



## 2022 NCLUG Summer Conference

### Day 1 - Aug. 23 Workshops

Session	Title	Description
Workshop A	NCDOT Survey	An introduction to surveys in OpenRoads Designer. This course will get you started processing data files, reviewing the resulting data and performing simple edits.
Workshop A	NCDOT Hydro	
Workshop B	Bentley: ORD QuickStart to Geometry	In this course, you will be creating a horizontal and vertical alignment using the OpenRoads Designer Geometry tools. You will learn how to create, edit, review and annotate geometric elements. This course will also cover working with existing ground terrain and aerial imagery as well as defining 2D/3D Views.
Workshop B	Bentley: ORD QuickStart for Corridor Modeling	In this course, you will be creating a Corridor and 3D model for a 2 lane rural road. You will learn how to create a Corridor, assign template drops, create dynamic cross sections and review the Corridor and 3D model. You will also learn how to use parametric constraints and point controls to vary pavement depths and shoulder widths. This course will also cover how to create and assign superelevation to a Corridor. And lastly, you will learn how to compute quantities from the 3D model.

## Day 1 - Aug. 23 Lectures

Session	Title	Description
Keynote	Bentley	Dustin Parkman, Vice President of Bentley's Project Delivery
Roundtable	NCDOT	Location & Surveys, Roadway, Hydraulic, Utilities: Panel discuss to talk about workflow and unit updates with Q&A session.
Lecture A	Bentley: Navigating the Interface	This session introduces you to OpenRoads and OpenRail Designer. It assumes you have some basic CAD skills, but assumes you're new to the OpenRoads environment. At the end of this session, you'll know how OpenRoads extends and specializes the generic CAD environment. You will feel comfortable with interface and be able to do core evaluations of the data.
Lecture A	Bentley: Civil Labeler - Tips and Tricks	The Civil Labeler tool supports complex labels computed from one or multiple targets (e.g., crossing alignments or elevation/offset along plan element with stationing relative to the centerline). Labels can include many types of leaders and frames around the text. Labels are dynamic and associative. In this session, you will learn how to place different types of civil labels and you will also learn how the Civil Labeler tool is setup and configured.
Lecture A	Bentley: An Introduction to ORD Surveying	This session is an introduction to the survey commands and tools. Learn how to create Field Books, import an ASCII file, edit data, enhance your survey data with reality models.
Lecture A	Bentley: Harnessing the Power of ORD rules and relationship	Understanding Geometry parent/child relationships, how to build geometry in such a way that it maximizes efficiency when dealing with design changes.
Lecture A	Bentley: Understanding Terrain Models	Learn the tools and techniques behind these dynamic terrain models as well as the do's and don'ts with managing multiple terrain models.
Lecture B	Welcome and Getting Started with NCDOT Design Projects	This presentation will provide a high level update on the current NCDOT ORD Implementation Initiative and guidance on suggested directions for getting started with NCDOT Design Projects
Lecture B	NCDOT: ORD & ProjectWise File Management	
Lecture B	PEF: Dynamic Profiling - Interactivity between Horizontal and Vertical Geometry	
Lecture B	NCDOT: ORD Training Resources	
Lecture B	NCDOT: ORD Workflows and SharePoint PIQ Tool	



## 2022 NCLUG Summer Conference

### Day 2 - Aug. 24 Workshops

Session	Title	Description
Workshop A	NCDOT: Roadway ORD  NCDOT: Roadway Workshop (Wait List)	Module 11 - Detail Modeling (Intersection & Superstreet)  If you register for the "Wait list" you are guarantee to be able to attend the session, but you will not have access to a NCLUG computer. You will be required to provide your own laptop or just audit the workshop. NCLUG will be sending out a detailed email to workshop attendees with install requirements. There will be the NCDOT Minute Clinic booth at the conference to assist with getting lap tops set up.
Workshop A	NCDOT: Roadway ORD  NCDOT: Roadway Workshop (Wait List)	Module 13 - Sheeting  If you register for the "Wait list" you are guarantee to be able to attend the session, but you will not have access to a NCLUG computer. You will be required to provide your own laptop or just audit the workshop. NCLUG will be sending out a detailed email to workshop attendees with install requirements. There will be the NCDOT Minute Clinic booth at the conference to assist with getting lap tops set up.
Workshop B	Bentley: Beyond Centerline Geometry	Pavement Edges are particularly important: they are required in Plan Sheets and the streamline modeling corridors (a single template can follow edges wherever they meander). In this class you create smart, editable, obedient edges, turn lanes, tapers, and driveways. You will see how OpenRoads Remembers the relationships with which you built the geometry and honors it when the design changes. OpenRoads Remembers your Design Intent.
Workshop B	Bentley: Plans Production with Open Bridge Modeler	Agencies are beginning to require 3D models as part of the submittals but 2D plans are still part of their contractual documents. As the traditional way of drafting plans are phasing away, extracting 2D plans from 3D models demands new knowledge and techniques that we will cover during this hands on workshop

