Tampa International Airport Enterprise GIS

The Hillsborough County Aviation Authority (HCAA) manages and operates the Tampa International Airport which was ranked the third best U.S. domestic airport in 2016 with its 3,300-acre facility. In compliance with Federal Aviation Administration data standards, the airport brought in an outside contractor to generate its GIS data, however without an established GIS department, staff or infrastructure, the Tampa International Airport relied solely upon computer-aided design (CAD) for the management of geospatial products. Airport CAD professionals were required to create most requested spatial products which often led to delays since GIS was not the primary function of these roles. Various departments previously implemented siloed instances of Esri ArcGIS solutions but they were not integrated with one another and therefore rarely used.

The airport soon sought to establish an enterprise-wide GIS system to manage its data across all departments and to take advantage of modern spatial products to improve workflows and efficiency. The primary criteria for a new GIS infrastructure was that the data be made available on the internet via mobile devices making the information easier to share amongst multiple stakeholders while enabling teams to query the data and create their own map products with ease.

The Tampa International Airport selected GISinc to assist in establishing a world-class GIS system. The project began with a Discovery Workshop in which our technical architect performed an on-site assessment of the essential GIS needs of the airport. GISinc also compiled job descriptions, a skills matrix and GIS comparisons to other airports to support the airport's GIS growth.

From this assessment, GISinc installed ArcGIS Server, an enterprise geodatabase and Portal for ArcGIS as the geospatial backbone for the entire facility which streamlined their ability to manage data layers. GISinc Solution Engineers also worked closely with the client via web meetings or VPN accounts to access the airport network for development and troubleshooting without compromising security/network settings. GISinc also drafted a governance document which explained the new GIS system and how to maintain it. A GIS Healthcheck was also performed to validate the new system and identify apps to be developed and implemented for more than 50 internal users in phase two.

Previously, the airport published an annual pavement assessment report, supported by an inspection application which leveraged ArcGIS Desktop on a ruggedized tablet PC. However, it was not uncommon to risk damaging or losing a year or more of data due to irregular backup procedures. Within the new GIS environment, GISinc also established a Collector for ArcGIS solution to replace the pavement inspection app which will dynamically update the geodatabase to prevent data loss while also enabling the use of smartphones and tablets.
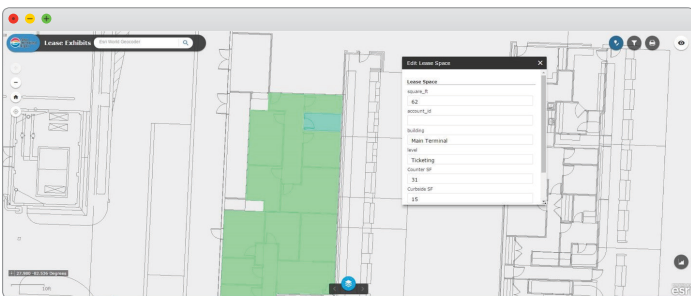
In support of the real estate department, GISinc has also begun to develop an exhibit maps application which would allow users to create their own maps showing airport tenant locations and information. Before its newly integrated GIS system, the creation of airport exhibit maps could take hours, days or weeks to create based upon the workload of the CAD operator.

Overall, the new Tampa International Airport GIS environment stands to significantly increase productivity and time savings. The airport also hired its first GIS professional following GISinc recommendations. Next, the airport plans to pursue a new Cityworks asset management application which will leverage the new GIS system to simplify, advance and streamline current workflows. The success of this project was largely influenced by the engagement of multiple departments and stakeholders throughout the project as well as having an IT department that values and understands the power of enterprise GIS.