

# Another Twist for World

I'd like to offer a few other arguments for the use of the DVIEW TWIST routines discussed in North Rotation: Using Twist Screen. The four Carlson DVIEW routines cited:

1. **Standard** – *This option allows you to select a rotation angle using the mouse.*
2. **Line, Polyline or Text** – *This option allow you to select an object to set as a view baseline. It is the most useful when trying to match views to objects such as property lines or road centerlines.*
3. **Surveyor** – *This option prompts for the manual entry of a bearing or azimuth for the rotation angle.*
4. **Restore Due North** – *This option returns the screen to the orientation where North is straight up.*

fall right in line with remarks made by ESRI's Brent Jones at the 2009 Carlson User Conference who said:

*"GIS changes the whole domain for surveyors," Jones added, "And surveyors need to be ready for what's coming next – high accuracy GIS. The key is geo-referencing," he said. "We can use our data to communicate to our world with greater precision over greater areas."*

In my opinion, a **User Coordinate System** (UCS, by its very definition), takes the data one step further away from being geo-referenced. There are those that would probably argue that having data in a World Coordinate System (WCS) and at assumed coordinates of something like 5000,5000,100 is no better than using a UCS to shift this same data to a proper geo-referenced coordinate system. From a holistic stand-point, I'd tend to agree. However, what sets the WCS vs. UCS argument apart is this

simple statement:

*All drawings must have a WCS yet not all drawings have a UCS.*

When one considers the longevity of information represented in drawings created to this point in time and then reflects on how this information might also be used in the future, I feel it is important to model that information (and subsequently allow that information to be easily extracted) in a consistent and reliable fashion. A **User Coordinate System** is typically only understood and used by its creator which in turn, limits its use and subsequently increases the risk of liability when the **User Coordinate System** isn't known or understood by a "downstream" recipient of the drawing (survey stake-out, machine control excavation, etc).

**Side note observation...** Is it me or are there some parallels between UCS and custom ARX objects used in other products? When I look at how long the DVIEW vs. UCS arguments have been made, I can only surmise the length of time that will be involved to bring the non-proprietary vs. proprietary data argument to a close. I suspect it's going to be a long, tough road.

In any event, it is my opinion that standardizing on a single WCS should provide more consistent deliverables when the drawings/projects span multiple people, offices and/or disciplines. When properly adopted, using a "twisted view" of geo-referenced data in a World Coordinate System should provide more feature-rich information now and into the future when our data is mapped onto the Earth.

Originally posted on **Carlson Connection** by Ladd Nelson

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# North Rotation: Using Twist Screen

There have been many debates in various blog posts, discussion group posts, and articles regarding what is the best way to handle North rotation on maps. With AutoCAD-based systems, there were essentially two choices: you could set a User Coordinate System (UCS) or rotate the screen using a tool such as 3D Dynamic View. Carlson Civil and Survey offers these choices with a twist.

One of the main drawbacks to setting up a UCS is that it can throw off calculations being made by your mapping/design software. For example, point databases and external TIN files often refer to the coordinates used in the field, or that existed when the data was generated (such as the TIN being built). If you change the UCS, the coordinates may be wrong, and you may end up with incorrect results for things such as profile generation.

Because of this, many people choose to rotate the screen without rotating the coordinate system. In AutoCAD, the simplest way to do this was by using 3D Dynamic View (DVVIEW). The main drawback to the DVVIEW command is that while the screen would be rotated, common tasks such as adding text and symbols would be more difficult as they would have to compensate for the rotation of the screen. This was usually managed using a setting called SNAPANG, which could be set to the opposite of the DVVIEW rotation, making the use of ORTHO mode viable. In AutoCAD-based systems, this would be fairly tedious, particularly if you wanted to match the rotation to a specific item, such as a portion of a road centerline.

In any of the Carlson desktop applications, there is a View

pull-down menu with several commands that can solve this issue, often with a single click. To see the most commonly used options, go to the View pull-down menu and choose the Twist Screen sub-menu. There are four commands available, each one rotates the screen and automatically sets the SNAPANG to match.

- **Standard** – This option allows you to select a rotation angle using the mouse.
- **Line, Polyline or Text** – This option allow you to select an object to set as a view baseline. It is the most useful when trying to match views to objects such as property lines or road centerlines.
- **Surveyor** – This option prompts for the manual entry of a bearing or azimuth for the rotation angle.
- **Restore Due North** – This option returns the screen to the orientation where North is straight up.

By using these options, you can quickly set up plot sheets and layout tabs, annotate the maps appropriately, and preserve the coordinate system for future design work or other calculations.

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

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## **Working with Land Desktop or Civil 3D Contours in IntelliCAD-based Carlson Programs**

If you are working in an IntelliCAD version of Carlson Survey or Civil and need to bring in surface entities (contours) from a Civil 3D (C3D) or Land Desktop (LDT) drawing, it's actually very easy to do. However, it's not necessarily easy to find on your own. And, unfortunately, it's in a slightly different place depending on whether you're using the Carlson Survey or Civil menu.

