

**Bentley**  
Advancing Infrastructure



Image courtesy of Alabama Department of Transportation

# OpenRoads™ Designer

One Application. Start to Finish.

Extremely versatile, OpenRoads Designer is used for all types and phases of civil projects, large and small, by users at every level of expertise. It handles a wide variety of complex tasks with ease, including interchange design, roundabout design, site development, sanitary and stormwater network design, and the production of construction staking reports. Traditional 2D methods are manual and tedious, full of communication and data gaps, leaving you frustrated, exhausted, and with a project that costs you accuracy, time, and money. From survey through plan production and construction documentation, OpenRoads Designer is the one application you need to meet project requirements on time, every time, regardless of change.

## Data and Design Integration

OpenRoads makes collaborating on 2D and 3D models easier and more efficient than ever. From team-level, work-in-progress collaboration to project-level, multidiscipline coordination, project managers, reviewers, site workers, and inspectors can view designs, perform virtual walkthroughs, query model information, and analyze embedded property data. These tasks can all be done directly in the OpenRoads application or using a web browser.

## Detailed Road Design

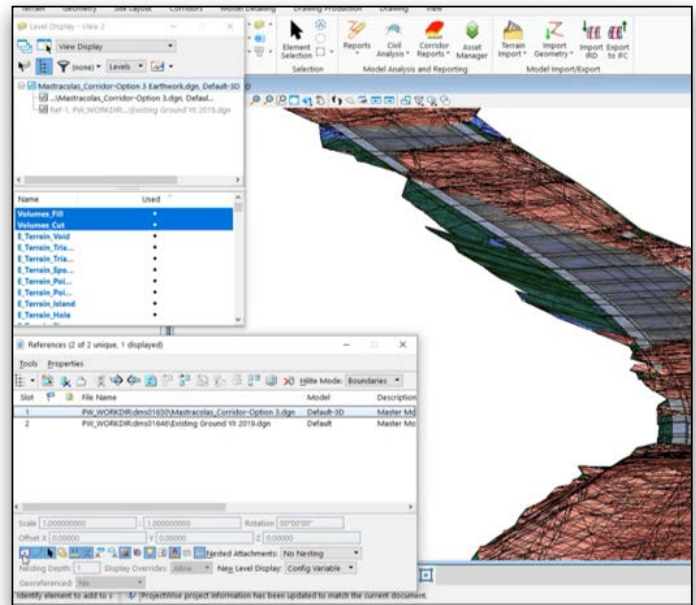
OpenRoads is all you need for geometrics, survey, drainage, utilities, quantity takeoff, cut/fill, site grading, lane configurations, and mobility. Roadway designers and engineers require software that seamlessly collaborates across disciplines, addresses growing industry demands, and includes automation to remove tedious manual work. Whether you need to produce traditional 2D deliverables, advance to 3D modeling, support digital transformation, or all the above, OpenRoads is the choice for road design.



Leverage and integrate reality data to design in context.

## Drainage and Utilities

3D models of drainage and utilities are quickly becoming a necessity; however, road design, drainage design, and utilities modeling are often completed by separate team members utilizing different software. Working in a vacuum leads to lack of coordination across disciplines, costly mistakes from out-of-date data, and missed opportunities to address conflicts. OpenRoads can help you with everything from the creation of models from 2D artifacts and external data, through steady and unsteady state hydraulics and hydrology, to BIM and plans production.

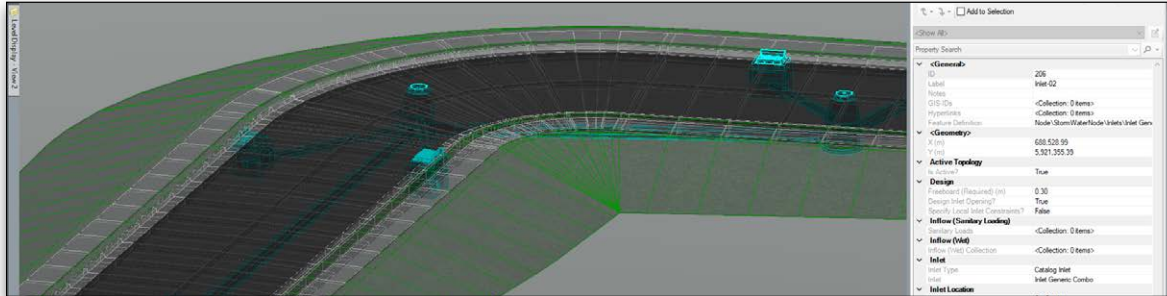
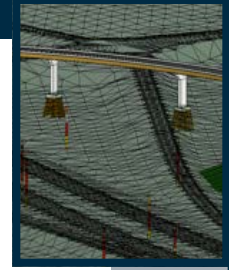


Precisely calculate, visualize, and summarize cut-and-fill analysis.

## 2D, 3D, and Beyond

Even as the transportation industry is moving towards the creation of 3D models, the need for a variety of deliverables continues to be part of the project workflow. With OpenRoads, you can create whatever deliverables you might need. Whether it is 2D or 3D, plans or models, digital or paper, OpenRoads is designed to allow you to work in all these arenas simultaneously, leveraging information from one to help populate the other. Our 3D models can be leveraged for 4D scheduling and 5D cost estimation, bringing your design to constructed fruition, on time and on budget.

