Updating of the Airport Development Reference Manual, New 10th Edition, March 2014

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Introduction

The IATA Airport Development Reference Manual (ADRM) is the industry's most important guide for airlines, airports, government authorities, architects and engineering consultants who are either planning new or extending existing airport facilities. The ADRM's information is an invaluable consolidation of best industry practice with respect to the development of world class airports through better briefing and design. Its content represents the consolidated recommendations of world-renowned industry specialists and organizations seeking to promote the development of world class airport facilities.
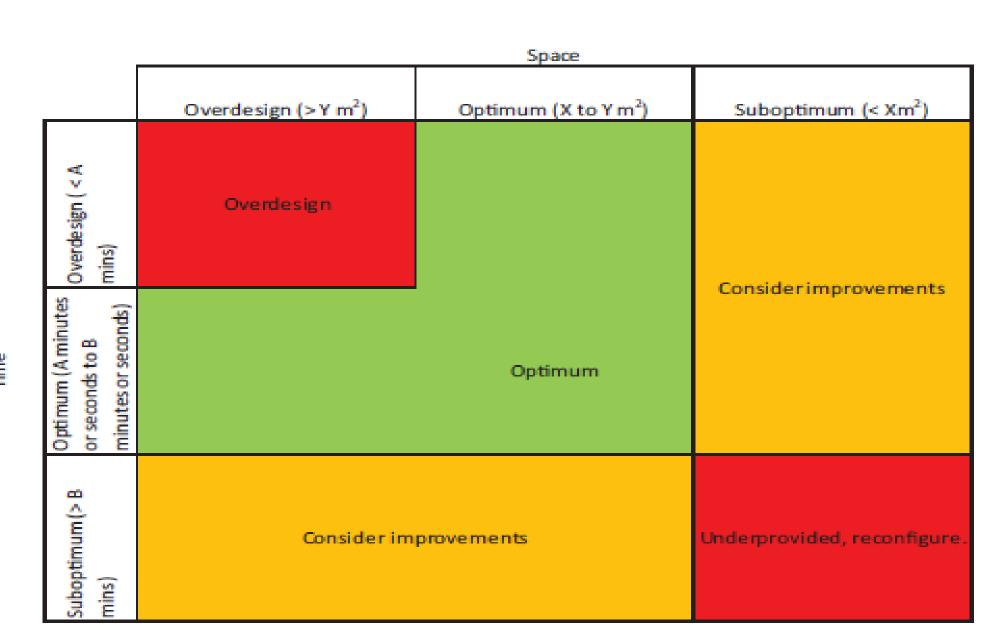
The previous 9 editions of the ADRM (9th Edition published 2004) have published in traditional bound paper format. The traditional format has some obvious constraints; most notably the difficulty of responding quickly to what is an inherently dynamic, fast-changing industry as well as the editorial need to limit the published material to manageable proportions. The latest manual adopts a completely different web-based approach which will allow both for regular updates and linkages to a vast array of material contained in other relevant articles, publications and databases prepared and monitored by recognized industry specialists, authorities and organizational partners.
In order to take full advantage of the opportunities offered by this new approach the structure of the new manual has been completed revised and reformatted though much of the material contained in earlier editions has been retained and developed as appropriate.

One of the key aspects of the new manual is the ability to offer a comprehensive overview of the many complex topics that are inevitable involved at any airport, especially large international airports. However the complexity associated with all airport developments means that the information contained within the manual must be treated with great care as frequently there are many variables from which it is possible to derive several different interpretations. IATA strongly recommends that any commissioning airline, airport or government authority selects experienced professionals to assist them; there are many instances across the world where well-meaning but inexperienced architects and consulting engineers have misunderstood or misinterpreted complex data and consequently delivered wholly inappropriate solutions. The web-based format allows the new ADRM to adopt a flexible structure that can be adjusted as and when required. The initial format is based upon the three primary themes/chapters: **(1) Forecasting, (2) Master Planning and (3) Passenger Terminal**.
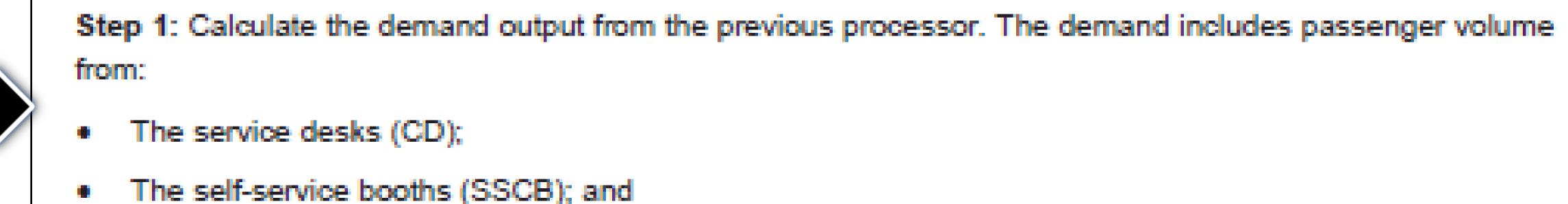
The new edition of the ADRM is being released in joint collaboration with **ACI**. Airlines and airports are very close business partners. A collaborative working relationship with ACI ensures that the ADRM meets the needs of the aviation community as a whole. Intrinsically, best practice airport planning, including the affordability of major airport developments, is beneficial for airline customers and passengers.

