Dynamic strategic planning

Dynamic strategic planning is the approach recommended for future airport development. It is traditional master planning adapted to the realities of the airport and aviation industry of the twenty-first century. It recognizes future uncertainties and leads to a flexible development strategy that positions airports to minimize risks and take advantage of opportunities.

Airport planning continues to be primarily a local concern, done airport by airport. As governments privatize airports, national and regional planning of airports has become rare. Increasingly, however, companies operating many airports in different countries are developing corporate strategies for their collection of physical and operational assets.

The forecast is “always wrong.” Modern planners and managers must face this reality in the era of deregulation and competition. Airlines form alliances, merge, and change their routes and services; passengers and shippers reorient their patterns. These variations make forecasts of levels and types of traffic unreliable. Airport professionals must assume that the future reality will easily be different from what seems most likely at present.

Responsible airport planning anticipates the range of possible futures. It then positions the airport to obtain the best performance in the future. It should verify that proposed developments will be able to respond dynamically to these possibilities. It will build in appropriate flexibility throughout the systems to facilitate transitions to new situations. Overall, it will develop a strategy for dealing with future uncertainties.

*Dynamic strategic planning augments traditional master planning.* It leads planners to consider several possible futures and scenarios of operation, not merely a single forecast. It uses decision and real
option analysis to determine the appropriate level of flexibility to incorporate into development plans. It defines organizational relationships that will allow management to develop the right facilities according to future requirements as these emerge. Most important, it provides managers with the support they need to program the implementation of overall strategic direction.

3-1 Forms of planning

The concept of planning needs explanation. It means different things in different contexts, to planning professionals and to airport planners in particular. Specific words and phrases, such as “plan,” “master planning,” and “strategic planning,” have acquired meanings that are not obvious. Persons who have not been intimately involved in these practices or are not aware of local differences may easily get confused. It is therefore useful to identify what the several words for planning can mean in the context of airport systems.

Plans

Professionals from different contexts do not share a common understanding about what the basic concept of planning implies. In a general way, all agree that planning involves the preparation of a response to some possible future events, and that a plan is some conceptual roadmap of what could be done. They disagree, however, between two contrasting perspectives. Is a plan:

- A directive blueprint from top authorities that specifies what is to happen? Or
- A collection of possible local suggestions of what airports might like to do, all of which are debatable or negotiable?

In many contexts, planning is a top-down, directive activity. Elite groups, typically high government officials, prepare plans for important sectors or even the whole economy. They then transmit these plans to powerful subordinates for execution. They allocate resources according to these plans to make sure that they are executed. This approach arguably has some merit, as Chap. 2 discusses. It has been and continues to be the tradition in important capitalist countries, such as France and Japan (see Cohen, 1969; Johnson, 1984).* In those two

*France has a centuries-old tradition of control by central government, as Chap. 2 describes. After World War II, France established the Commissariat Général du Plan, an organization that prepared 5-year plans for the economic development of the nation. These exercises
countries and others, the practice has largely been successful in its own terms. In the former Soviet countries, however, directive planning failed miserably and has been discredited. Airport planning in Japan, for example, is directive (de Neufville, 1991). The responsible Japanese national ministry has systematically identified and developed a sequence of major national projects, such as the island airports of Hiroshima, Osaka/Kansai, and Nagoya/Chubu, and of regional airports for each prefecture.*

In the United States and some other countries, planning is a bottom-up, visionary activity. Local authorities prepare their own plans and transmit their efforts, to the extent they want to, to some central office that collates them for presentation. This practice is common in countries that have strong regional governments, such as the provinces in Canada, the Länder in Germany, and the states and cities of the United States. In the United States, for example, every 2 years the Federal Aviation Administration (FAA) has prepared a National Plan of Integrated Airport Systems (NPIAS) that explicitly is an uncoordinated collection of local wishes:

