

BIM for Civil... Not

Several months have passed since I made my original post BIM This, BIM That... What is BIM?. In that time, I have asked a lot more questions, read a lot more on the internet and had a lot of discussions with Ladd and Felicia and also read the post by one of our commenters. I think I've developed a more concrete idea about BIM and how it applies, or doesn't, to the civil/survey world and where the various software packages stand in regard to their "BIM-ability".

Now, after all this additional information has percolated in my brain, I'm drawing two main conclusions:

1. It's a fact that the term BIM as it's always been used applies to actual **BUILDINGS** – the noun form of the word. But, more specifically, it starts with construction drawings/design data but then incorporates the as-built data and, over time, continues to grow and collect data through the entire lifespan of the building.

Nothing in all this discussion of "BIM for Civil" gets beyond construction drawings and design data of a civil project. Autodesk is trying to stretch the definition of BIM to cover Civil 3D even though they never move beyond the design process with it either.

Remember, we do not talk about "BM" or Building Modeling. And, we don't work with "GS" or Geographic Systems. The "I" is THE critical factor. And the "I", or Information, piece of BIM is so valuable because it chronicles and helps manage the building through its lifespan.

To be able to legitimately call what we're doing with our Civil programs "BIM", we would need to have a mechanism to attach some

sort of database or information to the objects in our drawings.

I know, I know... that's why Civil 3D is so great – you can attach data to the objects. But, remember, we're talking about attaching **AS-BUILT** data to these objects. Even though we could attach data using Carlson GIS or AutoCAD Map or ESRI, it's simply not part of our current project scope to go back into our construction drawings and update them with as-built data so that:

- maintenance schedules are attached to roadway template surfaces based on asphalt type,
- model numbers are associated to pump stations or
- inspection reports and flow rates are attached to fire hydrant blocks.

My conclusion here is that neither of these products – Carlson nor Civil 3D – meet the true definition of a BIM for civil. Until we start addressing the Information piece for the lifetime of a project, starting with the as-built data, using the term BIM is wrong.

In my opinion, if anyone has the lead on this in the civil arena, it's ESRI.

2. Just because we don't yet attach as-built data to our objects doesn't mean that the data we do attach to our objects isn't valuable. But, leading to my 2nd conclusion, why is it valuable? It's only valuable if it can be shared. And this is where I believe Carlson has the undisputed edge. The image below shows the number of formats and other programs that Carlson is able to import data from and export data to.

Points	Surfaces	Profiles	Cross Sections
Explode Carlson Points Convert Surveyor 1 to CRD	Convert LDD-AEC Contours Convert Civil3D Surface Drawing Export Topcon TIN File	Import Columnar Text Import Calce Import Leica Import MOSS Import Softdesk Import Sokkia/SOR Import Spanish ALZ Import Spanish RAS Import Terramodel	Import Columnar Text Import Agtek Import Arkansas DOT Import Ceal Import Geopak Import Georgia DOT Import GRDS Import MOSS Import JC DOT Import Pizer Import RoadCalc Import SMI Import Softdesk Import Spanish SC1 Import Spanish TRV Import Terramodel
Convert CRD to LDD MDB Convert LDD MDB to CRD Convert Land Desktop to Carlson Points Convert Civil 3D to Carlson Points	Centerline/Alignments Import Geodimeter Import Geopak Centerline Import Geopak Road File Import Leica Import MOSS Import SDMS Import Softdesk Import Sokkia/Leitz Import Spanish ISPOL Import Spanish CLIP Import TDS RDS File Import Terramodel	Export Softdesk Export Leica	Import Calce Earthworks
Convert Carlson Points to Softdesk Convert Softdesk to Carlson Points	Export Leica Export SMI Chain Export Softdesk Export Sokkia/Leitz Export TDS		Export Geopak Export GRDS Export RoadCalc
Convert Carlson Points to C&G Convert C&G to Carlson Points			
Convert Carlson Points to Simplicity Convert Simplicity to Carlson Points			
Convert Leica to Carlson Points Convert Geodimeter to Carlson Points Convert Carlson Points To Ashtech GIS			
Convert PacSoft CRD to Carlson CRD			
Convert Carlson Points to EaglePt Convert EaglePt to Carlson Points			

Originally posted on **Carlson Connection** by Jennifer Dibona

Dewberry – Aligning Technology with Business Strategy

Some of you may have heard David Palumbo, PE, Technology Manager for Dewberry, at the Carlson User's Conference back in April. For those that missed his presentation, his story has been published in CE News this month. Read about the process Dewberry used to evaluate new technology, its impact on their business methodology, and how they planned the roll-out and implementation. Regardless of the size of your company or the software you use, there are some good tips and pointers in this article.