New LOS Framework

Facility Requirements (Analytical Approach, Capacity Equations, Sample Calculations

Self-Service Facilities – Check-in
Baggage Drop Facilities
Passport Control
Security Screening
Boarding Gates
Baggage Claim
Customs Processes
Public Halls

Step 1: Calculate the demand output from the previous processor. The demand includes passenger volume from:

- The service desks (CD);
- The self-service booths (SSCB); and
- Web/mobile processing.

$$PK_{30MIN} = (CD * 60 / PT_{CD} * 30) + (BD * 60 / PT_{BD} * 30) + (PHP * PK * (1 - (CR + BR))$$

Step 2: Calculate the approximate number of emigration control desks using the following equation:

$$PDi = (PK_{30MIN} * PT_{PD} / 60) / (30 + MQT)$$

Step 3: Adjust requirements to account for variability in passenger arrival distribution within the peak period and in processing time using the following equation:

$$PD = PDi * Cf$$

Step 4: Calculate the maximum number of passengers in queue using the following formula:

$$QMAX = Qf * Peak 30-min$$

Step 5: Calculate the area required for the departure emigration control using the following equation:

$$A = (PD * PDd * PDw) + QMAX * SP + (PD * PDw * W)$$

The area consists of the processing area, the queuing area and a circulation area after process to allow passengers to get to the next facility.

The corridor width will vary with the importance of the passenger flows. The planner may obtain the corridor width from standard calculations. A minimum width of three meters should be provided in low volume areas.
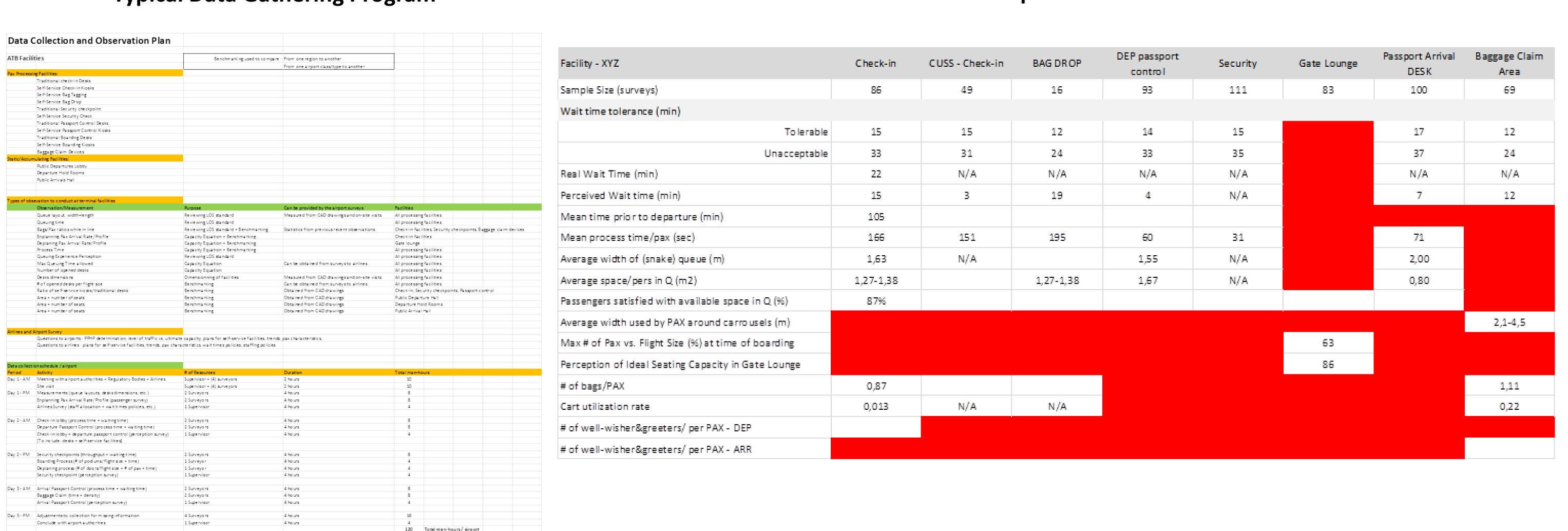
New LOS Guidelines

How to Better Manage Capacity and Passenger Expectations?

Managing capacity and passenger expectation is not an easy task for large hubs neither it is for smaller airports. This can even become a critical element in airport concession agreements where operators need to meet minimum service levels as well as for airports trying to differentiate themselves from their competitors. The best way to address this challenge is to rely on good and relevant information as well as on benchmarks.

Technical **passenger perception surveys** combined with on-site measurements and observations of queuing patterns and facility layouts is an efficient exercise to get such information.

Typical Data Gathering Program

Sample Results

Collected data can also be used for benchmarking purposes. Benchmarks are helpful if one wishes to compare regions or airport types/class with one another. Benchmarking data can include: average process times; passenger arrival rate profiles, # of desks per flight size, ratios of self-service kiosks/traditional desks, etc…

IATA, with the support of AECOM has already started a data gathering exercise to help airports better manager their capacity. A reliable set of benchmarks would need to cover a wider range of airports size and geography. Airports interested in passenger perception surveys may enquire further to Mr. Brazeau or Ms. Martel.

Targeted Sample of Airports

Geography	Airport Size		
	LARGE/HUB (>35 MAP)	MEDIUM (15 to 35 MAP)	SMALL (<15 MAP)
Europe	3	3	3
Middle East	3	3	3
Americas	3	3	3
Asia	3	3	3