts and pods will be set up according to the approved DDP. All pods will be populated as planned.

{Vendor name} will create a set of draft PowerPoint slides for each module. The slides will reference the features of the Web conferencing tool used in the module (e.g., Acrobat Connect Professional pod types and content of the proposed pods). The Notes page of each slide will contain the Facilitator's script (verbatim). The slides will be developed in accordance with the NHI-approved final DDP, using the standard NHI WCT PowerPoint template. Each draft module will be delivered as a separate .ppt file.

{Vendor name} will create a draft Facilitator Guide (FG) and Draft Participant Workbook (PW) using the NHI-provided templates. The Facilitator Guide will provide embedded PowerPoint slides with Facilitator's script, preparation steps, and instructional activity instructions as well as other notes to the Facilitator (e.g., additional resources). The Participant Workbook will provide embedded PowerPoint slides with space for taking notes. If called for by the Detail-level Design Plan, the Participant Workbook will also provide space for completion of activities.

The end-of-course exam will be developed using the standard NHI End-of-Course Exam PowerPoint template and delivered as a .ppt file. The End-of-Course Exam answer key will be delivered as a separate MS Word file.

{Vendor name} will submit the draft PowerPoint slides and draft End-of-Course Exam file to NHI Business Support for review and comment. NHI Business Support will conduct a review of the course's functionality and provide comments. {Vendor name} will make necessary revisions prior to submitting final draft materials for the pilot.

{Vendor name} will submit the draft PowerPoint slides, draft End-of-Course Exam file, draft MS Word Facilitator Guide, draft MS Word Participant Workbook, and any ancillary materials to NHI for review and comment. {Vendor name} will set up the Acrobat Connect Professional meeting room for NHI to review the draft materials.

The project team lead will provide one set of written, consolidated, vetted comments to {Vendor name} within the agreed-upon timeframe.

Milestones for draft materials development include:

- Input from SMEs during draft materials development
- Delivery of draft PowerPoint slides and draft end-of-course exam file to NHI Business Support for review of course functionality
- Submission of NHI Business Support's comments to {Vendor name}
- Delivery of draft PowerPoint slides, draft end-of-course exam file, draft Facilitator Guide, draft Participant Workbook, and any ancillary materials for review by NHI and the project team
- Review and consolidation of team comments by project team lead
- Submission of consolidated comments to {Vendor name} by project team lead
- Delivery of pilot-ready materials that incorporate project team comments
  - Pilot-ready PowerPoint slides
  - Pilot-ready Facilitator Guide
  - Pilot-ready Participant Workbook
  - Pilot-ready ancillary materials
  - Pilot-ready End-of-Course Exam file

4.1.3 Pilot

{Vendor name} will conduct a Train-the-Trainer session for the course Facilitator. {Vendor name} will set up the Acrobat Connect Professional meeting room and attend the pilot. {Vendor name} will propose changes to the course based on a review and analysis of level 1 and level 2 feedback, and facilitate a debrief session with NHI. NHI will review the feedback and decide which feedback to implement and which to set aside.

Milestones for the pilot include:

- Conduct of a Train-the-Trainer session for the course Facilitator
- Set-up of the Acrobat Connect Professional meeting room and attendance at the pilot
- Documentation of proposed changes to the course during a debrief session with the project team
- Review and consolidation of team comments by project team lead
- Submission of consolidated comments to {Vendor name} by project team lead

4.1.4 Final Materials

Upon receipt of NHI's consolidated changes resulting from the pilot, {Vendor name} will:

- Create a set of final course materials
  - Final PowerPoint slides
  - Final Facilitator Guide
  - Final Participant Workbook
  - Final ancillary materials
  - Final End-of-course Exam file and Final Answer Key
- Conduct a thorough quality assurance (QA) review of all materials
- Make final modifications to the Acrobat Connect Professional meeting room
- Provide NHI three CD-ROMS with each CD containing all final deliverables, including source media files.

4.2 Design and Development Roles and Responsibilities

The roles and responsibilities of the team members that are integral to the development process are outlined in the following table.

Roles	Responsibilities
NHI	• Provide guidance to Vendor on course development, including adherence to NHI standards for WCT development • Interface with project team lead, SMEs and Vendor, as necessary • Review and comment on deliverables • Provide link to Level 1 evaluation (i.e., URL to online course evaluation form) • Provide link to downloadable course completion certificate
Project Sponsor	• Provide project resources (funding, project team members) • Provide high-level project oversight
Project Team Lead	• Day-to-day coordinator for all project-related activities • Review and consolidate all reviewer comments • Review draft deliverables • Accept final deliverables
Training Program Manager	• Accept final deliverables
Content Subject Matter Expert (SME)	• Ensure technical accuracy of the content • Review course materials and provide comments • Verify validity of content • Provide official response to questions and deliverables
Project Team Member	• Review course materials and provide comments to project team lead
NHI Business Support	• Review course functionality and provide comments to Vendor
{Vendor name}	• Interact with SME to guarantee content validity • Create prototype • Create draft and final materials • Conduct Train-the-Trainer session for Facilitator • Attend Pilot • Conduct thorough quality assurance testing on all deliverables • Create final versions of the materials, incorporating corrections provided by Client Project Team Lead • Make final modifications to the Acrobat Connect Professional meeting room • Provide NHI three CD-ROMS with each CD containing all final deliverables, including source media files • Provide End-of-Course Exam file to NHI for publication to FHWA's online learning system

5 Evaluation Plan

NHI collects evaluation data on all courseware at Level 1 (reaction) and Level 2 (learning).