<http://www.cenews.com/article.asp?id=3928>

Originally posted on **Carlson Connection** by Felicia Provencal

Carlson Webinars – BIM, GIS and CAD Standards

Carlson Software recently asked Felicia and me to present webinars on topics we have particular interest in or specialize in.

Felicia's webinar on BIM, GIS and Carlson Software can be viewed here: [BIM, GIS and Carlson Software Webinar](#)

My webinar on CAD Standards can be viewed here: [CAD Standards for Carlson Software with AutoCAD or IntelliCAD](#)

Originally posted on **Carlson Connection** by Jennifer Dibona

BIM, GIS and Carlson Software Webinar

Felicia Provencal's webinar for Carlson Software on the topic, "BIM, GIS and Carlson Software" can be viewed or downloaded here.

That CAD Girl Presenting at

the NCSS Institute, Nov '09

That CAD Girl will be presenting at the NCSS Institute in November 11-13, 2009

You'll have to wait a few months to see the full lineup, but I can confirm that I will be presenting a 3-day class at the Training Institute sponsored by the NC Society of Surveyors.

- Day One – AutoCAD/IntelliCAD basics with a focus on CAD Standards management
- Day Two – Carlson Software Features
- Day Three – Surface Modeling with Carlson Software

Dewberry Implements Carlson Civil Suite in 40 Offices Nationwide

There has been a lot of interest and discussion about Dewberry's decision to use Carlson's Civil Suite as their civil/survey/hydrology design package. Dave Palumbo, PE, Technology Manager for Infrastructure Services, has written an article for CE News discussing the 18-month process his team went through to come to their decision.

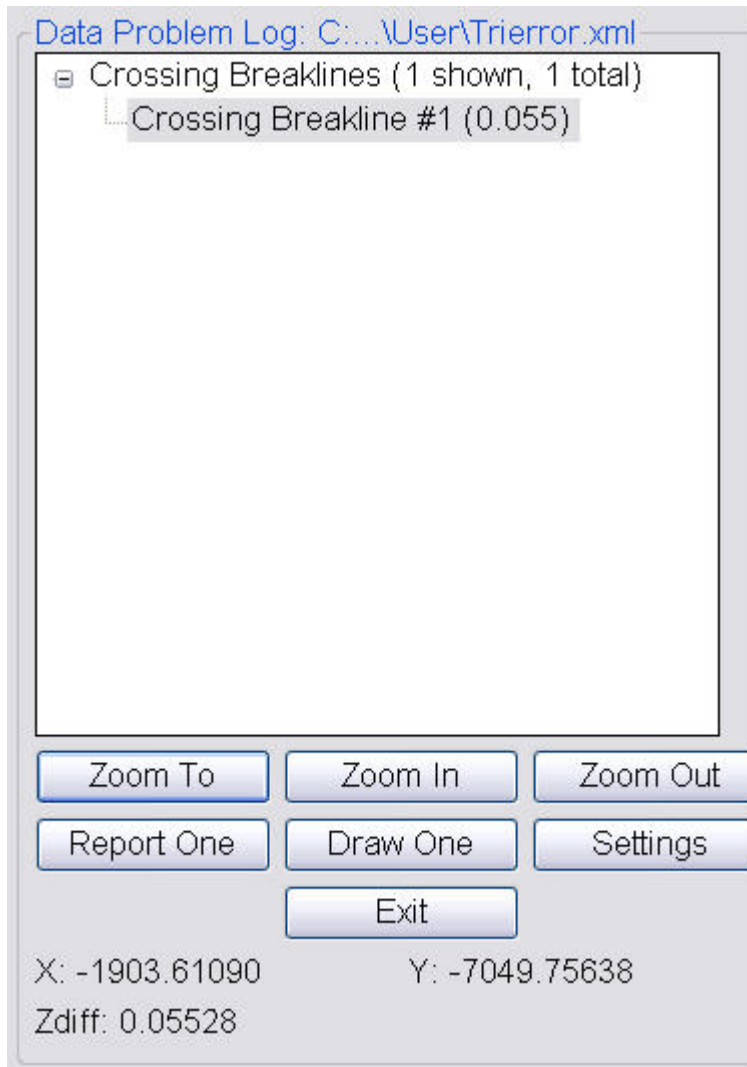
The article in CE News can be downloaded [HERE](#).

What's In Your Surface?

With the adoption of machine control for construction, the ability of various GIS systems to accept 3D data, and now with the expansion of the term BIM to cover elements outside of a building proper, surface modeling has become a critical aspect of any project. Since so many elements down the line rely on the surface model, it is critical that the model be as accurate as possible and free of errors. This article will be the first in a series that will take a look at various tools and options within the Carlson product line to ensure the accuracy of your surface models, sometimes known as triangulated irregular networks (TIN) or digital terrain models (DTM).