Because the NPIAS is an aggregation of airport capital projects identified through the local planning process, rather than a spending plan, no attempt is made to prioritize the projects that comprise the database or to evaluate whether the benefits of specific development projects would exceed the costs. [Italics added] (Secretary of Transportation, 1999, p. vi)

Local airports prepare their lists of possible projects according to what they see as best for them, without consulting other airports and often in direct competition with them.† These “plans” are in no sense guides as to what will happen, and certainly do not dictate any specific allocation of money. These wishful local plans are totally different from directive national plans. Readers should keep this difference in mind whenever they read or listen to international colleagues.

are no longer consequential, now that the French government is privatizing many industries that were previously nationally owned, such as banks, telephones, railroads, and so on. However, the tradition of central direction and execution continues.

*As of 2001, the relevant ministries were merged into a new Ministry of Land, Infrastructure and Transportation. The basic planning process did not change, however.
†In the United States, local authorities receiving airport grants from the federal government have been expected to follow some general procedures in preparing state and metropolitan aviation systems (FAA, 1970, 1989). These guidelines do not transform the plans into directives, however.
Master plans

Master plans have a very specific meaning in the context of airport planning. As stated by the International Civil Aviation Organization (ICAO):

An airport master plan presents the planner’s conception of the _ultimate development of a specific airport._ [Italics added] (ICAO, 1987, pp. 1–2)

This definition is widely accepted internationally. Representatives of the states that belong to the United Nations, of which ICAO is a constituent part, developed and agreed to it.

A master plan focuses on an architectural/engineering development at a single airport. Note that the definition of the master plan involves three essential notions. It refers to:

- Ultimate vision, that is, a current view of the possible future a long time in the future, for example 20 years
- Development, that is, the buildings, runways, and other physical facilities—not operational concepts or management issues
- Specific airports, not a regional or national aviation system

The master plan is thus tightly constricted compared to national plans that governments have prepared and implemented in Australia, Canada, France, Japan, Mexico, and elsewhere.

Traditional practice develops airport master plans in a strict linear process. The ICAO, the International Air Transport Association (IATA, an airline group), and the U.S. Federal Aviation Administration provide the most commonly used guidelines (FAA, 1985; ICAO, 1987; IATA, 1995). These are fundamentally the same, although they differ in detail. The key elements of this process are, as paraphrased from the ICAO:

- Inventory existing conditions
- Forecast future traffic
- Determine facility requirements
- Develop several master plan alternatives for comparative analysis
- Select the most acceptable and appropriate master plan

The master planning process is inherently _reactive_. It represents one prospective response to one specific expectation about what may happen due to forces external to the airport development. As the
list indicates, the procedure assumes that the forecast is unalterable, like the weather. The master plan prepares ways to deal with this future. The master planning process does not envisage that airport operators can alter or shape the forecast. This perspective is fundamentally different from an entrepreneurial approach, which might desire to shape the future by the definition of the product.

Proactive planning is the alternative to the conventional master planning process. Although this has not been standard practice in airport planning, it is standard in business and totally possible in airport planning. The TBI airport company demonstrated how this could be done in its development of Orlando/Sanford. Until around 1998, this airport had virtually no traffic and operated in the shadow of Orlando/International, a magnificent first-class facility. A normal forecast would not have projected any significant traffic for the secondary airport in the near future. However, the private owners positioned Orlando/Sanford as an inexpensive base of operations, built appropriate facilities, and teamed up with holiday tours and charter carriers. By 2000, the airport operator had built up the traffic to about 1.2 million passengers, of whom nearly a million were international. Their planning and development shaped the future, rather than responded to it. As private airport companies become more significant in the industry, proactive planning is likely to replace conventional master planning where possible.

