



Bentley Sustaining Infrastructure

UPGRADING WITHIN THE BENTLEY® INROADS® FAMILY Moving from InRoads Survey® to InRoads Suite V8i®

Bentley InRoads Survey is now upgradeable to Bentley InRoads Suite V8i, Bentley's integrated, cohesive solution for road design and site modeling. Combining the best in road, site, survey, and drainage functionality, InRoads Suite V8i runs on MicroStation (DGN) or AutoCAD (DWG), moving project data seamlessly between CAD platforms with no need for translation. Most importantly, InRoads Suite includes Bentley's powerful Roadway Designer for 3D modeling and support of Machine Control for construction.

Roadway Designer represents the most advanced 3D modeling capabilities available in civil engineering, providing interactive 3D design using constraint-driven typical sections with intelligent components. As a civil engineer or designer, *you* control the entire modeling process—visually, graphically, interactively, and dynamically. Streamlined and intuitive, you don't have to be a software programmer to run Roadway Designer, nor do you require a programmer to create constraints, components, or sections. Be empowered and make your concept a reality!

*From field-to-finish—InRoads Suite V8i—the right tools
for complex, multidiscipline design scenarios*

Comprehensive Survey Tools

InRoads Suite survey tools enable you to process raw survey data to your CAD environment of choice, MicroStation or AutoCAD. Eliminate field-to-office waits. Survey teams can verify data on-the-spot and in the field. Make the most of preferred workflows to capture feature-based survey data and attributes, and automatically annotate each feature in your design file. Then apply industry standard methodologies to produce plot-ready graphics from electronic field book (EFB) and global positioning system (GPS) data.

Streamlined Site Functionality

InRoads Suite robust site design tools enable site engineers to design and construct building sites, landfills and embankments as well as excavate and perform site remediation. Site tools feature comprehensive design, analysis, plan production, and reporting capabilities on MicroStation or AutoCAD. Use flexible coordinate geometry tools and a feature-based digital terrain model to interactively create and edit site features with on-the-spot, onscreen verification.

InRoads Survey
Data Reduction
Adjustments
Data to Design



InRoads Suite
Data Reduction
Adjustments
Data to Design
Geometry
DTM
Drainage
Road/Site Design

The InRoads Suite Advantage

- Design roads and corridors dynamically with Roadway Designer
- Employ full road and site design capabilities
- 3D modeling
- Fully integrated civil engineering for:
 - Road and site design
 - Design/construction
 - Storm and sanitary design/analysis
 - Bridge geometry
 - Comprehensive quantity management
- Interface to Machine Control

For a limited time, Bentley Civil upgrades include a **subscription of SELECT**, Bentley's premier service contract that provides flexible licensing options and unparalleled support!

Intelligent Storm and Sanitary Networks

InRoads Suite drainage tools enable you to intuitively design, analyze, and manage your storm and sanitary networks on MicroStation or AutoCAD. Use industry standard techniques to create new or expand existing pipes, manholes, and inlets in a full 3D environment.

Multi-Function Road Design

From field to design to construction—for road design, corridor modeling, road widening, road resurfacing, landfill design, and building site design—InRoads multi-function, interactive design tools are tailored to the specific requirements of the civil engineering community. InRoads features advanced DTM functionality as well as comprehensive design, analysis, plans production, and reporting capabilities for the world's most popular CAD formats.

NEW FUNCTIONALITY WITH INROADS SUITE V8i

Upgrading to InRoads Suite V8i offers more tools and functionality to better streamline your workflows and help you work faster and smarter than ever before!

Import

- LiDAR Import (LAS and ASCII)

Geometry Design

- Horizontal and vertical element tools
- Horizontal and vertical regression

Land Development

- Create and edit lots
- Split parcel
- Create setbacks

Surfaces Viewing

- Slope vectors
- Gridded and profiled models
- Color-coded by elevation, slope, and aspect

Surface Design

- Generate transverse and longitudinal features
- Form gridded model
- Apply template to feature

Surface Editing

- Edit features
- Intersect feature
- Merge surfaces

Cross Sections

- Cross section creation, annotation, reporting
- Drainage structures in cross sections

Profiles

- Profiles along alignment or graphics
- Profile annotation
- Survey points to alignment

Volumes

- Average end area
- Triangle or prismatic
- Triangle volumes by station

Hydrology and Hydraulics

- Interface to HEC-RAS
- Trickle analysis
- Compute pond volumes
- Display source areas

Drainage

- Create 3D network
- Edit network in plan or profile
- Modified rationale computations
- SCS unit hydrograph methodology
- Time of concentration

Design Evaluation

- Site visibility tools
- Road visibility tools
- Mass haul diagrams
- Drive virtual roadway

Roadway Designer Typical Sections

- Graphically created
- Parametric constraints
- Component driven
- Assemble components into sections
- Associative relationships
- Interactive testing

Roadway Designer 3D Modeling

- Horizontal and vertical controls
- Dynamic, step, or batch modeling
- Visual highlights of problem areas
- Dynamic volumes
- Virtual command editing
- Transition control
- 4-port viewing, plan, profile, cross section, and superelevation

Plan and Profile Plan Generator

EXISTING INROADS SURVEY FUNCTIONALITY

The excellent tools and functionality provided in your current InRoads Survey include:

Data Interoperability

- Seamless integration between CAD platforms in both DGN and DWG environments

Centralized Data Model

- Single data source for all modules within the InRoads family of products

Direct Connection to Survey Equipment

- Direct connection provided to:
 - Electronic Field Books (EFB)
 - Global Positioning Systems (GPS)
- Plot-ready graphics based on customizable feature tables

Text Import Wizard

- Step-by-step process of bringing ASCII data from virtually any source into the CAD environment

Feature Code Editing

- Easy identification and correction of incorrect feature codes and other errors on screen
- Flexible and intuitive editing process allows for easy manipulation of field data with on-screen visual verification

Feature Attributes

- Ability to scale the symbol of any feature, for example, controlling the size or scale of a cell that represents a specific code

Interactive Coordinate Geometry

- Creation and modification of geometry elements on screen using methods and principles specific to civil engineering
- Powerful point-and-click tools that provide graphic feedback for immediate verification

DTM Features

- Ability to view triangles and contours, save off surfaces, and compile DTM data
- Cutting of profiles to view survey results

Adjustments

- Calculation of adjustments of raw survey data using several methods,
- On-screen viewing of the adjusted traverse

Construction Stake-Out

- Ability to export road and site design data for upload to data collector for project stake-out

For more information on Bentley Civil Suite deals,
call 1-800-BENTLEY or [request a Sales Representative contact you.](#)