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Airport Economics Manual

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AMENDMENTS

The issue of amendments is announced regularly in the *ICAO Journal* and in the supplements to the *Catalogue of ICAO Publications and Audio-visual Training Aids*, which holders of this publication should consult. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

AMENDMENTS		
No.	Date	Entered by

CORRIGENDA		
No.	Date	Entered by

FOREWORD

ORIGIN AND OBJECTIVE

1. In June 1986, the ICAO Air Transport Committee decided that a manual on airport economics should be developed; consequently, the first edition of the *Airport Economics Manual* (Doc 9562) was released in 1991. In view of developments that have taken place since 1991, which were emphasized during the Conference on the Economics of Airports and Air Navigation Services (ANSConf 2000), the Air Transport Committee decided, in April 2001, that the *Airport Economics Manual* should be updated and revised.

2. The objective of this manual is to provide practical guidance to States, airport managing and operating entities, and designated charging authorities, to assist in the efficient management of airports and in implementing *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082).

SCOPE

3. This guidance takes into account the wide range of different circumstances faced by airport management in the regions of the world. It is based on international policies and principles on airport cost-recovery States developed through ICAO and describes procedures and practices that are in conformity with these policies and principles. The basis for these policies and principles is set out in Article 15 of the *Convention on International Civil Aviation*, the charter of ICAO. Extensive policy guidance in this area was subsequently developed by the ICAO Council and is contained in Doc 9082.

4. The guidance material in this manual is presented in seven chapters and six associated appendices, including a glossary and an index of terms as used in this manual. Chapter 1 addresses ICAO policy on airport charges; Chapter 2 focuses on organizational structures of airports; Chapter 3 deals with airport financial management and means of measuring performance and productivity; Chapter 4 provides guidance on determining the cost basis for airport charges, as well as the costs attributable to concessions and other non-aeronautical activities; Chapter 5 deals with charges on air traffic and their collection, including guidance on the setting of individual charges, the collection of charges and consultation with users; Chapter 6 addresses the development and management of non-aeronautical activities; and Chapter 7 provides guidance on financing airport infrastructure.

5. Special care has been taken, throughout this manual, to ensure consistency and harmonization with the companion document — *Manual on Air Navigation Services Economics* (Doc 9161).

SOURCES

6. This edition of the manual was developed with the assistance of a panel of experts on airport economics and management — the Airport Economics Panel. The principal sources were the first edition of the manual, Doc 9082 referred to above, the *Report of the Conference on the Economics of Airports and Air Navigation Services* (Doc 9764) and the *Manual on Air Navigation Services Economics* (Doc 9161). Additional ICAO source documents included Annexes to the *Convention on International Civil Aviation*,

manuals, reports, circulars and studies. In addition, valuable input was provided from States and international organizations directly or through the ICAO programme of regional workshops on Airport and Route Facility Management (WARFM), and from individual consultations by the Secretariat.

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CHAPTER 1

ICAO Policy on Airport Charges

This chapter focuses on ICAO's policies on airport charges and provides the framework for the guidance material contained in this manual.

Part A addresses the basic policy principles expressed in Article 15 of the *Convention on International Civil Aviation* (Doc 7300).

Part B focuses on the additional policy guidance provided in *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082); it explains how the policy was developed and highlights some principles that States have found of particular interest.

Part C presents the third element in the policy-making process related to airport charges — Assembly Resolutions.

Finally, Part D summarizes ICAO's current policies with regard to the use of charges for environmental protection in the areas of aircraft noise and aircraft engine emissions.

A — ARTICLE 15 OF THE *CONVENTION ON INTERNATIONAL CIVIL AVIATION* (DOC 7300)

1.1 The basic policy established by ICAO in the area of airport and air navigation services charges is expressed in Article 15 of the *Convention on International Civil Aviation*, usually referred to as the Chicago Convention, as follows:

Airport and similar charges

Every airport in a contracting State which is open to public use by its national aircraft shall likewise, subject to the provisions of Article 68, be open under uniform conditions to the aircraft of all the other contracting States. The like uniform conditions shall apply to the use, by aircraft of every contracting State, of all air navigation facilities, including radio and meteorological services, which may be provided for public use for the safety and expedition of air navigation.

Any charges that may be imposed or permitted to be imposed by a contracting State for the use of such airports and air navigation facilities by the aircraft of any other contracting State shall not be higher,

a) As to aircraft not engaged in scheduled international air services, than those that would be paid by its national aircraft of the same class engaged in similar operations, and

b) As to aircraft engaged in scheduled international air services, than those that would be paid by its national aircraft engaged in similar international air services.

All such charges shall be published and communicated to the International Civil Aviation Organization, provided that, upon representation by an interested contracting State, the charges imposed for the use of airports and other facilities shall be subject to review by the Council, which shall report and make recommendations thereon for the consideration of the State or States concerned. No fees, dues or other charges shall be imposed by any contracting State in respect solely of the right of transit over or entry into or exit from its territory of any aircraft of a contracting State or persons or property thereon.

1.2 In summary, Article 15 sets out the following three basic principles:

— uniform conditions shall apply to the use of airports and air navigation services in a Contracting State by aircraft of all other Contracting States;

— the charges imposed by a Contracting State for the use of such airports or air navigation services shall not be higher for aircraft of other Contracting States than those paid by its national aircraft engaged in similar international operations; and

— no charge shall be imposed by any Contracting State solely for the right of transit over or entry into or exit from its territory of any aircraft of a Contracting State or persons or property thereon.

While the first two of these principles do not appear to have given rise to misunderstandings, the third has, in some instances, been interpreted to mean that no charges are to be levied when an aircraft flies into, out of or over a State. That, however, is not the intent of this principle since all States are fully within their rights to recover the costs of the services they provide to aircraft operators through charges. The substance of this principle is in fact that a State should not charge solely for granting an authorization for a flight into, out of or over its territory.

1.3 Two other aspects are also addressed in Article 15. The first is that States are obliged to publish their airport and air navigation services charges, and also communicate them to ICAO. This information is collected and published by ICAO in the *Tariffs for Airports and Air Navigation Services* (Doc 7100).

1.4 Article 15 also provides for ICAO, upon representation by an interested Contracting State, to review charges imposed and make recommendations thereon to the State or States concerned. It should be observed that the Article specifically refers to representation by an interested Contracting State, not by an aircraft operator.

1.5 As to the status of the principles in Article 15 and, for that matter, all the Articles of the Chicago Convention, an ICAO Contracting State cannot exempt itself from applying any of the principles expressed therein since by signing the Chicago Convention the signatory State binds itself to adhere to all its Articles without exception.

B — ICAO'S POLICIES ON CHARGES FOR AIRPORTS

1.6 Additional and more detailed policy guidance is provided in *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082). These are revised periodically by the Council following

major international conferences on airport and air navigation services economics, although most of the basic philosophy and principles have remained unchanged over the years. In the introduction to Doc 9082 some issues are addressed which are common to airports and air navigation services: scope and proliferation of charges, organizational and managerial issues and other factors affecting the economic situation of airports and air navigation services. The section concerning airport charges is, together with the introduction, the focus for the description in this part.[1]

1.7 ICAO's Policies on Charges (Doc 9082) differ in status from the Chicago Convention in that an ICAO Contracting State is not legally bound to adhere thereto, unlike the Articles of the Chicago Convention. However, since the principles in Doc 9082 are based on recommendations by major international conferences, States are morally committed to follow them and to ensure that their cost recovery practices conform thereto.

1.8 In the introduction to Doc 9082, Seventh Edition (hereafter referred to as Doc 9082/7), paragraphs 8 and 9, concern is expressed over the proliferation of charges on air traffic and it is recommended that States:

i) permit the imposition of charges only for services and functions which are provided for, directly related to, or ultimately beneficial for, civil aviation operations; and

ii) refrain from imposing charges which discriminate against international civil aviation in relation to other modes of international transport.

It is also recommended that, where it is in the best interests of providers and users, States consider establishing autonomous entities to operate their airports and air navigation services since the experience worldwide indicates that where airports and air navigation services have been operated by autonomous entities, their overall financial situation and managerial efficiency have generally tended to improve (Doc 9082/7, paragraphs 10 and 11). However, the Council notes that with the rapidly growing autonomy in the provision and operation of airports and air navigation services, many States may wish to establish an independent mechanism for the economic regulation of airport operators and air navigation service providers in order to oversee their economic, commercial and financial practices (Doc 9082/7, paragraph 15). Furthermore, the application of principles of best commercial practices for airports and air navigation services in order to promote transparency, efficiency and cost effectiveness in the provision of an appropriate quality of services and facilities (Doc 9082/7, paragraph 17) has been endorsed.

1.9 An important consideration of Doc 9082 is that there should be a balance between the respective interests of airports and providers of air navigation services on one hand and of air carriers on the other, particularly in view of the importance of an air transport system to States and its influence in fostering economic, cultural and social interchanges between States. This especially applies during periods of economic difficulty; therefore, it is recommended that States encourage increased cooperation between airports and providers of air navigation services and air carriers to ensure that economic difficulties facing them all are shared in a reasonable manner (Doc 9082/7, paragraph 20).

1.10 The principles contained in Section II of Doc 9082 cover such subjects as the cost basis for airport charges; airport charging systems; pre-funding of projects; currency issues; landing charges; parking and hangar charges; passenger service charges; security charges; noise-related charges; consultation with users; development of revenues from concessions, rental of premises and "free zones"; and fuel concession fees.

1. The highlighting of certain principles in Doc 9082 should not be interpreted as if these principles would be more important than other principles in Doc 9082.

1.11 Among the basic principles included in Doc 9082 concerning the cost basis for airport charges are:

— that where an airport is provided for international use, the users ultimately bear their full and fair share of the cost of providing the airport (Doc 9082/7, paragraph 21);

— that the cost to be shared be the full cost of providing the airport and its essential ancillary services, including appropriate amounts for cost of capital and depreciation of assets, as well as the cost of maintenance and operation and management and administration expenses, but allowing for all aeronautical revenues plus contributions from non-aeronautical revenues accruing from the operation of the airport to its operators (Doc 9082/7, paragraph 22 i)).

ICAO's Policies on Charges (Doc 9082) also actively encourage the full development of revenues from non-aeronautical activities in general (Doc 9082/7, paragraph 34), which is the subject of Chapter 6 — Development and Management of Non-aeronautical Activities, of this manual.

1.12 Other principles and recommendations of particular relevance in the context of the cost basis for airport charges and charging systems are:

— that airports should maintain accounts that provide a satisfactory basis for determining and allocating the costs to be recovered, and should provide adequate financial information to the users (Doc 9082/7, paragraph 21);

— that the proportion of costs allocable to the various categories of airport users should be determined on an equitable basis, so that no users shall be burdened with costs not properly allocable to them according to sound accounting principles (Doc 9082/7, paragraph 22 v));

— that airports may produce sufficient revenues to exceed all direct and indirect operating costs and so provide for a reasonable return on assets at a sufficient level to secure financing on favourable terms in capital markets for the purpose of investing in new or expanded airport infrastructure and, where relevant, to remunerate adequately holders of airport equity (Doc 9082/7, paragraph 22 vii)); and

— that charges should not be imposed in such a way as to discourage the use of facilities and services necessary for safety (Doc 9082/7, paragraph 23 ii)).

1.13 Also of interest is that, after having allowed for possible contributions from non-aeronautical revenues, pre-funding of projects through airport charges may be accepted in specific circumstances where this is the most appropriate means of financing long-term, large-scale investment, provided that strict safeguards are in place (Doc 9082/7, paragraph 24).

1.14 According to ICAO's Policies on Charges concerning security charges (Doc 9082/7, paragraph 29), any charges or transfers of security costs should be directly related to the costs of providing the security services concerned and should be designed to recover no more than the relevant costs involved (Doc 9082/7, paragraph 29 iii)).

1.15 ICAO's Policies on Charges (Doc 9082) accentuate the importance of consultations with airport users before changes in charging systems or levels of charges are introduced. The purpose of consultations is to ensure that the airport gives sufficient information to users relating to the proposed change and gives proper consideration to the views of users and the effect the charges will have on them. Users or their representative organizations should also be consulted before the finalization of plans for new

airports or major developments at existing airports. Equally, users, particularly air carriers, should provide advance planning data to the extent possible on a 5- to 10-year forecast basis. In this context, and with regard to charges in particular, the need for a neutral party at the local level to pre-empt and resolve disputes before they enter the international arena (a "first resort" mechanism) is recognized (Doc 9082/7, paragraphs 31 to 33).

C — ASSEMBLY RESOLUTIONS

1.16 ICAO's policies in the air transport field are expressed in consolidated Assembly Resolutions which are updated at each ordinary session of the Assembly. These Resolutions address policy matters in all sectors of the Air Transport Programme, through dedicated appendices. The latest Assembly Resolution in force is A35-18 — *Consolidated statement of continuing ICAO policies in the air transport field*, where Appendix F relates to airports and air navigation services. This Appendix urges Contracting States to ensure that Article 15 of the Convention is fully respected, regardless of the organizational structure under which airports and air navigation services are operated, and reminds States that they alone remain responsible for the commitments they have assumed under Article 28 of the Chicago Convention.

1.17 ICAO's policy related to environmental levies is expressed in Assembly Resolution A35-5 — *Consolidated statement of continuing ICAO policies and practices related to environmental protection*, where Appendix I relates to the use of *Market-based measures regarding aircraft engine emissions*.

D — ICAO'S POLICIES ON ENVIRONMENTAL CHARGES

1.18 The use of charges for the purpose of environmental protection may be applied in two areas: aircraft noise and aircraft engine emissions. With respect to aircraft noise, ICAO's existing policy on noise-related charges is contained in Doc 9082, paragraph 30. The current policy concerning aircraft engine emissions is expressed in Assembly Resolution A35-5, Appendix I (also referred to in paragraph 1.17). This policy is of an interim nature while the Committee on Aviation Environmental Protection (CAEP) completes its review of options regarding the use of market-based measures[2] to limit or reduce aircraft engine emissions.

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2. Market-based measures that are studied by CAEP are voluntary measures, a mechanism under which industry and governments agree to a target and/or a set of actions to reduce emissions, emission-related levies, and emissions trading, a system whereby the total amount of emissions would be capped and allowances in the form of permits to emit could be bought and sold to meet emission reduction objectives.

CHAPTER 2

Organizational Structures of Airports

This chapter addresses various aspects of the organizational structures of airports.

Part A presents the forms of organization that can be used at the national level, be it under government ownership and control, or with private participation or involvement. This part also addresses the issue of airport networks and the steps and precautions that States should take in the transition towards a commercialized or privatized regime.

Part B addresses the mechanism for economic oversight that States may wish to establish for overseeing the practices of airport operators.

Part C identifies, from an organizational viewpoint, the major areas of airport activity and describes responsibilities normally assigned to each area.

A — ORGANIZATIONAL FORMS AT THE NATIONAL LEVEL

2.1 This part focuses on various organizational formats under which airports operate. Considering the diverse circumstances involved, it is not the intent to recommend one organizational format over another but rather to provide guidance to States by describing relevant aspects of each format. The decisions made by individual States as to the organizational format under which their airports should operate will depend on the situation in the State concerned and will often be strongly influenced by government policy. Constitutional and administrative arrangements as well as the experience of other States may also affect decisions on organizational format. Recent trends in airport ownership and control have shown that the various organizational formats used by States can be regrouped into two main types. The first type falls under government or public ownership and control, which is still the predominant form of organization, and the second type is where private interests are involved, a format which is assuming an increasing importance.

I — GOVERNMENT OWNERSHIP AND CONTROL IN AIRPORT MANAGEMENT AND OPERATION

2.2 Government or public ownership may take the form of direct control and management, for example through a civil aviation administration, or through another ministerial department, or through regional or municipal levels of governments. Government control can also be exerted through bodies benefiting from a certain degree of autonomy, such as a government body with financial and operational autonomy, an autonomous corporation established under the provisions of a special statute (a statutory body), or a company established under company law. Under this type of management, airports remain under

the overall ownership and control of the government and the organizations operating them are expected to act with public interest in mind rather than primarily governed by profit considerations, although this should not preclude the setting of clear objectives and adoption of best commercial practices. This option may provide flexibility to States in ensuring that the development of airports will suit their national political, social and economic requirements. Finally, it has to be noted that in some cases the government may keep the ownership of airports (land and/or facilities), while the operation (i.e. the control) is vested to other interests.

Airports within a government department

2.3 While a growing number of international airports are being operated under the format of an autonomous airport entity, many airports are still operated by government entities.

2.4 Where the operation of one or more airports represents only one of many functions performed by an administration, consideration needs to be given to a number of organizational and managerial features that promote efficient airport operations. Perhaps most important among these is to organize each airport or group of airports as a separate entity or department within the administration, with the department head reporting directly to the director of the administration.

2.5 It would also be necessary to clearly describe the decision-making authority vested in the head of an airport department. Such authority should normally extend to decisions pertaining to the daily operations of the airport, including personnel management and the authority to make purchases of supplies and arrange for any services required for that purpose. The department head should also be given the authority to negotiate agreements concerning all but major concessions and rentals, the final decisions relating to which would normally be made at higher levels. Decisions involving, for example, major purchases or investments in facilities and equipment, and approval of charges on air traffic would normally also be made at a higher level within the administration (or even outside it), but this should be done in consultation with the head of the airport department concerned. A more general comment with regard to responsibility and authority is that if the head of an airport department is made responsible for the revenue development and costs and efficiency of the airport, that person should also have considerable authority in decisions affecting airport operations.

2.6 It is necessary to establish a separate set of accounts for each airport, since costs and revenues pertaining to airport operations cannot otherwise be identified. It should, however, be noted that the administration's accounts might not be kept in a format that is responsive to the requirements of airport management. Should that be the case, the airport department could supplement the administration accounting format by establishing its own internal accounting system that would meet these requirements. The format of airport accounts and their possible itemization is addressed in Chapter 3.

Autonomous airport entities

Definition and development of autonomous airport entities

2.7 An autonomous airport entity is essentially an independent body established for the purpose of operating and managing one or more airports, one objective of which is to permit local and user needs to be better met. In some instances, the scope of such autonomous airport entities has extended to the operation and management of air navigation services as well, although autonomous entities have also been established exclusively to operate and manage air navigation services, particularly with regard to the en-route (and approach) phase(s) of flights.

2.8 The number of autonomous airport entities is growing in all regions. They are particularly common in Europe and the United States. For example, in a majority of the States in Europe, the major international airports are operated by autonomous airport entities. While the establishment of an autonomous airport entity would not necessarily result in an unprofitable airport becoming profitable, experience gained worldwide from these developments indicates that where airports have been operated by autonomous entities their overall financial situation has generally tended to improve. Consequently, it is recommended that, where this is in the best interest of providers and users, States consider establishing autonomous entities to operate their airports.

2.9 Since the main purpose of establishing autonomous airport entities has been to improve efficiency and financial results, the tendency in some States has been to limit the area of their responsibility to those major international airports with sufficient traffic volumes to warrant expectations of attaining financial self-sufficiency. But as noted below, the establishment of autonomous airport entities can frequently be beneficial even where these conditions do not exist and subsidies continue to be required. As a consequence, new entities created in some States encompass both profitable and unprofitable airports.

Scope and areas of responsibility of an autonomous airport entity

2.10 Before an airport entity becomes operational, its charter, or a document of a similar character, needs to be drawn up. The charter should clearly describe the scope of the services and areas the airport entity is to be responsible for providing and operating. Because of different national practices, these tend to differ between airport entities. The areas or services concerned normally include most or all of the following: aircraft movement areas, passenger terminal facilities, cargo facilities, aircraft parking areas, hangar facilities, air traffic control including communications, and sometimes, meteorological services.

2.11 Where airport facilities already exist, the charter should make clear whether or not they are to become the property of the entities and, if so, what value is to be placed on these assets and whether or not a corresponding debt is to be charged to the entity. Also, on the financial side, the charter needs to make clear that the entity will be empowered to retain the revenues it generates for the purpose of defraying airport expenses and building up possible capital reserves. Where it is foreseen to be unlikely that the entity will be profitable in the short-term future, the charter may need to specify how shortfalls in revenues are to be covered. These objectives could be achieved by the drawing up of an annual financial plan to be agreed by the government, which would cover a specified period — five years, for example. (In this context, reference should also be made to the guidance material in Chapter 3.)

2.12 The charter should state how the airport is to be governed — for example, whether a board of directors should be established (a normal practice) or whether the general manager or chief executive alone would be the most senior in the governing structure of the entity. It should also specify to whom the board of directors or management would ultimately report: for example, whether it is to a minister (at the state or provincial level), a director of civil aviation or a mayor (if a city established the entity). The charter may be subject to review as required.

Organization of an airport entity

2.13 Further to the preceding paragraph, airport entities may be looked upon as corporation-type entities and would be organized along similar lines. They would usually be governed by a board of directors reflecting expertise in such areas as commercial and technical operations and engineering as well as financial management and would also include representatives of the community at large. The board would be responsible for such aspects as policy development, final decisions on major investments and other matters having major implications for the overall operations of the entity.

2.14 A general manager, usually but not necessarily recruited by the board, and reporting to it, would be responsible for the day-to-day operations of the entity; normally, deputies responsible for such major areas as technical operations, finance, administration and commercial development would assist the general manager. However, organizational structure would vary between entities and would depend largely on the scope and functions of the airport entity concerned, as well as local circumstances.

