

# SFO Boarding Area B (BAB) Estimate of Passenger Accumulation in Concourse Area

7 June 2016

# Methodology

- Typically, Arup estimates requirements for washrooms using simulation modelling that incorporates several aspects of passenger flow such as:
  - Passenger accumulation from departures flow
  - Passenger surges from arriving flights taking into account de-boarding rates
  - Passenger behavior inside washrooms (gender specific splits between stalls, urinals, sinks and usage time for each facility)
- Given that a full simulation model has not been developed to date, an initial estimate of “instantaneous” passenger loads has been developed using the ‘High’ flight schedule for Boarding Area B (BAB).
- This static analysis is intended to give a preliminary estimate of passenger accumulation using the proposed flight schedule, to aid in the development of a program for washrooms in Boarding Area B. However, further investigation using simulation modelling is recommended to calculate passenger accumulation more accurately.
- Appropriate building codes and regulations should be used to estimate location and number of washrooms in the terminal facility.

# Methodology

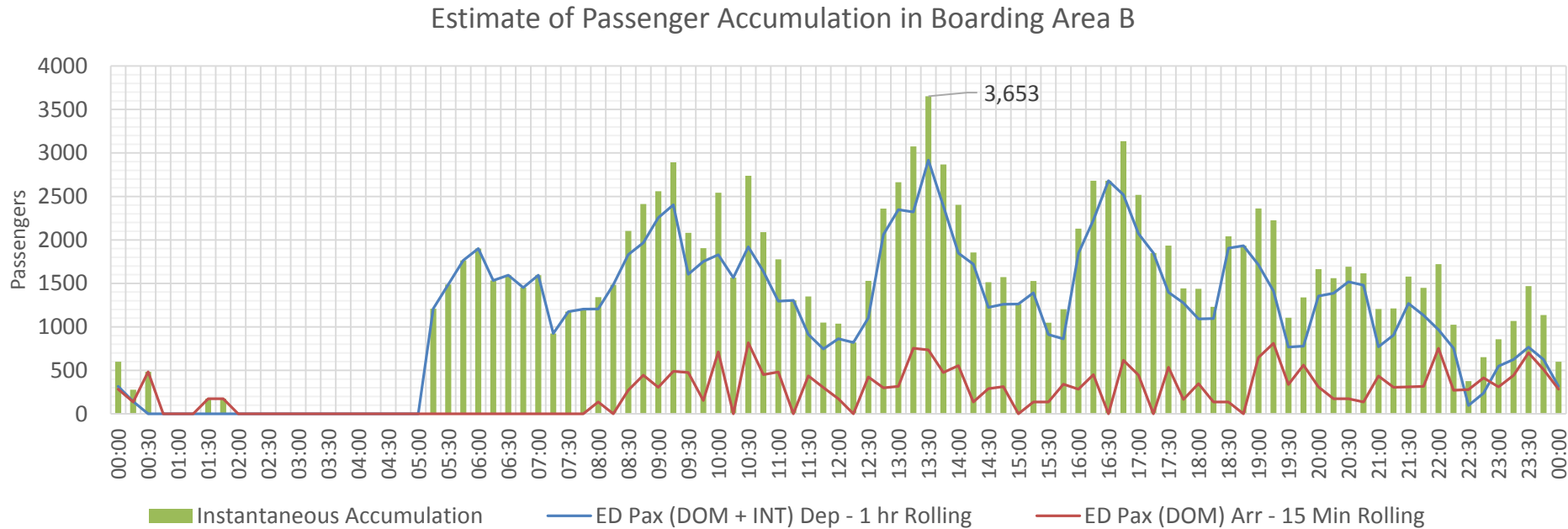
- The instantaneous passenger accumulation estimated in this analysis is based on “scheduled flight times”.
- Departures flow: the “instantaneous passenger load” represents the DOM+INT passenger peak hour scheduled to depart in the following hour. For instance, 14:00 accumulation value includes all passengers scheduled to depart between 14:00 and 14:59.
- Arrivals flow: the “instantaneous passenger load” represents the DOM 15-min passengers scheduled to arrive at least 30 minutes before current time. For instance, 14:00 accumulation value includes all DOM passengers arriving between 13:16 and 13:30.
- The sum of Departures flow (1-hour) and Arrivals flow (15-min) is an approximation for passenger accumulation in the concourse area for any given time of day.
- Note that this methodology does not take into account any variability in passenger flow due to surge in passenger demand generated by arriving flights and check-in / security processes.

# Passenger Accumulation Summary

- The maximum instantaneous accumulation is estimated to be **3,653 passengers** for the concourse area of Boarding Area B.
- Passenger accumulation in the concourse area is primarily driven by departing passengers, as arriving passengers are not expected to spend a long time in the terminal building after de-boarding.
- All international arriving passengers are assumed to use the sterile corridor and are not included in this estimate. If some international passengers are pre-cleared, the surge at arrivals concourse would further increase.
- Summary of the maximum instantaneous passenger accumulation is shown below.

BAB High Schedule	Number of Passengers	Peak Time
<b>ED Passengers</b>		
DOM + INT – Departures – 1 hour rolling	2917	13:30
DOM – Arrivals – 15 minute rolling	818	10:30
<b>Combined Instantaneous Peak Accumulation and Time</b>	<b>3653</b>	<b>13:30</b>

# Instantaneous Passenger Accumulation



ED: Enplaning / Deplaning passengers