Bringing Airspace Down to Earth

The nation’s airspace is a complex network of imaginary 3-D surfaces based on airport locations, restricted areas and military use. These imaginary surfaces are difficult to understand and even more difficult to explain to those outside the industry. But when someone needs to site a tall structure such as a wind turbine or telecommunications tower near an airport, it can impact more than just the land it occupies. Last year, the state of Kansas saw more than 2,000 Notice of Proposed Construction applications for wind turbines alone. Most proposed sites violated local airspace, resulting in a Notice of Presumed Hazard from the Federal Aviation Administration (FAA). The Kansas Airspace Awareness Tool (KAAT) — created through a partnership between the Kansas Department of Transportation’s Aviation Division and Burns & McDonnell — is designed to reduce the number of violations in applications and help the general public visualize airspace.

“Users can insert structures using precise coordinates and elevations of structures, or they can identify a site on the map to conduct a preliminary analysis,” says Robert Crain, project manager for Burns & McDonnell. “This tool, the first of its kind in the U.S., will help identify potential airspace conflicts and initiate early coordination between the affected government agencies and developers. The system eliminates a lot of guesswork in site selection.”

Local planning agencies can use the tool to help establish height and hazard zoning to protect their airport’s airspace. The FAA rulings do not prevent a developer from building a structure; cities and counties must enact the necessary legislation.

“Burns & McDonnell helped us turn a good idea into a great product in less than eight months,” says Ed Young, director of Kansas Aviation. “We used unconventional testing procedures and innovative outreach and training. We have already challenged airspace conflicts with the tool’s output. It allows Kansas to be a credible participant in the broader airspace discussion. Ultimately, it helps us protect the millions of dollars in infrastructure and planning that is already in place at Kansas airports.”

The Burns & McDonnell Business & Technology Services Group made the tool come to life. “Using Google Earth as the platform for the tool gives the user the ability to see the airport and its associated airspace in a 3-D view, creating a real-time visual representation of the existing landscape,” says Jamie Katz, senior information specialist. The KAAT was featured in a webinar for other state aviation agencies, demonstrating how it can eliminate the need to imagine airspace surfaces beyond Kansas.

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