



## BRISBANE AIRPORT

Brisbane, Queensland, Australia

## Expansion and Security Upgrade Feasibility Studies

Brisbane Airport Corporation Pty Ltd | 2020

BNP Associates was retained by Brisbane Airport Corporation Pty Ltd (BAC) to study the feasibility of upgrades to ECAC Standard 3 security and capacity upgrades for the Baggage Handling Systems (BHS) at the Domestic Terminal Building (DTB) and the International Terminal Building (ITB).

The DTB is a very constrained facility with low headroom in the baggage handling areas and three separate baggage systems, resulting from legacy ownership of the BHS by the airlines. Many high-level options were considered and evaluated, including security upgrades for each of the three baggage systems separately, partial consolidation, and full consolidation. Due to the significant constraints, upgrades within the existing BHS were not practical; thus, BNP proposed a centralized Checked Baggage Screening (CBS) solution under the central pier (repurposing an unused bus gate area and another unused area). This will allow the CBS to be constructed with minimal impact to existing operations and allows consolidation of the screening resources into a four-machine (3+1) screening matrix, which otherwise would have required a minimum of two machines in each of the three areas.

This solution produces a common use system that connects the existing baggage systems to the CBS and vice versa. The common use system allows more flexibility and leveraging of the existing baggage make-up capacities to cater to growth without expanding the baggage make-up areas. A high-level phasing plan was developed during the feasibility stage since the phasing of this solution is key to the feasibility, especially in combination with the parallel development of passenger security checkpoint upgrades. A High-Level Controls system upgrade is in planning in parallel to the project, completely modernizing the BHS at the DTB.

For the ITB, no building expansion was possible to accommodate the CBS upgrade. As a result, the baggage system would need to be upgraded within the existing building footprint. The existing system has very limited screening capacity, so the concept design BNP prepared had to allow for new screening capacities to be added without a significant reduction in the existing capacities.

A new screening mezzanine would be constructed and tied into the existing sort lines. A series of tie-ins would allow for the staggered replacement of the existing capacities with the new. In addition, BNP worked in a new early bag storage system into the spaces freed by the replacement of the old machines. Through these efforts, the ITB would not only replace the existing capacities, but add capacities to address future growth, all within the existing building footprint.



ASSOCIATES, INC.

### BNP PROJECT TEAM

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### REFERENCE

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### SCOPE OF SERVICES

Feasibility Study