

CONCEPTUALIZE AND ANALYZE  
DESIGN OPTIONS FOR ROADS  
AND HIGHWAYS

**IN A MATTER OF HOURS –  
NOT DAYS!**

# **OPENROADS™ CONCEPTSTATION**

**Bentley®**

# WELCOME TO THE **OPENROADS CONCEPTSTATION** **PRODUCT TOUR GUIDE**

This e-book provides a look at how OpenRoads™ ConceptStation supports the evolving BIM requirements that help you **connect the data, people, workflows, and ideas** necessary to support today's infrastructure projects.



The e-book also includes links to more than **10 VIDEOS** that illustrate how the software addresses your critical business issues.

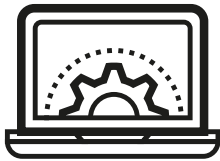
If you have questions, or need more information, please visit [www.bentley.com/software/openroads-conceptstation/](http://www.bentley.com/software/openroads-conceptstation/) or call **1 800 236 8539**.

# SOLVE YOUR **CRITICAL BUSINESS ISSUES**

**OpenRoads ConceptStation** offers roadway and bridge design capabilities to help road and land development engineers create intelligent models in context, explore conceptual design options with real-world data, and perform cost analysis to improve project results.

Are you ready to accelerate and improve data collection, understand financial implications early, move from idea to 3D faster, and visualize real-world traffic patterns in one easy-to-use application? Then you're ready for OpenRoads ConceptStation. **Read on to learn how you can produce conceptual designs in hours, not days.**

## EXPLORE MORE >



**DATA COLLECTION**



**FINANCIAL  
UNDERSTANDING**



**IDEA TO 3D**



**VISUALIZE  
DESIGNS**



## ACCELERATE AND **IMPROVE DATA COLLECTION**

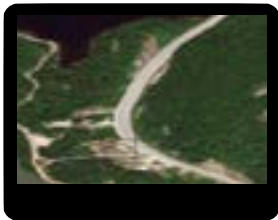
Assemble contextual data to bring real-world conditions to your project. With geocoordination services, easily find, download, and integrate data, such as terrain data, aerial imagery, and geospatial information, from a variety of sources to create intelligent 3D models with minimal effort.

The easy-to-use data assembly capabilities helps your organization reduce the time required to locate existing condition data and decrease the overall design schedule.

**“OpenRoads ConceptStation allows HNTB to easily assemble existing condition data from different sources in the beginning of the project.”**

*– Mark Urban, Senior Vice President, Design-Build Projects, HNTB Corporation*

**LEARN MORE BY WATCHING THE VIDEOS BELOW >**



**POINT CLOUDS**



**RASTER IMAGERY AND  
TERRAIN MODELS**



## UNDERSTAND **FINANCIAL IMPLICATIONS EARLY**

Rapidly generate multiple conceptual designs with associated project costs for better decision-making. As design modifications are made, project estimates will dynamically update so you can identify high-cost items and potential risks in the preliminary design phase.

Your organization can conduct interactive discussions with stakeholders to quickly consider and visualize different scenarios to determine the best road and bridge design in real-world context. You'll win more business by generating better, more cost-effective designs in less time than your competition.

**"Using OpenRoads ConceptStation, we can identify high-cost items, issues, and propose alternative technical concepts when appropriate for our clients."**

*– Mark Urban, Senior Vice President, Design-Build Projects, HNTB Corporation*

**LEARN MORE BY WATCHING THE VIDEO BELOW >**



**QUANTITIES  
AND DYNAMIC  
COST REPORTS  
AND ESTIMATES**





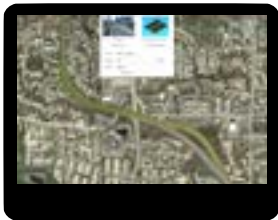
# MOVE FROM IDEA TO **3D FASTER THAN EVER**

Simplify 3D modeling with easy-to-use engineering sketching capabilities to quickly conceptualize road and bridge infrastructure. You can quickly layout roads, bridges, tunnels, intersections, roundabouts, and complex interchanges while adhering to engineering principles and standards.

**“OpenRoads ConceptStation offers roadway and bridge design capabilities to help road and land development engineers create intelligent models with real-world data and cost analysis to improve project results.”**

*– Mark Urban, Senior Vice President, Design-Build Projects, HNTB Corporation*

**LEARN MORE BY WATCHING THE VIDEOS BELOW >**



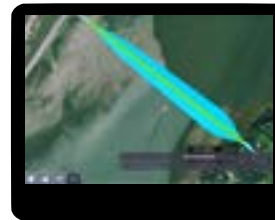
**LAY OUT AND MODEL  
ROADS AND  
INTERSECTIONS**



**LAY OUT AND MODEL  
ROUNDABOUTS**



**LAY OUT AND MODEL  
BRIDGES**



**LAY OUT AND MODEL  
TUNNELS**



**LAY OUT AND MODEL  
INTERCHANGES**



# VISUALIZE AND ANALYZE **DESIGNS**

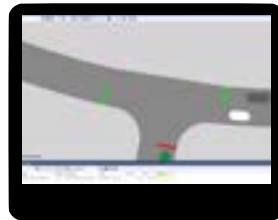
Assure efficient traffic flow by analyzing and visualizing traffic patterns using real-world modeling data in the conceptual design phase. OpenRoads ConceptStation combines a powerful visualization engine and interoperability with VISSIM, the world's most widely used traffic simulation software, to provide design-time visualization of traffic analysis output, giving you invaluable insight into each option for better evaluation and planning decisions.

