



## The Wisconsin Department of Transportation and the Transition to AutoCAD Civil 3D

Q&A with Richard Larson, P.E.  
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Richard Larson and his team have been responsible for developing the timeline, implementation plan, standards, deliverables, and training regimen for the Wisconsin DOT's transition from CAiCE to AutoCAD Civil 3D. The following is an account of WisDOT's experience during the transition as well as helpful information for agencies working with WisDOT.

**1** *After an in-depth evaluation of available technologies, the DOT made the decision to upgrade from 2D drafting tools to the next generation of 3D modeling with AutoCAD® Civil 3D®. Can you tell us what you've been working on since that decision was made and where the implementation stands today?*

Significant progress has been made toward the implementation. This includes preparing training, workflows, standards (drawing templates, project template, styles, label styles, subassemblies, reports, CUI, etc). When we learned about the upgrades in AutoCAD Civil 3D 2010, we decided to implement that version rather than 2009. We are on track to begin training our first adopters around the same time AutoCAD Civil 3D 2010 SP1 is released.

**2** *Moving to AutoCAD Civil 3D and a parametric modeling environment offers some obvious and not-so-obvious benefits for both WisDOT and the consulting community. Can you cite a few key reasons why this decision was made, and the specific benefits you are looking to achieve?*

One consideration was the growing desire among our contractors to move to Automated Machine Guidance. When we were initially evaluating potential design solutions, we were also in the process of creating a specification for AMG. Thus, one of the focal points of the evaluation process was creation of a proposed model.

Our understanding of the proposed model has changed as we have grown in our use of both AMG and AutoCAD Civil 3D. We now see the model as an abstraction of what is "out there," whether it be proposed surfaces, pipe networks or even getting into Impact locations and analysis.

Another consideration was the nature of our Design environment and the fact that the designer was very disconnected from the rest of the design team. It becomes a huge chore to collaborate not only within the design team but with all possible users or creators of data. AutoCAD Civil 3D and better management of our project data allows us to have more and different people than we would have previously imagined collaborating and using that data. For example, we started out thinking that one DWG projects would be ok because there are projects with only one designer, but we now understand that even in cases where there is only one designer, there are many people who can use the data that goes with that project.

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- 3 The DOT has been diligent in trying to keep the consulting community informed regarding their transition from CAiCE to AutoCAD Civil 3D. However, some parts of the community seem hesitant in accepting or embracing any change until it actually "happens". Do you have any words of encouragement for them at this point?

It IS happening... Right now we are focused on the scope of replacing CAiCE. The next step will be looking at such things as the drainage aspects, survey aspects, and even environmental impact analysis aspects of AutoCAD Civil 3D. A big benefit for the community is that ALL of our WisDOT configurations are being shared – and there are a lot of them.

- 4 One concern that some consultants seem to have about working with WisDOT and AutoCAD Civil 3D is the availability of resources to help them migrate to this platform. Historically, WisDOT has provided the consulting community with templates and set-up files to assist in meeting the new standards; will the same type of assistance be available for the AutoCAD Civil 3D platform, and if so, when might that happen and where will they be found?

WisDOT currently shares all configurations for Microstation and CAiCE and will be doing the same for AutoCAD Civil 3D. With AutoCAD Civil 3D, however, many more configurations will be available than are offered for Microstation and CAiCE. Workflows will furthermore be getting very specific, and when you use AutoCAD Civil 3D, you will receive not only the configured files but the workflows as well.

As for timing, configurations will be ready after the First Adopter training takes place. In fact, everything is being reviewed by that select group, and it will take approximately 4-6 weeks to complete updates before they are available to the rest of our users. It is expected that configurations will be ready for public consumption in late 2009 at the "Doing Business with WisDOT" website: <http://www.dot.wisconsin.gov/business/engrserv/index.htm>

- 5 AutoCAD Civil 3D is a 3D modeling tool; as such, do you envision future deliverables requiring a 3D modeling component, and if so, when might that be?

A 3D Technologies workgroup is convening soon to consider this and many other questions. There is no current timetable for a deliverable as there are many questions to be resolved such as content, accuracy, formats, etc. Please also note that consideration is being given to using AMG beyond sub-grade.

- 6 In the past, WisDOT has offered opportunities for consultants to get training specific to "best practices" working on DOT projects; will this be offered for AutoCAD Civil 3D, or are there other avenues for them to receive training to ease the transition?

Unlike CAiCE, there are significantly more educational resources dedicated to AutoCAD Civil 3D including resellers, video training, webcasts, websites, User Groups, etc.

WisDOT is in the process of preparing workflows (or best practices) for many different subjects. These workflows will be incorporated into our standard training as exercises. Both the workflow documentation and training exercises will be available to whoever wants them. As far as WisDOT and training with AutoCAD Civil 3D, standard and custom online training content are being applied in quickly getting users up-to-speed. Custom video training will be created in-house, including workflows. Any firm or agency can work with the third party vendor to access this content.

It should be noted that there is a wealth of reseller training available for AutoCAD Civil 3D, and it can furthermore be customized to meet your specific needs. The resellers that have worked with WisDOT have been very good at not only providing the training, but helping the users quickly get up to speed.

**7** *What other resources might you recommend consultants consider to learn more about this transition and the new design platform?*

Resellers (Consultants) are currently helping WisDOT with a variety of things: AutoCAD Civil 3D training, workflow review, support, customizations/setup review, and development of custom reports, custom applications/macros, and custom subassemblies. The AutoCAD Civil 3D implementation plan was also developed through consultation with an outside firm. The overall experience with resellers and other Consultants has been very positive, and their insight and knowledge have been very helpful.

WisDOT consultants who are concerned with "going out on a limb" with AutoCAD Civil 3D shouldn't be. The number and quality of resources available to Consultants (or other organizations) far exceed that which has been available in previous system implementations.

**8** *Next steps for your team?*

Prior to training First Adopters, there are several tasks to be completed. Most notably: workflow reviews and verification; reviewing online training and adding custom content; finalizing WisDOT subassemblies, reports and other customizations; creation of deployment packages; etc.

MasterGraphics thanks the WisDOT and Richard Larson for sharing this information. If you would like to learn more about AutoCAD Civil 3D, please contact your MasterGraphics Account Manager at (800) 873.7238 or visit [www.mastergraphics.com](http://www.mastergraphics.com).

Visit the "Doing Business with WisDOT website:

<http://www.dot.wisconsin.gov/business/engrserv/index.htm>

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