

TAKE OFF

Welcome to a new year, a new decade, and to the seventh edition of *Take Off*.

We have achieved and shared so many major milestones throughout eight years of construction. And as we head towards Brisbane's new runway opening in July 2020, I am delighted to update you on our progress.

From Stop Bars and air space design to operational readiness and testing, so many incredible people have come together to ensure this runway will be safe, efficient and an enabler of growth for Brisbane and Queensland. Read on to find out more about the important work they do.

If there is one thing I am certain of, it is that this year is going to be huge.

Gert-Jan de Graaff

Chief Executive Officer
Brisbane Airport Corporation



Concreting of the taxiways reached completion in mid-October



The Local Runway Safety Team standing on the new runway

The final countdown

When site preparation and reclamation works for the new runway commenced way back in July 2012, everyone involved in the project knew that it would be eight years before construction would be complete. At the time, it seemed so far away – a true marathon when it comes to infrastructure projects.

That is what makes this moment, here and now, so incredibly rewarding and exciting. As we start the new year, we have reached a point where construction of our new runway, its supporting taxiways and the surrounding airfield is all but completed. All that remains is completion of the line markings. Even more remarkable is the fact that we have brought the project to completion under budget at a cost of \$1.1 billion, marking a saving of \$200 million.

Ready, Safe, Go!

The mammoth construction program is only part of the story when it comes to doubling Brisbane Airport’s capacity and creating the most efficient runway system in Australia.

A lot of the work being done by engineers and specialists installing Stop Bars across the airfield cannot be seen by the naked eye. Most of the physical infrastructure and cabling for the Stop Bars is hidden underground, and as Project Engineer Darcy Savage explains, the technology is an important tool to minimise that potential for aircraft collisions on the runway.

Another major component is the Operational Readiness and Testing (ORAT) Management Plan which outlines all of the safety, security and regulatory compliance requirements the various airport stakeholders must meet before Brisbane Airport can commence parallel runway operations. Project Manager Adam Tull outlines some of the work involved in this crucial piece.



Q&A

Darcy Savage
Project Engineer – Civil Infrastructure

What exactly are Stop Bars and why are they an important part of our airfield design?

Stop Bars are a line of unidirectional red lights embedded into the taxiway surface at three-metre spacing across the full width of the taxiway. Just like traffic signals on the road, the red light indicates to the pilot where and when to stop prior to entering the runway strip.

Once the runway is clear of traffic, the air traffic controller will provide verbal clearance for the aircraft to enter the runway and also switch off the red Stop Bar lights - only then can the pilot enter the runway. The red Stop Bar lights are interlocked with green lead-on lights so that when the red lights are extinguished, the green lights will illuminate the taxiway pathway ahead onto the runway.

Stop Bars are an important safety enhancement for Brisbane. Once implemented, they will provide additional information to pilots and will reduce the possibility of runway incursions by enhancing visibility of holding points and by adding a failsafe step to defend against pilot or controller error.

Do we use them for the existing runway and taxiways at Brisbane Airport?

The new runway (01L-19R) is designed to include Stop Bars and as such this functionality and operation is required to be added to the existing runway (01R-19L).

How will they be used for Brisbane’s new runway and taxiways? Is installation and testing complete?

The Stop Bars will be operated by Air Traffic Control and are used to control access to the runway. Much like the new runway, physical construction for the Stop Bar project is now substantially complete. Throughout 2019, more than 500 new lights were installed and connected back to the airfield lighting and equipment rooms via five kilometres of new underground conduits. The next step is to commission the system and iron out any potential issues to ensure a seamless transition to Stop Bar operation in 2020.

Can you explain the process of installation? How many people are involved, how many light fittings, how long does it take, etc?

Brisbane Airport operates 24 hours a day, every day of the year, so the challenge for the Stop Bar project has been access. To minimise any impact to operations, much of the work has been completed at night when traffic volumes are lowest, as well as during the scheduled heavy maintenance work periods.