The master plan is also inflexible. Its creators focus on a single forecast. They do not consider alternative futures. They therefore have no motivation to include the possibility of alternative sequences or types of development. However, the future usually turns out to be different from what was originally anticipated, as Sec. 3-3 indicates. Consequently, the master plan soon becomes obsolete—airport operators frequently have to junk the ultimate, 20-year vision of the master plan after 3 to 5 years. Sometimes the master plan is “dead on arrival” due to its inflexibility. In the mid-1990s, for example, the board of directors of one of the top airports in the United States voted to “accept” a master plan that had been 5 years in the making. Then, as the next item of business, this same board voted a contract for a new planning process, since they already knew the approved master plan was out of date!

Airport operators will continue for some time to have to prepare master plans, however, despite the deficiencies of these documents. This is because the national and international funding agencies expect to see these kinds of plans. The U.S. FAA, for example, pays for
planning processes and results labeled as master plans. In the United States, the general rule is that airports can only get funds from the federal government for projects that are in the National Plan (the NPIAS). Furthermore, projects only get into the NPIAS if they are included in an approved master plan.

The challenge for airport planners is to improve the master planning process, so that it can be both proactive and flexible. In principle, this is not difficult, since it is easy to modify the process from a technical point of view. In practice, old habits die hard, and it may take time for standard processes to evolve. Meanwhile, forward-thinking airport operators should be able to implement better planning procedures. This chapter indicates what these might be.

**Strategic plans**

This phrase refers to two quite different kinds of activities. In the general field of management, *strategic planning* refers to a disciplined process for analyzing the current situation of a business activity, and identifying the vision of how that entity should position itself with respect to its customers and competitors. This approach comes in several flavors (see, for example, Porter 1980, 1985; and Hax and Majluf, 1996).

The SWOT analysis is a popular generic version of strategic planning. It refers to a process whereby the manager systematically reviews the:

- **Strengths** of the business group, both internally and with respect to its competition
- **Weaknesses**, again internally and with respect to the competitors
- **Opportunities** for the group, in terms of new markets, mergers, technologies, etc.
- **Threats** to the group, in terms of the same kinds of events

A SWOT analysis or other form of strategic planning is supposed to guide the managers to an understanding of how they should develop their activity, both physically and organizationally, so that they can shape and benefit from future developments. Physically, they might build new facilities. Organizationally, they might develop relationships with clients, develop a favorable schedule of prices, and change their mix of products. In general, strategic planning in the business sense is a form of proactive, flexible planning.

In airport planning, some professionals have given the phrase “strategic planning” a somewhat different meaning. Caves and Gosling (1999) thus emphasize a “broad multidimensional view of the future.” They
emphasize the need to define “the role that each airport should play within a group of related airports” and focus on a substantive “understanding of the behavior of the system which is to be developed or improved,” as covered in Chap. 5. This view contrasts with the emphasis on procedure and method favored by the managerial view of strategic planning.

In this context, readers should understand that strategic planning as practiced in business has fallen out of favor (see, for example, the discussions by Mintzberg, 1994; Hax, 1997.) In large part, this is because corporate strategic planning in practice evolved into large, expensive, and burdensome processes. In many ways, these efforts were like master planning in that they tried to predict various future states and design corporate responses to these predictions. As the forecasts so often turned out to be wrong, the resulting strategic plans became obsolete, just as the airport master plans do. In any case, these strategic planning efforts did not, or at least did not seem to contribute to improved performance. According to a leading proponent of strategic planning, “The criticism of strategic planning was well deserved. Strategic planning in most companies has not contributed to strategic thinking” (Porter, 1987).

Airport operators need to think strategically. They need to be able to examine the range of future possibilities, position their organizations to respond flexibly to the events that occur, and in fact respond actively when necessary. Metaphorically, they need to think strategically, the way chess players do. Airport operators need to think ahead many moves, establish a position that enables them to respond to threats and opportunities from any direction, and shape the development of their airport properties move by move, year by year, according to actual events as they unfold. Sections 3-5 and 3-6 show how this can be done, using dynamic strategic planning.

