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City of Gold Coast hosts a successful Commonwealth Games with GIS

Australia's sixth largest city hosted a successful 2018 Commonwealth Games by leveraging GIS and bringing together data from seven different agencies to provide critical operational insights.

Project overview:

Determined to host a successful 2018 Commonwealth Games, the City of Gold Coast (CoGC) knew that collaboration would be a fundamental part of their strategy.

With location playing a central role in managing the event across its multiple venues and keeping spectators and residents updated with the event's proceedings, CoGC turned to GIS technology to visualise its own data as well as data from seven partner agencies.

The solution was a city-wide visualisation tool delivering real-time situational awareness to staff and partnering agencies, supporting the successful management and delivery of information to residents, 15,000 volunteers and 1 million spectators attending the 11-day event.

City of Gold Coast and 2018 Commonwealth Games in focus:

The City of Gold Coast is Australia's sixth largest city and second largest local government serving a population of more than 600,000 with a staff of 4,500.

As a local government, CoGC delivers a range of services across 7 directorates including clean water delivery, waste management, community services, transport management and large-scale event planning.

In 2014, having been named host of the 21st Commonwealth Games 2018, the city began to prepare for the arrival of 7,000 athletes from 70 nations and territories around the world to participate in sporting events across 15 venues in the Gold Coast, as well as four other locations in Brisbane, Townsville and Cairns.

The organisation and management of the Games was a collaborative effort with six agencies – Australia Government Major Sporting Events Committee, Gold Coast 2018 Commonwealth Games Corporation (GOLDOC), state government Office of the Commonwealth Games (OCG), Queensland Police Services (QPS), Queensland Fire and Emergency Services (QFES) and the Department of Transport and Main Roads – in addition to the City of Gold Coast.

CoGC had to ensure its service continuity throughout the Games while also managing the Games and supporting its partners including Queensland Police and Department of Main Roads.

Integrating GIS better enabled the City of Gold Coast to establish a common operating picture for staff, volunteers and partnering agencies to successfully manage the 11-day event that attracted 1 million spectators.

The challenge:

Providing multiple stakeholders – including partnering organisations, emergency services, security and government agencies – with access to real-time information for improved information sharing internally and to the wider public was the main challenge for the City of Gold Coast.

Maps were already being used across CoGC, but data was siloed so that different departments could not access or see activity across council. The same problem existed when it came to accessing information from external agencies – live information sharing was unavailable, and any data sharing was done manually.

A GIS Technical Working Group was established to provide a spatial picture of the games to streamline planning activities by improving inter-agency information sharing.

By creating a single point of truth with up-to-date information, the City of Gold Coast and collaborating agencies at the federal, state and local levels of government were able to:

- Provide staff, volunteers and collaborating agencies with updated information on the Games such as a minute-by-minute update on the Queen's Baton Relay.
- Use this information to fuel evidence-based communication with the public on event and service updates.
- Allow CoGC to coordinate infrastructure projects to minimise conflicts and overlaps in planning activities while efficiently delivering city services.

Using a single point of truth allowed information-sharing between both council and non-council users on any device within any location across the city – at any given time.

The solution:

Being a cloud-based system, ArcGIS Online made it easy to share information – both internally within a single organisation and externally to other organisations.

Its field mobility capabilities meant that the information could be accessed from anywhere, on any device, with zero-dependency between the system and the infrastructure the users needed to access the data.

Rolled out 18 months prior to the games, the tool immediately identified areas of conflict and allowed the City of Gold Coast to provide utilities with information on where other works were happening during the time of the Commonwealth Games.

The visualisation tool was built on spatial information provided by different agencies and a GIS team managed multiple layers and spatial elements of the tool. Meanwhile, a group of technical officers were tasked with managing the integrity of data and liaising with external agencies to ensure privacy standards were met.

Combining this platform with the city's accurate datasets, the tool provided accurate, up-to-date data on the games as they were unfolding – for information-sharing with both internal and external groups.