Financial independence

2.15 A main objective of establishing an autonomous airport entity is to improve the efficiency and finances of the airport(s) concerned. This means turning losses into profits or at least reducing the level of losses. It should be noted in this context, however, that profitable operations may not be achievable for reasons beyond the control of the entity or State concerned, such as low traffic volumes.

2.16 It should be emphasized that many significant financial advantages may be achieved by vesting an airport entity with the necessary financial autonomy, including management and use of airport-generated revenues to defray airport expenses. Airport-generated revenues include landing, parking, passenger service and other charges on air traffic operations as well as rentals, concession fees and other non-aeronautical revenues. Financial independence permits and encourages airport management to exercise closer control over revenues and costs. It also offers the possibility of negotiating loans best suited to meeting the airport's needs (provided the entity is empowered to negotiate its own loans). Moreover, it places the airport in a stronger position regarding other financial matters, such as in the negotiation of concession contracts, and in industrial relations, for example when negotiating labour contracts or establishing the remuneration of staff. It also permits management to act swiftly and avail itself of special offers or quantity discounts for equipment and supplies which may only be available for a relatively short period.

2.17 In some instances, airport entities have been established without being given the necessary financial autonomy. Thus, all the revenues they generate from charges, rentals and concession fees are deposited directly to the account of the national treasury, a ministry or the civil aviation administration, resulting in the airport entity then having to apply for all funds required to cover airport expenses. The airport entities concerned nevertheless remain responsible for the levying and collection of charges on air traffic as well as for the promotion and development of non-aeronautical activities. Arrangements of this nature tend to substantially reduce the potential benefits offered by the airport entity. As experience has shown, they tend to significantly reduce the incentive of airport management to develop new revenue sources or increase income from existing sources when it cannot make use of revenues it generates to defray expenses for which it is held responsible.

2.18 Regular airport operation and maintenance as well as investments in new or expanded facilities usually require outlays of varying, but sometimes substantial, amounts to be made in convertible currency. To provide airport facilities and services in the most cost-efficient manner, it would be advisable for an airport entity to be given access to such convertible currency as it might generate, for example from charges on air traffic, in order to meet expenses it would need to incur in such currency. This may be particularly relevant when, for example, spare parts must be imported to enable essential equipment or facilities to remain operational or to be returned to service.

2.19 With regard to personnel, it should be noted that an autonomous airport entity need not be required to use the civil service charter and the salary structure applied by the government for civil servants, but could offer more advantageous terms to personnel and thereby increase motivation and productivity. This may be relevant in circumstances where qualified personnel might otherwise be attracted to work for private industry because of higher salaries offered.

Advantages of establishing autonomous airport entities

2.20 In summary, experience has shown that establishing autonomous airport entities for the management and operation of airports may translate into the following advantages:

— empower service providers through financial and operational autonomy;

— encourage the growth of a business culture;

— lower expenses per traffic unit relative to other airports of comparable size;

— recycle various aviation user charges into aviation;

— reduce the financing burden on governments;

— generally improve the quality of services; and

— establish a clear distinction between the regulator and the provider of services.

Multi-purpose entities

2.21 The preceding paragraphs have referred to an autonomous entity in the context of a body essentially responsible for airport operations only. In some States, however, it has been found desirable to establish autonomous entities that operate not only airport facilities but also facilities for one or more other modes of transport, covering such facilities as ports, bridges and tunnels. While not common, this approach has been found useful, for example, where cities operating airports wish to centralize the operation and management of these and other major transportation facilities which they are responsible for providing.

The autonomous civil aviation authority

2.22 Assigning the operation of one or more airports to an autonomous airport entity may not, in certain circumstances, be a good approach to improving airport operating efficiency. For example, in a small State with limited aviation activity and where the operation of an international airport is the dominant function of the civil aviation administration, little if anything may be gained by separating the airport operation from the civil aviation administration and assigning it to an autonomous airport entity established exclusively for that purpose. In fact, costly duplication could result if each of the two bodies carries out functions previously performed more efficiently and at a lower total cost by the civil aviation administration. This applies particularly to administrative costs and overheads.

2.23 The reduced responsibilities of the civil aviation administration would normally include aviation safety and various licensing, monitoring, policy and regulatory functions. As a result of having been divested of airport operations, however, the administration would no longer have the financial benefit of the common use of premises and equipment, the costs of which were, at least in part, financed by airport revenues. With its revenue-generating capacity severely restricted, it could also be more difficult for the reduced civil aviation administration to obtain from the government the funds it requires to perform its activities. Another factor to be considered in these circumstances is the potential for rivalry between the new autonomous airport entity and the civil aviation administration, and its possible consequential detrimental effects on aviation development.

2.24 While the establishment of a separate autonomous airport entity may not be desirable in circumstances such as those described in the two preceding paragraphs, it may be beneficial in the same circumstances to establish an autonomous civil aviation authority to take over the functions, including the operation of airports, previously performed by a civil aviation administration. This could permit the State concerned to obtain the benefits offered by an autonomous authority. Thus, even though financial self-sufficiency would in many such instances be a distant goal, the increased efficiency that may result from this type of organization could significantly reduce the contribution from public funds previously required for the civil aviation administration which the civil aviation authority would replace. However, as in the case of autonomous airport entities, granting financial independence to the civil aviation authority would usually be an important prerequisite for realizing such benefits.

2.25 Further to the specific situation of small States that was addressed in the previous three paragraphs, there might also be value in establishing autonomous civil aviation authorities in larger States. Indeed, this is the way that has been selected by a number of States in the developing world. The objectives underlying the establishment of an autonomous civil aviation authority will usually be to improve efficiency and the financial situation by applying modern management principles aimed at effecting savings, generating increased revenues, and providing better quality services. Critical to the attainment of these objectives is the degree of financial autonomy that is granted to the autonomous civil aviation authority. However, experience in some States has shown that achieving complete financial autonomy remains a distant goal and that continuation of government financial support through grants sometimes remains necessary, at least in the early stages.

II — PRIVATE PARTICIPATION OR INVOLVEMENT IN AIRPORT OWNERSHIP AND OPERATIONS

2.26 Privatization is the word most commonly used in connection with the changes taking place in the ownership and management of airports. Often, the word privatization is loosely interpreted as any move away from government ownership and management of airport services. Privatization connotes either full ownership or majority ownership by private interests of airport facilities and services. Therefore, a management contract, a lease, as well as minority participation in the equity of airports should not be described as privatization, but rather as private participation or private involvement since the ownership and control rests with government. Private participation/private involvement, which are synonyms, mean that the private sector has a role in the ownership and/or management in the provision of airport services, and that majority or ultimate ownership remains with the government. Private participation or involvement can take different forms (see paragraph 2.28). However, management of commercial concessions, in particular retail outlets, at an airport by a private entity is not considered as private participation or involvement.

2.27 Although airports are owned, in a majority of States, by the government (a State, provincial or municipal government or a combination of any of these), a growing number of airports are now under some form of private ownership or involvement. In some States, airport entities (managing and operating either a single airport, or an airport system,[1] or an airport network[1]) have now been privatized; in others, plans are under way for private involvement in airports in a number of ways, including leasing, part ownership or the ownership of parts of an airport such as terminal buildings. In the latter case, where a part of an airport (such as a passenger terminal) is privately owned and operated, leaving the rest of the airport in public ownership, measures need to be taken to ensure that the privatized element of the airport makes a proper contribution to the costs of operating the rest of the airport, for instance by payment of a significant concession or lease fee.

1. See definition in Section III.

2.28 Described below are some of the most common forms of private participation/involvement that are used for airport management and operation:

— *Management contract*. Under this option, the management of an airport or a group of airports is transferred to a private entity[2] for a limited period of time for a fee or predetermined payment terms. The airport(s) benefits from professional management, but development of the airport(s) is not included in the contract.

— *Lease or concession.* Leases/concessions can be short-, medium-, or long-term. Under this option, an airport or a group of airports is transferred for management and development to a private entity for a fixed period. In almost all cases, the responsibility for expansion and development of airports rests with the lessee or concessionaire, under conditions that are either listed in the contract or depending on traffic growth. The payment terms of leases or concessions vary widely. In some cases, it is all down payment while in other cases it is partly down payment and partly annual payment or only annual payment. One of the most common forms is the BOT (Build-Operate-Transfer) scheme, an ownership and management system under which a private entity obtains the right to finance, build and operate a certain facility, including land and/or buildings, over a long period of time, and on expiry of the right returns it to the owner. Many variants of this scheme have come into existence (see definitions in the glossary of terms in Circular 284 — *Privatization in the Provision of Airports and Air Navigation Services*).

— *Transfer of minority ownership.* Under this option, ownership of an airport or a group of airports is partially transferred to the private sector, through outright sale of shares to a strategic partner, or an IPO (Initial Public Offer) on the stock exchange market. The advantage of this system is that the transfer of ownership can be carried out in stages, depending upon local circumstances and needs.

— *Private sector ownership and control.* Under this option, majority or full ownership of the airport is transferred to a private entity including non-profit corporations or trusts. In the event that a State would wish to regain ownership, it would have to buy back the shares, with the risk that their price may be higher than the original sale price.

— *Private sector ownership and/or operation of parts of the activities of an airport.* This option refers to the ownership and operation of certain facilities or services at an airport, for example a passenger terminal, or a cargo warehouse, or security services. The activities of the operator are regulated by a contract which, from a legal point of view, is similar to a commercial concession agreement.

III — AIRPORT SYSTEMS, NETWORKS AND ALLIANCES

2.29 Whatever the form of ownership and control that the State has selected, the management of airports can be done either on an individual airport basis, on an airport system[3] basis, on an airport network[4]

2. Which can be a local/national concern, or an international airport managing group, or a consortium associating various interests of which the former two may be part.
3. An airport system is composed of two or more airports serving the same major metropolitan area and operated under a single ownership and control structure.
4. An airport network is a group of airports within a State operated under a single ownership and control structure; it can include all airports serving the territory of this State or only some of these airports. Cross ownership of airports in different States or management contracts obtained in different States by an international airport management company can also lead to a form of cooperation sometimes referred to as airport networks, or as airport alliances, but these forms of international cooperation are of a different nature than a network at a national level.

basis, or on a combination of these, since an airport network can encompass either an addition of individual airports or a combination of individual airports and one airport system (or more).

2.30 There are arguments in favour of operating and managing a group of airports within an airport network, a form of organization that has become more and more common at a national level. Smaller airports may derive some benefit within a common ownership which could include cross-subsidization. Other arguments point to, inter alia: the advantages for a State having a national air transport system in achieving its national development objectives; the advantages in terms of economies of scale and synergies; the easier access of all airports to capital markets; and the better management of capacity and use of resources throughout the network. In summary, an airport network can be a valuable method of collectively managing airports which, taken individually, would not be viable. Arguments against cross-subsidization are based on the fact that charges have to be cost-related; that users should not be charged for facilities they do not use; and that only those facilities used for international air services should be included in the cost basis for charges (Doc 9082/7, paragraph 22 i), ii) and iii) refer). In that sense, cross-subsidization between international airports and domestic airports is questionable, although it is recognized that in some States it may be the only way to maintain airports that serve, for example, landlocked regions. Opponents to the network approach also point out that if subsidies are to be provided for national planning purposes, these should rather come from the State than from users of other airports.

2.31 Another aspect is related to the operation and management of airports at an international, or multinational, level, including alliances between airports or airport groups. This is made possible by the operation and management of airports in different States by globalized airport companies. The main advantage of such a form of organization lies in the potential economies of scale, while the drawbacks may be found in a possible diversion of revenue and cross-subsidies between airports in different States (a form of cooperation that may be acceptable to some developing States).

2.32 One conclusion that may be drawn from this controversial issue is that an equilibrium should be sought between the interests of airports and users; and that in cases where cross-subsidization within a national network is applied, that full transparency is necessary. In the final analysis, it is for States to decide on what is in their best interest, taking the above advantages and disadvantages and their particular circumstances into account. In this respect, consideration should be given to paragraph 22 viii) of Doc 9082/7 where the possibility for States or charging authorities to recover less than their full costs is recognized, as well as to the possibility of cross-subsidization through revenues from commercial activities. With regard to international operation and management of airports, this form of organization should be exerted with caution and could be considered as acceptable as long as it brings lower charges through economies of scale.

IV — CHANGE IN OWNERSHIP AND MANAGEMENT STRUCTURE

2.33 Privatization or private involvement may offer significant benefits in certain cases. Some of the most common motivations for such a move are described below.

2.34 *Financial problems.* Privatization or private involvement could relieve States of the burden of heavy capital investment. Government financing of airports is becoming increasingly difficult in many States. Governments are under pressure to finance other high-priority services, especially social services. In some States, neglect arising from financial difficulties has led to a deterioration of airport infrastructure which States are unable to rectify. Some States are unable to provide the large investments required to create additional capacities to meet the continuous increases in air traffic. The purchase, lease or reclamation of land is expected to become increasingly costly, and expectations of the airlines and other users in regard to the quality of service at airports are growing. Airports may become more costly not only to develop but also

to operate. In addition, privatization or private involvement in airport ownership and management could give airport management direct access to the open market for loans or capital for investments in new airports, expansion projects or renewal projects.

2.35 *Privatization as a source of revenue.* Governments are realizing that where the traffic volumes are relatively high, it may be possible to pass the burden of financing airport development programmes to the private sector. Moreover, private participation and privatization in the provision of airport services has been seen as a source of revenue to cover or reduce budgetary deficits. Profit-making airports can provide a regular source of tax revenue. Financial bids for private participation and privatization of airports have further encouraged States to move in this direction.

2.36 *Major airports considered commercial entities.* The current approach of governments is to move away from the ownership and management of non-core public utilities, and airports, at least the major airports, are considered as commercial entities rather than public utilities. Larger airports are turning into cities in themselves with market places and meeting points for people and businesses. There is the perception that privatization or private involvement leads to improvement in the management of airports.

2.37 *Increased efficiency and productivity*. The application of management methods based on best commercial practices promotes transparency, efficiency and cost effectiveness, and the development and application of performance parameters improves productivity and the quality of services provided.

2.38 *Emergence of global airport management industry.* The business and financial communities have realized that an airport can be a sound investment. Airports are essentially monopolies. Growth in traffic is somewhat regular and exceeds the growth of gross domestic product over the longer term. Depending on the economic cycles, the credit ratings of many major airports are generally very high and they have strong cash flows. Investors are aware that airports are subject to government regulations, but commercial activities at airports, which produce significant revenues, are less regulated than aeronautical activities or not regulated at all. All these factors combined have resulted in major airport management companies investing and participating in the management of airports in other regions of the world, thus participating to the gradual emergence of a global airport management industry.

2.39 It should be noted that a government-owned or controlled autonomous airport entity might also offer some of the benefits indicated above, provided it is granted the necessary freedom of action. It should also be noted that a change in the ownership and management in the provision of airport services may not necessarily solve all the problems which an airport or a group of airports may be facing. If not planned properly, the change may be harmful in the long run. Appropriate consultations should be conducted with existing airport management, users of the facilities and others concerned.

2.40 There is no single organizational format that should be recommended over other formats. The choice will have to be country specific and in some cases airport specific. The most appropriate choice can be determined only after a detailed study of all aspects involved has been undertaken.

2.41 Change in ownership and management in the provision of airport services requires careful consideration of a number of factors. Fundamental among these is that an airport is in essence a monopoly on which the users — aircraft operators, passengers and shippers alike — are highly dependent. The objectives of change should be clearly defined. An in-depth analysis of the present stage of the aviation infrastructure in the country, including the preparation of a detailed profit and loss statement should be conducted. This analysis should also take into account future projections. Furthermore, simultaneously with a possible decision to place profitable airports in a different category, consideration should be given to how the remaining airports and other services are to be managed and financed.

B — ECONOMIC OVERSIGHT OF SERVICE PROVIDERS

STATES' RESPONSIBILITIES

2.42 As noted in Chapter 1, Part A, Article 15 of the Chicago Convention establishes the basic policy on airports and air navigation services charges and reinforces the concept of freedom of access and non-discrimination set forth in Article 11 with respect to the use of facilities and services for the aircraft of the Contracting States in the operation of international air transport. Also relevant in that context is Article 68 which sets forth that each Contracting State may designate the route to be followed within its territory by any international air service and the airports which any such service may use.

2.43 It has to be noted that a Contracting State cannot give full independence to the operators of its airports. One reason is that, under the Chicago Convention, basic responsibilities are assigned to the Contracting States and cannot be re-assigned to an operator. For example, under Article 28, it is the Contracting State, not the airport, that is responsible for the standards of the facilities and services provided, a responsibility the State cannot delegate to an autonomous or private entity. Also, there are the obligations States have undertaken in air services agreements, where again the State alone is responsible for the observance of stipulations addressing, for example, access to certain airports. The overriding responsibility of the State is to afford protection against monopolistic abuses, which negatively impact on aircraft operators, passengers and shippers alike and thereby may have a detrimental effect on the national economy as a whole.

2.44 Paragraph 13 of Doc 9082/7 emphasizes that the State, in view of the monopolistic nature of airports and air navigation services, is responsible for the economic oversight of their operations. All those measures taken by a State with regard to legislation or rule-making, establishment of a regulatory mechanism, etc., together constitute what is normally referred to as "economic regulation" of the provision and operation of airports. In the context of commercialization and privatization of airports, it has become more common to establish an independent mechanism for economic regulation to protect the users' interests. Such a mechanism is often considered as crucial to the success of good governance and transparency.

THE NEED FOR ECONOMIC OVERSIGHT

2.45 When goods and services are supplied by competitors vying for customers, the economic well-being of consumers can often be left in the hands of market forces, which act as an "automatic regulator" for ensuring efficiency and fairness in setting prices and establishing the quantity and quality of supply. However, when supply is dominated by a single provider, a monopoly, the question of regulation becomes a concern of public policy.

2.46 There is a growing recognition that, in the absence of competition, the concerns of users regarding the monopolistic aspect of airports might be better addressed if governments cease to be directly involved in the operation of airports and instead vest their operation in autonomous entities. These new operating conditions may, however, in some instances, have reduced the awareness and possibly the sense of obligation to ensure that, for example, charging practices comply with ICAO policies and principles. In addition to the monopolistic characteristics of airports, more situations have emerged showing a need for a regulatory code and some form of oversight to ensure that the interests of users, airports and the national economy are protected and that international obligations are met. These responsibilities can only be assumed by the State itself.

OBJECTIVES OF ECONOMIC OVERSIGHT

2.47 Economic oversight works best when clear objectives and incentives are given to airports so that they can provide services in the most cost efficient manner and with an appropriate level of quality. When States establish an independent mechanism for the economic regulation of airports and air navigation services, the objectives of such a mechanism could include the following (paragraph 15 of Doc 9082/7 refers):

— ensure non-discrimination in the application of charges;

— ensure there is no overcharging or other anti-competitive practices or abuse of dominant position;

— ensure transparency as well as the availability and presentation of all financial data required to determine the basis for charges;

— assess and encourage efficiency and efficacy in the operation of providers;

— establish and review standards, quality and level of services provided;

— monitor and encourage investments to meet future demand; and

— ensure user views are adequately taken into account.

2.48 In addition, the following broader objectives might also be included:

— promote the sound development of civil aviation;

— promote regional economic development;

— ensure non-discriminatory access to all airport users, including new entrants, both airside and landside;

— consider the necessary balance of the respective interests between airports and users;

— provide a procedure for the handling of complaints and dispute resolution;

— ensure that traffic data and traffic forecasts are presented to the users, in order to convince the users that the charges are fair and reasonable;

— ensure that all the State's obligations specified in the Chicago Convention and its Annexes as well as all other agreements, including air services agreements, to which the State is a party, are observed;

— ensure the observance of ICAO cost recovery principles contained in Doc 9082.

2.49 These objectives should be met irrespective of the actual form that economic regulation takes in the State concerned.

POSSIBLE FORMS OF ECONOMIC OVERSIGHT

2.50 The regulatory framework that governments may need to put in place in order to protect consumers from any potential monopoly abuse, while maintaining regulatory costs to a minimum, could take

different forms according to whether it has to be applied to public or private entities and should take into consideration the size and power of these entities. It should be noted that different forms of regulation might be required at different times, depending upon the circumstances.

2.51 When unchecked markets impose unreasonable economic risks on consumers, or create significant health, safety and environmental costs, governments will often wish to intervene with public policies and controls. These generate administrative and organizational costs, but the benefits expected are greater still. The choice of a regulatory mechanism is a matter of searching the spectrum of options for protecting the public at minimum regulatory cost. In some situations, the recourse to regulatory bodies which set and enforce codes and standards may be the most appropriate solution, while in other situations the use of economic incentives or institutional checks and balances may be sufficient. In some other situations, a combination of arrangements could be the most efficient solution to help States protect users against abuses.

2.52 Regulatory options range from those with minimum government intervention and regulatory cost to those with significant cost implications, as follows:

— minimum intervention: competitive forces (“market regulation”) or fallback regulation;

— institutional arrangements (“institutionalized checks and balances”);

— third-party advisory commission (“stakeholder[5] oversight”);

— contract regulation; and

— maximum intervention: economic measures/regulatory body (“utility regulation”).

Competitive forces/fallback regulation

2.53 In some cases, airports are in competition with each other (this applies mainly where long-haul international traffic is involved, but is also conceivable in large conurbations for all kinds of traffic, provided several airports, preferably owned and operated by separate entities, can serve different parts of the urban area). In such cases, an element of automatic regulation might possibly enter into the provision of airport services.

