



## Have You Heard The Rumor? - FDOT's CADD Platform



*A rumor without a leg to stand on will get  
around some other way. ~ John Tudor*

Session: 89 – Tuesday July 29, 4:15 P.M. – 5:00 P.M.



## I heard FDOT is dropping Bentley...

- Contrary to the “*rumor*,” FDOT did not drop Bentley
  - FDOT just signed an Enterprise License Agreement for 3 more years
  - FDOT just renewed Bentley Training Contracts for 3 additional years
- FDOT electronic delivery requirements have not changed
- We did update the CADD Manual recently (took some stuff out)





## So What Gives with Autodesk Civil 3D?

- FDOT remains a CAiCE user and has continued software maintenance since CAiCE's inception in 1989
- Autodesk acquires CAiCE in 2002
- In 2003, Autodesk announces CAiCE will be out of development
  - However, CAiCE Service Packs were still made (we're on SP7 now !)
  - Autodesk also announces development of a new product called Civil 3D, the platform to eventually replace all their existing civil product lines
  - Autodesk offers DOTs continuing with CAiCE maintenance a migration path to Civil 3D (when available) through license exchange
  - Several meetings / teleconferences held between Autodesk and the CAiCE agencies about the functionality requirements for Civil 3D



## More History...

- Spring 2005 - First commercial version of Civil 3D (Civil 3D version 2006) becomes available
- 2006 / 2007 – Wisconsin DOT performs comprehensive technological evaluation of competing design platforms (InROADS) and chooses Civil 3D to replace CAiCE, implementation scheduled for late 2008. Civil 3D also reaches “critical mass”
- Winter / Spring 2008 – FDOT evaluates Civil 3D (version 2008, and the 2009 beta), including many on-site and Web based technology demonstrations given by Autodesk. FDOT in contact with other agencies also evaluating Civil 3D. Newsgroups, Blogs, VBooks, Webinars, Manuals, White Papers, and Books.
- May / June 2008 – Decision made to exchange FDOT's CAiCE licenses for Civil 3D licenses, by proposal and acceptance by FDOT Executive Board
- July 2008 – FDOT mobilizes its Civil 3D implementation effort...
  - No more CAiCE maintenance, replaced by Civil 3D maintenance
  - Continued use of CAiCE by FDOT until existing CAiCE users can be migrated
  - Civil 3D Implementation effort underway



## Why diversify now?

- The window for the state transportation agencies who continued CAiCE maintenance to exchange their CAiCE licenses for Civil 3D licenses expires
- CAiCE is out of development
- Consultant requests for FDOT to diversify have echoed for many years
- The technology is there – “critical mass” has been reached
- It is the responsible thing to do



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## Some Benefits of Diversity

- Competition is good for the FDOT and its consultants:
  - Reduces risk due to dependence on a sole source
  - Promotes competitive pricing, products and services
  - Competitors work to close technology gaps amongst competing products
  - Promotes Innovation
  - Promotes vendor support of Open Data formats
- Diversity gives us options:
  - Consultants can select best fit for them, so can FDOT
  - Larger user community, larger trained workforce pool
  - FDOT can permit more options for future CADD delivery



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## What is Autodesk Civil 3D...

- **Civil 3D** is actually a combination of:
  - A civil design system (compare to GEOPAK)
  - A geospatial system - AutoCAD Map3D (compare to Bentley Map)
  - And a drafting / design platform - AutoCAD (compare to MicroStation)
  - A data / file management system – AutoCAD Vault (compare to TIMS or Bentley Project Wise)



## Who is Autodesk?

- World's largest producer of civil engineering software.
- A Fortune 1000 publicly traded (ADSK) company founded in 1982 with more than 2.2 Billion in revenue for FY 2007. Autodesk employs more than 7000 people worldwide
- There are more than 8 Million registered users of AutoCAD and more than 2400 registered 3<sup>rd</sup> party developer organizations
- the "Civil" portion alone of Civil 3D is developed and supported by a team of over 170 headquartered in Manchester, New Hampshire
- Civil 3D, as of January 2008, had over 158,000 seats installed worldwide
- Huge community of user organizations, VARs, and other support organizations