Level 1 evaluation data is collected through the NHI standardized web-based evaluation form. Learners are directed to this upon completion of the WCT.

Level 2 evaluation data is provided by learners' responses to questions in the End-of-Course Exam. Scores are tracked by FHWA's online learning system (i.e., Adobe Connect Training). This information is used to verify the learner's mastery of the learning outcomes and also to provide data on the effectiveness of the training.

Level	Requirement
Level 1	• During the development process, NHI establishes a URL that learners use to access an online Level 1 evaluation form. {Vendor name} will acquire the URL from NHI. • Prior to the end of a WCT synchronous session, the Facilitator opens a Web pod that includes a link to the online NHI WCT Level 1 Evaluation. Learners complete the online course evaluation during the actual synchronous session (this encourages submission of evaluations). • Time should be built into the course for participants to complete this evaluation before the end of the asynchronous session.
Level 2	• In order to comply with IACET standards for Continuing Education Units (CEUs), NHI courseware must include an assessment of the learners' mastery of the course learning outcomes. All terminal learning objectives must be tested. The threshold for mastery is 70% for the end-of-course exam. • Most End-of-Course Exams that are part of a WCT learning solution will be developed in Adobe Presenter. • Learners may take the test only once. If they do not pass the test, they must retake the course. • Scores reside in the FHWA online learning management system. Data is then sent to NHI's system of record, known as CMTS (central recordkeeping database). • The traceability of the Level 2 evaluation must be documented prior to the completion of the course development.

Course Evaluation Based on Pilot Data
{Vendor name} will collect Level 1 and Level 2 evaluation data during the pilot. A report will be sent to the designer/developer for review, analysis and formulation of recommendations.

5.1 Process Evaluation

{Vendor name} will coordinate and facilitate a one-hour Lessons Learned meeting within two weeks of project completion. The meeting may be held virtually. {Vendor name} will document lessons learned and submit a brief (six pages) Lessons Learned document in MS Word addressing what was done well and areas needing improvement for:

- Development Process – general comments
- Communication (internal and external)
- Technical issues
- Management

5.2 Evaluation Roles and Responsibilities

The roles and responsibilities of the team members that are integral to the evaluation process are outlined in the table below.

Roles	Responsibilities
NHI	• Provide Level 1 evaluation URL to Vendor to include in the WCT • Adjust CEU value if actual contact hour average is inconsistent with the initial estimate
{Vendor name}	• Develop a valid End-of-Course Exam that measures each learner's achievement of learning outcomes (Level 2 Evaluation)
NHI/{Vendor name}	• Review Level 1 and Level 2 results to ensure: o Course facilitates learning as planned o Course objectives are met • Coordinate and facilitate Lessons Learned meeting

6 Appendix

6.1 Appendix A: Acronym List

Acronym	Definition
CEU	Continuing Education Unit
DDP	Detailed-level Design Plan
GFI	Government-furnished information
HDP	High-level Design Plan
ISD	Instructional Systems Designer
NHI	National Highway Institute
SME	Subject Matter Expert
WBT	Web-based Training
WCT	Web Conference Training

6.2 Appendix B: Course Development Schedule

Course Milestones	
Prototype Task	**Completion date**
Begin prototype preparation	
Submit draft prototype for review	
Receive comments on prototype	
Update PowerPoint slides	
Submit final prototype	
Receive prototype endorsement from NHI/SME	
Draft Materials Development Task	**Completion Date**
Begin materials development	
Submit draft PowerPoint slides and draft End-of-course Exam file to NHI Business Support	
Receive comments from NHI Business Support	
Update materials	
Submit draft materials	
Receive comments on draft materials	
Update materials	
Submit pilot-ready materials	
Receive materials endorsement from NHI/Project Team Lead	
Pilot Task	**Completion Date**
Conduct Train-the-Trainer for Facilitator	
Modify Acrobat Connect Professional meeting room and attend pilot	
Propose changes to course	
Meet with NHI to agree upon changes to be made to course	
Received consolidated comments from NHI/SME	
Final Materials Development Task	**Completion Date**
Create set of final course materials	
Conduct QA review of all materials	
Post final deliverables to Acrobat Connect Professional meeting room	
Provide NHI three CD-ROMS containing all final deliverables and source files	