

Questionnaire

Date: May 14, 2015

TO: Each U.S. State DOT and/or State CIO

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RE: Handling/using spatial (survey/mapping) data

I need your help in preparing material for a Second Edition of "The 3-D Global Spatial Data Model" published by CRC Press in 2008. See – www.globalcogo.com/SecEd.html

I sent this request via email several weeks ago, but firewalls and spam filters prevented delivery in many cases. Therefore, I am sending this hard-copy request. The original request is posted at www.globalcogo.com/InquiryAndResponse.pdf. The Questionnaire Response included herewith is also posted as part of the original request .

The 50 state DOT's are major users of spatial data for many applications. The purpose of this inquiry is to solicit feedback from DOTs relative to using spatial data – specifically information on the coordinate systems and data being used in various applications.

A similar questionnaire was sent to all state DOT's in early 1990's and meaningful feedback was obtained from 46 out of 50 DOT's. It took more than one inquiry but I did get an excellent response. I will be very pleased if I can get a similar response to this inquiry.

The question now is really the same as it was 25 years ago – how does your organization handle the difference between grid distances as obtained from state plane coordinates and horizontal ground distance as measured on the ground, with GPS, or remotely? Note, the "local coordinate system" of 25 years ago is now called a Low Distortion Projection.

Previously, I sent a copy of "Design of a Local Coordinate System for Surveying, Engineering, and LIS/GIS" to provide context for my inquiry (www.globalcogo.com/localcor.pdf). It is still relevant.

However, much has transpired since then. Several items of note include:

- Results of the previous DOT questionnaire are documented in Appendix III of a paper, "Using GPS in True 3-D Coordinate System," published in the ASCE Journal of Surveying Engineering, February, 1993, Vol. 119, No. 1. Copies of that article are available from ASCE and from many/most engineering libraries.
- GPS, scanning, remote sensing, drones, and satellite imagery are now used routinely.
- Spatial data are now digital and 3-D. See <http://www.globalcogo.com/challenge.pdf>
- I wrote a book, published by CRC Press in 2008 on "The 3-D Global Spatial Data Model: Foundation of the Spatial Data Infrastructure." Changes since then justify a second edition. And, the grid/ground dilemma is still an issue with many.

I would be very pleased with a response by June 15, 2015 to the enclosed questionnaire.