

GIS technologies exploding, will guide the future, keynote speaker tells GIS Day crowd

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More than 100 professionals from state, local and county agencies across Washington gathered in the Presentation Room on Wednesday for the kick-off of GIS Day, an annual event that celebrates, as State GIS Coordinator Joanne Markert terms it: the "Power of Where."

Markert opened the day of seminars and professional developments with brief remarks, calling for close and continued collaboration among state agencies that are working on statewide plans for GIS and related tools. The state's portal for common Geospatial Open Data is at <http://geo.wa.gov/>.

Keynote speaker Josh Greenberg, the senior GIS coordinator for Skagit County, drew from science fiction movies, consumer electronics shows he's attended and his own 30 years of experience in Geographic Information Systems to outline what he believes is the future of GIS.

"The concept of where seems very simple, but is actually fairly complex," he said. "As it turns out, where is not very well defined."

Yet the use of GIS tools is seeing explosive growth in the marketplace, he noted. The global digital map market is expected to grow from between \$9.26 billion in revenue to \$20.36 billion by 2023. These tools are used in route optimization for drivers and increasingly in other technologies as well.



Keynote speaker Josh Greenberg speaks to the GIS Day crowd Wednesday in the Presentation Room

The future of GIS is being driven by traffic route and planning technologies such as WAZE, which is now so accurate in providing real-time data that it is often reporting the locations of accidents even before 9-1-1 calls are made.

GIS-based technologies are being used in tracking technologies, Augmented Reality (AR), Virtual Reality (VR), Artificial Intelligence (AI) and in the navigational systems of autonomous (self-driving) vehicles.

Greenberg, who holds his doctorate from the University of Washington's College of Forest Resources, pointed out that certain technologies are being used in other countries while awaiting approval for use in the United States.

GIS tracking technologies may create concerns about privacy. For instance, in Sweden it is already common for people to implant chips under their skin that can be used for opening doors and making purchases. At the same time that technology can determine where someone has been.

As an example he pointed to Strava, a popular fitness app that is used by runners, cyclists and other outdoor sports enthusiasts to record their activities then share with others. He cited one instance though where military personnel working on a top-secret base inadvertently divulged the base's location by using the app.

Yet other applications of GIS-based technologies may also prove useful. Greenberg showed a video clip of a presentation earlier this year of Google CEO Sandar Pichai, who showed how Google Assistant can call local businesses to make appointments for a haircut or dinner reservations.

Greenberg also discussed the future use of autonomous vehicles, which are predicted to be ubiquitous on highways in the not-too-distant future. Although the technology is not yet perfected, it will more than likely greatly reduce the number of traffic accidents. Self-driving cars will not have to be built as rigid as today because they are less prone to being damaged by accidents, decreasing fuel costs. And because they will be capable of driving themselves to pick-up locations, the need for people to own their own vehicles will likely also decrease, he said.

GIS-based commercial drone technology used for agriculture, survey applications and other land planning activities. It is also increasing in the marketplace, he said. In Dubai, law enforcement is starting to use flying motorcycle-like vehicles for emergency response. Such vehicles rely on precise, three-dimensional GIS technology, he said.

New uses for GIS will take more people to build the databases and create the intelligence behind them.

"All of this data needs to come from somewhere, probably from us," Greenberg said.

GIS Day continued after Greenberg's remarks with a series of break-out seminars in the Training Center.

An article on GIS Day that included Washington state was published in StateScoop earlier this week.