Easily create and communicate complex project concepts to stakeholders with life-like visuals and cost analysis to more quickly gain project approvals.

**LEARN MORE BY WATCHING THE VIDEOS BELOW >**



**VISUALIZE AND  
ANIMATE THE MODEL**



**TRAFFIC ANALYSIS  
AND FLOW VIA VISSIM**

# REAL-WORLD PROJECTS WITH **OPENROADS** **CONCEPTSTATION**

## **WSB & Associates**

Corridors of Commerce: Scope and Estimate Development  
for 160+ Transportation Projects in Six Weeks

*Minnesota, United States*

The Minnesota Legislature initiated the Corridors of Commerce program for trunk highway improvement, construction, and reconstruction projects not already part of the State Transportation Improvement Program. Minnesota Department of Transportation (MnDOT) selected approximately 160 projects for conceptual development, totaling over USD 6 billion. WSB & Associates was hired to implement an objective process to develop each of the project scopes and estimates.

WSB used OpenRoads ConceptStation to develop a conceptual design plan for each of the projects to be evaluated against MnDOT's criteria. Using Bentley's applications expedited the design process, enabling the organization to complete the project in six weeks and allowing MnDOT to visualize each project, obtain tangible information to justify estimates, and select qualified projects prior to the end of the 2018 legislative session. As a test pilot using OpenRoads ConceptStation for the first time in a statewide transportation initiative, the project was a success, driving the agency's transportation goals and meeting the infrastructure needs of the state.

**Project Playbook: OpenRoads ConceptStation**





# REAL-WORLD PROJECTS WITH **OPENROADS** **CONCEPTSTATION**

## **HNTB Corporation**

I-375 Improvement Project

*Detroit, Michigan, United States*

The Michigan Department of Transportation (MDOT) initiated modernization efforts for Detroit's I-375 infrastructure. MDOT retained HNTB to complete the alternative design and advance the project to design and construction. The USD 165 million project required HNTB to complete additional refinement and analysis, then present updated design alternatives to stakeholders within a limited timeframe and budget.

The team used Bentley applications to plan, design, and deliver the project. Leveraging OpenRoads ConceptStation and LumenRT provided a dynamic modeling environment and enhanced visualization for the proposed improvements, which was essential to quickly implement and convey design changes and obtain consensus in a short timeframe. Bentley's design and visualization applications streamlined concept development and achieved stakeholder consensus, avoiding up to a 12-month delay and saving approximately USD 3.5 million in costs.

**Project Playbook: LumenRT™, MicroStation®, OpenRoads, OpenRoads ConceptStation, ProjectWise®**



# REAL-WORLD PROJECTS WITH **OPENROADS** **CONCEPTSTATION**

## Liaoning Provincial College of Communications

BIM Application from Hanjia to Xiuyan of the Dengta-Xiuyan Low-grade Mountain Highway

*Liaoyang City, Liaoning, China*

The Hanjia-to-Xiuyan section of the Dengxiu line of low-grade highway runs almost 5 kilometers through the mountainous province of Liaoning, China. Liaoning Provincial College of Communications is responsible for planning, surveying, designing, and applying a BIM methodology to deliver the project. Faced with hilly terrain varying in elevation and subject to heavy rainfall, the organization needed an integrated BIM solution that met the CNY 5 million budget.

The team used Bentley's comprehensive BIM and reality modeling technology to shorten the construction period, save costs, and improve design efficiency. OpenRoads ConceptStation reduced design time to save CNY 50,000 in costs. ContextCapture and OpenRoads Designer facilitated reality modeling and point-cloud extraction, improving design accuracy, reducing errors, and saving CNY 60,000. Bentley's interoperable applications shortened the project duration by 27 days and increased the return on investment by 2.2 percent.

**Project Playbook: ContextCapture™, Descartes™, LumenRT, Navigator™, OpenBridge Modeler®, OpenRoads ConceptStation, OpenRoads Designer, ProStructures™**





# OPENROADS CONCEPTSTATION

## Rapid Conceptual Design

See for yourself how you can rapidly deliver optimized conceptual road designs at lower cost and less risk.

**Get started with OpenRoads ConceptStation today.**

[REVIEW PRODUCT CAPABILITIES >](#)

[TALK TO AN EXPERT >](#)

1-800-BENTLEY (1 800 236 8539)

© 2023 Bentley Systems, Incorporated. Bentley, the Bentley logo, OpenRoads, OpenRoads ConceptStation, OpenRoads Designer, Descartes, LumenRT, MicroStation, Navigator, OpenBridge Modeler, ProjectWise, and ProStructures are either registered trademarks or service marks of Bentley Systems, Incorporated. Other brands and product names are trademarks of their respective owners. 430033-23