2.54 Placed in other conditions than mentioned above, airports that earn a large share of revenue from commercial activities will have an incentive to moderate their landing charges (and other aeronautical charges) in order to maximize their total income.

2.55 Fallback regulation is predicated on making explicit the “threat” of more direct regulation if a company does not ensure that its behaviour stays within “acceptable” bounds. The objective is to achieve the benefits of regulation, in terms of mitigating the worst characteristics of monopoly, without incurring the costs and distortions caused by such regulation. Normally, this would be accompanied by the application of standard competition law. This approach seems attractive, however, there is a dilemma; a company could reasonably argue that for this approach to work it must have a clear understanding of what would constitute unacceptable behaviour, and if this meant defining the commercial boundaries in detail, it would risk recreating precisely the regulatory distortions which it seeks to avoid.

5. The word “stakeholder”, as used in this context, refers to parties concerned or groups of interest.

Institutional arrangements: checks and balances

2.56 Research and experience have shown that regulation of the economic behaviour of monopolies can be achieved through the power of information, and also through countervailing economic power of well-informed customers who are epitomized by airlines at an airport. Information can be harnessed through the development of certain institutional arrangements in shaping a commercial monopoly. Once in place, such arrangements can foster a routine of checks and balances between service providers and users that brings about fair, reasonable and efficient prices and levels of service. While not "automatic" in the manner of free markets, regulation through institutional checks and balances uses the power of information to transmit the right signals and responses between users and providers in lieu of the bureaucratic power of government agencies.

2.57 Examples of institutional arrangements include:

— mandatory consultation in the establishment of user fees and investment plans in order to ensure adequate disclosure of costs and transparency in the economic and financial underpinnings of rate and service proposals;

— *stakeholder membership of the board of directors* is a means of promoting the adequate flow of economic information between the provider and its users;

— *joint ownership*, or mixed enterprise, represents an extension of board membership as a means of ensuring information flow, consultation and consensus in the establishment of rates and charges; however, there might be potential competition issues involved regarding airline competition and barriers to entry where joint ownership means airlines having a large say about investment plans and about the management of the airport;

— *debt financing* of capital investments and improvements is also an effective means of creating discipline and efficiency in a commercial monopoly. When a commercial monopoly borrows or sells bonds to finance new investments, credit markets seek information indicative of strong assurances that system users view the facilities and equipment as necessary and desirable; that the organization's management team is sound and capable; and that operations generally are efficient so that sufficient operating revenues will be available to service interest and depreciation over the life of the investment programme;

— *not-for-profit financial status*. The rationale behind this arrangement is that removing the profit incentive from an otherwise commercially-oriented organization relieves it of the stimulus to abuse its monopoly power. However, it can also be argued that a profit motive protects the public against the risk of a service provider failing to generate sufficient surplus revenues to sustain and modernize its facilities on a timely basis. In whatever case, the managers will have to trade off among multiple objectives, which are well-known problems of management incentives. Legislation in States that have selected this approach permits their commercialized entities to earn a rate of return.

Third-party advisory commission

2.58 This more traditional approach to guard against monopoly abuses is often considered more appropriate when parties concerned do not form cohesive groups and thus have little or no means by which to organize a class action suit. A third-party advisory commission could be composed of air carriers, general aviation users, the military, representative of passenger groups and other principal parties concerned. A

strong commission would have its own quarters and staff and be equipped to engage in meaningful dialogue with airport management on an ongoing basis and to review specific pricing, investment and service proposals in particular.

Contract regulation

2.59 Regulation by contract as opposed to regulation by a discretionary commission is another alternative that could be considered. There are many examples emerging of regulation by contract through concessions. These could be for a BOT (Build-Operate-Transfer) type project, or it could be a management contract, or any variant in between (for definitions of these terms, see Attachment 1). Where the price is regulated within a concession, it could be subject to a formula based on the Consumer Price Index (CPI).

Economic measures/regulatory body

2.60 One option for economic oversight is the Rate of Return (ROR) or Cost Plus concept where an airport acts as a public utility. The role of the regulator will be to prevent the airport to overcharge and set prices that are not cost-related. In setting charges, the regulatory body allows the airport to recover all of its operating expenses plus a reasonable return on its capital investment. However, a disadvantage of this type of regulation is that it does not provide incentives for airports to operate efficiently and decrease their costs. There have also been concerns expressed about over investment with ROR regulation.

2.61 Economic oversight can also take the form of a mechanism to offset some of the airport's power in cases where the provider sets the charges. In this context, the use of a "price cap" model may be more efficient than the rate of return concept. Price caps define certain tariffs in advance and fix them for a certain period of time, increasing only at the rate of inflation. Prices then represent a price floor to the operator (providing a degree of certainty), and a price ceiling to the government (ensuring that the operator cannot extract a monopolistic rate of return). Price caps can also make allowance for improvements to quality of service when these have been agreed with users. There also can be provision to pass certain costs (e.g. security) through the price cap. For future increases, tariffs would grow by no more than inflation (CPI), possibly adjusted by an efficiency factor (X factor). The "X" factor would represent the reduction of fees required of the operator. Prices could also be increased by the cost of infrastructure improvements.

2.62 Refinements can be brought to this second approach by separating the aeronautical activities from the non-aeronautical activities and therefore applying different types of regulation to each sector, including off-airport activities. Some, however, have expressed concern about a dual till approach, arguing that the non-aeronautical revenue provides a good incentive to stop airports abusing their monopoly power on the aeronautical side. The approach, in some countries, has been to impose regulation only where there is monopoly power, and that is mostly on the aeronautical side. There is a strong argument that there are off-airport competitors for commercial activities at airports.

2.63 The traditional regulatory body can be viewed as an extension of the advisory commission, the major difference being the obligation to review and sanction any action on pricing, investment and service quality. Commercial entities must apply for permission to implement any proposed change in rates and service. An important point here, as per the discussion above about contract regulation, is whether the regulator can exercise discretion to take account of varying circumstances. Possible options within this form of economic oversight would include the use, inter alia, of regulatory bodies, or of the regulatory framework already in place, that is the Civil Aviation Administration. An important aspect to consider for this form of economic oversight is the possible need for additional regulatory resources, depending on the nature of the regulatory remit, which de facto limits its use to certain States only.

2.64 Competition watchdog commissions existing in some States may, at their discretion, review and comment on the pricing and investment practices of any publicly owned corporation, but they are very different from the functions that third-party regulatory agencies would have.

SELECTING APPROPRIATE FORMS OF OVERSIGHT

2.65 When deciding whether economic oversight going beyond normal competition law is necessary and, if so, what form would be most appropriate, States should first consider the scope for competition and thus the extent of any potential for abuse of monopoly power. Where competition or the threat of it is sufficiently strong, such economic oversight is likely to be unnecessary and, where it exists, normal competition law should suffice.

2.66 Another important factor in assessing the most appropriate approach is the ownership structure of the airports and the more general institutional and legal framework within which economic oversight, the airports and users operate. Generally, the greater the extent to which a State's airports are owned and controlled by its users, the less obvious is the need for specific external economic oversight arrangements to protect those users. Therefore, ownership by a subset of users can, depending on the specific circumstances, raise concerns in terms of increased potential for discriminatory behaviour against other users.

2.67 The institutional framework within which economic oversight takes place can be key to its success in addressing monopoly power and in providing airports with incentives to operate efficiently and to invest in a manner that best secures the outputs, in terms of capacity and service quality, required by users. It is important to consider carefully the roles, rights and responsibilities of the different parties involved — governments, airports, users and, where they exist, regulatory agencies. Where both the airports and the body responsible for economic oversight belong to government departments, functional separation, and where possible institutional separation, are likely to be desirable.

2.68 If, taking account of local circumstances, a State wished to establish an economic regulatory agency rather than simply relying on general competition law, it would be important that an appropriate balance be established between independence and accountability for the regulatory agency as well as for the airports which it would regulate. In order to hold the regulatory agency accountable, government would need to give it clear objectives — preferably through statute — coupled with sufficient operating autonomy. Without such a balance, there will be a risk to regulatory commitment and regulatory credibility.

2.69 Whatever model is adopted it is desirable to ensure that the arrangements for economic oversight are designed so as to minimize unnecessary restrictions on the airports and users. Improved consultation based on effective information disclosure should be a basic requirement of most of the approaches identified above, so as to maximize the prospects for responsiveness of airports to user preferences, not only in the short term but also in the medium and long term.

2.70 Combinations of options might, in certain cases, be the best solution to address a range of issues in the most efficient manner. As mentioned above, there is a range of possible options and within those many other options, variants or derivatives. Circumstances, needs and resources will be the best determinants of the best economic regulation option. It should also be noted that circumstances change over time, and that regulation needs to evolve. Therefore, the different options might be more or less appropriate at different times.

2.71 Governments may also consider the relevance of conducting cost-benefit analyses of the various options listed above, in order to select the most appropriate option for their particular circumstances and conditions.

DISPUTE RESOLUTION

2.72 The involvement of autonomous entities in the management of airports has brought about business practices and new market forces that can potentially result in new types of disputes that need to be resolved before they enter the international arena. Economic regulation should provide for equitable, transparent, expeditious and effective dispute settlement mechanisms that build confidence between the airport and its users. Its purpose is to instill trust between parties where market forces do not provide for resolution of disputes.

2.73 No single mechanism could meet all needs and circumstances. In general, the procedures for settling a dispute between parties may be carried out in two stages: a) consultations or negotiations between the parties; and/or b) the dispute is submitted to an arbitration tribunal at the request of either party. Decisions reached under this latter stage of the mechanism are usually binding and both parties have the obligation to enforce the decision.

2.74 A “first resort” mechanism concept could establish an intermediate level between the two stages of consultation and arbitration. At this intermediate level, an independent mediator or an independent dispute settlement panel should be used for the fact-finding investigation, including the determination of the substance of the dispute, or for providing a recommendation to remedy the dispute. It is based on clear time frames, implementation arrangements, interim measures and provision for third-party involvement.

2.75 An independent mechanism for economic regulation might serve as a tribunal to which users could appeal if they had reason to believe they were being subject to abuse of monopoly powers or other unfair practices. This body could also handle appeals lodged with respect to complaints about non-compliance with the required principles for establishing fees. The mechanism should not affect the right of the parties to have access to other dispute resolution mechanisms, including those under general competition laws. Nor does it preclude the implementation of the formal arbitration process in an agreement.

2.76 Third-party protection could also be ensured through the use of a less costly mechanism, such as, for example, an ombudsman office. Note should be taken, however, that while the role of an ombudsman is to provide a neutral forum, that person ultimately has no enforcement power.

2.77 In addition, with respect to complaints relating to decisions taken by the economic regulator, the right of appeal to a higher tribunal should be available. A compliance and enforcement regime providing for the creation of an administrative monetary penalty system, with appeals to an independent appeal tribunal, could be envisaged. It has to be recognized, however, that while an effective enforcement mechanism is a point of critical importance, it could be very demanding in terms of resources for many States.

C — INTERNAL ORGANIZATION

GENERAL

2.78 When establishing the internal organizational structure of an airport (or group of airports), the principal aim should be to create a structure that enables the airport to meet its objectives and carry out its functions in the most efficient and cost-effective manner while maintaining a high standard of service.

2.79 Before defining or revising its internal organizational structure, particular attention should first be directed to the various functions and areas of responsibility of the airport (or group of airports). These functions and areas of responsibility are often described in the charter of the airport(s) or in documents of a

similar character. Where these functions or areas of responsibility are not defined clearly or where the descriptions are considered incomplete or out of date, they should be redefined or updated.

2.80 The functions and responsibilities of an airport will vary according to its size, type of traffic and areas of responsibility. For example, some airports are responsible for air traffic control as well as for meteorological services, while at most other airports such services are provided by separate government entities. Many airports are involved in security functions in varying degrees and in providing facilities for customs, immigration and health authorities. Ground-handling services for the airlines, including terminal handling or ramp handling, or both, are provided by some airports, while at others they are provided by the airlines or by specialized agents or companies. Certain airports also perform functions that exceed the scope of conventional airport activities, such as consultancy services, public works, construction, and real estate development.

2.81 The functions of an airport can be classified in various ways, for example:

— administration and finance;

— operation of airport facilities;

— engineering, construction works and maintenance;

— marketing and public relations;

— ground handling;

— air traffic operations; and

— security, immigration, health and customs.

The main functions of an airport are described below. At smaller airports, it may be more effective and convenient to have several functions handled by one department, whereas at major airports, many of them are likely to be handled by separate departments. Please note that the functions enumerated above may either coincide with the cost centres listed in paragraph 3.75 (Chapter 3, Part B), or regroup several cost centres.

ADMINISTRATION AND FINANCE

2.82 The administrative and finance function is usually responsible for overall management of personnel and general administrative matters, including management of buildings and land and the supply and management of stocks. It would also be responsible for accounting, budgets, budgetary control, the assessment and collection of charges and other revenues, as well as making payments and, possibly, the operation of airport data processing systems. Also included would be matters relating to rentals and leases, concession contracts, drafting of the necessary agreements and other legal matters.

2.83 Defining the airport’s long-term objectives and establishing development plans and investment programmes may be the responsibility of the finance function or a separate planning and development function.

2.84 Management control (which includes comparisons of the results achieved in relation to forecasts, budgets and plans, and the analysis of discrepancies) may also be separated from the finance function. Management information systems, which can be of significant assistance, tend to be operated by

the administration and finance function. This may include the airport data processing system or may be operated as a separate function. The internal audit function, however, is usually independent and should report to a high level of management to ensure its impartiality.

OPERATION OF AIRPORT FACILITIES

2.85 This function covers the operation of the passenger and freight terminals, including air bridges, and runways, taxiways and aprons including ramp equipment, buses and other airport vehicles, and automobile parking. This function usually has a large staff for the various operating, cleaning, guarding and other functions involved, with certain services often provided through subcontractors.

ENGINEERING, CONSTRUCTION WORKS AND MAINTENANCE

2.86 This function provides maintenance services for airport installations and equipment, and also performs civil engineering work at the airport. The maintenance is to ensure that airport buildings and installations are kept fully operational; it includes the internal equipment of the air terminal (e.g. baggage conveyor belts, moving stairways, passageways, heating and air conditioning systems, power supply) and the external equipment (e.g. runway lighting, instrument landing system, telecommunication and meteorological equipment), as well as airport vehicles (e.g. buses, firefighting and ramp vehicles) and ground-handling equipment (ground power units, aircraft stairs, and cargo and baggage handling equipment).

2.87 Engineering and construction services are often performed by outside consultants or contractors at airports that have not reached a size that enables them to efficiently use such services on a permanent and continuous basis.

2.88 Engineering includes the definition of new projects and programmes, including preliminary and final project specifications. An essential responsibility is to define the master plan for the development of the airport to its optimal capacity so as to efficiently meet growing traffic volumes. This would include the location of additional runways and passenger terminals, in the medium and long term, consistent with the planning and development objectives. The construction works department carries out part or all of the tasks, such as management of the operations, planning and supervision of the construction works, related to the ground facilities and the air terminals.

MARKETING AND PUBLIC RELATIONS

2.89 This function is aimed at promoting the airport to the airlines and the general public as well as to potential users of airport services. This involves identifying typical features of the airport's customers and their requirements, public and media relations, operating guided tours, dealing with complaints, and preparing brochures describing the airport for the public.

2.90 Also included could be the development and management of commercial concessions, particularly at smaller airports where it would often form part of the administration or operation function. The development and management of commercial concessions and other non-aeronautical activities becomes increasingly important as airport traffic increases; at larger airports, it may therefore be justified to organize this activity as a separate function.

GROUND HANDLING

2.91 This function concerns only those airports that provide all or part of the ground-handling services at the airport. The function may be separated into terminal handling (passenger check-in, baggage and freight handling, flight plan processing) and ramp handling (aircraft handling, cleaning and servicing). If it is not organized as a separate function, it could be included under Operation of airport facilities (see paragraph 2.85). This function generally requires a large number of personnel which can be partly or wholly subcontracted.

AIR TRAFFIC OPERATIONS

2.92 Concerned with the movement of aircraft within the airport and its vicinity, air traffic operations include air traffic control and related associated procedures, firefighting and rescue services, meteorological services, and the operation of pilot briefing offices which are usually also responsible for the provision of aeronautical documentation and information. These services are often the responsibility of the State in which the airport is located.

SECURITY, IMMIGRATION, HEALTH AND CUSTOMS

2.93 All these services are required and generally provided by the State. They should be accorded the full cooperation of airport management. At some airports, an airport police or security force may be responsible for certain or all airport security functions.

ORGANIZATION CHARTS

2.94 While various types of organizational structures can be used to ensure effective management and internal communications for different types of operating entities, examples of some generic airport organization charts are included in the following pages. Although each airport is unique and will take on its own unique organizational and governance structure, certain basic factors need to be considered when an airport organization chart is to be prepared. Figures 2-1, 2-2 and 2-3 illustrate different organizational structures.

2.95 The establishment of the most suitable organizational chart for an airport (or group of airports) should take into account the following factors:

— the functions and the objectives of the airport(s);

— the relationships between the various functions performed at the airport;

— the number of airports and their geographical distribution, if they are operated as a group;

— airport size, which determines whether each of the various functions should be entrusted to a distinct department, or whether some of them could be grouped together in the same organizational unit or department;

— the type(s) of traffic (international, domestic, civil, military); and

— the degree of financial autonomy of the airport or airports concerned.

2.96 The organizational chart for an airport (or group of airports) indicates how the various airport functions are related, and in this way provides some guidance in the allocation and determination of costs of the facilities and services provided (a topic dealt with in Chapter 4). The graphical presentation of the functional relationships that exist for the relevant organizational structure should take into account the following considerations:

— one or more functions should be grouped together in each department;

— the functions grouped together should be related and have a common purpose;

— when the volume of traffic handled by the airport is low, the number of departments should be relatively limited. As the airport increases in size, its organizational charts tend to become increasingly complicated, but the multiplicity of departments should not result in any overlapping in responsibilities, which would hamper the smooth operation of the airport;

— all departments should be closely coordinated, particularly as regards airport security; and

— regardless of the form of internal organization, airports are usually managed by a chief executive officer (or managing director, or director general) and a governing board (or board of directors), which is usually responsible for all important policy decisions regarding the airport. The chief executive officer is responsible for the day-to-day operation and administration of the airport and implements the decisions of the board.