In this first article, we will take a look at quality assurance/quality control (QA/QC) and how it applies to surface modeling. This is an essential step of the model building process, and one that is often overlooked by software manufacturers. For most people, the QA/QC process generally involves examining the contours and looking for issues, or spot-checking points on the surface. All current surface modeling software allows for the generation of contours and spot-checking, but these rely on the user to manually review the entire surface after it has been built.

Carlson Software is one of the few products that include an error checker as part of the surface building process. Most other programs either return a generic error message, or simply fail to complete. If you use the Triangulate & Contour routine, an error log is displayed showing any major issues after the surface data is processed.



The issues listed include the following:

- Crossing breaklines
- T-Intersections between breaklines
- Vertical faces

If there are no issues with a surface model, the error log is not displayed. You can use the various options to change the sensitivity of the error checker, and to highlight any issues found. Simply select a single error on the log, then click Zoom In. You can then either correct the errors using any of the surface editing tools, edit the original data (such as the breaklines) and rebuild, or choose to ignore the errors if they are minor.

Although no errors may be found as part of the surface creation, there may still be errors in the surface model resulting from bad data. Once the surface has been built and any build errors have been corrected, you should do a manual review of the spot elevations and contours. The easiest way to check and verify spot elevations in Carlson is by using the Surface Inspector, which is available from the Surface pull-down menu of various modules. After you select the Surface Inspector command, you can change options as to which surface(s) you want to examine, as well as labeling settings. Once this has been done, move your cursor over the surface previously specified and a floating dialog box will show you information about that surface. Click anywhere on the surface to label a specific point.



Press Enter to exist the Surface Inspector.

By taking just a little time to verify that your surface model is accurate and free of errors, you can save time, money, and effort in the later stages of your projects. The Surface Error Log is an invaluable tool for locating any errors and flagging them for editing at a later time. The next article in this series will look at checking a surface model using contours.

Originally posted on **Carlson Connection** by Felicia Provencal

Carlson 2010 Sneak Peek

The highly anticipated Carlson 2010 release offers clients hundreds of new or improved features from that found in Carlson 2009 and continues Carlson Software's track-record of delivering responsive solutions to client-requested technology needs.

Online Training – Friend or Foe?

With the economy what it is and everyone trying to get as much bang for their buck as possible, I'm finding that online training for your CAD software programs is an increasingly popular and cost effective option.

Although this post describes my personal approach and may be different considering your trainer, hopefully it will answer some of your questions about online training and will encourage you to give it a try.

How does it work?

There are several online services that trainers may use for online training. WebEx, GoToMeeting and GoToWebinar are all very commonly used and popular. My preference is GoToMeeting and GoToWebinar as they have a very low footprint on your computer and are simple to use. When first entering an online meeting, a small installation of the program occurs allowing you to view and interact with the presenter's computer.

GoToMeeting is smaller scale and better for personalized

training. GoToWebinar can handle up to 1,000 “attendees” and is typically used for presentation or demonstration to a large group.

Some of the online meeting services are free, but most require a monthly fee. The fee is paid by the organizer who then has the ability to schedule meetings/webinars in advance or “Meet Now” for meetings on the fly. Your organizer will either email you a link to the meeting site or can tell you the link on the phone. Each meeting has a unique “Meeting ID” that you’ll enter at the main page.

GoToMeeting is typically used for standard training where more than one person may need to show their screen and/or be given control of the mouse and keyboard. This interaction can take place in a variety of ways. When in a meeting, anyone can be given (and must accept) the “Presenter” role which allows others to view their computer. And, even though the Presenter always has priority, control of the mouse movement and keyboard entry may be granted to others in the meeting. This allows someone else to work on my computer remotely.

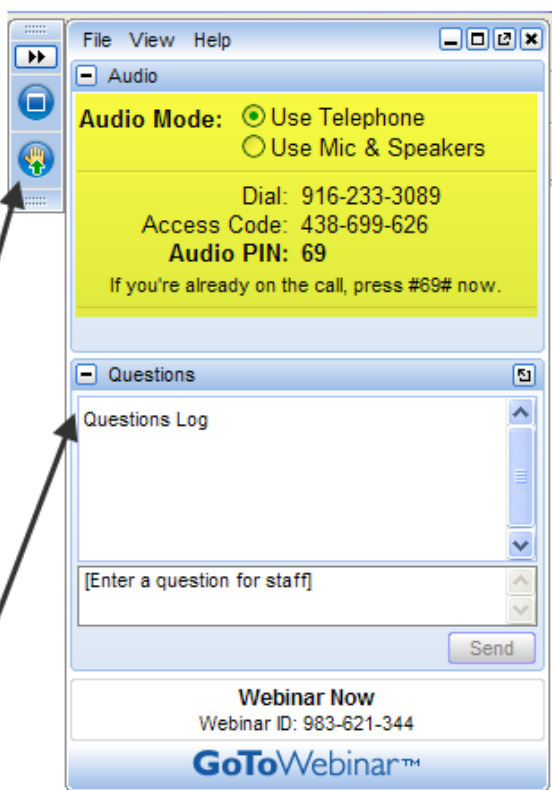
The audio portion of the training usually takes place by calling in on a conference call line supplied by GoToMeeting. VOIP (Voice Over Internet Protocol) is also available allowing you to use your computer’s speakers and microphone but it is not recommended because of quality.

