BETTER OUTCOMES BEGIN WITH BETTER COLLABORATION

DESIGN BETTER CIVIL INFRASTRUCTURE WITH OPENROADS DESIGNER
Collaboration in civil infrastructure projects is nothing new, but we have moved from face-to-face conversations to a virtual world of teams distributed around the globe. To successfully work together, you need transparency of project details, the ability to easily communicate across teams, and the capability to integrate data from multiple disciplines.

That’s why designers and engineers turn to OpenRoads Designer.

Better collaboration leads to:

> **BETTER IDEAS**
> **BETTER QUALITY**
> **BETTER PRODUCTIVITY**
> **BETTER OUTCOMES**
Whether you’re designing roads, roundabouts, bridges, or ponds, OpenRoads Designer has the ability to quickly and easily integrate project data across disciplines, teams, and locations into a single model. See it, use it, analyze it, all in your own application.

DO YOUR BEST BETTER with OpenRoads Designer

Watch videos below to see how

BRIDGES
GEOTECHNICAL
UTILITIES
BUILDINGS
OpenRoads Designer improves collaboration by giving you a full view of the project and all its data in a single composite model. By integrating data from multiple disciplines into your three-dimensional design model, you’ll easily see how it interacts early in the design process to ensure all project data is working together without conflict.

**DESIGN BENEFITS**

- CAN I BUILD IT THIS WAY?
- DO I HAVE ANY CONFLICTS?
- DO I NEED TO MAKE CHANGES?
OpenRoads Designer enables collaboration with multiple disciplines early in the design phase, so you can make better business decisions and receive a better return on your investment.

**BUSINESS BENEFITS**

- **INCREASE PRODUCTIVITY**
  Deliver projects faster with the ability to see and use everyone else’s data within the confines of your own application.

- **IMPROVE ACCURACY**
  Reduce errors and omissions prior to construction.

- **LOWER COSTS**
  Minimize changes by making better engineering decisions early in the project.

- **MITIGATE RISK**
  Reduce field coordination problems and changes during construction.
The CNY 9.4 billion Meiguan Expressway retrofit and expansion project spans approximately 8.5 kilometers and includes eight interchanges between the Meilin Inspection Station and Qinghu in Shenzhen, China. CCCC First Highway Consultants (CCCC) provided design services from planning through preliminary design and construction for the expansion of the original expressway and the newly built auxiliary roads. Faced with a dense road network, heavy traffic flow in the project area, and a nine-month design cycle, CCCC implemented a collaborative BIM approach to meet its deliverables.

**REAL WORLD SUCCESS**

**CCCC FIRST HIGHWAY CONSULTANTS, CO., LTD.**

Application of BIM Strategy on the Meiguan Expressway to Urban Road Design Project

*Shenzhen City, Guangdong, China*

The CNY 9.4 billion Meiguan Expressway retrofit and expansion project spans approximately 8.5 kilometers and includes eight interchanges between the Meilin Inspection Station and Qinghu in Shenzhen, China. CCCC First Highway Consultants (CCCC) provided design services from planning through preliminary design and construction for the expansion of the original expressway and the newly built auxiliary roads. Faced with a dense road network, heavy traffic flow in the project area, and a nine-month design cycle, CCCC implemented a collaborative BIM approach to meet its deliverables.

**THE PROJECT TEAM:**

Used Bentley’s integrated BIM solutions, reality modeling, and OpenRoads technology for parametric 3D design. It also used ProjectWise to manage, store, and share information among the different design disciplines and stakeholders. Using Bentley applications to implement a 3D collaborative design workflow enabled project delivery 43 days ahead of schedule while reducing costs by CNY 2.2 million.

**PROJECT PLAYBOOK:**

ContextCapture, LumenRT, MicroStation, OpenBridge Modeler, OpenRoads Designer, ProjectWise
The Hertfordshire County Council and Environmental Agency proposed a GBP 31 million scheme for a 3.9-kilometer northern bypass of the village of Little Hadham along the A120 in Hertfordshire, England. The agency commissioned Arup to perform detailed design of the roadway, including two roundabouts, bridges, and river flow control structures to act as flood storage reservoirs. Upon completion, the project is expected to reduce traffic congestion and the risk of severe flooding in Little Hadham.

THE PROJECT TEAM:
The Arup team used OpenRoads, MicroStation, Navigator, and ProjectWise to implement a collaborative BIM process to produce 3D inter-discipline models in a common data environment. Using Bentley software simplified optioneering through automated parametric modeling links, minimizing costs associated with changes and saving significant time for on-schedule project delivery. The integrated design capabilities enabled maintenance and operations to better visualize the assets and make better decisions.

PROJECT PLAYBOOK:
MicroStation, Navigator, OpenRoads, ProjectWise
OpenRoads Designer employs a comprehensive modeling environment so designers and engineers can collaborate across disciplines ensuring constructability, cross discipline design review, conflict resolution, and mitigation of risk before construction.

This innovative application supports all aspects of detailed roadway design including reality modeling, geotechnical, drainage, subsurface utilities, terrain, road, roadway furniture, and more.