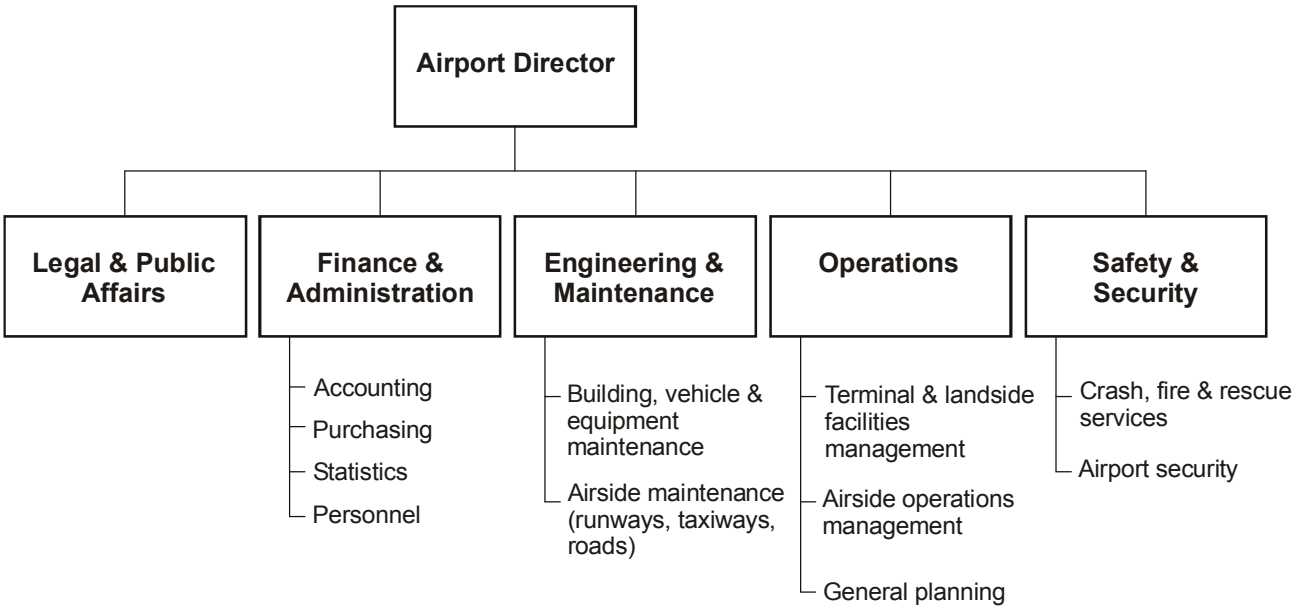

Figure 2-1. Airport authority under CAA (generic organigramme)

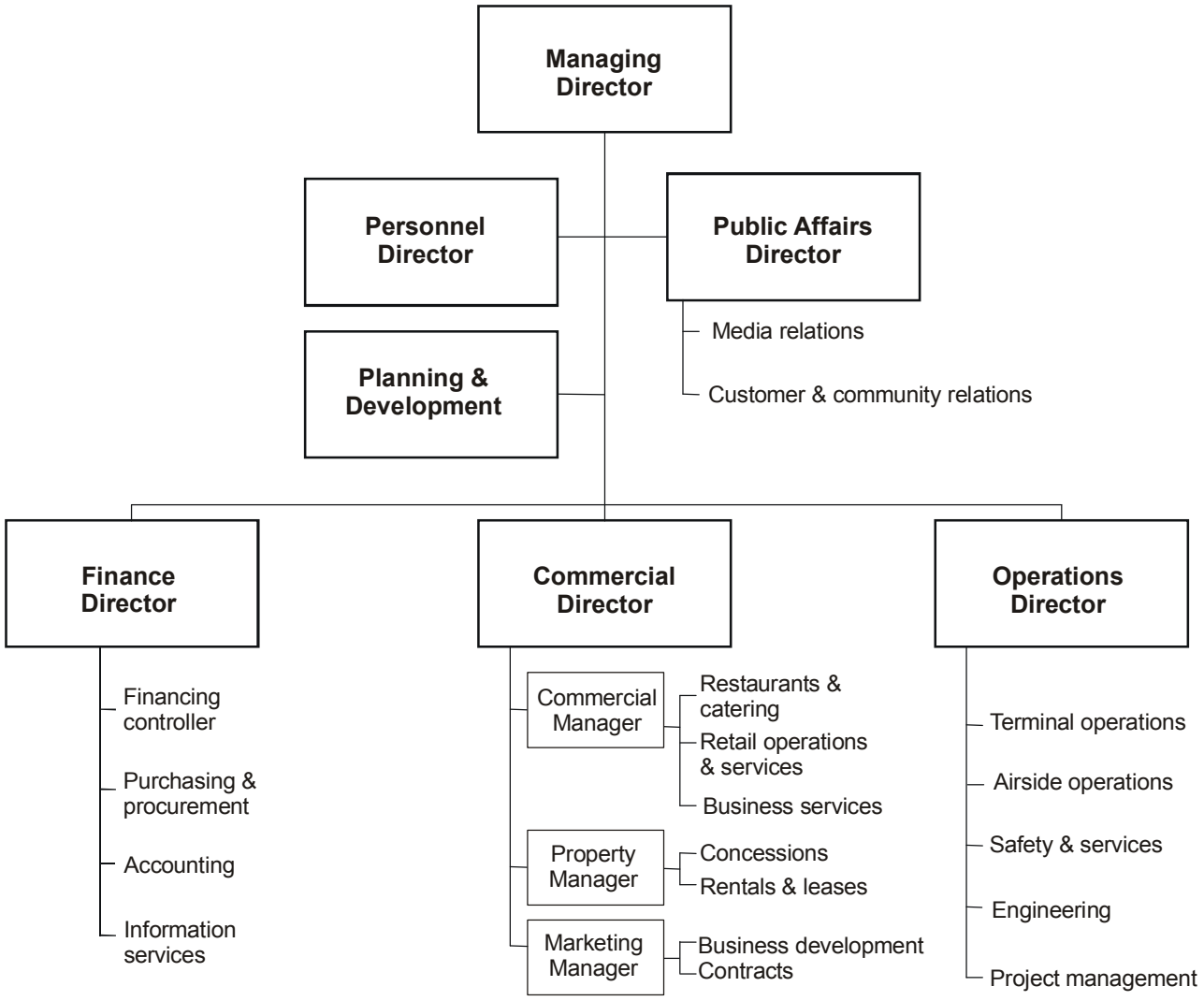

Figure 2-2. Commercialized airport (generic organigramme)

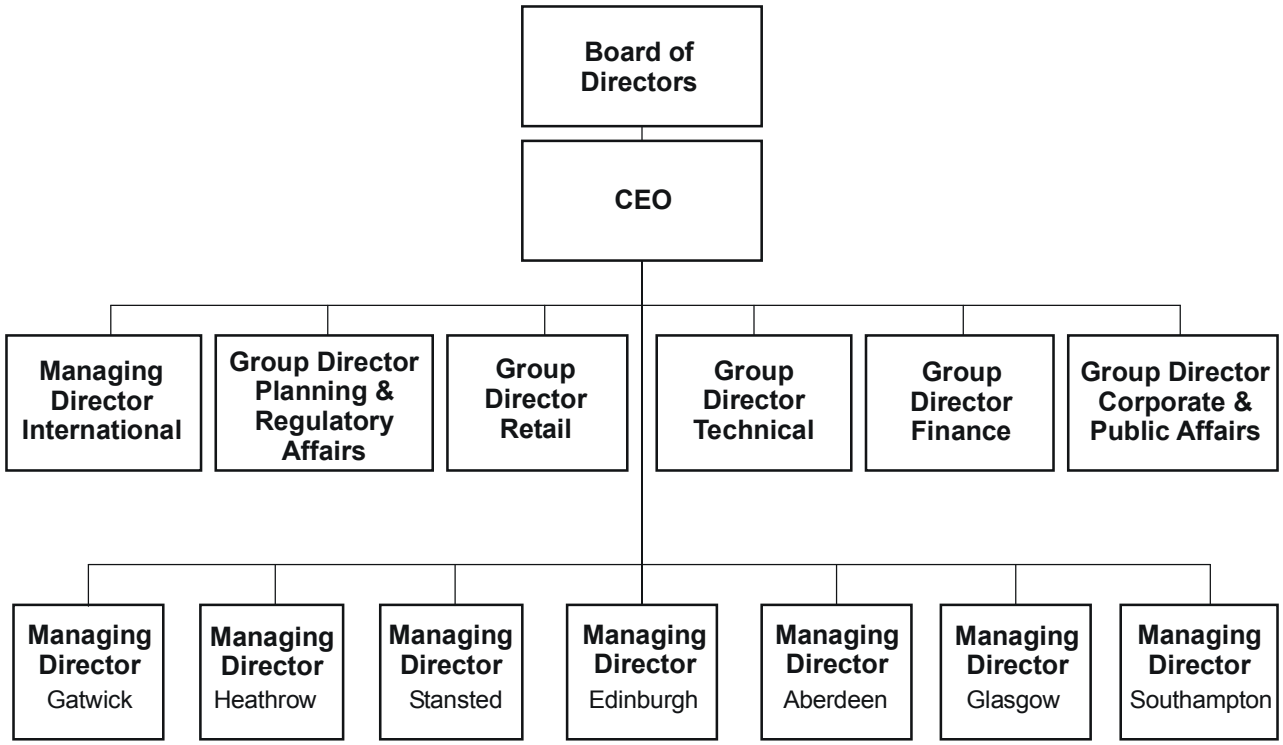

Figure 2-3. Private airport company: BAA PLC (generic organigramme)

CHAPTER 3

Airport Financial Management

This chapter describes the scope, relationship and purpose of accounting and financial management of airports.

Part A addresses certain principal functional aspects of accounting and financial management.

Part B gives broad descriptions of accounting systems designed to meet requirements for certain specific management functions.

Part C describes several possible ways of measuring airport performance and productivity, and refers to factors to be taken into account in that context.

A — BASIC ASPECTS

APPLICATION OF PRINCIPLES OF BEST COMMERCIAL PRACTICES

3.1 Best commercial practices are those practices used by commercial industry that, over time, have proven cost effective, efficient and successful in bringing quality products to the marketplace. The application of principles of best commercial practices for airports has been endorsed by the ICAO Council in *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082/7, paragraph 17). Commercial principles of operation and management should be followed regardless of whether an airport is owned and operated by the public or private sectors, and of whether or not it is profitable in itself.

3.2 Principles of best commercial practices should be applied, whenever considered appropriate by States and/or airport operators. It is recommended in paragraph 17 of Doc 9082/7 that States apply best commercial practices in the following areas:

— quality and timeliness of services;

— assessment of investment proposals;

— consultation process and dealing with users;

— accounting practices and transparency;

— subsidization; and

— development plans.

3.3 This would involve, for example, the recognition by airport operators of air carriers, passengers and others doing business at airports, as customers who want to be satisfied that services are provided to an appropriate standard of quality, in a timely and cost-effective manner. It would also imply responsiveness to changing customer requirements and demands and no unreasonable difference in the treatment of users. A two-way exchange of information and an in-depth consultation process between the airport operators and the users should be documented on the airport development plan showing the relationship between the quality of service, the level of investment, and the level of charges.

3.4 Transparent accounts, published on a regular basis, should enable costs, revenues and (where appropriate) subsidies and cross-subsidies to be clearly identified. At airports where non-aeronautical revenues are generated, and are taken into account when calculating aeronautical charges (the so-called single till approach, which is described in Chapter 4, Part D, paragraph 4.55), there should be no differentiation between the income and costs from the two sources. Subsidization of user charges should not be regarded as a substitute for bearing down on operating costs. Where it is necessary for wider public interest reasons to subsidize airport operations, from public funds or from revenues generated by other airports in a common system (an airport network), this should be clearly shown in the accounting system.

3.5 Proposals for investments should be objectively assessed against financial and broader cost-benefit analyses, including evaluation of social needs, impact on national or local economy, and environmental effects. Safety and security requirements should also be reflected. The possible role of government, at national and local level, in defining these criteria should be acknowledged.

3.6 In addition to the areas recommended in paragraph 3.2, principles of best commercial practices could also be applied in many other areas, such as: budgeting, bank and cash management, presentation of financial statements, benchmarking and measuring performance and productivity, service level agreements, economic pricing, collection of charges and concessions and rentals.

3.7 A service level agreement (SLA) is a tool by which airports and airlines define the level of service and the terms of engagement or rules that will govern the airport/airline(s) relationship on the agreed services. Guidance material describing the objectives, characteristics, implementation aspects and the various possible forms of an SLA is included in Attachment 3.

PURPOSES AND NEED FOR AN ACCOUNTING SYSTEM AND FINANCIAL CONTROL

3.8 Financial accounting refers to the system according to which revenues and expenses are recorded and summarized so as to present an aggregate financial picture of the provision of airport services. How elaborate and detailed the financial accounts are depends on the extent of detail required and the size of the airport concerned. It is, however, essential from the outset to ensure that all accounting procedures are applied in accordance with recognized accounting rules, standards or conventions. The importance of good internal controls as well as external auditing must also be emphasized.

3.9 Financial accounts may also be supplemented by management accounts which apply accounting techniques for the purpose of assisting all levels of management in planning and controlling all the different functions and services at an airport.

3.10 The basic purpose of financial control is to ensure that the resources used to operate airports are spent in an effective, timely, reliable and accountable manner. This involves the monitoring and controlling of service provision in financial terms to ensure that the magnitude of expenses and revenues incurred in a particular year are in accordance with a previously approved budget.

3.11 Financial control and accounting are of course interrelated, since management cannot exercise financial control effectively without having at its disposal the data provided by a sound financial accounting system. It is therefore essential that any procedure being established to provide financial control be accompanied by a thorough examination of the accounting system to ensure that the latter can adequately provide the financial data necessary for this purpose.

SCOPE OF ACCOUNTING AND FINANCIAL CONTROL

3.12 Financial control essentially involves three steps: 1) a comparison of actual revenues and expenses with those planned; 2) where the two differ significantly, a determination as to whether the cause lies within the budget itself, in the management of the airport or is the result of external factors outside management's control; and 3) what corrective measures need to or can be taken.

3.13 Any substantial divergence from the original budget for a major specific revenue or expense item may also call for a review of the forecast outcome, to determine the extent to which any other items and the overall financial situation of the entity providing the airport concerned is likely to be affected. This will be particularly beneficial in cases where the shortfall could ultimately affect the operating efficiency of the airport.

3.14 At the end of each accounting period, which as a rule covers a one-year period, the entries in all individual financial accounts are totalled for presentation in two complementary forms or tables, namely the income statement (also referred to as revenue and expense statement or profit and loss statement) and the balance sheet. The former summarizes all revenues and expenses arising during a specified period, with the difference between the two totals being either a profit or a loss. The balance sheet summarizes assets and liabilities at a point in time. The profit or loss for a period goes to retained earnings on the balance sheet and, together with the balance in other equity accounts, provides the net worth of the airport.

3.15 An income statement and a balance sheet do not identify the movements in assets, liabilities and capital which have taken place during the accounting period. A statement of cash flows should be prepared to highlight movements in cash flows for the period concerned. This statement also provides information on the entity's liquidity position. This is addressed in Part B of this Chapter. It should be noted that a statement of cash flows, when provided for a number of years, is of particular relevance and assistance when financing is being sought, because it shows the changes in the cash position of the airport, and can thereby influence the size and terms of the loan or financing being sought.

THE BUSINESS PLAN AND BUDGET

3.16 The quality of planning has a considerable influence on the successful outcome of an organization's management. Efficient and effective planning procedures will also meet the needs of users and the supervisory authority or regulator. These planning procedures will involve preparation of a business plan and a budget. The effectiveness of planning depends not only on the active participation of senior management, but of staff at all levels in the organization.

3.17 The business plan and budget have different timescales but should relate to each other within the following framework:

a) a *strategy* should outline the long-term objectives which underlie the business plan, and the means whereby the airport can avoid design constraints;[1]

1. Reference should be made in that respect to the preparation of the Airport Master Plan (see *Airport Planning Manual*, Doc 9184, Part 1, *Master Planning*).

b) a *business plan* is normally set for a period of 3 to 5 years and identifies the projects to be carried out during this period and sets the business environment for the budget; and

c) a *budget* is normally set for 1 year and represents the first year of the business plan in financial and operational detail.

3.18 Setting a business plan and budget is an important part of the planning process and makes possible the following objectives regardless of organizational structure:

a) planning to ensure that future requirements are anticipated and provided in time;

b) coordination of the components of the provision of the airport to provide an effective service;

c) efficient management of the factors of production involved in providing the airport; and

d) financial control over the provision of the airport to ensure that the cost of provision is efficiently and effectively incurred.

The business plan

3.19 The purpose of the business plan is to specify infrastructure requirements and the actions to be followed over the plan period by the airport to achieve its long-term strategies. The plan should therefore prescribe specific objectives through which the goals will be achieved. In so doing, the plan should outline the business environment in which the airport is forecast to operate and its implications. Consideration will need to be given to political, legal, economic, social and technical factors, as well as regional and global developments that may affect the airport; in addition the plan will need to highlight assumptions made which particularly affect the forecast plan outcome. Specific objectives can be broken down into the level and costs of services and the recovery of costs associated therewith, highlighting who is responsible and accountable for carrying them out. The plan will also identify key objectives against which an airport's performance will be monitored. Such planning will not only be financially orientated but will include goals concerning safety, security, the nature and level of services, the forecast demand for such services and the requirements of users.

3.20 The plan should identify capital investment projects to be carried out together with their financial implications. It is important that new projects included in the business plan meet an operational requirement and be accompanied by an appraisal, setting out the economic and financial justification of the project. (This is covered in more detail in Chapter 7.) A compromise between the cost of technical solutions to meet operational requirements and the financial implications for users may need to be made. Forecast changes in numbers and type of staff over the plan period should also be included. The business plan should demonstrate that the airport is well managed by reference to relevant performance indicators, including unit costs and quality of service (as described in Part C). These should cover the recent past and show future projections based on the outcomes in the plan being achieved.

3.21 The plan should take account of the following parameters:

a) forecast air traffic;

b) external economic assumptions (e.g. exchange rates, inflation, GNP and interest rates);

c) staff numbers and changing qualifications, training and work skills required of staff;

d) limits on expenditure and/or airport charges;

e) changing institutional arrangements;

f) changes in costs (salaries, operating expenses);

g) income; and

h) operating result (as measured by the difference between forecast revenues and costs).

3.22 Planning is a continuous process and the business plan needs to be updated annually to reflect substantial amendments. In order that these plans maintain continuity and do not become simply a series of “wish statements”, it is recommended that a comparison of the previous year’s plan be made against the current year’s plan and any changes be identified and explained. Some flexibility should, however, be provided in order to keep the plan from being too rigid. The main uncertainties affecting the results, particularly in the later years, should be discussed (e.g. the effects on capital investment of lower than forecast traffic) and contingencies in the event of different outcomes could be indicated (e.g. prioritizing investment projects in the event of a constraint on borrowing for capital investment). The effect of different cost assumptions (e.g. higher staff costs) might also be assessed.

The budget

3.23 The budget should be based on the first year of the business plan and usually covers the period corresponding to the annual financial year. It should be revised only exceptionally when unusual and unforeseeable circumstances arise during the budget year. The expected actual income and expenditure, however, should be regularly forecast during the year.

3.24 A budget is composed of two elements:

a) a budget that forecasts revenues and expenses including depreciation and interest; and

b) a capital budget that forecasts capital expenditure detailing proposed investment in upgrading existing assets or acquiring new assets during the year.

3.25 The budget should be organized in line with the accounting system used to record revenues and expenses. For a budget to be a useful control device, it must provide guidance to operating units expending resources to produce services. Budget items should be consistent with various sub-accounts in the accounting system. The budget should be formatted so that it is easy to compare the actual results with the budgeted results on a quarterly or monthly basis as well as for the year as a whole. Consequently, very detailed comparisons (e.g. item by item in the various sub-accounts) may not be necessary.

FINANCING AND CASH MANAGEMENT

3.26 Financing and cash management refer to those practices that aim to maximize the return on the invested funds and the efficient procurement of funds. These tasks can be undertaken internally or externally, and sometimes by State treasuries. Cash management needs to be complemented by the management of foreign currency and interest rate exposure. The latter comprises the minimization of the risks associated with movements in market rates of interest to control the return on financial investment and the cost of debt.

3.27 Cash management usually involves forecasting cash needs and balancing these needs against expected cash inflows and outflows, i.e. receipts and payments. Typically, a 90-day forecast of these factors is maintained for this purpose, or could be even longer where major capital expenditures are anticipated. Decisions on when to borrow cash to cover expected cash deficits and when to invest surplus cash, and the time periods relative to each of these circumstances, completes the cycle of cash management events. The effective management of cash resources can make an important contribution to the overall financial performance of an airport.

3.28 Policies, procedures and systems for cash management should be based on clear descriptions of authority. Reviews or audits at unscheduled times should be undertaken to guard against possible misuse of authority or abuse of trust implicit in the relationship necessary between the airport and the banking institution concerned.

INTERNAL AND EXTERNAL AUDITING

3.29 Internal audit can be defined as an independent appraisal function within an organization, for the review of activities, as a service to all levels of management. It is a control which measures, evaluates and reports upon the effectiveness of the whole system of internal controls, financial and otherwise, which have been established by management to safeguard its assets, ensure reliability of records, promote operational efficiency and monitor adherence to policies and directives. Internal audit is most effective when independence is maintained, i.e. where the auditors are not engaged in any system which they would normally review and appraise. The internal audit function is itself an integral part of the system of internal control, and an internal audit should not only report, for example, on the effectiveness of the system of internal controls but also make recommendations.

3.30 External audit is an independent appraisal function performed by an outside entity which, for a State organization, could be done by the State auditor. The external auditor may have a statutory responsibility to report on the financial statements giving an account of management's stewardship. This independence will vary in relation to the method by which external audit is selected. Another factor to be recalled is that external audit provides a valuable service not only to the controlling body to which it reports but also to users and others being served by the entity being audited. Care should be taken in the selection process of an auditor.

3.31 The main difference between external and internal audits is in respect to emphasis. For instance, the internal auditor concentrates attention upon internal controls within the airport concerned; the external auditor, while interested in internal control, will also want to ensure that the airport acts only within its authority (which may be statutory) and that its accounts present a true and fair view of its activities. External audit authority generally stems from statute, but the responsibilities arising from this authority are often extended and amplified, for example, by standards and guidelines issued by professional accountancy bodies. An important difference between internal and external audit lies in the line of reporting. The internal auditor reports to management; the external auditor, while also submitting reports to management, has an external reporting line to the ultimate airport controlling body. This reporting aspect manifests itself at the end of the external audit, when an external auditor will be required to certify the accounts.

3.32 Both internal and external audit have roles to play with respect to airport charges, such as passenger service charges, which are collected for the airport by the airlines or other parties. Both audits will need to be satisfied with the control measures in place by the organization collecting the charges and by the airport organization, to ensure that all revenues due to the airport are collected and promptly paid to the airport.

B — ACCOUNTING

3.33 While airports are operated under a variety of institutional frameworks — some as separate independent entities, others within an airport system or network — regardless of institutional/ownership structures, an airport accounting system should serve the interests of the various parties concerned. At a minimum, it should provide basic information to assess the financial health of the airport, to justify the charges imposed on its users, and to assess the performance of the airport over time. When designing an airport accounting system, it is useful to recognize the needs of the various parties concerned:

— Airport owners, governments, lenders, aviation authorities, etc., are all interested in the financial health of the airport. Information reflected in a financial statement will often serve their needs;

— Airport managers also need ready access to the financial data organized to allow for a detailed analysis of the financial performance of the airport. For this purpose, it is often necessary to organize financial data based on the airport's various cost centres;

— Airport users (air carriers, general aviation, inspection agencies, ANS provider, concessionaires) seek cost justification for the charges imposed by the airport. To provide such justification, it is often necessary to arrange financial data according to the various service lines within an airport.

3.34 In summary, when designing/upgrading an accounting system, reporting flexibility should be a critical design component. In order to achieve such flexibility, it is essential to understand the accounting process leading to the production of financial statements as well as statements for cost centres and service lines. While the accounting process behind financial statements is referred to as financial accounting, the process allocating financial data to cost centres and service lines is often referred to as management accounting. Figure 3-1 illustrates how the accounting system may be organized for an airport and the relationship between financial data and cost basis for airport charges (which is discussed in Chapter 4).