GoToWebinar is used for larger scale demonstration and presentations and can accommodate up to 1,000 Attendees. Online Webinars are generally structured to have one or more Presenters making the presentation.

Like GoToMeeting, the audio portion of GoToWebinar usually takes place by calling in on a conference call line supplied by GoToWebinar. However, in a Webinar setting, the Attendees are

muted automatically by the Presenter so that everyone isn't blessed with the sound of crinkling potato chip bags and elevator music when someone puts the phone on hold. The Presenter has the ability to un-mute one or more Attendees as needed. The audio of all Attendees is managed by the Presenter by having each Attendee enter a unique "Audio PIN" upon arrival.

GoToWebinar has 2 ways to ask and respond to questions from Attendees. The Control Panel has a "Raise Your Hand" button that notifies the Presenter there is a question. Depending on time constraints, the Presenter may decide to un-mute and answer the question during the online session. If there are more questions than can be answered during a session, the Organizer may ask that you type in questions in the "Questions Log" so that they may be addressed at a later time.



During the session, you can use this button to "Raise Your Hand" if you have a question.

If there are more questions than can be answered during a session, the Organizer may ask that you type in questions in the Question Log so that they may be addressed later, via email.

Pros and Cons

I've put together what I consider to be the Pros and Cons of online training for CAD Software programs. Please pitch in and

offer your comments.

Pros

- Can eliminate travel time and expenses
- Very cost effective option for customized one-on-one training
- Allows for personalized, absolutely customized training because it's normally one on one.
- Can't find a local trainer? No problem. Felicia Provencal can train you from Hawai'i – although you may want to go to her!
- Can be set up within minutes if there is a pressing technical support issue or project that suddenly comes up.
- Can be scheduled in shorter blocks of time – one of the best ways to make sure you retain what you are taught. I like to schedule 2 hours maximum per session.
- Shorter blocks of time allow for easy customization of training topics from one session to the next. If more time is needed on certain features, it's easy to squeeze in another 2 hour session.
- It IS interactive!
- All sessions can be recorded and played back at your convenience for a refresher.

Cons

- Some people are more comfortable sitting beside and working directly with the trainer
- It's less interactive than hands-on, in person training.
- For hands on training and depending on the material being covered, it may not work as well if you have several folks needing training at one time.
- Requires a high-speed connection and a telephone headset allowing two hands on keyboard. A speakerphone can be used as long as feedback doesn't become an issue.

Real World Example

I recently worked with a client from out of state. He is a grading contractor who thought he needed Carlson TakeOff training but, after some discussion, realized training in basic CAD (IntelliCAD) needed to come first and then TakeOff training.

The initial proposal was for me to travel there and spend 3-4 days training this client plus a second person (a competitor, in this case) who needed the same training. Both of them decided to give online training a try.

We scheduled online training for every morning one week. I worked with one from 7:30 – 9:30 am and then with the other from 10:30 – 12:30 pm. After the 3rd day, we had covered so much material that one asked to skip the next day so he could work with it himself and apply what he'd learned so far.

We ended up skipping two days. By the time we met again, he'd worked with it enough and become so much more proficient with the basic CAD operation that we were able to fast-forward through the next couple sessions and started working on his current project. Another subsequent session was cancelled because the rain finally stopped!

And then a few days later, he needed to get his project finished and out to bid. So, after our first session one morning, we set up another session at 4:00 that afternoon and worked until almost 7:00 that evening.

Both customers ended up very happy with the amount of material we covered and where they were with the software when we wrapped up our regular training. They still have the video recordings of the training for their reference to go back to when needed. In the end, the cost was almost the exact same as it would have been had I fulfilled the original proposal but they both learned and retained much more because the training was customized and

personalized to their specific jobs.

Originally posted on **Carlson Connection** by Jennifer Dibona

Carlson Webinar

That CAD Girl was invited to present an hour-long webinar for Carlson Software on the topic, "CAD Standards for Carlson Software Using AutoCAD or IntelliCAD".

The session can be viewed or downloaded [here](#).