FYI – If you simply try to “Open” a drawing that has AECC Contour Objects with an IntelliCAD-based program, it may look correct, but the entities will only be the dreaded “ACAD PROXY OBJECTS” that have bogus elevations. These are only good to look at... not work with.

Whether you're using Survey or Civil, the only thing you'll need is a drawing file (DWG) containing the C3D or LDT contours for the surface. It doesn't even need to be opened, you just need to have it and be able to find it. (hey, I'm getting old!).

First, start a new drawing in Carlson.

Then, if you're using Carlson Civil:

1. Go to the “Surface” menu,
2. Select “Import/Export Surface”
3. Then, select “Convert LDT/Civil 3D Surface Drawing”.

If you're using Carlson Survey:

1. Go to the “Surface” menu,
2. Select “Import/Export Surface Data”
3. Then, select “Convert Civil 3D Surface Drawing”.

Next, you're prompted to “Select the LDT/Civil 3D Drawing to Read”. After browsing to and selecting the LDT or C3D file, pick “Open”.

Next, you're prompted to to "Select Converted Drawing to Write". This will be a new DWG file containing the converted data. After browsing to a new location and specifying a new file name, pick the "Save" button.

You'll see the conversion process in the text window. Once finished, you can open the converted drawing.

What you will find in the new drawing are all of the entities from the original LDT/C3D drawing except that any AECC Contour Objects have been converted to elevated PLINEs and LINEs.

The first step you'll probably want to take after opening the new drawing is to join together all of the contour PLINEs and LINEs. You may want to "Isolate" the layers for the contours first.

Then use the "Join Nearest" command under the "Edit" menu. Like most cases, make sure to have the "Join Only Common Elevations" and "Join Only Common Layers" options selected.

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

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## **Carlson + ESRI = Wow!**

So, how cool is this?

At the Carlson User Conference this week in Lexington, KY, Brent Jones of ESRI announced a new grant program in coordination with Carlson Software. The program will bring ESRI products to every IntelliCAD-based Carlson program.

Speaking with Brent on Tuesday, he said that a few of the details have yet to be worked out, but Carlson IntelliCAD users should be hearing details in about a month.

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

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## **Brent Jones of ESRI discusses 'Why GIS Needs Surveyors'**

Combining all the GIS and land development technologies that exist today is what Brent Jones suggested surveyors do in his keynote address to the attendees at the 2nd annual Carlson User Conference. Jones, PE, PLS, is the Survey, Cadastre, and Engineering Industry Manager for ESRI, which designs and develops the world's leading geographic information system (GIS) technology.

To help surveyors accomplish this, Jones announced an upcoming grant program to be offered by ESRI for every Carlson IntelliCAD user. "ESRI is very supportive of Carlson's development on IntelliCAD and we want to support your users," said Jones of this specialized grant program being developed exclusively for Carlson IntelliCAD users. "We want to help surveyors leverage their existing resources to help in the GIS market." With this offer Carlson IntelliCAD users will be able to access GIS technology and jump-start a GIS practice. [Read More](#)

Originally posted on **Carlson Connection** by Karen Cummings

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# Dewberry's Dave Palumbo presents 'Choosing and Implementing Carlson'

Starting his presentation at the Carlson User Conference by saying "Carlson works for us," Dave Palumbo, PE, Technology Manager for Infrastructure Services at Dewberry, noted that Dewberry, an ENR top 50 design firm was an early adopter of technology as a differentiator. The evaluation and implementation of three competing solutions took Dewberry more than two years. "Patience was of the essence," Palumbo said.

Read the entire post

Originally posted on **Carlson Connection** by Karen Cummings

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## Carlson Software Expands Carlson College™

Carlson Software recently expanded their expert level training program, Carlson College™, and started the Carlson College Training Program. This new program will allow individuals and companies to get training direct from Carlson Software or through the members of the Carlson College Training Program. New members of the Training Program include Harken-Reidar Inc. of Front Royal, Va.; Carlson Desktop Solutions (CDS), based in Austin, Texas; That CAD Girl, located near Raleigh, N.C.; and, for C&G products only, Larry Phipps of the Land Surveyor's Workshop in Jefferson, N.C. Membership in the Carlson College



Training Program is available to any person or organization that makes a commitment to providing quality training on Carlson Software products.

For more information on the Carlson College Training Program or training, please contact Carlson Software at 800-989-5028, email [training@carlsonsw.com](mailto:training@carlsonsw.com) or visit [www.carlsonsw.com/training](http://www.carlsonsw.com/training). Members of the Carlson College Training Program are independent entities from Carlson Software.

Read the entire Press release here.

Originally posted on **Carlson Connection** by Karen Cummings

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## **Coming in Carlson 2010**

I'm not privy to the "official" list of coming updates, but I can share a few things that I know will be in the next release. Most of these come from "wishlist" items I have submitted on behalf of my clients.

