

Master Planning

All airports should develop a master plan in order to guide future infrastructure and facility development programs in a logical, sustainable and cost efficient manner.

SITUATION

Many airports currently lack a master plan or vision of the future. As a consequence they run the risk that their short to medium term capacity enhancement projects are ill-judged, misconceived, inappropriately sized and poorly located, thereby restricting their ability to attain the airfield's ultimate potential.

IATA POSITION

IATA seeks to ensure that all airport capacity enhancement programs are closely tied to an airport master plan.

The master plan should be prepared by independent consultants with global experience and a proven history of delivering plans that enable all stakeholders to expand their operations and undertake profitable business.

Airlines and their representative associations should be fully involved in the creation, development and review of the master plan. Infrastructure should be designed to be as cost-efficient as possible and facilities should not be "gold plated".

The master plan should allow for unfettered incremental expansion of all facilities until the ultimate capacity of the site is attained.

No development should proceed until a master plan is in place.

PLANNING PROCESS

- Clearly define the scope of the project and the terms of reference
- Review statistical data and forecast potential demand
- Assess existing system capacities and the site's ultimate development potential
- Undertake an analysis of the different requirements
- Make strategic choices and identify primary strategic drivers, e.g. airfield configuration, location and size of airside, landside and airport support elements
- Input airport and airline priorities
- Develop different options
- Review preferred options, undertake an environmental evaluation, and determine best option(s) for further analysis
- Outline the preferred short (0 – 5 years) to medium (5 – 10 years) term development programs, with these tied to the airport's master plan
- Estimate a 10 year capital expenditure program and input to the financial model
- Project the estimated impact on the level of airport charges and review the affordability of the 10 year program.

If, following consultation with airlines, development is determined to be unaffordable then:

- Look to minimize costs and make efficiency savings
- Break large projects into smaller, more manageable phases
- Further simplify the architectural / engineering solution

RELATED AIRPORT CHARGES PRINCIPLES

ICAO key charges principles.

In setting user charges for the airport, charges principles as stated in ICAO's Policies for setting Airport and Air Navigation charges (Doc. 9082) should be adhered to:

- Non-discrimination – between different groups of users
- Consultation – engaging users before any changes in the level or structure of charges and giving proper consideration to users' views
- Transparency – providing users with transparent and appropriate financial, operational and planning data
- Cost-relatedness – setting charges based on the cost of providing services

PLANNING GUIDELINES

When developing a master plan, consultants should wherever possible cater for the following:

Airside Infrastructure

- For midfield passenger terminal development, staggered independent parallel runways with a minimum separation of 2,000¹ meters
- Capability to construct dual parallel taxiways in phases, as required to support increasing peak hour aircraft movement rates
- Shortest possible and most direct taxiway routes between rapid exit taxiways and aircraft parking positions
- Shortest possible and most direct taxiway routes between aircraft parking positions and holding / bypass positions at runway thresholds
- No single taxi-lane cul-de-sacs
- Aprons capable of accommodating multiple aircraft types in the ultimate stage
- Apron vehicular traffic reduced to a viable operational minimum at head of stand only

Landside Infrastructure

- All airlines, and at large airports all alliance partners, collocated under one roof

¹ Other configurations are possible – see ICAO Doc. 9184. The land available for airside, landside and support infrastructure should support the capacity potential of the runway(s).

- Support for emerging technologies that enhance and streamline the customer experience, e.g. self service check-in and bag drop, self boarding, etc.
- Low cost linear terminals, piers and satellites available to all airlines and capable of incremental expansion
- Single below apron level people mover system with minimum possible number of transfer nodes if necessary

Support Facilities

- Primary facilities, such as aircraft maintenance and cargo terminals located on site in positions that do not restrict incremental expansion of piers, satellites and aprons
- Fuel farms, fed from two independent sources, located away from the primary operational area
- Centralized de-icing pads adjacent to primary departure runway thresholds
- Prioritizing the provision of airport supplied services such as FEGP, PCA, SEGS for both operational and environmental reasons

Surface Access Systems

- Capability to accommodate multi-modal transport interchanges
- High-speed, regional and local rail through the site and directly under the main terminal building

Land Use Planning

Land beyond the current airport boundary should be zoned and safeguarded to ensure:

- Airspace around aerodromes is maintained free from obstacles
- Noise sensitive developments are not permitted to encroach on key operational areas
- Ultimate development potential can be realised

RELATED ICAO DOCUMENTATION

Doc. 9184, Airport Planning Manual – Part 1 Master Planning

Annex 14, Vol. 1, Aerodrome Design and Operations