3-2 Airport systems planning

This section considers the planning of airport systems. It looks first at the notion of airport systems. It then addresses the operational questions: Who plans the development of airport systems? Who will be planning them in the future?

Airport systems

Airports are integrated into airport systems. Each airport does not operate independently; it is a part of one or more networks connecting
other airports. These networks and systems can be defined either geographically or operationally.

Geographically, for example, one can think of:

- **Regional networks** linking smaller airports with a regional center or national center, as commuter aircraft feed traffic from all over the Southeast United States into Atlanta, or Argentine airports connect with Buenos Aires.

- **Metropolitan multi-airport systems** serving a single metropolitan area, as Paris/Le Gouelle and Paris/Orly do (Chap. 5 discusses multi-airport systems in detail).

- **National networks** linking the major cities of a country, as major airlines do for large countries such as the United States, Germany, and Japan.

- **International and intercontinental networks**, connecting countries with each other.

Alternatively, one can think of networks and airport systems defined functionally, by the type of traffic or the carrier:

- **Integrated cargo networks**, such as those constituted by major cargo integrators such as UPS or FedEx, which give traffic and meaning to airports such as Louisville, Kentucky, and Ontario, California, which otherwise would have little to do with each other.

- **“Cheap fare” networks**, served by no-frills airlines such as Southwest in the United States, or Ryanair in Europe, which serve secondary airports such as Boston/Providence and Miami/Fort Lauderdale, or Oslo/Tore and London/Stansted.

In general, an airport is part of several systems of airports simultaneously. Memphis, Tennessee, for example, has been both the major hub for the FedEx system of airports and part of the feeder system for Northwest Airlines. London/Stansted is part of both a “cheap fare” system of airports and the London multi-airport system. As a rule, airport systems cannot be divided into self-contained subsystems or modules, as a car can be divided into the chassis, the engine block, and the drive train. Airport systems overlap. In practice, they do not have a precise definition in terms of the aviation and air transport network.

While national governments do classify airports in a variety of ways, these categories do not necessarily define the systems meaningfully.
For example, in the United States the FAA has organized airports by
the relative number of passengers and referred to the largest as major
hubs. These definitions, based on current size of a particular type of
traffic, have little, if any, consequences for planning and develop-
ment. In Japan, the governmental distinguishes between “inter-
national” airports and others, and this label has had great financial
significance. Designated international airports have received far
greater support from the central government than the others have.
However, numerous Japanese airports that are not officially “inter-
national,” such as Sendai, do in fact cater to international passengers
and cargo. Here again, the governmental label does not identify the
functional systems.

The essential point to be retained from this discussion is that govern-
mental jurisdictions do not define airport systems. A single jurisdiction
may include two or more reasonably distinct and competitive systems.
Thus Germany and the State of California include systems centered,
respectively, on Frankfurt, Munich, and Berlin, and on Los Angeles
and San Francisco. Conversely, a single system may overlap several
jurisdictions. For example, the metropolitan multi-airport system around
Boston includes airports in three states (Boston, Massachusetts; Provi-
dence, Rhode Island; and Manchester, New Hampshire). Similarly, the
feeder system for Amsterdam airport in the Netherlands extends over
a large part of Britain.

The consequence of this observation is that governments rarely can
plan airport systems effectively. If the government encompasses sev-
eral airport systems, it will find it politically difficult to choose among
the competitive possibilities, to pick “winners” among the competi-
tive systems. Thus, both the California Aviation System Plan and the
U.S. National Plan of Integrated Airport Systems (NPIAS) are nonse-
lective assemblies of proposed developments of individual airports.
These documents aggregate projects from the “bottom up,” as indi-
cated in the previous section. If, on the other hand, the government
controls only part of the airport system, it evidently cannot have a
forceful impact on it.

Planning airport systems

In the second half of the twentieth century, various governmental
powers had a substantial effect on national and metropolitan air-
port systems. Many governments were able in particular to develop
regional airports. Typically, the national ministry in charge of trans-