The folks at Carlson are welcome to add their 2-cents in the Comments of this post or on Direct From Carlson.

**Option for placing building footprint a distance off the building setback line.**

Currently, the LotNet command places the building footprint exactly on the midpoint of the building setback line. We heard the request several times to have the option of placing the footprint some distance behind the setback line. It will be in the 2010 release.

**C & G Survey**

Instead of having two separate survey programs, Carlson will be incorporating C & G as a separate set of menus in Carlson Survey in 2010.

### **Basic IntelliCAD Menu**

If you're running Carlson on top of an AutoCAD-based program, you have an icon or menu option to switch over to an AutoCAD menu that has basic Draw commands such as line, pline and text and basic Modify commands such as copy, explode and pedit. Although it's not easy to get to right now, IntelliCAD has a similar set of menus and toolbars. Carlson 2010 stand-alone with IntelliCAD will have a menu item and toolbar icon allowing you to easily switch over to the IntelliCAD menus and then back again to the Carlson menus.

### **Lookup table of curb slopes for super-elevation transitioning**

This new feature will handle curb transitions like those shown in this NC DOT detail drawing.

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

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## **Poll Question 3/30/2009**

[polldaddy poll=1493826]

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

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# **Dewberry Case Study, 'Choosing and Implementing Carlson,' at the Carlson 'Break New Ground' Users Conference, April 5-7**

MAYSVILLE, Ky., U.S.A. (March 24, 2009) – At the Carlson “Break New Ground” User Conference in Lexington, Ky., April 5 through 7, David Palumbo of Dewberry will be presenting a case study on how the 2000-person professional services firm with more than 40 locations in 18 states recently chose the Carlson Civil Suite for its site-civil engineering needs.

“In April 2007, Dewberry’s site-civil market segment group embarked on a strategic initiative to unify and modernize site-civil work flow across two dozen offices that service this segment,” said Palumbo, PE, Technology Manager for Infrastructure Services at Dewberry. “Carlson Civil Suite was selected over two competing solutions as best aligning with Dewberry’s desired work flow and site-civil technical specifications.”

The Carlson Civil Suite includes Carlson Civil, Carlson Survey, Carlson Hydrology, and Carlson GIS. Together, these four products are a comprehensive set of design/drafting tools that automate all facets of the civil engineering project.

Palumbo, whose duties include facilitating technology solution acquisition and implementation for all of Dewberry’s infrastructure services, including site-civil, transportation, and telecommunications, will explain the intensive process Dewberry performed to choose Carlson. Then he will show how Dewberry, an Engineering News-Record “Top 50” design firm, set

about to most effectively implement Carlson throughout their extensive company.

“We will have approximately 250 to 300 users of the product when we’re done,” he said, noting that the project started by first defining a comprehensive work flow and site-civil task specification independent of software and automation tools. It was these specifications that became the basis of evaluating vendor solutions.

Palumbo will be joining Robert H. (Rob) Campbell, president and CEO of Juniper Systems, Inc., and Brent Jones, PE, PLS, of ESRI, as a speaker at Carlson’s 2nd annual conference designed specifically for surveyors, civil engineers, mining engineers, construction engineers, partner manufacturers, and dealers. Palumbo will be speaking during the Monday evening banquet.

“Working with Dewberry has been a rewarding experience,” said Bruce Carlson, president and founder of Carlson Software. “With so many offices, Dewberry had special demands for data sharing and project tracking and also wide-ranging needs for data interoperability across platforms such as AutoCAD, Microstation and ESRI, including compatibility with field data collection and instrumentation,” he added. “Our product offerings are focusing on these capabilities. We enjoyed being a part of their competitive product review – that’s our preferred business environment!”

The goal of Carlson’s user conference is to help users “break new ground” and learn how to optimize the power of Carlson’s versatile software. Learning tracks at this two-and-a-half-day event will cover the same land development aspects as Carlson Software products: data collection, land surveying, civil engineering, mining and construction and machine control.

Carlson is keeping the cost of the two-day event at \$695 right

up to registration to help more people harness the power of Carlson Software and get project ready. Sign up now at [www.carlsonsw.com/conference](http://www.carlsonsw.com/conference). Group discounts are available.

**About Carlson Software.** Carlson Software, an independent company founded in 1983, develops software solutions to bring the land development professional from concept to completion. The 25-year-old company is well known for its comprehensive civil, surveying, machine control and positioning, plus mining software solutions. Its free technical support and dedication to customer service is unique in the industry. Carlson Software is headquartered in Maysville, Ky., with branch offices in Boston, Atlanta, and Queensland, Australia.

**About Dewberry**

Dewberry is a 2,000-person professional services firm, specializing in engineering and architectural design; program management; planning; GIS; surveying; and environmental services. Established in 1956, the firm has more than 40 locations nationwide, with headquarters in Fairfax, Virginia, near Washington, DC. For more information, visit [www.dewberry.com](http://www.dewberry.com).

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