FINANCIAL STATEMENTS

3.35 Airports operated as autonomous entities, under public or private ownership, are normally required to provide the following financial statements: income statement (revenue and expense statement), balance sheet and cash-flow statement. In order to produce the financial statements, it is necessary to develop a system for identifying various types of financial outlays and receipts. This involves establishing individual accounts, each showing a specific type of revenue, expense, asset or liability and cash flow. While the income statement, as indicated in paragraph 3.14, shows the revenues and expenses of the airport over a specific time period, the balance sheet is a snapshot of the financial health of the airport on a specific date, showing the value of assets and liabilities in relation to the net value or equity (including retained earnings). The number of accounts established for a specific airport accounting system will depend on the degree of detail sought, i.e. the more elaborate the system, the greater will be the subdivision of accounts established.

3.36 Accounts recording revenues and expenses can be maintained on an accrual accounting basis or a cash accounting basis. Under accrual accounting, revenues are credited to the period (usually the financial year) in which they are earned and expenses charged to the period when they are incurred. Alternatively, under cash accounting, revenues are credited to the period when they are received and expenses recorded when paid. Accrual accounting systems reflect the financial position of the entity concerned better and are based on standard accounting practices.

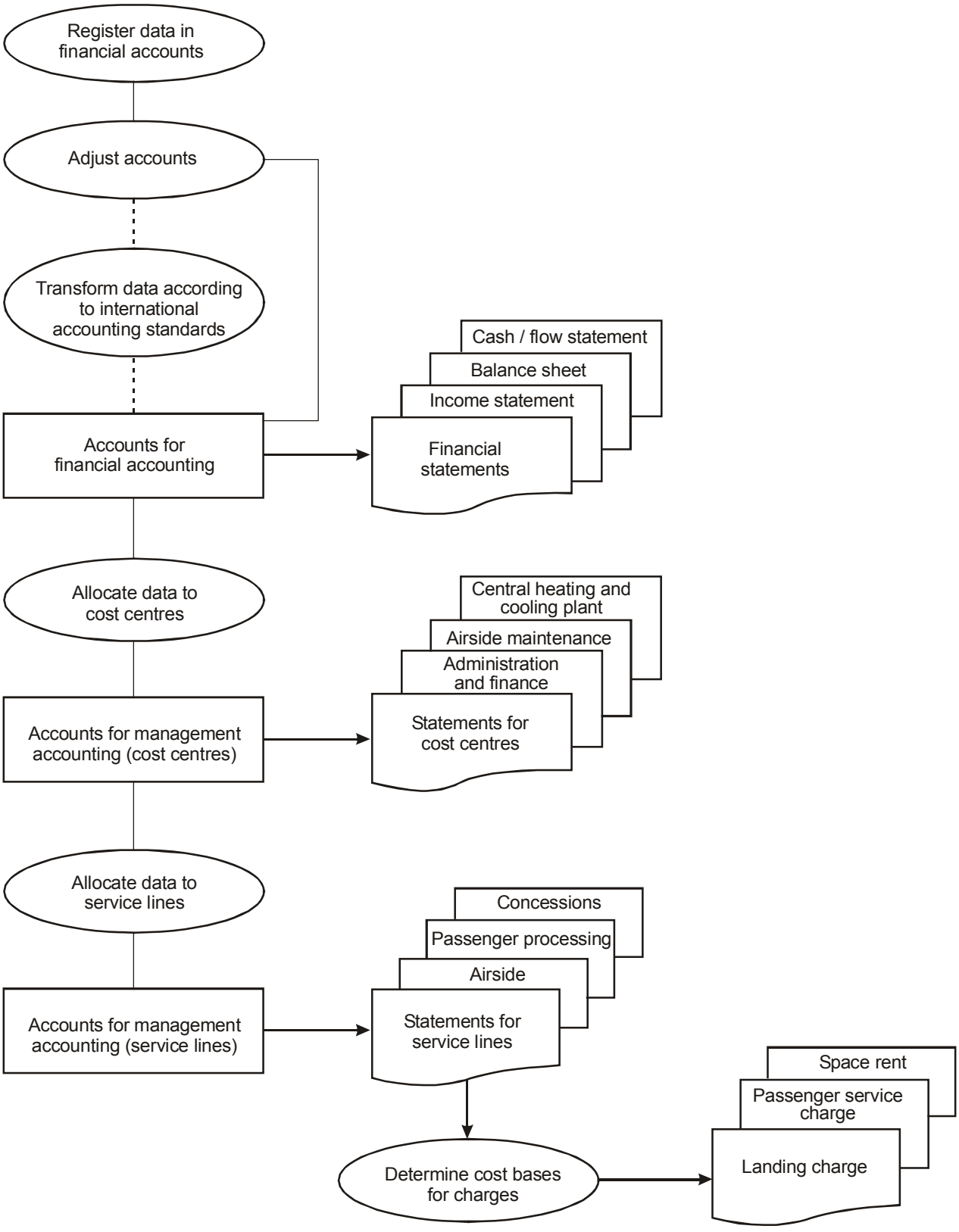

Figure 3-1. The accounting and cost determination process

3.37 In many cases, the financial statements of the airport may include operations that do not relate to the airport in question. For instance, the airport entity may operate several airports, air navigation services or even a local port. In other cases, some airport operations may be carried out by other entities and reflected in their financial statements. For instance, a department of public works may construct and provide capital assets to the airport, or the national telecommunications department may provide services to the airport without charge. In cases where the financial statements of the entity operating the airport do not reflect the operations of the airport in totality, some additions to and subtractions from the airport's financial statements will be required to ensure that a true and fair picture of the airport is provided. It is generally good practice to do this following the accounting conventions incorporated in the financial statements.

3.38 For various purposes, such as obtaining financing, or for recovering costs, it could be necessary to convert the airports financial statements into a format that would be familiar to a lending institution or an international airline. International accounting principles, such as the Generally Accepted Accounting Principles (GAAP), or International Accounting Standards (IAS), or any other similar recognized standard would be commonly acceptable.

3.39 The identification and subsequent recording of items is usually more easily accomplished for revenues than for expenses. This is chiefly because revenue sources tend to be fewer in number than expense items, and because each revenue item, with few exceptions, is often easily identifiable with only one type of source, whereas one expense item can frequently be identified with several major expense categories. The information required in an accounting system for airports can vary considerably in detail and layout. The precise level of detail will depend on management requirements at the particular airport concerned. However, there is a basic itemization of revenues and expenses that may be considered a minimum, which is described in the following sections.

REVENUES

3.40 Revenue items that may be considered essential to meet the basic data needs of an airport management are outlined below as they might appear in a statement of revenues and expenses (the items shown are not intended to present an exhaustive list of the different sources of revenue).

Revenues from air traffic operations:		
Landing charges (including lighting & approach & aerodrome control charges).....	_____	
Passenger service charges	_____	
Cargo charges	_____	
Parking and hangar charges.....	_____	
Security charges.....	_____	
Noise-related charges.....		
Other charges on air traffic operations.....		
Total revenues from air traffic operations.....		_____
Revenues from ground-handling charges		_____
Revenues from non-aeronautical activities:		
Aviation fuel and oil concessions (including throughput charges).....	_____	
Restaurants, bars, cafeterias and catering services	_____	
Duty-free shops	_____	

Automobile parking		
Other concessions and commercial activities operated by the airport		
Rentals		
Other revenues from non-aeronautical activities		
Total revenues from non-aeronautical activities		
Bank and cash management revenues		
Grants and subsidies		
Other revenues		
Total revenues		

The following paragraphs indicate what should be included in the individual revenue items.

Revenues from air traffic operations

3.41 *Landing charges (including lighting and approach and aerodrome control charges)*. This includes charges and fees collected for the use of runways, taxiways and apron areas, including associated lighting.

3.42 *Passenger service charges*. This includes passenger service charges and other charges and fees collected for the use of the passenger terminal and other passenger-processing facilities (e.g. for passengers embarking or disembarking).

3.43 *Cargo charges*. This includes cargo charges and any other charges or fees collected in respect of cargo for the use of the airport's freight-processing facilities and areas.

3.44 *Parking and hangar charges*. Charges collected from aircraft operators for the parking of aircraft (where not included in the landing charge) and their housing in airport-owned hangars, including any revenue from the leasing of such hangars to aircraft operators. Towing charges, if imposed, should also be included under this heading.

3.45 *Security charges*. This includes charges and fees collected for the provision by the airport of security services for the protection of passengers and other persons at the airport, aircraft and other property.

3.46 *Noise-related charges*. Charges collected related to the noise alleviation and prevention measures.

3.47 *Other charges on air traffic operations*. This would include all other charges and fees collected from aircraft operators for other types of facilities and services provided at the airport for the operation of aircraft.

Revenues from ground-handling charges

3.48 This refers to charges and fees collected from aircraft operators for the use of facilities and services provided by the airport for the handling of aircraft. It should be noted that at the majority of airports

ground handling is largely carried out by one or more airlines or special ground-handling enterprises. In the latter case, the airport will impose concession and/or rental fees which should be recorded as revenues from non-aeronautical activities.

Revenues from non-aeronautical activities

3.49 *Aviation fuel and oil concessions (including throughput charges).* This refers to all concession fees, including any throughput charges, payable by oil companies or any other entities for the right to sell or distribute aviation fuel and lubricants at the airport. Revenues from an automobile service station concession, including the sale of automobile fuel and lubricants, should be entered in the revenue accounts covering "Other concessions, and commercial activities operated by the airport".

3.50 *Restaurants, bars, cafeterias and catering services.* This covers fees and charges payable by commercial enterprises or other entities for the right to operate restaurants, bars, cafeterias and catering services at the airport, including aircraft catering. It would also include any revenues derived from any such activities when operated by the airport.

3.51 *Duty-free shops*. This includes the fees and charges payable by a commercial enterprise or any other entity for the right to operate duty-free shop(s) at the airport, and for off-airport duty-free shops to deliver goods sold at the airport. It would also include any revenues derived from duty-free shops operated by the airport itself.

3.52 *Automobile parking.* This includes fees and charges payable by a commercial enterprise or any other entity for the right to operate automobile parking facilities at the airport. It would also include any revenues derived from such facilities when operated by the airport itself.

3.53 *Other concessions, and commercial activities operated by the airport*. This item includes any concession fees or charges, other than those mentioned above, payable by commercial enterprises or other entities for the right to sell goods and services (such as automobile rentals, and banking and exchange bureaux concessions) at the airport. Also included are any revenues derived from commercial activities (shops or services) operated by the airport itself and not mentioned above, as well as any public admission fees charged for entry to areas of special interest (e.g. terminal observation areas) or for guided tours within the airport area.

3.54 *Rentals*. This refers to rentals payable by commercial enterprises and other entities for the use of airport-owned building space, land or equipment. Such rentals should include those payable by aircraft operators for airport-owned premises and facilities (e.g. check-in and sales counters and administrative offices) other than those already covered under "Air traffic operations" above.

3.55 *Other revenues from non-aeronautical activities*. This refers to all other revenues the airport may derive from non-aeronautical activities. It would also include payments received by the airport for such services as heating, air conditioning, lighting, water, cleaning and telephone use, provided they are not included in the rental or concession fees, and for any services provided to non-aviation entities outside the airport.

Bank and cash management revenues

3.56 This includes any revenues derived from investments and cash management such as interest on bank accounts, treasury bills, short-term debentures and bonds, or from trading in discounted notes and other similar revenues. Interest received may be deducted from interest paid to arrive at a net interest cost which is then shown as an expense item.

Grants and subsidies

3.57 This covers any payments received and not requiring the transfer of assets or provision of services in return. This may entail a payment by the State to cover services that are exempted from charges or to cover the full cost of providing services to some users.

EXPENSES

3.58 Basic financial accounting is performed by category of expense and usually follows professional accounting standards and statutory requirements. The detail will vary according to local practice but the following are likely to be the minimum required for published accounts.

Operation and maintenance:		
Personnel costs	_____	
Supplies	_____	
Services — contracted	_____	
Administrative overhead		_____
		_____
Other non-capital costs		_____
		_____
Capital costs:		
Depreciation and/or amortization	_____	
Interest	_____	
Other capital costs	_____	_____
Total expenses		_____

Further particulars on what should be included in individual expense categories are contained in the following paragraphs.

Operation and maintenance

3.59 *Personnel costs.* This would include direct remuneration to personnel, as well as expenses for social and medical insurance, pensions, remuneration in kind (e.g. board and accommodation), travel subsistence allowances, employee training and other such costs that may be associated with employee compensation or development.

3.60 *Supplies.* This would include the cost of spare parts and consumable materials that the airport actually incorporates or expends in providing facilities or services without the assistance of agencies or enterprises outside the airport entity (see *Services — contracted*). Such costs should include the operation and maintenance of fixed assets (e.g. vehicles, machinery, furniture and fixtures) provided such items are not also listed as depreciable assets. Also included is the cost of services and supplies, such as heating, air conditioning, lighting, water, cleaning, laundry, sanitation, stationery and postage.

3.61 *Services — contracted.* This includes payments made to others for the provision of airport facilities and services.

Administrative overhead

3.62 To the extent it has not been reported under *Operation and maintenance*, this would include the cost of common administrative services, such as overall management and economic planning.

Other non-capital costs

3.63 This would include non-capital costs not reported under *Operation and maintenance* or *Administrative overhead*. Included in such costs are national and other governmental taxes (e.g. property and income taxes) payable by the airport as a taxable entity. Excluded are any sales or other taxes collected from third parties on behalf of government taxing authorities (e.g. sales tax on goods and services sold in airport-operated shops, and income tax deductions from staff salaries).

Capital costs

3.64 *Depreciation and/or amortization*. This would include the amount by which the value of the assets has decreased during the year due to physical deterioration, obsolescence and other such factors that limit their productive life. Also, the amount by which intangible assets (e.g. developmental and training costs) have been written off during the year would be included.

3.65 *Interest*. This would include the interest paid or payable on debts during the year as well as any interest computed on capital assets.

3.66 *Other capital costs*. This would include long-term leases and capital repayments if an airport applies cash accounting instead of depreciation.

CAPITAL

Working capital

3.67 Working capital facilitates the working or running of an organization and is the difference between current assets and current liabilities. It is also known as net current assets.

Capital employed

3.68 In the case of an autonomous airport entity, which has a comprehensive balance sheet, it is possible to determine a value for capital employed. There is no single generally accepted definition of capital employed because its composition depends on the use to which it is put. It may be defined in terms either of the capital invested in the airport or of its assets. The alternatives are shown in Table 3-1. In some cases, the total cost of fixed and current assets can be reduced by non-interest bearing liabilities.

3.69 Some autonomous airport entities are required to achieve a financial return. This can be expressed as a percentage of capital employed and is sometimes referred to as the return on capital employed (ROCE) or return on assets (ROA). When used in this way, it is usual to measure the return as profit before interest and tax. As the return relates to a period of time (e.g. one year), it is also more appropriate to define capital employed as the average over this period rather than at a particular point of time (e.g. end of the year). It is usually adequate to use the average of the opening and closing figures of capital employed over the period concerned.

Table 3-1. Capital employed

Capital definition	*Equivalent asset definition*
Total capital – share capital – reserves – long-term debt – current liabilities	Fixed assets plus current assets
Long-term capital – share capital – reserves – long-term debt	Fixed assets plus net current assets (i.e. current assets minus current liabilities)
Equity/shareholders' capital – share capital – reserves	Fixed and net current assets minus long-term debt

CASH FLOW

3.70 The statement of cash flows helps to measure the financial performance of the airport by showing its ability to provide the facilities and services whilst generating sufficient funds or cash inflows to cover its cash outflows, including payments for interest on borrowing and, when applicable, payments made to shareholders. This information is not provided by the revenue and expense statement or the balance sheet on their own, since they are usually prepared on an accrual accounting basis, which adopts the principle of matching income generated against the liability for expenditure in the period concerned. This is normally achieved through adjusting the cash flows.

3.71 There is a requirement for information on the liquidity, viability and financial adaptability of the entity managing the airport concerned. This can be measured by a statement of cash flows in conjunction with the balance sheet. The balance sheet provides information about the airport's financial position at a particular point in time including assets, liabilities and long-term debt and their relationship with each other at the balance sheet date. Information concerning the airport's liquidity is usually incomplete because the balance sheet is drawn up at a particular point in time. Alternatively, a statement of cash flows shows information about the reporting airport's cash flows in the reporting period, the objective being to show the airport's cash generation and cash absorption for the period concerned. It is not a replacement for the revenue and expense statement and balance sheet; indeed, when assessing future cash flows, it is prudent to use all three statements in order to ensure that likely cash flows generated from earlier transactions are accounted for.

3.72 The statement of cash flows analyses the cash flows under standard headings such as operating activities, returns on investments and servicing of finance, taxation, investing activities and financing. The objective is to ensure that cash flows are reported in a form that highlights the significant components of cash flow and facilitates comparison of the cash flow performance with other entities.

3.73 It is worth noting that the term "cash equivalent" includes financial instruments that are highly liquid and convertible into known amounts of cash without notice and do not have any significant risk of changes in value owing to changes in interest rates. Statements of cash flows have largely superseded working capital-based sources and application of funds statements. This is because cash flow is more widely understood and is more transparent in identifying movements relevant to the liquidity and viability of an entity. An example of this is that a decrease in cash available may be masked by an increase in stock or debts.

COST CENTRE STATEMENTS

3.74 A cost accounting system should also be able to generate cost centre statements that will enable airport management to monitor airport activity according to various functions. Because most airport costs are fixed — independent of the number of daily aircraft movements at the airport — the ability to examine costs by cost centre allows airport management to monitor/control costs as they are incurred. How cost centres are established for an airport will be a function for several variables including airport size and organizational structure. As a general rule, it is useful for the cost centres to reflect the managerial chain of command at the airport. For example, if the garage is managed as a separate facility by a separate foreman, then it is a candidate for becoming a cost centre. Cost centres can exist within other cost centres. Thus, if there is a superintendent in charge of maintenance, then the garage could be one cost centre within maintenance, along with electrical, plumbing and other cost centres.

3.75 Typical cost centres may include:

— administration and finance;

— airside maintenance;

— central heating and cooling plant;

— community affairs;

— rescue and firefighting service;

— garage;

— groundside management;

— marketing;

— plumbing, mechanical and electrical;

— security; and

— terminal management.

3.76 Senior management will hold cost centre managers accountable for their management of the costs and functions of the cost centres. Performance measures, and changes in performance measures through time, will permit an appropriate assessment of efficiency and effectiveness. As noted in Part C of this Chapter, comparisons between airports can be misleading, considering the complex mix of elements at an airport. It may be much easier and more productive to compare and benchmark two cost centres (e.g. rescue and firefighting service) at different airports.

3.77 Cost centres may be built into the detailed accounting records associated with the production of the financial statements above, but it is by no means generally or necessarily so. It is possible to code a payroll and hours spent on particular activities so as to have the detailed accounting records produce a labour distribution across some or all cost centres, with similar arrangements for purchased services, depreciation, consumption of inventory items and so forth.

3.78 Alternatively, it may be sufficient to study particular account items occasionally and apply percentages from month to month. In practice, some input to cost centre statements may be directly costed from detail records (e.g. labour distribution) and other input allocated on a percentage basis derived from prior years' experience (e.g. heating and electricity).

3.79 Cost centres directly affect the costs associated with the provision of airport service lines, and cost centre statements may be thought of as input to service line statements. The linkage back from service

line statements to cost centre statements should permit an informed discussion between airport management and users insofar as historic costs of operation are concerned.

SERVICE LINES STATEMENTS

3.80 The notion of service lines is a user-driven concept, which is generally expressed in terms of the services that users receive. Consequently, it is essential that the airport accounting system be able to allocate various cost centre data to the various service lines. In fact, a service line may incorporate input from a variety of cost centres, as shown in Table 3-2.

3.81 It is improbable that any two airports will have identical cost centres and service lines. The key to the service lines is that a service line represents what the user is paying for. It is the user's window into the cost-effectiveness of the airport providing the service, and it is the interface whereby the airport demonstrates the costs inherent in providing the service. The combination of cost centre and service line reporting permits users to be informed consumers when they request levels of service, and it permits airport managers to assess the impact of changes (under consideration or imposed by circumstances) that will affect future fees and charges.

3.82 Service lines may be partially built into the detailed accounting records associated with the production of the financial statements above, but it is extremely time consuming and unusual to do so. The repair of a truck may be carried out by the garage, or the truck may be sent out for repair. Either way, there is likely no way the exact future utilization of that particular truck across the service lines can be known in advance. Equally, tenants will not appreciate month-to-month fluctuations in rent because the heating plant was overhauled at a given month. It is possible to code average costs per hour, per tonne, per square metre and so forth to distribute cost centre outputs to service lines in a fairly detailed fashion. An electrical and mechanical cost centre may record individually major items installed or refurbished, and maintain records of labour utilized on a detailed basis.

Table 3-2. Examples of service lines

Service line	*Airport charges* (*associated with*)	*Cost centres* (*in support of*)
Airside	Landing charges Parking charges	Airside maintenance Rescue and firefighting service Garage Security Air navigation service (ANS)
Passenger Processing	Passenger service charges Security charges	Terminal maintenance Security Heating plant Flight information
Concessions	Space rent Percentage on turnover	Terminal maintenance Security Heating plant Marketing
Property Rental	Space rent Recovery of utilities Maintenance charges	Heating plant Security Airside maintenance Ground maintenance

3.83 Alternatively, it may be sufficient to study particular cost centre output application to service lines occasionally, and apply percentages from month to month. In practice, the distribution may be little more than a spreadsheet quite distinct from the underlying accounting records of the airport.