## Considering or Implementing Civil 3D?

- Some FDOT is aware of include:
  - Wisconsin DOT
  - Massachusetts Highway
  - Michigan DOT
  - Alaska DOT
  - CalTrans
  - North Carolina DOT
  - French National Roads
  - Most major Engineering & Construction firms
  - Local Governments



## Impacts to the FDOT CADD Office

- Engineering / CADD Systems Office (ECSO) to begin training staff to develop and support Civil 3D, along side of MicroStation and GEOPAK
- We'll balance overall support / development between platforms within available resources
- ECSO's workload increased



## *Impacts to remainder of FDOT*

- Shift in paradigm from component based design to 3D model based design (2D to 3D design – you think differently, plus the software changes)
  - High levels of interoperability between systems a primary implementation goal
  - Both Autodesk (present) and Bentley (future) will be model based design
- Re-training for some of FDOT's workforce
- Natural / Human resistance to change
- Technology advances should eventually positively impact design lifecycles and costs
- Larger resource pools to draw trained staff from

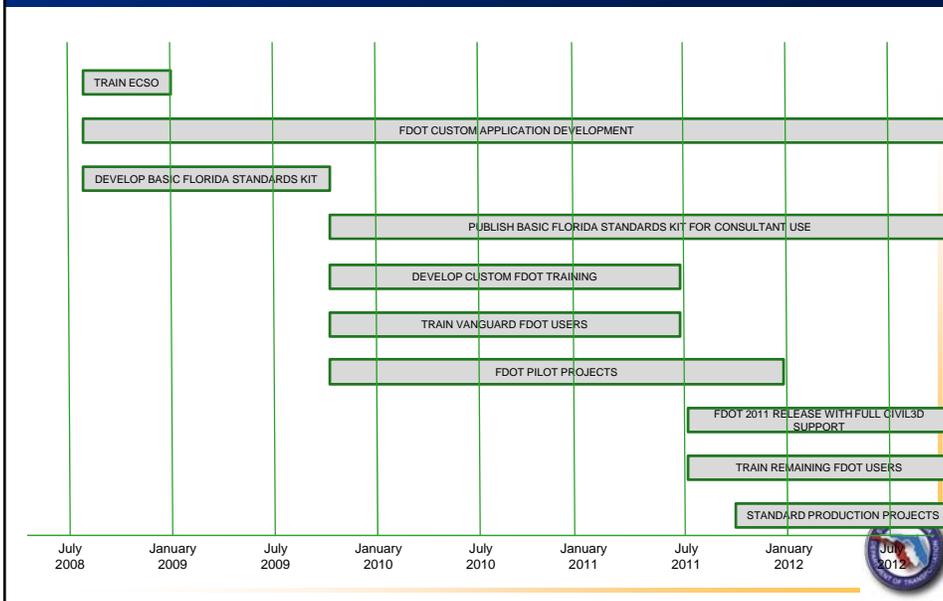


## *Impacts to Consultants*

- Electronic Delivery requirements do not drastically change
- Consultants not forced to use Civil 3D
- FDOT would broaden to accept both MicroStation and AutoCAD deliverables in the foreseeable future
- FDOT would provide workspaces and resources for Civil 3D like we do presently for Bentley, and support both.
- Normalize FDOT support to sustainable levels for each platform, given our resources.



## A Hypothetical Implementation Timeline



## The plot thickens...

*Dr. Peter Venkman:* .... dogs and cats living together... mass hysteria!



### Expanded Software Interoperability Initiative

On July 8, 2008, Bentley Systems and Autodesk announced a joint agreement to expand the interoperability between their portfolios of architectural, engineering and construction software. The benefit to you will be improved workflows with broader choice and reuse of information, and a better ability to focus on being creative and getting work done, with fewer technology constraints.