## Day 2 - Aug. 24 Lectures

Session	Title	Description
Keynote	NCDOT: Matt Clarke, Acting Director of Technical Services	This presentation will focus on an overview of the current funding and programs around NCDOT project delivery, and will include new and upcoming initiatives as well as updates on current technologies.
Roundtable	NCDOT	Structures, Geotechnical, Construction, Division: Panel discuss to talk about workflow and unit updates with Q&A session.
Lecture A	Bentley: Overview of New Features in OpenBridge	Review all the new enhancements implemented in the 2021 R1 and R2 releases of OpenBridge Modeler.
Lecture A	Bentley: Delivering Final Plans from your 3D model (OpenBridge)	Let's review the plans production process for the creation of bridge deliverables and the tools available in the software to accomplish that. Topics include: Review of Model Types, Dynamic View Workflow, Review of Detailing Symbol Styles, Review of Display Styles, Specialized OBM Drawing Production Tools
Lecture A	Bentley: Drawing with MicroStation for Civil Designer	
Lecture A	Bentley: Consider Another View	Have you taken a thorough tour of MicroStation's View Attributes lately? In this session, not only will we review the basics, but we will explore advanced features such as Display Styles, Display Rules, Saved Views, Clip Volumes, Display Set and more.
Lecture A	Bentley: Tips and Tricks for MicroStation CE	Small helpful, sometimes overlooked tips for making you more productive in MicroStation CE.
Lecture B	NCDOT: ProjectWise	
Lecture B	NCDOT: SharePoint	
Lecture B	NCDOT: Project Delivery Submittal Process	This presentation will cover information regarding the NCDOT Project Delivery Process and updates on tools and guidance available for designers and planners.
Lecture B	NCDOT: Roadway Design Manual Update	This presentation will cover recent updates to the NCDOT Roadway Design Manual (RDM) and planned processes and tools to ensure that the RDM is updated on a regular basis.
Lecture B	PEF: Project Visualization	



## 2022 NCLUG Summer Conference

### Day 3 - Aug. 25 Workshops

Session	Title	Description
Workshop A	NCDOT: Utilities	
Workshop A	NCDOT: Structures	
Workshop B	Bentley: Template Triggers and Switches	Learn how to create templates that use null points with component display rules that act as triggers (or switches) to display and undisplay parts of your template when linear geometry is added as corridor reference elements to a corridor. An example of this is turning off curb and grading components in intersections areas when in intersection matchline element is added as a corridor reference. We will also discuss how to create end conditions that can be used to check for the existence of a right of way feature.
Workshop B	Bentley: ORD - Quantities and Earthworks	In this course, you will learn various tools and methods to compute quantities and earthwork from the corridor model. You will learn how to assign unit costs and generate an estimated cost report for your project using the Component Quantities and Element Component Quantities tools. We will take a look at how to generate cut and fill volume reports from single corridor models as well as multiple corridor models. You will also learn how Named Boundaries and the Quantities Report by Named Boundary tool can be used to separate quantities in the corridor model. And lastly, you will learn how to create an End Area Volume Report and Mass Haul Diagram.
Workshop B	Bentley: Navigating Drainage and Utilities	In this course you will learn how to use core product tools to display, review and analyze drainage and utility objects in a design file. You will also learn how to display annotations, create FlexTables, run queries and reports, and create profiles on drainage and utility objects.

## Day 3 - Aug. 25 Lectures

Session	Title	Description
Keynote	Jeremy Markovich, Writer/Producer/Journalist	
Roundtable	Wrap-up Consultants	Share best practices and innovative solutions to common CAD issues.
Lecture A	Bentley: ProjectWise - Workflows	Workflows – This session is an introduction into ProjectWise workflow when dealing with design changes and milestones.
Lecture A	Bentley: ProjectWise - Work-sharing with connect	Work-sharing with Bentley CONNECT/PW365 – Understanding the PW365 Portal and work-sharing with CONNECTED Projects
Lecture A	Bentley: ProjectWise - Issues Resolutions	Issues Resolution – Understanding how to assign and resolve issues withing the connected environment
Lecture A	Bentley: Corridor Side Slope Design and Modeling	This session focuses on practical ways to take advantage of the side slope modeling tools in OpenRoads Designer. Watch as we discuss and demonstrate various end condition capabilities in context of real-world examples. You'll see examples of targeting 2D and 3D project features such as ROW and retaining walls, as well as matching slopes between corridors. In this session you will learn: (1)How to use various methods to target model elements and control end conditions, (2)How to tie end conditions to model elements (such as walls, abutments, and special ditches), and (3)To use target aliasing, end condition exceptions, and other end condition methods to create side slopes.
Lecture A	Bentley: With OpenRoads Designer, an Ordinary Design Becomes Your Interoperable Data!	OpenRoads Designer models are filled with data, but it is the ability to enrich the model with custom attribution and share all of that data through digital twin technology that brings a new level of interoperability and collaboration to project delivery. Using Item Types, the terminology and information that is most important to you becomes part of that interoperable data. This ability to instill custom attributes, such as pay items and specification details into the model, coupled with the iTwin cloud-based collaborative environment, ensures that the value of the design isn't lost during the project delivery process and enhances downstream activities within the project lifecycle.
Lecture B	NCDOT: Annotation	
Lecture B	PEF: Cross Practice Coordination in a 3D world	
Lecture B	NCDOT: PEF Prequalification Process	
Lecture B	PEF: Preparing for the Inevitable – QC of Models and Using models as the legal document	
Lecture B	NCDOT: ATLAS / GIS Update (Data Search & Screening)	