*With OpenRoads Designer, meet contract requirements on time, every time, regardless of change.*



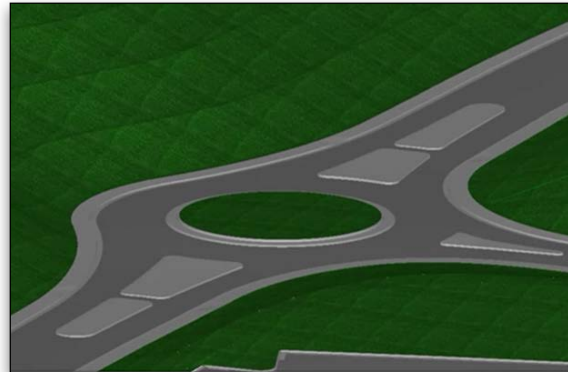
*Create, manipulate, design, and analyze stormwater networks.*

### Partnership for Success

The key to your success goes beyond the software you use. It is also dependent on doing business the way that best serves your organization. That is why we have a variety of subscription and license options, as well as 24/7/365 support to ensure you are up and running on your software quickly and continuously.

Bentley can work with your organization to **build a path forward that supports people, process, and technology.**

Unlike others in the industry, we provide **innovative subscription programs** that are designed to ensure that your team is equipped to do their work and receive timely support from product experts. Choose from term licensing, use-based pricing, hosted and on-premise services, and cloud services, all of which include use analysis and the flexibility to pivot as needed.



*Create a more efficient, data-rich model and leverage visualization capabilities to communicate design intent and accelerate stakeholder buy-in.*

## OpenRoads Designer Capabilities

Platform	OpenRoads Designer
All MicroStation® functionality	✓
Production drafting	✓
Create parametric solids, surfaces, meshes, and feature models	✓
Item types for custom attribution	✓
Reporting and tables	✓
Easily integrate hundreds of geographic coordinate systems	✓
Printing and plotting	✓
Integrate CAD data in many formats: DGN, DWG, DXF, PDF/U3D, IFC, Rhino 3DM, STL, VRML World, and SketchUp SKP	✓
Integrated visualization capabilities	✓
LumenRT visualization	✓
ProjectWise® integration	✓

Survey	OpenRoads Designer
Read and write standard raw survey formats	✓
Survey data reduction	✓
Feature coding for custom survey feature connectivity, display, and annotation	✓
Adjustments: least squares, compass, crandall, and transit	✓
Dynamic graphical and tabular editing of survey field book data	✓

### Reality Modeling

Raster images	✓
Attach point cloud	✓
Attach reality mesh	✓
Point cloud classification	✓
Reality mesh edit, drape, and extract tools	✓
Scalable terrain models	✓

## System Requirements

### Processor

Intel® Pentium®-based or  
AMD Athlon®-based processor  
2.0 GHz or greater

### Operating System

Microsoft Windows 10, Windows  
10 x 64, Windows 8, Windows 8 x 64

### Memory

16 GB minimum. (More memory  
typically results in better performance)

### Disk Space

9 GB minimum free disk space  
(Includes the 5.6 GB install footprint  
for a complete installation)

### Input Device

Mouse or digitizing tablet  
(Digitizing tablet requires  
vendor-supplied WINTAB driver  
or Bentley's Digitizer Tablet interface,  
the latter included with OpenRoads  
Designer installation)

**Find out about Bentley  
at: [www.bentley.com](http://www.bentley.com)**

### Contact Bentley

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### Global Office Listings

[www.bentley.com/contact](http://www.bentley.com/contact)

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## OpenRoads Designer Capabilities (continued)

Terrain Modeling	OpenRoads Designer	Drainage and Utilities	OpenRoads Designer
Import from LandXML	✓	3D modelling of utilities, storm, and sanitary drainage	✓
Label contours and spot points	✓	Steady-state (e.g. rational method) hydraulic design and analysis	✓
Display contours, triangles, spots, and flow arrows	✓	Culvert design and hydraulic analysis	✓
Import from 20+ common formats (graphics, point clouds, ascii, InRoads®, GEOPAK, MX, LiDAR, and DEM)	✓	Unsteady-state hydraulic analysis	✓
Import from Esri, USGS, and SRTM services	✓	Pond design and analysis	✓
Create complex and delta terrain models	✓	Hydraulic analysis of low impact developments	✓
Edit terrain models	✓		
Transform terrain models	✓		
<b>Geotechnical</b>		<b>Modeling</b>	
Query gINT® project files	✓	Site grading optimization	✓
Display borehole locations	✓	Profile modeling	✓
Display borehole cross sections	✓	Dynamic cross sections	✓
Display borehole fence diagram	✓	Earthworks - triangulated volumes	✓
Annotate boreholes	✓	Earthworks - end area volumes	✓
		Customizable earthwork reports	✓
		Superelevation	✓
		Corridor modeling	✓
<b>Geometry</b>			
Parking lots	✓		
Pad layout	✓		
Parcel layout	✓		
Horizontal geometry (arc or chord)	✓		
Horizontal geometry - clothoid spirals	✓		
Vertical geometry (parabolic or circular)	✓		
Horizontal and vertical best fit	✓		
Customizable geometry reports	✓		
<b>Deliverables</b>			
Plan and profile sheet generation	✓		
Cross section sheet generation	✓		
Sheet and object annotation	✓		
Reporting	✓		
Synchronization with iModelHub	✓		
Export to common formats: DWG, DXF, LandXML, and IFC	✓		

**NEW! Bentley now offers Virtuoso Subscriptions,** which include your infrastructure modeling, simulation, or construction application bundled with the virtually delivered services of experts to accelerate and advance the success of an infrastructure practitioner.

As a Bentley user, we are committed to your rapid on-boarding, fast project start-up, and increased productivity. You will have **unlimited access to training and learning resources**, such as webinars, virtual conferences, virtual classrooms/live instruction, monthly special interest groups (SIGs), learning paths, quickstarts, accreditation programs, Bentley Communities, and many other resources!