Installation of the Stop Bar lighting

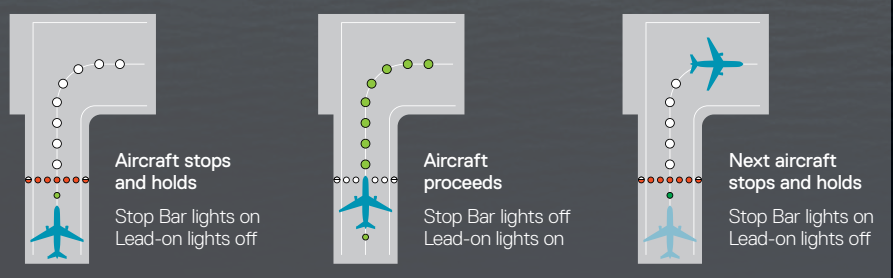
On one weekend every six months, the runway is closed from midnight to 5am. To make the most of these periods, we brought as many as 100 airfield lighting specialists in from around Australia to work these nights.

Apart from the obvious benefit of minimising the risk of runway incursions, what other benefits are there for using Stop Bars?

In addition to the safety enhancement, Stop Bars and the associated taxiway lighting upgrades contribute to Brisbane’s ability to operate during low visibility events.

The implementation of Stop Bars will allow Air Traffic Control (ATC) to manoeuvre more than one aircraft at a time minimising delays during low visibility events of less than 550m.

Stop Bar Operation





Q&A
Adam Tull
*Project Manager
ORAT*

What exactly is involved with Operational Readiness and Testing and why is it necessary?

Operational Readiness and Testing (ORAT) involves the co-ordination of many readiness tasks (or activities) that need to be undertaken in order to ensure everyone and everything is ready for the runway to open.

In one word, ORAT is about coordination. The ORAT Management Plan exists to tie everything together, outlining all of these activities and how they will be coordinated and implemented, while ensuring safety, security and regulatory compliance obligations are met.

The focus right now is to identify opportunities where readiness tasks can be completed in early 2020, leaving fewer tasks as we get closer to runway opening.

What does a 'readiness task' mean?

It means different things to different parts of the business. Planning and executing training, updating regulatory documents, updating standard operating procedures, updating software, updating maintenance procedures are all typical examples of readiness tasks.

Who else (outside of BAC) is involved with ORAT?

Airservices Australia is our partner – we cannot operate without them, so



they have been and will continue to be key at every step of the journey.

CASA is key of course, and we've been working with them to confirm their planned auditing activities as part of the commissioning process for the new runway.

What are some of the more recent ORAT accomplishments/milestones? Where are you at in terms of milestones and the overall schedule?

From the outset of ORAT planning we recognised that there were some significant operational changes to be completed between late-2019 and mid-2020 before we open the new runway.

BAC and Airservices Australia have worked hard to deliver some of these changes in the past months. The opening of the Dryandra Road airside lanes on 9 January this year was a milestone, as was the Rapid Exit Taxiway closure on the current runway that occurred in October last year. The next significant milestone is the commencement of Stop Bar operations on the existing runway. These are all stepping-stones towards the establishment of parallel runway operations later this year.

A lot of work has been done to ensure those who work airside - including Airside Operations, Facilities and Aviation Rescue and Fire Fighting (ARFF) – complete site familiarisations and the appropriate training so they can commence rostered duties within the new runway site.

In terms of a more abstract accomplishment, I think the development of relationships throughout 2019 within BAC and Airservices is an accomplishment that shouldn't be underestimated as we look at what's left to be done in 2020.

Is this the most complex project you have been involved in throughout your career?

Yes and no is the honest answer! I was fortunate to spend two years deployed overseas when I was in the Australian Army, which was complex and challenging in ways different to what I'm doing now at BAC. In terms of professional development and learning from a purely Project Management perspective, then yes, this is the most complex project I've worked on.

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Adam Tull
Project Manager ORAT