Across the City of Gold Coast's dedicated Commonwealth Games team, there were approximately 300 users sharing 60 datasets and maps including impact zones, land allocations, designated use of land, local road networks, public domain improvement projects and safe city camera networks.

In conjunction with the Commonwealth Games, through their ArcGIS Online Open Data Portal, CoGC have integrated 104 GIS datasets to better-inform everyday community activities across the Gold Coast region.

The innovation:

Real-time data

The ability to share information and process data in a live environment was the key to enhanced situational awareness for all the agencies involved in managing the 2018 Commonwealth Games.

The CoGC Commonwealth Games Situation app was shared with collaborating external agencies to provide up-to-date information on events, incidents and much more – displayed through layers that could be turned on and off dependent on what the user needed to know.

To ensure data security and integrity, each internal stakeholder's GIS team set up their own secure group within their ArcGIS Online organisational account and identified the data to be shared with the Commonwealth Games partner organisations. Within the tool, data layers could be turned on and off based on security levels.

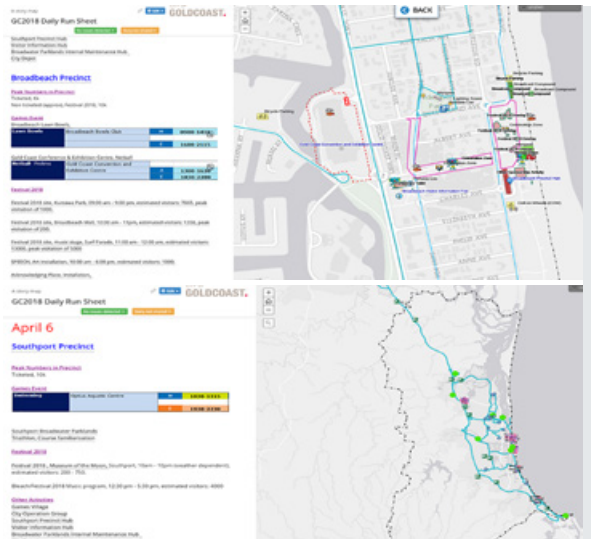
A single source of truth

With multiple agencies involved in managing the Commonwealth Games, it was critical to ensure that they could all see the same data at the same time in order to deliver a coordinated response throughout the 11-day event.

The visualisation tool allowed the overlaying of data and identification of problem areas, allowing for their immediate resolution. It also reduced the risk of data duplication and the time and effort wasted on maintaining data.

CoGC was able to get a street-level view of where obstructions for new infrastructure might be and assess those issues and mitigate the risks within the planning phase of construction. With each agency's plans available in one visual tool, the city could focus on preparing to host the Commonwealth Games.

During the Commonwealth Games, CoGC could see all daily activity and provide real-time, accurate information to those on the ground to help them make better decisions.



Creating a Daily Run Sheet for each day of the Games allowed the CoGC team and partnering agencies to have a clear common operating picture highlighting potential clashes and issues that might occur, aiding and informing their preparedness efforts.

The outcomes:

Not only has the City of Gold Coast's use of geospatial technology improved awareness across the council about the value of GIS, it has also set the benchmark for Queensland's local governments and emergency response agencies. For the council, some of the outcomes of this project include:

+ **Operational savings through improved efficiency:**
  With a single point of truth for each data set and with data governance in place through the GIS Technical Working Group, data management became more efficient and improved the city's savings.
+ **Improved data integrity**
  Field crews doubled as data auditors, capturing and updating missing asset data which resulted in a more accurate and up-to-date information-sharing across the board.
+ **Enhanced response and recovery during natural disasters**
  The City of Gold Coast now has access to live data from all disaster management group agencies.

Used every day throughout the city's command centre, CoGC's platform provides inter-agency collaboration with a variety of stakeholders and has resulted in improved operations, along with increased financial savings – supporting the council to better work within the Gold Coast community.

Solution mix:

+ **ArcGIS Online**
+ **Story Maps**
+ **Applications builder**

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