PRESENTATION ABSTRACTS – JANUARY 22, 2009

Digital Cities – a Model Vision of the Future (Doug Eberhard)
In our local cities and global economies today, we continue to see increased demand and democratization for richer information and communication moving from analog to digital, 2D to 3D, to 4D and beyond. So how will we envision and engage CAD, BIM, Geospatial, Analysis, Simulation, Visualization, Web Services and Collaboration tools in the future? How can we work in a more informed, integrated and visual way, while maintaining the security and integrity of our designs, our data and our decisions? How will owners, agencies, businesses and the public interface with this process and information as it becomes more valuable and more available…or not? How will the people, the policies, the projects and the tools come together to help us better plan, design, construct and maintain a more sustainable world today and in the future?   This presentation will look into the emerging business of Digital Cities and explore the roles that empowered information, technology and people will play in the future. It will examine today's trends and tomorrow's opportunities as the industry moves to better capitalize on this convergence and new opportunity.

2D data in a 3D World (Karl Kliparchuk, Brendan Walashek)
There has been a growing need to view the urban or natural resource landscape in 3D utilizing orthophotos, LiDAR, satellite images, and enhancing them with 3D elements, such as pipelines, buildings and bridges. Both static 3D and 3D flythroughs may be needed. We will discuss how we take 2D data and convert it into 3D views and flythroughs, using municipal and other examples. Our discussion will cover the software we use to produce 3D views and the issues involved in producing these views.

Surrey City Centre Digital 3D Building Model (Stuart Jones)
A presentation focused on the modeling of the City of Surrey's City Centre in 3D. This 3D planning tool facilitates policy planning plan tasks such as the development and assessment of land use and density concepts, and review of view corridors, sun access, massing and skyline impact; and provides a mechanism for the review of the large number of high-density, complex development applications currently under application in this area, that require an effective means to assess their three-dimensional implications and their context. The 3-D model provides a base for all new development applications to be submitted for addition to the base model of existing buildings. This allows council, staff, developers, consultants, and the public to view and to understand whether a proposed development will meet City policy with respect to planning and urban design policy. The 3-D model allows the viewer to visualize proposed developments in the context of existing buildings, terrain and infrastructure (such as the Skytrain guidway) by allowing selected or multiple viewpoints of the proposed projects in their 3-D context. Finally, future concepts of the City Centre have been mapped to give perspective of the impact of future development in the area.

Vancouver's 3D Model - Another Dimension of Knowledge and Analysis (Dan Campbell)
The City of Vancouver has over 20 years experience working with a digital 3D models, and has had a City 3D model since 1996. Over this time period, we have seen the 3D model evolve from being a specialized resource that only an extremely limited number of staff could work with to a core tool used by many staff, integral in many of our work processes.

With ongoing hardware and software improvements, and a more knowledgeable public, 3D is becoming ubiquitous. With this comes ever expanding expectations, and the need to further expand access to the model for both staff and the public. As well, the borders between GIS and 3D are blurring adding to the challenges we must tackle.

This presentation will cover:
- o History of the 3D model
- o Production and maintenance pipeline
- o Case studies
- o Role of the 3D model in current work
- o New challenges and future directions

Introduction to LiDAR (Adam Jones)

LiDAR is becoming a hot topic in Surveying and Mapping. This presentation will explain what LiDAR is, how it's captured and how it can be used in a 3D mapping environment to enhance data accuracy and improve spatial modeling to save both time and money. Application examples will be showcased.

The City of Vancouver is Not Looking Down on Orthophotography Anymore (Jonathan Mark, Dan Campbell, Martin Tilt)

The City of Vancouver has been making using of digital orthophotos for some time and has them dating back to 1994 on VanMap. They tend to be updated every other year and have proved invaluable to many business units and their business processes in the City inclusive of Planning, Engineering, Police, etc.

From time to time over the years, the City has also acquired very limited amounts of oblique photography, usually in printed form only. These have been useful for the specific purposes for which they were obtained, but did not contribute significantly to the broader needs of the City.

In late 2007, the City entered into an agreement with MDA to obtain Pictometry oblique imagery for 2007 for the entire City along with their proprietary viewing software EFS. When implemented in 2008 to a test group of about 100 staff, it was an instant success. Later in 2008, the imagery was made accessible through VanMap using an ActiveX application and the usage of the imagery soared.

This presentation has several components:
- An introduction to Pictometry imagery and how it has been implemented
- A discussion of the uses and benefits of using the imagery in Engineering and Community Services
- A demonstration

Integrating Vector, Raster, 3D and BIM Data (Dale Lutz)

Up until recently, most maps offered spatial insight into the exterior world, up to the walls of a building. However, with the recent introduction of 3D and BIM data to the geospatial world, GIS professionals can now bring the value of maps and spatial analysis into the interior world. In this session, Dale Lutz, Co-Founder and Vice-President of Safe Software will provide an overview of

how the convergence of 3D/BIM with geospatial data is leading to a world that's connected visually and spatially in ways that have never before been possible.

Through discussion and demonstration, this presentation will explore:

- Industry trends that have resulted in 3D/BIM/GIS integration
- Commonly used 3D and BIM data formats and their applications
- The role of spatial ETL in integrating GIS data with key 3D and BIM formats
- Challenges associated with these new integration capabilities