ACCOUNTING OF PRE-FUNDING OF PROJECTS THROUGH CHARGES

3.84 Specific considerations pertaining to the accounting of pre-funding of projects through charges are addressed in Attachment 6, paragraphs 8 to 13.

C — MEANS OF MEASURING PERFORMANCE AND PRODUCTIVITY

3.85 Performance and productivity measures are important financial management tools for airport managers, regulators, and users. Airports typically use considerable resources in their day-to-day operations. Performance shortfalls can result in significant additional costs to users and society as a whole. The objective of measuring performance and productivity is therefore to improve performance efficiency and cost-effectiveness.

3.86 Performance measures can be applied to all aspects of an airport, not only in its airside and landside operations, but also to its safety, security and commercial practices. A critical assessment of an airport's operation can provide crucial information with respect to the safe and efficient movement of passengers and air cargo. Performance measures are helpful in establishing organizational goals, identifying areas needing attention, preparing operational and financial plans, and improving accountability for individual managers. It should be stressed, however, that the primary purpose of performance measurement is the assessment and improvement of performance over time within an airport organization.

3.87 Airports should choose areas of measurement that focus on improving what is important. For many airports, increasing the number of aircraft operations is paramount. For other airports, reducing airport congestion and delay is an equally notable goal. Whatever the goal, there are likely to be a number of trade-offs among performance areas that the airport managers will need to consider as they attempt to achieve this goal while maintaining other secondary objectives.

3.88 Comparisons of performance between airports are difficult and can often be dangerously misleading. Measures used by one airport may not be comparable to measures in another airport. Definition, content, data collection, and accounting practices may also differ. The size and operational complexity of an airport is another factor to consider. Nonetheless, if done with caution, comparing the performance of different airports can be beneficial in understanding performance drivers and shortfalls and thus establishing best practices. If airport managers attempt to make such comparisons, differences in operational, structural, and organizational situations must be adequately reflected. It is therefore of major importance to first create a level field for comparison by means of key performance indicators. As mentioned in paragraph 3.76, comparisons between cost centres at different airports may be more feasible than comparing entire airports with each other.

3.89 Airports developing performance measures may wish to use a five-part system of selecting the most important goals, establishing a measurement method, setting targets, determining what work or initiatives are needed to achieve those goals, and then assessing the results of the work and its impact on achieving the goals. The following approach is a guide to developing performance measures and should not be seen as prescriptive:

1) *Selecting goals.* Ideally a “critical few” number of measurable goals that define success of an airport’s operation should be selected. The first step is for airport management to determine what is “success”. Then managers and users should define outcome objectives and the results that would signal to the airport that the goals have been achieved. The performance criteria should reflect the objectives; for example, if the objective were to increase passenger throughput at an airport, the performance criteria could include the number of aircraft movements and the average number of turn-arounds per gate.

2) *Measurement method.* After choosing measurable goals, managers should select a method of measurement. The method should allow for easy data collection at a reasonable cost. The data should cover those aspects of the airport necessary to evaluate the performance goal. Airports do not require sophisticated information systems to start performance measurement. Virtually any airport can obtain data on a sufficient number of items to start the performance measurement process. Management can subsequently add refinements as required. Formal performance measurement systems should be sufficiently general in scope and enable observation and analysis over periods of time in order to obtain clear trends.

3) *Setting targets.* Before setting a numerical target, managers should research the previous organizational performance history of the airport for each goal. Then managers can establish a baseline for the current level of performance. Methods include past year’s performance, industry standards (benchmarks), the expectations for performance of the government in the State where the airport is located, and analytical work on trade-offs. Choose measures with clear definitions of terms and guidelines on how they should be applied. Consult and cooperate with users on external measures as necessary. Where appropriate, performance measurements should reflect the concerns of the regulator, and be included as part of any contractual liabilities.

4) *Planning to achieve the goals.* Each goal may require new initiatives, efforts and resources — airports typically have limited resources. Attainment of individual goals may be mutually incompatible — for example increasing traffic levels may be inconsistent with reducing aircraft delay. So trade-offs among goals and resource allocation may be required. Prioritizing staff, financial and infrastructure resources and efforts is important to ensure success of the goals. To plan how to achieve the goals, it is suggested that an airport:

   — determine the initiatives it needs to develop to close the current goals performance gap;

   — estimate the budget, staff and management time required for each initiative;

   — prioritize each initiative to most efficiently close the performance gap of each goal; and

   — if there are a significant number of new initiatives, decide what non-critical work can be stopped to free the resources required to achieve the goals.

5) *Assessing performance measures.* Assessment is a critical part of the performance management process. Airports should periodically assess performance to learn whether they are making progress in achieving objectives and targets. If an airport is getting better-than-expected results, airport managers should analyse the success and determine if those results can be replicated in other areas and examine how to go about doing so. If an airport is not achieving performance targets, managers should determine what is the root cause of the problem and how it can be improved. Perhaps it may be necessary to re-

allocate resources in order to increase progress in attaining performance targets. It is important to note that the purpose of assessment is not punitive, but is about achieving planned performance improvements.

Performance management is an iterative process. An airport may wish to develop a regular schedule to set goals, determine what is needed to achieve those goals, and assess results on a continuous basis.

AREAS OF MEASUREMENT

3.90 For airports there are three categories of measures related to performance — input, output, and outcome. Input measures record the resources, such as staff, facilities, and purchased services used to produce an airport output. Output measures represent capacity provided and the quantities of service produced. Outputs have both quantitative and qualitative dimensions. The number of aircraft movements in a period of time is an example of an output measure. Outcome-focused measures describe improvement or success in achieving a goal, for example, the reduction in the number or rate of aircraft accidents from one year to the next, or the reduction in the cost of service per aircraft for an airport, or the reduction in average aircraft delay.

UNITS OF MEASUREMENT/DATA SOURCES/METHODS

Input

3.91 Inputs include capital assets, staff numbers, supplies, and services. Capital assets consist of, but are not limited to, airside assets (e.g. runways, taxiways, air and ground navigation and control aids), landside assets (e.g. passenger buildings, cargo facilities, group transportation, and parking), airport support facilities (e.g. rescue and firefighting services, meteorological services, and aircraft maintenance areas), and administrative, training, and storage buildings. Staff may include air traffic controllers, maintenance technicians, security, and administrative support personnel. Supplies and services purchases may consist of communication services, support and maintenance services, electric power, and fuel. Input may be measured in terms of physical units and value terms (operating expenditures and investments). Typically, capital asset inputs may be measured by simple enumeration of facilities, by investment cost or combinations thereof. Staff input may be measured in number of personnel, hours worked, and/or labour costs. Other operation inputs are generally measured by simple enumeration or procurement cost.

3.92 Data sources for capital asset inputs include airport master plans, inventory records, financial records including procurement costs and financial reports such as a balance sheet or summary of assets and liabilities. Staff inputs may be obtained from shift assignment records and logs, payroll records, and summary financial reports of the airport. Information on the volume and cost of other required inputs can probably be obtained from procurement records, invoices, and records of accounts payable. Information on inputs may be maintained in either paper or electronic form. In some circumstances, such as the absence of comprehensive records, or the lack of electronic records to facilitate compilation, it may be appropriate to use statistical sampling or other techniques to estimate the total quantity or value of input used.

3.93 Information on inputs can often simply be extracted and aggregated from the storage medium. However, either prior to or during aggregation, the unit records of inputs may need to be sorted into appropriate categories such as facility and type of service. All monetary measures, when viewed over time, should be adjusted for inflation. The existence of a cost accounting system, which groups and aggregates various cost categories by process, facility, and/or type of service, can be a convenient source of information.

Output

3.94 The main airport units of production are the number of passengers handled, aircraft movements and tonnage of cargo handled. The first two items are usually collected as part of the accounting system, as is the third at many airports, and there should consequently be no problem in obtaining them. It is important to separate transit passengers where these do not impose any significant burden on the airport. In principle, transfer passengers should also be recorded, as should the degree of peaking of traffic. However, separating transfer traffic in the records imposes costs and the measurement of traffic peaks is often difficult. Gathering the three basic statistics on a monthly basis is likely to be sufficient for a reasonable performance measurement system, since changes in peaking are unlikely to occur very quickly at other than the smallest airports.

3.95 The other measures of "output" are financial. They comprise costs and revenues, which as a minimum, should be divided between aeronautical and non-aeronautical activities. Both should be subdivided into their components in order to be able to isolate those items that are susceptible to short-term change as a result of management action.

3.96 The prime source for identification, enumeration and aggregation of the volume of airport outputs are operational records (either electronic or paper) such as daily flight summaries. Information on the costs collected for each type of service should be available from the airport's financial records and statements of income or collections. When an independent collection agent is employed by the airport, the agent will normally provide reports on transactions to the provider. In some circumstances, such as the absence of comprehensive records, or the lack of electronic records to facilitate compilation, it may be appropriate to use statistical sampling or other techniques to estimate the total quantity or value of output produced.

3.97 Generally, output measures can simply be extracted and aggregated from the storage medium. However, either prior to or during aggregation, the unit records of outputs may need to be sorted into appropriate categories such as facility and type of service. All monetary measures, when viewed over time, should be adjusted for inflation.

Outcome

3.98 While the number of passengers handled, aircraft movements, and tonnage of cargo handled are, in principle, quantitative measures of output, users and the airport managers are also concerned about other outcomes that reflect the quality and efficiency of services provided. Measurement of some of these outcomes is discussed below.

Safety

3.99 Runway accidents are a primary safety concern for airports. While actual accidents are rare, any direct measure of them is an unreliable statistic; alternative measures can be relied upon to provide insight into the level of such a risk. It is common to develop and rely on precursor measures of risk such as runway incursions. A runway incursion is often defined as any occurrence at an airport involving an aircraft, vehicle, person or object on the ground that creates a collision hazard or results in a loss of separation with an aircraft taking off, intending to take off, landing, or intending to land. The total number of incursions per period is one measure of safety. The rate of incursions per operation is another.

3.100 Methods used to measure safety performance may be simple aggregations of safety statistics from data sources, the calculation of ratios to construct rates, or the construction of mathematical models of airport operations to estimate safety parameters such as the number of incursions (runway conflicts).

Delay

3.101 Aircraft operators and passengers expect to complete trips in the shortest time possible. All partners at an airport have an interest in reducing delays. In order to take corrective action, however, measures have to be available that address the sources of delay and thereby focus on corrective action. While en route weather delays are often beyond the control of an airport operator, other measures of delay such as taxi delays are generally within their control. From an airport's perspective, a useful delay measure is one associated with activities within the control of the airport operator. One such measure could be constructed by comparing actual taxi times to their optimal times so as to gauge the overall efficiency of the airport's ability to move aircraft. Potential units of delay measure may be the absolute number of delayed aircraft or total delay minutes, a rate such as the number of delays per hour, or averages, such as the length of delay per operation. The use of a mathematical model of airport operations to establish theoretical capacity may provide a benchmark against which to assess the result of actual operation.

Productivity and cost-effectiveness

3.102 Productivity measures the relationship of airport output to inputs. Typical measures include, but are not limited to, the number of passengers per employee, aircraft movements per employee, and tonnage of cargo handled per employee. Cost-effectiveness measures are similar but indicate the monetary cost of input required to produce an output. Examples include the total airport cost per passenger, aircraft movement, or tonnage of cargo handled.

3.103 Cost and productivity measures are normally calculated from information on the amount of outputs and inputs. These measures may be prepared for the airport in total or for its individual facilities. Table 3-3 lists some safety, delay, cost-effectiveness and productivity measures that are ratios constructed from airport output and input measures. The process of comparing ratios between facilities may help identify best practices. Comparing ratios over time indicates whether performance is improving or deteriorating. Such temporal comparisons provide evidence as to whether changes are helping to achieve performance goals.

Table 3-3. Illustrative measures for some aspects of performance measuring

Goals	*Enumeration*	*Rates*
Safety	Runway accidents Fatal runway accidents Runway incursions Bird strikes Availability of navaids/radars	Accidents per million operations Fatalities per million operations Incursions per million operations Accidents per million operations
Delay	Number of delayed aircraft Total delay in minutes	Delays per hour Delays per operations
Productivity	Number of passengers	Passengers per employee Passengers per square metre of passenger facility area
	Number of aircraft movements	Aircraft movements per employee Aircraft movements per gate Aircraft movements per square metre of airport facilities

Goals	*Enumeration*	*Rates*
	Tonnage of cargo handled	Tonnage of cargo per employee Tonnage of cargo per square metre of cargo facilities
Cost-effectiveness	Airport costs	Total cost per aircraft movement Total cost per passenger Total cost per tonne of cargo handled
	Facility costs	Aircraft facility costs per aircraft movement Passenger facility costs per passenger Cargo facility costs per tonne of cargo handled
	Operating costs	Airside costs per airport operation Variable costs per aircraft movement Variable costs per passenger Variable costs per tonne of cargo handled

Applying results

3.104 Performance measures have numerous applications. The use of performance measures is valuable to an airport in improving the performance of their operation and controlling costs whilst maximizing safety. Samples of the application of performance measures include:

— *Benchmarking.* Performance measures can be used to define a benchmark from which to compare the quantity and/or quality of services provided. The benchmark might be the average performance of facilities of a given type or the performance of a specific facility at a point in time. In the former case, individual facilities are compared to the average level of performance, while in the latter case changes in performance of a single facility over time are compared to its benchmark period. Establishing a benchmark provides an airport the opportunity to measure performance levels against its own standards as well as others.

— *Identification of best practices and performance drivers.* Best practices are useful in understanding how to improve performance. Through the use of benchmarking as described above, it is possible to identify highly efficient or high quality of service facilities and/or processes. These performance drivers can then be studied to identify attributes — best practices — to be emulated or adopted in other facilities in order to improve their performance.

— *Investment analysis.* As the investment decisions regarding changes to the airport become more complex, the need for well-defined measures increases. The identification of best practices and associated levels of output and quality can help estimate the benefit or return that may be associated with investment in facilities and equipment. Similarly, information on potential return on investment and optimum investment size may be obtained through the use of mathematical or economic models of an airport's processes constructed from analysis of measures of output and input. Thus, performance measures can help support and justify investment decisions.

— *Consultation with users.* Performance measures provide records to demonstrate the quantity and quality of services provided to aircraft operators and the cost-effectiveness of these services. Improving performance measures demonstrate the proficiency of airport

managers. A declining measure defines an area for action to improve service. Measures assist in justifying potential new investment and associated costs to users. Undertaking consultations with users on the basis of factual information allows for greater mutual understanding and consensus between airports and aircraft operators. This could lead to easier implementation of new programmes to increase system performance.

— *Prepare performance reports for management and public information.* The publication of performance measures for users and the general public is a valuable gauge of the effectiveness and efficiency of an airport. Dissemination of performance information can build public confidence in the airport's management. Accountability for performance results can lead to significant improvements in the provision of services.

— *Forecasting.* Performance results can be used to forecast capital and staff investments required to meet short-term and long-term demands. Forecasts are an important input to cost-benefit analyses associated with airport infrastructure development.

— *Internal assessment tool.* Measuring performance and productivity can also be used internally as a tool for managers to improve operations of the airport. By selecting a critical number of measurable goals that define success for that organization, managers can track the progress of attaining defined objectives.

Performance measures can be incorporated into an airport's pay-for-performance system. However, such measures must reflect elements that the individual can control and affect.

RECOMMENDED PRACTICES

3.105 For performance measures to be effective and credible, it is important to adhere to certain guidelines. First, the data used to prepare the measures must be obtained from relatively accurate sources. Compiled data should be reproducible by repeating the aggregation or estimation procedure. Care should be taken to assure that the compilation is thorough and if estimation procedures such as sampling are used, they should be free from bias. Second, consistent methods should be used to compile or estimate results regarding inputs, outputs, cost-effectiveness/productivity, and service quality from different facilities or from the same facility over various periods of time. Without consistency, changes in the measures cannot be meaningfully interpreted. Is the observed change caused by a difference in the measurement method or by a real difference in process performance? Third, performance measures should be published. This improves user and public confidence in the operation of the airport services. Finally, the primary benefit in compiling performance measures is to attain goals for improvement and excellence. This can only occur when performance measures are regularly used as a management tool to identify process changes and encourage accountability.

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CHAPTER 4

Determining the Cost Basis for Charging Purposes

Divided in four parts, this chapter offers guidance on how to determine the cost basis for airport charges and fees.

Part A provides advice on how to determine the cost basis for charges on air traffic and its allocation to airport cost centres and service lines as well as users.

Part B describes the cost basis for individual charges on air traffic.

Part C discusses non-aeronautical activities and the determination of costs attributable to them.

Part D describes the methods that may be used for attributing non-aeronautical revenues to an airport cost base.

A — DETERMINING THE COST BASIS FOR CHARGES ON AIR TRAFFIC

4.1 The policy guidance provided in ICAO's Policies on Charges with regard to the cost basis for charges on air traffic is that "the cost to be shared is the full cost of providing the airport and its essential ancillary services". (Doc 9082, paragraph 22 i) refers.) The purpose of this part is to suggest an approach for determining and analysing total airport costs including costs attributable to non-aeronautical activities.

4.2 The establishment of the cost basis can be approached in several stages. First, the full costs of the airport need to be determined. Where the airport is operated as a department within a civil aviation administration, this involves transferring costs to and/or from the airport department for services it receives from and/or provides to other departments or organizations. For some cost items such as depreciation and interest, the costs recorded in the regular airport accounts may need to be adjusted to better reflect the actual costs. Costs not attributable to air traffic or non-aeronautical activities then need to be estimated and deducted from the airport's total costs. These include non-aviation off-airport activities or services and costs attributable to en-route utilization of airport facilities and services. Also, for reasons of equity, costs attributable to military and other flights exempted from charges need to be estimated and deducted. The airport costs, so adjusted, form the basis for charges on air traffic as well as non-aeronautical activities. Second, once these two cost bases have been established, the air traffic cost basis can be allocated to airport user categories to form the cost bases for individual types of charges.

4.3 The approach described in the preceding paragraph, which is illustrated in Figure 4-1, refers to the single till approach (discussed in Part D). Considering the heavy workload in allocating costs to airport cost centres and service lines, it would be prudent to establish a priority arrangement among the cost centres and service lines. Normally, the highest priority should be given to allocating costs to aircraft

movement areas, including approach and aerodrome control, and to passenger terminal buildings — first to air traffic areas within the terminal and then to concessions and rentals (shops, restaurants, office space, etc.).

4.4 It is essential that all costs be determined in accordance with generally accepted accounting and costing principles (i.e. they must be based on recognized rules, standards or conventions; see Chapter 3, Part A, paragraph 3.8 and Part B, paragraph 3.38) to permit the costs of airport facilities and services to be recorded and analysed in accordance with their nature and origin. It is realized, of course, that practices and procedures will differ from State to State.

