VIATHOR'S Software Suite has Expanded!

VIATHOR, INC.

VBridge ™

A Superstructure Design Program

VBridge is a fully featured superstructure design program for cast-in-place concrete bridges. The intuitive and interactive model creation, accurate and easy-to-navigate output reports, and complete specification checks assist designers in quickly becoming familiar and comfortable with **VBridge**.

In addition, by sharing data with **VBent**, the bridge design process is greatly simplified and data transfer errors between superstructure and substructure programs are eliminated.

VBridge:
- Determines dead load and live load forces for any bridge type and span configuration / support types.
- Designs cast-in-place post-tensioned or reinforced concrete **Box Girder** and **Slab** bridges.
- Employs true 3D modeling. Unlike other programs that only allow horizontal curves and skews to be described, **VBridge** truly models and solves these configurations.

Key Features:
- AASHTO LRFD or LFD specifications, US or SI units.
- Post-tensioning or reinforced concrete analysis.
- Describe integral (monolithic) or non-integral substructure, single or multiple column bents, wall piers, etc.
- **VBridge** determines load combinations *without* user input, automatically including all appropriate loads in the standard AASHTO load combinations! No dragging and dropping needed.
- Pin top or bottom of columns transversely or longitudinally.
- Exhaustive search for critical live load conditions and load combinations.

Why **VBridge**?
- **VBridge** is written by practicing bridge designers who have first hand knowledge and practical experience of what a bridge engineer wants and needs!
- **VBridge**'s lead developer was the primary creator of **CTBridge**, Caltrans' LRFD replacement for BDS
- **VBridge** is fully supported and continually enhanced
- Increase productivity by quickly designing bridges to current LRFD or LFD AASHTO standards
- Easy to use – minimal effort to become a proficient user with no need for templates or wizards.
- Interfaces with **VBent**, the industry's *first* integral and non-integral bent program

Model Generation:
Quickly build a bridge model with **VBridge's** intuitive GUI, which has many of the same innovative features as our **VBent** program.

Or:
Read a **CTBridge** or **BDS** input file
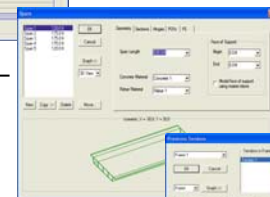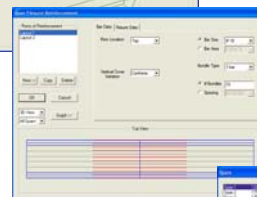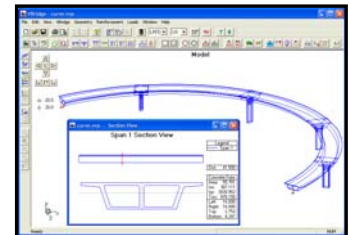
- All data accessible directly from any view – no embedded data or hunting from tab to tab to find a dialog

- Real-time graphics – see the graphical model change as data is entered
- Shares many of the same dialogs as **VBent** – minimizing learning curve

VBridge™

Program Features:

Easily Toggle Between
- LRFD or LFD specifications
- AASHTO or State (CA, PA,…) Default Settings
- US or SI units

Spans
- Up to 2 hinges per span
- Non-prismatic or prismatic cross-sections
- Copy in reverse
- Support width user controlled modeling
- Box Girder or Slab bridge cross-sections

Prestressing
- Uncomplicated tendon path description – parabolic or straight
- Frame concept built into input and solution
- Robust prestress design is much faster than **CTBridge**
- Comprehensive prestress output – what the designer needs

Superstructure Support Conditions
- Integral Bents
- Continuous
- Simply Supported

Pier Types
- Wall Piers
- Hammerhead Piers
- Single Column Bents
- Multi Column Bents

Column Shapes
- Rectangular
- Circular
- Oblong
- Octagonal
- Hexagonal
- Non-prismatic, stepped, and mid-height offsets
- *And More*

Design Features
- Prestressed, post-tension design for box girder and slab bridges
- Flexure and shear design for P/S or reinforced concrete bridges

Modeling and Analysis
- True 3D modeling
- Finite element model generation and solution
- Horizontal and vertical curves
- Exhaustive search for critical load conditions and combinations
- Fix or pin columns at bottom & top
- True abutment reactions
- Unlimited structure size and loads
- Intuitive user interface – no need for a wizard
- Copy reinforcement patterns to other spans
- Clear cover calculator
- Traveling section viewer

Live Loads
- Advanced live load algorithm to determine critical vehicle longitudinal placement
- Automatic or user specified live load distribution factors for box girders and slabs
- Robust live loading is much faster than CTBridge
- Default Design Vehicles (HL93, HS20, etc.)
- Default Permit Vehicles (CA & PA)
- Default Fatigue Vehicle
- User defined live load vehicles
- User control over web spacing used in LL distribution
-

Specification Checks
- Stress checks for prestressing
- Flexure and shear
- External girder and 1st interior girder shear skew modification
- Option to utilize Caltrans' LRFD Amendments

Load Combinations
- Automatically generated LRFD limit states / LFD load groups
- Modifiable load factors
- Comprehensive program generated load cases / load maximizations
- Default and user defined load combinations

Loads
- Dead Load (initial and final)
- Additional Dead Load (wearing surface, utilities, diaphragms)
- Automatic generation of bent cap weight
- Vehicular Live Load (design, permit, fatigue)
- Pedestrian
- Temperature
- User Loads (on spans and columns) can be point, distributed, or moments

Results
- Tabular results (user selected)
- Standard and detailed reports
- Easy to navigate output with hyperlinked Table of Contents
- Design specification references
- User controlled output locations
- Modify face-of-support locations

System Requirements
- Windows Vista, XP, 2000, ME, 98, NT 4.0
- 256 MB RAM
- 30 MB free space on hard drive

Pricing
Individual and network licenses are available. Please contact Viathor for a complete pricing schedule.

About Us:

www.viathor.com

Meeting your bridge software needs since 2005, **VIATHOR** is dedicated to providing software that engineers want and need to efficiently and accurately perform bridge design. **VBridge**, our most recent program, addresses the engineer's superstructure design needs. Our engineers have been creating LRFD and LFD commercial bridge engineering software across the U.S. for more than 19 years, and have had instrumental roles in transitioning a number of state DOT's to LRFD compliance. In addition, our engineers have played active lead and support roles in designing and analyzing a wide variety of bridge structures for more than 20 years. *The result is high quality software that is easy for bridge engineers to use.*

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