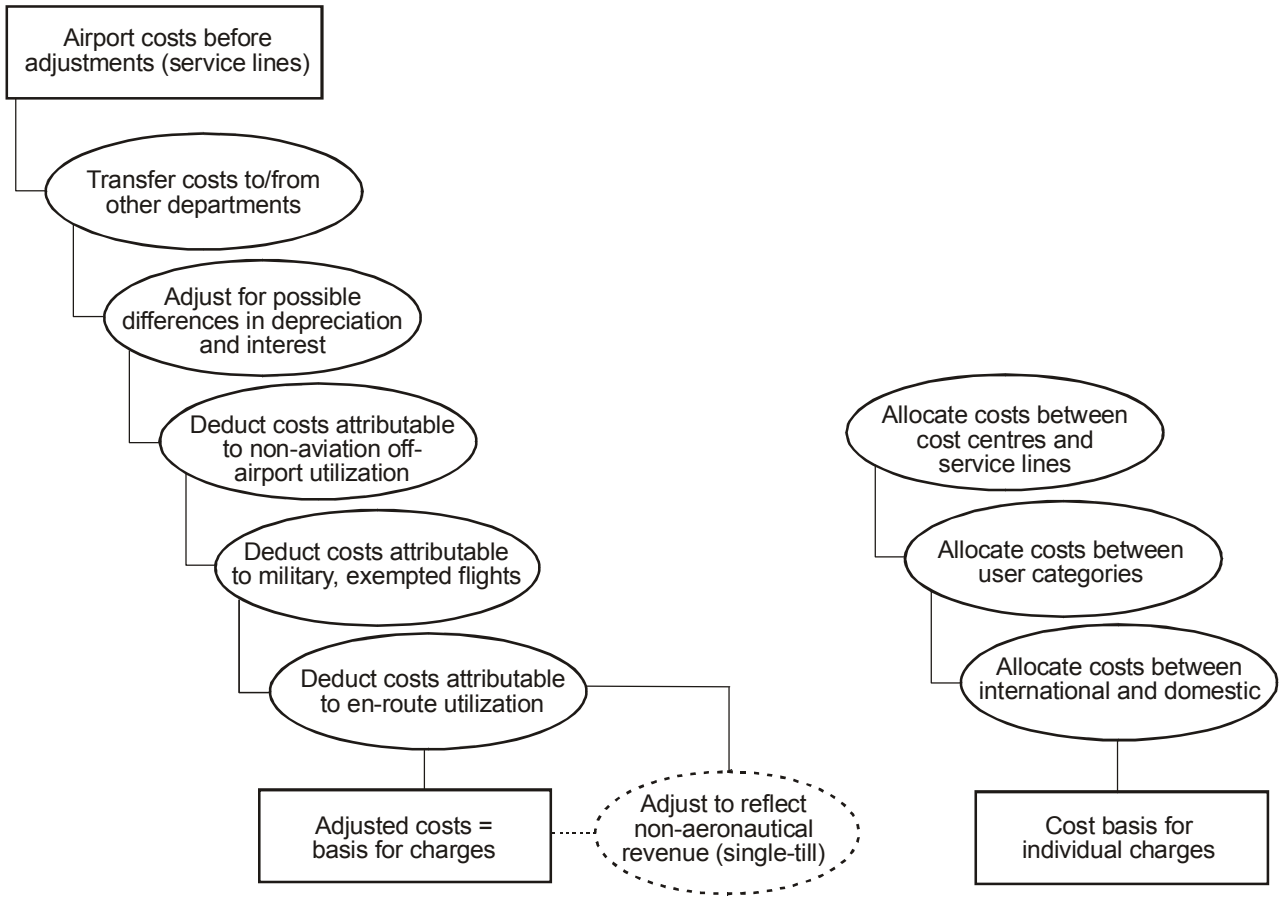

Figure 4-1. Determination of the cost basis for charges on air traffic and of the costs attributable to non-aeronautical activities

FACTORS TO BE TAKEN INTO ACCOUNT IN ESTABLISHING THE COST BASIS FOR CHARGES ON AIR TRAFFIC

Implications of organizational structure

4.5 The organizational structure within which an airport operates has a direct bearing on its financial management and the approach taken in arriving at the total costs to be included in the cost basis for charges on air traffic, as well as on the costs attributable to non-aeronautical activities. The manner in which financial management is to be organized needs to be given special attention when an airport or group of airports is not operated as an autonomous entity but by a civil aviation administration, (or another government department with similar responsibilities). It was recommended in Chapter 2 that, in these circumstances, each airport or group of airports be operated as a separate entity or department, and that separate accounts be established for each such department and airport. Moreover, it was also noted that since the civil aviation administration's format of accounts may not be responsive to the requirements of the airport's management, the airport department could establish its own supplementary internal accounting system that would meet these requirements.

Transfers of costs to and from other departments

4.6 Where an airport or group of airports is operated as a separate entity or department, certain factors need to be taken into account when the actual costs and revenues of that entity are to be determined. For example, since it is part of a larger entity, it is likely that certain other departments within that entity or outside that entity would provide services or perform functions for the airport department. This may involve technical services, such as maintenance of equipment and vehicles, or administrative or overhead functions such as accounting, personnel administration, or the services of a legal department. In all these cases, the costs of the services or functions concerned must be determined and charged to the airport department. If this is not done, the costs of operating the airport will not be known and the charges on air traffic, as well as concession and rental fees and charges, could be based on less than actual costs.

4.7 Various approaches may be taken to determine the costs of the services and functions to be charged to the airport department. For example, concerning the costs of technical services, one approach is to calculate the costs per work-hour of the technical staff involved and then multiply the hours spent on airport work by that rate. Another approach is to allocate costs for services and functions using a percentage based on the share of the costs for the airport department in relation to the total costs of all departments involved in the services and functions concerned; it is to this total that the costs of material used should be added. An hourly rate should also be calculated for the costs of operation and maintenance of any tools and minor equipment used, including costs of power or fuel consumed, and an allowance for wear and tear. Moreover, depending on the extent of the technical services, an allowance should possibly be made for depreciation of building space and major equipment. Administrative overheads could be allocated by first establishing the total running and capital costs attributable to the departments concerned, and then estimating how much of their overall time was attributable to work pertaining to the airport department's operations, on the basis of which the airport department's cost share would then be determined. It should also be recognized that in allocating costs on the various services and functions, priority should be given to those attributable to the airport department and, if applicable, the air traffic control department.

4.8 Conversely, the airport department may be performing services such as those described in the preceding paragraph for other departments within the civil aviation administration. In those circumstances, the reverse applies, in that the costs to the airport department of providing the services concerned would have to be estimated and allocated to these departments with a consequential reduction in the overall costs

of the airport department. If this is not done and if the costs attributable to services performed for other departments were to form part of the cost basis for charges on air traffic, that traffic would in fact be paying for costs not attributable to it.

4.9 Transfers of the type referred to above are not necessarily limited to airports within a civil aviation administration. An airport entity or civil aviation administration may either provide all the aeronautical facilities and services at the airport or it may be charged for those provided by other government departments. However, in some instances, airport services are provided by another government department(s) without any corresponding charges being made either to the airport or levied on air traffic directly. This applies in some instances to costs of meteorological services provided at the airport, certain telecommunication services provided by another government department, etc. Assuming it is government policy to recover such costs from the users to the extent possible, there are two alternatives: the costs should either be charged to the airport, where they would then be included in the cost basis for the airport charges concerned, or the government department(s) involved should arrange for their costs to be covered by a separate charge(s), to be collected together with the airport's charges on air traffic. It should be noted in this context that Doc 9082 recommends (in paragraph 23 vii)) that charges levied by different entities at an airport should, as far as possible, be consolidated into a single charge or a very small number of different charges, the combined revenues being distributed among the authorities concerned in a suitable way. (This is discussed further in Chapter 5.)

Difference between costs recorded in airport accounts and costs used for determining the cost basis for charges

4.10 The airport accounts provide the basic reference for determining the cost basis for charges on air traffic and the costs attributable to non-aeronautical activities. Where the accounts are very complete and where they cover all airport functions, they can serve that purpose well. However, it may not be advisable to rely only on airport accounts when determining the basis for charges even when the accounts are very complete. This is because while the costs of operation and maintenance, and administrative overheads, would probably remain unchanged, the situation may be different with regard to capital costs. In the accounts, for example, assets may be depreciated according to government accounting standards which may not reflect the true operating life of the assets concerned, or they may not be depreciated at all. When the cost bases for charges are determined, it is necessary to ensure that a depreciation element reflecting the use of the assets during the period concerned (usually the financial year) is included. This may result in the application of depreciation rates for charging purposes which differ from those reflected in the airport accounts. Also, interest imputed on the net capital value of airport assets would normally not be reflected in the airport accounts but should be included in the cost basis for charges.

Depreciation and/or amortization

4.11 The original value of an asset should be depreciated over its estimated useful life and such depreciation included in the annual costs of the service concerned. Land is not depreciated since, unlike other fixed assets, it does not deteriorate and its useful life is not limited. Depreciation should not commence until a facility is placed in service.

4.12 While practices vary in the calculation of depreciation, the most commonly used methods are the straight-line method and the reducing balance method. The most common method used by national administrations, and also the simplest, is the straight-line method whereby depreciation is charged as a constant amount year after year during the book life of the asset concerned, the amount being determined by dividing the historical cost of the asset (less its anticipated residual value, if any) by the expected number of years of its book life. The reducing balance method involves the application of a fixed percentage to the book value of the asset, i.e. the historical cost less accumulated depreciation already charged, at the

beginning of each accounting period. The actual amount of depreciation charged according to this method thus decreases each year. A third method used is the annuity method, where the amount charged to each year remains the same throughout the life of the asset concerned. However, it should be noted that the amount charged when this method is applied includes interest in addition to depreciation. Whatever depreciation method is used it should be consistently applied throughout the depreciation period of the asset.

Examples of range of depreciation periods

Buildings (freehold)	20–40 years
Buildings (leasehold)[1]	Over the period of the lease
Runways and taxiways	15–30 years
Aircraft parking areas	15–30 years
Furniture and fittings	10–15 years
Motor vehicles	4–10 years
Electronic equipment (including telecommunications equipment)	7–15 years
General equipment	7–10 years
Computer equipment	5–10 years
Computer software	3–8 years

Cost of capital

4.13 Cost of capital needs to be taken into account in the costing of the provision of airports. This basically falls into two categories. The first is the interest paid to creditors or lenders for the use of capital they provide (other than equity) for various financing purposes, usually in connection with the acquisition or provision of assets. The second category is the cost of capital applied on equity that is adopted for internal costing purposes and expresses the value attached to the use of all capital including equity capital.

4.14 In taking cost of capital into account in the determination of the costs, only one of the two categories should be applied to an asset or any part of an asset financed completely by borrowed capital.

Arriving at the revised costs forming the basis for charges on air traffic (and for costs attributable to non-aeronautical activities)

4.15 The following adjustments need to be made to the costs of the various areas and services in order to arrive at the costs basis summarized in Figure 4-1. Because of their interrelationship, total costs by area or service attributable to non-aeronautical activities at the airport should also be identified. The principal purpose of this is not only to recover the costs to the airport of making the relevant premises available, but also to establish a minimum for these fees and charges. For that reason, it is necessary to identify the actual total costs attributable to the provision of the different premises (building space and land) and the associated facilities and services involved. It should be noted in this context that the emphasis is on determining the costs to the airport of providing the premises concerned, not their market value (that is a different type of assessment, which is discussed in Chapter 6). It should also be noted that some expenses, such as those allocated to aircraft movement areas, and air traffic control and meteorological services, would normally not

1. Buildings built on leased land.

be attributable to non-aeronautical activities. However, shares of the costs of all the other areas or services would normally be attributable to non-aeronautical activities, although the shares involved would differ significantly between individual areas and services.

Adjustment for costs attributable to non-aviation off-airport utilization

4.16 The relevant airport costs are not only those attributable to air traffic, but also to concessions, rentals and other non-aeronautical activities. In combination, the costs related to air traffic at the airport and all aeronautical and non-aeronautical activities serving or dependent on that traffic account for the costs attributable to airport operations. However, an airport may, in some instances, also be incurring costs which are not attributable to such airport operations and which therefore need to be deducted before determining the cost basis for airport charges. This could be costs attributable to non-aviation off-airport utilization of services provided by the airport. One example of this is when a meteorological office financed by the airport provides meteorological forecasts for maritime activities, agriculture, the press and other media, etc., in addition to providing aeronautical meteorological forecasts and briefings. Another example is when an airport provides such services as snow removal or firefighting to a neighbouring municipality.

Adjustment for costs when the airport provides en-route utilization of airport facilities and services

4.17 In many cases, the airport provides services such as air traffic control, including communications, and meteorological services that are not only used by aircraft when landing and departing from the airport, but also during the en-route phase of their flight. Such services may also be used, moreover, by traffic overflying without landing at the airport. Where the overflying traffic element is significant, it becomes desirable in the interest of equity to determine the cost shares attributable to both airport utilization and en-route utilization, so that neither group of users will be burdened with costs properly attributable to the other. Guidance on this subject is provided in the *Manual on Air Navigation Services Economics* (Doc 9161).

Adjustment for costs attributable to exempted flights (including military)

4.18 In Article 3 of the *Convention on International Civil Aviation* a distinction is made between civil and State aircraft. Article 3 stipulates that the Convention shall be applicable only to civil aircraft and not to State aircraft. It also indicates that aircraft used in military, customs and police services shall be deemed to be State aircraft. No further interpretation of “State aircraft” has been made other than it is the usage of the aircraft that is the determining criterion. Whether an aircraft is “used” in military, customs and police services can only be determined by examining all the circumstances surrounding the flight, e.g. ownership of the aircraft, operator, crew, passengers or personnel carried, and aircraft registration. It should be noted that Article 3 does not provide a definition *per se* of either civil or State aircraft, only that certain aircraft are deemed to be State aircraft.

4.19 Many States have chosen, in the exercise of their sovereignty, to also exempt other categories of flights from charges other than the categories deemed to be State aircraft according to Article 3. Such exemptions are sometimes regulated by multilateral agreements at a regional level, but more often through bilateral agreements between States signed by Ministers of Defence. It is the sovereignty of a State to give reciprocity in this respect and the practice is often regulated by national legislation or even an unwritten practical arrangement. Examples of flights, in addition to the flights indicated in Article 3, which may be

exempted from airport charges include the following: transport of Head of State, Members of the Royal Family or Members of Government on official mission, search and rescue (SAR) flights, relief flights, calibration flights and technical return landings.

4.20 In the cost allocation process for an airport, special consideration is required with regard to the volume of flights exempted from charges. Where such traffic is minimal and incidental, and the costs associated with it low, a special cost determination and allocation exercise would normally not be warranted. However, if such traffic is substantial it will be necessary, for reasons of equity, to deduct the costs attributable to it from airport costs before establishing the cost basis for charges on civil traffic.

4.21 Special reference should be made to the situation that arises when an airport, operated by civilian authorities for civil traffic, is also used by military or other State traffic. Normally, where such traffic is substantial, the military or the other government agencies involved (such as police or coast guard) have their own terminals, ramps, parking spaces and hangars at the airport. Where that is the case, no costs would be borne by the airport for these facilities nor would it derive any revenues from them. There would, however, usually be common usage by the State and civil traffic of runways and taxiways, air traffic control (including communications), meteorological services, firefighting and ambulance services, possibly ground access facilities and services, and security services. In such circumstances, the share of the costs of these airport areas and services, which are borne by the airport but attributable to military or other State traffic, needs to be determined so that it can be deducted from the costs forming the basis for charges on other air traffic. An approximate approach would be to determine the share on the basis of aircraft movements performed by military or other State traffic in relation to other traffic or, alternatively, according to the accumulated total maximum certified aircraft take-off weight of these movements. If desired, further refinements could be introduced, for example, by excluding taxiways not used by military or other State aircraft and, where access roads are involved, by basing the allocation on motor vehicle traffic movements rather than aircraft movements.

Allocation of full cost to cost centres and service lines

4.22 Once the total costs by categories of expense (that is operation and maintenance costs, administrative overhead, capital costs and taxes) have been determined, they should, if possible, be allocated to the various airport cost centres and service lines concerned, such as those referred to in Chapter 3, Part B. Note that all costs (in all categories of expense) should be allocated to both cost centres and service lines.

4.23 As to the allocation of taxes, these could be allocated in the same manner as administrative overheads, except where the tax can be identified with a special cost centre or service line. All costs that are directly attributable to one cost centre or service line are allocated to that cost centre or service line. However, for costs which are attributable to two or more cost centres or service lines, for example, administrative overheads, allocation keys or parameters would need to be developed. Such costs would only be allocated where the amounts involved are considerable.

4.24 The type of allocation key applied to a specific category of expense will depend on its nature. For example, the costs of staff working in more than one cost centre or service line could be allocated according to time spent working in each of the cost centres or service lines involved. Costs of administrative staff could be allocated according to the total work time of staff working in each cost centre or service line. Alternatively, administrative overheads could be allocated on the basis of costs of operation and maintenance of the cost centres or service lines concerned. With regard to cost allocation based on work time, it should be recognized that relevant time-recorded data for staff working in more than one cost centre or service line are in most cases not available. An alternative method of allocating staff costs is to distribute them on a percentage basis, according to the proportion of the costs for each department in relation to the

total costs for all the departments concerned. Costs of power, electricity, water, heating or air conditioning could be allocated on the basis of measured or estimated consumption of these services or utilities for each cost centre or service line. Capital costs attributable to investments covering several buildings or areas could be allocated according to volume of space, floor area, and/or movement area within each of the airport cost centres or service lines concerned.

Allocation of costs to categories of airport users

4.25 Provision of facilities and services required for different users may vary among airports. Arriving at an equitable cost basis for charges therefore requires an allocation of costs among users. This includes first determining who the users are. As for airport operations, they can be broadly classified as international civil traffic, domestic civil traffic, and exempted flights, including military traffic. International and domestic civil traffic can be further subdivided into commercial and general aviation, and all these categories could be divided into VFR/IFR[2] traffic. However, it may suffice to limit the allocation of costs to the airport facilities and services provided for the three categories referred to above, i.e. international and domestic civil traffic, and exempted flights, including military traffic. In addition to these categories of airport users, there is the other group at the airport to which airport costs are attributable, namely, the various non-aeronautical activities that serve or benefit from the aircraft operations.

Allocation of costs between international and domestic civil traffic

4.26 With a few important exceptions, international and domestic civil traffic normally use or benefit from the provision of the same airport cost centres and service lines. The exceptions relate principally to passenger terminals owned and operated by the airport and, to a lesser extent, to cargo terminals similarly owned and operated, as well as the associated ramp or aircraft parking stands. Terminal facilities and services provided for international traffic are relatively more costly than those provided for domestic traffic. The reason is that international traffic requires larger terminal facilities, because of, for example, the additional terminal space needed for immigration and customs clearance and the associated requirement for separate international traffic passageways and waiting areas. Also, larger lounges, gates, and parking stands are usually required since aircraft used on international services tend to be larger than those used on domestic services. Moreover, international traffic normally requires more costly airport security services than domestic traffic.

4.27 Where separate terminals are operated for international and domestic traffic, the air traffic costs of each terminal can be directly allocated to the traffic category concerned. In the case of common use terminals, their costs could, for example, be allocated on the basis of floor area used for international traffic only and for domestic traffic only.

4.28 When passenger terminal cost allocation is undertaken, the whole terminal floor area might first be divided into three categories according to whether it is used for: air traffic revenue-generating purposes, that is for processing international and domestic traffic; non-aeronautical revenue-generating purposes, such as various concessions and rentals; or non-revenue purposes, such as airport office space and utilities.

4.29 Since all terminal costs should be covered by revenues from aeronautical as well as non-aeronautical revenue-generating activities only, the floor space used for such activities should form the basis for total terminal cost allocation, including the costs attributable to terminal space used for non-revenue

2. Visual flight rules/instrument flight rules.

purposes. In fact, this applies in the wider context, since the costs of all revenue as well as non-revenue-generating areas and services need eventually to be allocated to the revenue-generating areas and services (aeronautical as well as non-aeronautical) if the full costs are to be recovered.

4.30 Aircraft ramp parking stand costs would be similarly allocated on the basis of square metres or footage used for international aircraft parking as opposed to domestic aircraft parking. The costs of the whole area used for stands and associated equipment as well as roadways should form the basis for the costs to be allocated. Costs of certain security services, such as supervision of boarding gates and security personnel assigned to specific areas, can be directly allocated to either international or domestic traffic, and the costs of the remaining security services could then be divided proportionally on the basis of these two identifiable components.

B — COST BASIS FOR INDIVIDUAL CHARGES ON AIR TRAFFIC

BASIC ASPECTS

4.31 Once the costs attributable to civil air traffic have been established (see Figure 4-1) and, if required, divided into their international and domestic components, the cost basis for individual charges can be estimated. It is important to remember in this context that the range of costs which make up the cost basis for individual charges on air traffic will depend on the number of types of such charges the airport levies. Accordingly, the fewer the charges the broader the cost basis will be for each charge. In this context, account should be taken of the ICAO's Policies on Charges in Doc 9082/7, paragraph 26 v), "A single charge should be applied for costs of as many as possible of airport-provided facilities and services for normal landing and take-off of aircraft ...".

4.32 In light of the foregoing, the cost elements included in the cost basis for individual charges on air traffic will vary between airports, depending on the types of charges each airport levies on air traffic and also on the cost structure of each airport. For example, the cost basis for landing charges may cover costs of runways and taxiways and their associated lighting, ramp parking stands, firefighting and ambulance services, air traffic control, meteorological services, part of the security services, and part of ground access facilities and services. If separate lighting charges are levied, however, the costs of aircraft movement area lighting would be excluded from the cost basis for landing charges. Also excluded would be the costs of air traffic control and possibly meteorological services in instances where approach and aerodrome control charges are levied separately, and the security cost element where separate security charges are levied. In this context, reference should also be made to the text in paragraph 4.3 on establishing priorities in the determination of costs. Considering that circumstances differ between airports, the descriptions given in the following paragraphs of the cost basis for individual charges can only be indicative. The extent to which the costs indicated might or might not be recovered through the corresponding charges referred to is addressed in Chapter 5.

LANDING CHARGES

4.33 This would include the costs of aircraft movement areas (except off-ramp parking stands) and their associated lighting (unless lighting is charged for separately), firefighting and ambulance services, costs of security services attributable to the aircraft movement areas (unless security services are charged for separately), and air traffic control (including communications) and meteorological services (unless either or both are charged for separately).

LIGHTING CHARGES

4.34 If not included in the cost basis for landing charges and parking charges, this would include all costs attributable to runway and taxiway (and possibly ramp and off-ramp) lighting.

APPROACH AND AERODROME CONTROL CHARGES

4.35 If not included in the cost basis for landing charges, this includes the costs of air traffic control (including communications) and meteorological services.

AIRCRAFT PARKING CHARGES

4.36 Costs attributable to off-ramp parking areas and their associated lighting, as well as aircraft towing where provided by the airport, and costs of security services attributable to off-ramp parking areas (unless security services are charged for separately).

AEROBRIDGE CHARGES

4.37 If not included in the cost basis for passenger service charges, this includes the costs attributable to the provision and operation of aerobridges.

HANGAR CHARGES

4.38 Costs attributable to hangars owned by the airport, including access roads, and costs of security services attributable to hangars (unless security services are charged for separately).

PASSENGER SERVICE CHARGES

4.39 Costs of passenger terminal facilities that are attributable to passenger processing, including the costs of security services attributable thereto (unless security services are charged for separately), and the costs of ground access facilities and services attributable to passenger terminal access.

CARGO CHARGES

4.40 Costs of cargo terminal facilities, costs of security services attributable to cargo terminals (unless security services are charged for separately), and the costs of ground access facilities and services attributable to cargo terminal access.

SECURITY CHARGES

4.41 All costs attributable to the provision of security services for air traffic. This would include all security measures of a preventive character and performed on a routine basis, i.e. the security measures

indicated in Appendix 1 of Doc 9082. Costs of security services attributable to non-aeronautical activities should be included in the cost basis for such activities. Attention should be paid to the need for cost-effectiveness analysis when contemplating new or enhanced security measures.

4.42 A distinction needs to be drawn between the security functions performed directly in relation to civil aviation operations and those which are related to national security in order to ensure that costs of security not directly attributable to civil aviation operations are not passed on to the air transport industry or its customers. Responses to acts of unlawful interference, including attacks and threats (e.g. the use of in-flight security personnel) as well as unannounced airport inspections, quality control measures, and general policing and threat assessment, would normally be considered as national security responsibilities. It should be noted that States may determine in which circumstances and the extent to which the costs involved in providing security facilities and services should be borne by the State, the airport entities or other responsible agencies (as indicated in paragraph 29 of Doc 9082).

NOISE-RELATED CHARGES

4.43 The costs, if incurred, of noise monitoring and noise abatement measures.

OTHER CHARGES

4.44 The cost basis for other charges levied on air traffic by the airport would be determined by using a similar approach — that is, by determining the costs of the facilities and/or services the charge is to cover. For example, if separate towing charges are levied, the costs of that service would be estimated (and deducted from the cost basis for parking charges) to arrive at the cost basis for these charges.

PRE-FUNDING CHARGES

4.45 Costs to take into account in the establishment of pre-funding charges are discussed in Attachment 6, paragraphs 12 to 14.

C — DETERMINING THE COSTS ATTRIBUTABLE TO CONCESSIONS AND OTHER NON-AERONAUTICAL ACTIVITIES

POLICY ASPECTS

4.46 The policy guidance provided in Doc 9082 on the development of revenues from non-aeronautical activities differs from that provided on the recovery of costs attributable to air traffic, by encouraging the full development of revenues of this kind, with the exception of concessions directly associated with the operation of air transport services such as fuel, in-flight catering and ground handling (Doc 9082/7, paragraph 34 refers).

DETERMINING THE COST BASIS FOR INDIVIDUAL NON-AERONAUTICAL ACTIVITIES

4.47 It was noted in Part A that the approach in determining the cost basis for charges on air traffic also applies to determining the costs attributable to non-aeronautical activities, since both are derived from

the same estimated cost totals by airport cost centres and service lines. It was also noted that the costs of all revenue as well as non-revenue-generating cost centres and service lines need eventually to be allocated to the revenue-generating cost centres and service lines (air traffic and non-aeronautical) if full cost recovery is to be effected. At most airports, parts of the costs of passenger terminals and related security services and ground access facilities and services tend to account for the major portion of costs attributable to non-aeronautical activities. Costs of other airport cost centres or service lines attributable to non-aeronautical activities would, with a few exceptions (such as cargo terminals, free zones or industrial parks), normally be considerably lower.

4.48 In arriving at the cost basis for individual non-aeronautical activities, it is necessary first to determine how much of the airport's revenue-generating space each activity is occupying. For example, in the case of shops, restaurants and other trading activities as well as rental space, this would be the floor space in square metres or footage, and where land is involved, the size of the area occupied. Unless already included in administrative overheads allocated to the airport cost centre or service line concerned, the costs of services or utilities provided by the airport (such as power, water, heating, air conditioning, telephone switchboard service) need to be distributed on an individual non-aeronautical activity basis using, to the extent possible, separate metres for each activity.

CONCESSIONS DIRECTLY ASSOCIATED WITH THE OPERATION OF AIR TRANSPORT SERVICES

4.49 The policy reference given in paragraph 4.46 noted that the full development of revenues from non-aeronautical activities is encouraged, except for concessions directly associated with the operation of air transport services such as fuel, in-flight catering and ground handling. Consequently, when the airport costs attributable to such activities are being determined, more precision may be required than in the case of other concessionary activities, and they would not necessarily be expected to make significant contributions towards costs not recovered through charges on air traffic or on other non-aeronautical activities. However, they still remain non-aeronautical activities, and insofar as ICAO cost-recovery policies are concerned, they are not subject to the same limitations as is recommended be applied to charges on air traffic. The following paragraphs refer to the costs that would normally be included in the cost basis for fees and charges on these three types of activities.

COST BASIS FOR FUEL CONCESSIONS

4.50 These would include any maintenance costs, administrative overheads and capital costs attributable to premises, land and equipment owned by the airport and placed at the disposal of the fuel concessionaires (this includes any fuel farms, pipes, hydrants, pumping facilities, etc.). Also included would be costs of firefighting and security services attributable to the storing and tanking of fuel (unless security services are charged for separately), as well as costs attributable to the use by the concessionaires of ground access facilities and services.

COST BASIS FOR IN-FLIGHT CATERING CONCESSIONS

4.51 These refer to any maintenance costs, administrative overheads and capital costs attributable to the provision by the airport of premises, land and equipment for in-flight catering services, including costs of associated security services and ground access facilities and services (unless security services are charged for separately). It should be noted in this context that a concessionaire may not only be operating

in-flight catering services, but also airport restaurant and bar facilities, the concession fees for which are not subject to the same qualifications that apply to in-flight catering. However, both functions may share the same facilities, such as kitchen areas. That may, for the purposes of setting the concession fees, require assessments to be made of the relevance, in terms of costs to the airport, of in-flight catering as opposed to the other catering activities of the concessionaire.

COST BASIS FOR GROUND HANDLING

4.52 Ground handling is a special activity in that while it is performed by airlines or concessionaires at the majority of airports, a considerable number of airports themselves perform either the entire handling function or a part of it. In the first instance, the costs to the airport would be limited to the maintenance costs, administrative overheads and capital costs attributable to premises made available to the concessionaires, including costs of security services and ground access facilities and services (unless security services are charged for separately). However, when the airport itself provides ground handling completely or in part, the cost basis would be much broader and include costs of operation and maintenance, administrative overheads and capital costs attributable to personnel, vehicles, equipment and premises engaged in or used for providing ground handling. Because they serve different, although closely related, purposes the two cost bases should normally be separately identified.

D — METHODS FOR ATTRIBUTING NON-AERONAUTICAL REVENUES TO AN AIRPORT'S COST BASE

4.53 It has been a long-standing policy of ICAO to encourage the intermingling of aeronautical and non-aeronautical revenues and costs for establishing the cost basis from which charges should be calculated. The basic principles are set out in paragraphs 22 i) and vii) of Doc 9082. The cost to be shared is the full cost of providing the airport and its essential ancillary services. This includes appropriate amounts for cost of capital and depreciation of assets, as well as the cost of maintenance and operation, and management and administration expenses, but allowing for all aeronautical revenues plus contributions from non-aeronautical revenues accruing from the operation of the airport to its operators. Airports may produce sufficient revenues to exceed all direct and indirect operating costs (including general administration, etc.) and thereby provide for a reasonable return on assets at a sufficient level to secure financing on favourable terms in capital markets, for the purpose of investing in new or expanded infrastructure and, where relevant, to remunerate adequately holders of airport equity.

4.54 How the full costs shall be shared depends on a number of airport-specific factors. In determining how the costs are to be shared and which costs should be recovered on the basis of air traffic versus non-aeronautical activity, the airport must balance a wide variety of interests, including the access of the local community to a wide variety of domestic and international air service options, as well as considering the needs of travellers, shippers, airlines, other aeronautical users, and a wide variety of companies that do business on or with the airport and airport neighbors. Additional guidance on how one may interpret paragraphs 22 i) and vii) of Doc 9082/7 with respect to the contribution of non-aeronautical revenue is presented in the box at the end of this chapter.

4.55 In general, three approaches have been used to describe how an airport recovers the full cost associated with the airport and its essential non-aeronautical services. These approaches are commonly referred to as: a) the single till (sometimes referred to as the "residual" approach); b) dual till (sometimes referred to as "compensatory"); and c) hybrid.

a) Under the single till approach, the full cost associated with an airport and its essential ancillary services, including appropriate amounts for cost of capital and depreciation of

assets, as well as the cost of maintenance and operation, and management and administration expenses, are included in the cost basis attributed to air traffic. These costs are then adjusted to reflect non-aeronautical revenues that accrue to the airport. In general, in exchange for sharing the risk associated with the airport's operations, air carriers benefit from a cost basis that is adjusted to reflect non-aeronautical revenues.

b) Under the dual till approach, the full cost associated with the airport and its essential ancillary services are allocated between the airport owner/operator and the air carriers serving that airport. The costs allocated to air traffic include only those costs associated with the facilities that are actually used by the air carriers. No adjustment is made to this cost basis to reflect non-aeronautical revenues accruing to the airport. The airport owner/operator is free to direct the use of any revenues generated from its concessions, parking facilities, and any other non-aeronautical activities for use at the airport, as it deems necessary and appropriate.

c) Under the hybrid approach, the cost basis will be established based on a combination of the single till and the dual till approaches. For example, the airport owner/operator may choose to recover landing costs on the basis of the single till approach while establishing terminal costs on the basis of the dual till approach.

4.56 While the choice of cost recovery methodology will greatly influence the degree to which the airport owner/operator and the air carriers serving the airport bear the financial risk associated with the airport's operation, other factors can also influence risk-sharing. Perhaps just as important as the choice of cost recovery methodology are the details associated with its application. Factors such as existing contractual arrangements between the airport and the air carriers, and institutional arrangements particular to the airport can all influence the degree to which each party shares the financial risk associated with the operation of the airport.

4.57 Regardless of how the cost basis is established, it is incumbent on the State to ensure that it is done in a transparent manner, involving user consultation, which clearly describes which costs are included and to what extent non-aeronautical revenues are being used to offset these costs.

Interpretation of paragraphs 22 i) and 22 vii) in
ICAO's Policies on Charges for Airports and Air Navigation Services **(Doc 9082/7)**

The following guidance may be used when applying the above principles:

1) The existence of air traffic activity is a necessary precondition for the generation of airport non-aeronautical revenues. Such revenues are then generated through management initiatives in offering suitable products and prices. All aeronautical and non-aeronautical revenues from the operation of an airport accrue, in the first instance, to the airport. Reaching a common understanding on the contributions of non-aeronautical revenues to defray the cost base for charges is an acknowledgement of the partnership between airports and users.

2) The non-aeronautical revenues in question do not normally include revenues earned by the airport from activities undertaken off-airport or those undertaken by the airport in full competition with other suppliers.

3) Given the different local circumstances and fast-changing conditions, with respect to airport ownership and management, as well as regulatory regimes, there are likely to be a range of different appropriate treatments of non-aeronautical income by airports.

4) When determining the contributions from non-aeronautical revenues, high priority should be given to the investment needs of airports, taking into account paragraph 24 of Doc 9082/7, which addresses pre-funding of projects, while recognizing that there may be many alternatives to finance infrastructure development.

5) The appropriate return on aeronautical activities should reflect differences in the level of risk from non-aeronautical activities. Furthermore, in order to provide incentives to the airport operator, high levels of service and efficiency in aeronautical activities may be rewarded with higher returns and vice versa.

6) When defining the contributions from non-aeronautical revenues, an accounting system should be in place to identify the relationship between costs and revenues of non-aeronautical and aeronautical activities (Doc 9082/7, paragraph 17 vi) refers).

7) As stated in point 4, it may be appropriate for airports to retain non-aeronautical revenues rather than use such revenues to defray charges. However, there is no requirement for airports to do so and, in appropriate circumstances, there may be solid grounds for charges to be lower, consistent with Doc 9082/7, paragraph 22 viii).

8) None of the foregoing should be interpreted as encouragement to airports to exploit unreasonably their market position relative to users.

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CHAPTER 5

Charges on Air Traffic and their Collection

Once the costs attributable to air traffic have been determined, charges and charging systems aimed at recovering these costs from the air traffic concerned need to be established. This chapter provides guidance on the various aspects of levying charges on air traffic.

Part A addresses various factors that need to be considered once costs attributable to air traffic have been determined, but before the charges are set.

Part B suggests systems to be applied with regard to individual types of charges, and how charges should be established in each instance.

Part C focuses on various factors related to the collection of charges.

Part D addresses the nature of consultation with users and the approach to consultation.

A — FACTORS INFLUENCING THE SETTING OF CHARGES ON AIR TRAFFIC

BASIC FACTORS

5.1 The aim of levying airport charges is to recover the costs incurred by providing the airport facilities and services required for handling air traffic, subject to the guidance in Doc 9082. There may be more than one charge levied by the airport operator to reflect the different costs imposed by different users and facilities, but these too are subject to the principle in paragraph 22 v) of Doc 9082/7 in that "... no users shall be burdened with costs not properly allocable to them ...".

5.2 The total costs to be recovered are based on the costs bases described in Chapter 4. Full cost recovery may, however, not always be feasible, e.g. if the resultant charges lead to air services to the airport concerned becoming so costly that the airport would deteriorate in terms of flight frequency and quality, with adverse implications for the national economy. Consequently, States may elect to subsidize airport operations where the revenues from charges on air traffic can not cover the cost(s) attributable to it, and the resultant deficit cannot be balanced by profits from non-aeronautical activities.[1] Such a subsidy should, however, not be used to give an unfair competitive advantage to any particular user or user group at the airport.

1. This is recognized in paragraph 22 viii) of Doc 9082/7: "... it being understood that any State or charging authority may recover less than its full costs in recognition of local, regional, or national benefits received."

APPLICATION OF ECONOMIC PRICING PRINCIPLES

5.3 The idea of reflecting costs in charges is to encourage the efficient allocation of resources. Consideration of economic pricing principles may be useful for this purpose and be consistent with guidance in paragraph 23 iii) of Doc 9082/7, which states that "Charges should be determined on the basis of sound accounting principles and may reflect, as required, other economic principles, provided that these are in conformity with Article 15 of the *Convention on International Civil Aviation* and other principles in the present Policies".

5.4 The use of economic pricing principles in the setting of charges is most relevant in situations where the intention is either to make charges more related to future investments or to encourage the better use of existing airport capacity. An economic approach to setting charges would encourage the provision of additional capacity by linking the level of charges with the level required to justify its financial provision based on the additional cost (including capacity) of handling additional airport traffic. A more efficient use of the airport would be encouraged by allowing the structure of charges to reflect the underlying costs of additional traffic. This would encourage use of a facility or service only by those users who value it at least at the cost of its provision. Economic pricing principles would also suggest that where there exists spare capacity, and the change in costs caused by additional traffic within existing capacity is low, the economically efficient charge should reflect this and allow fixed costs to be recovered in a way that reflects the characteristics of demand. Economic pricing principles could also reflect benefits resulting from contributions of non-aeronautical revenues.

5.5 An economic approach requires an estimation of future additional traffic and the change in costs this causes, since this is the appropriate basis on which to consider an efficient allocation of resources. The estimation of the unit cost of the additional traffic (the "marginal" cost) will therefore require traffic forecasts and assessments of the output generated by the investment. The latter may not be straightforward given there are several possible dimensions to assessments for airports, including quality of service, and that several services and facilities may be provided by the investment. For these reasons, transparency in applying economic pricing principles and consultation with users on how to measure marginal costs (including the relevant traffic forecasts and the appropriate quality of service to be provided) are particularly important.

5.6 An economic approach attempts to mirror the functioning of competitive markets where competition leads to prices reflecting marginal costs and this maximizes economic welfare. In competitive markets, though, marginal costs and average costs are not considered to differ significantly and the benefit from modifying accounting-based charges to reflect economic pricing principles is limited. However, where there are significant differences between marginal [2] and average cost, the scope may be greater. Alternatively, differences in charges set by average accounting costs and those reflecting marginal costs need to be resolved. For example, where the unit cost of additional traffic differs significantly from the average unit cost, setting a charge equal to the marginal cost could raise revenue that was either significantly below or above the revenue required to recover the cost base. Consequently, the use of economic pricing principles should be modulated, if necessary, to ensure that not more than the recovery of the cost basis is achieved.

5.7 Airports operate with varying degrees of market power. Where an airport has a degree of local or national monopoly power, there is the potential for an abuse of market power and over-recovery of the accounting cost base without effective regulation of airport charges or sufficient countervailing airline power

2. The definition of marginal cost is not an unambiguous concept because it depends on, for example, the scale of the change and the time period over which the change occurs. Where, for example, the incremental change includes investment in additional capacity, the scale of the change may be considerable since airport infrastructure investment is usually made in large discrete amounts, which provides additional capacity sufficient for at least several years traffic growth.

to resist any abuse. However, where an airport operates in a competitive environment, concern about the over-recovery of costs is likely to disappear since competition limits the ability to exploit market power.

5.8 Considering the inherent practical difficulties in applying the economic pricing principles indicated above, it is recommended that the application of economic pricing principles to setting charges consistent with ICAO's Policies on Charges (Doc 9082) should emphasize the need to recover costs in an efficient and equitable manner from the users of airport services. Within an economic context, charges should be set to recover costs, provide a reasonable return on investment, where appropriate, and provide additional capacity when justified. The application of economic pricing principles should therefore be approached with caution; be transparent and made after consultation with users; and used only where there exists economic regulation and/or a robust competition authority regime that could address any abuse of market power or over-recovery of costs that might arise.

DISCOUNTS, SPECIAL REBATES AND OTHER REDUCTIONS OF CHARGES

5.9 Any application of discounts, special rebates and other reductions in the charges normally payable in respect of airport facilities needs careful consideration to avoid unfair treatment of some airlines and to meet the requirements of non-discrimination and transparency. Such discounts, rebates and reductions may be offered in the following two situations:

a) Discounts that reflect differences in services, including the associated costs may be offered provided that:

   — they are transparent as included in the list of published charges;
   — they are available to all airlines that use, or plan to use, an airport; and
   — they have a justifiable and well-defined purpose.

   One related example is the rebate granted to training flights (i.e. touch and go), where users do not take advantage of the full service associated with the regular landing charge.

b) Introductory discounts to airlines starting new services may be offered by airports to increase traffic volumes. However, caution should be applied to ensure that such discounts do not distort competition between airlines at the airport. These discounts should:

   — meet the requirements of Article 15 of the Chicago Convention;
   — only be offered on a time-limited and non-discriminatory basis; and
   — be transparent through publishing their existence together with the criteria on which they are offered.

5.10 Where any discounts, special rebates or other reduced charges are extended to particular categories of users, governments should ensure, as far as is practical, that any resultant under-recovery of costs properly allocable to the users concerned is not shouldered on to other users.

B — INDIVIDUAL CHARGES

5.11 Part A of Chapter 4 contains guidance on the approach to determining the cost basis for individual charges. In that context, it is noted that apart from costs incurred by the airport itself with regard to functions it is directly responsible for, adjustments in the form of transfers of costs to and from the airport may have to be made because of services provided by other government departments or entities to the airport or provided to them by the airport.

5.12 As in the case of costs, one or more elements of the revenues the airport collects through its charges might be attributable to another government department or function. This applies, for example, if the landing charges include an element attributable to en-route services provided by another department. This would require the transfer of the revenue element involved, once it has been collected, from the airport to the department concerned. The reverse would apply if, for example, en-route air navigation charges levied by a government department other than the airport also contained an element for approach and aerodrome control, the costs of which were charged to the airport. In that case, the revenue element concerned should be allocated to the airport to offset the corresponding costs charged to it, which would reduce the costs that form the basis for the charges levied by the airport on air traffic.

5.13 A principal objective when establishing charges is usually to determine what charges should be levied on traffic in the immediate future, normally the next financial year. This requires an estimate to be made of the cost basis for individual charges for the next year which would be arrived at on the basis of costs of the most recent financial year.

5.14 Similarly, in order to set charges at a level that permits predetermined cost recovery and revenue objectives to be met, traffic for the next year would need to be forecast. This would involve estimating the total number of aircraft movements, broken down by maximum take-off weight and, possibly, by the time of arrival, total numbers of arriving and departing international and domestic passengers, total arriving and departing cargo, the duration of stay of aircraft by size in parking areas, etc. Sometimes longer term forecasts may be required to project trends in revenues from airport charges in the future as necessary components to be incorporated into the budgeting process described in Chapter 3. For all these purposes, reference is made to the guidance on medium- and long-term air traffic forecasting contained in the *Manual on Air Traffic Forecasting* (Doc 8991). In developing their traffic forecasts, it is desirable that airports consult with regular users or their representative organizations. As to arriving at unit costs for individual charges, the approach would normally be for the cost basis for the charge concerned to be divided by, for example, accumulated aircraft weight, mass or number of passengers (the divisor applied depending on what the charge concerned was based, i.e. aircraft weight, mass or number of passengers).

LANDING CHARGES

5.15 ICAO's Policies on Charges (Doc 9082/7) recommend in paragraph 26 i) that "Landing charges should be based on the weight formula, using the maximum certificated take-off weight." This is the practice followed by States with very few exceptions, since it has been found to be particularly useful and an accepted parameter to reflect how wear and tear and use of airport-provided facilities tend to increase as the weight of aircraft increase. It should be noted that while the charges are called landing charges they are based on maximum permissible take-off weight, usually measured in kilogrammes (kg) or pounds (lb). The rate, usually per metric tonne (1 000 kg) or short tonne (2 000 lb), is determined by dividing the estimated cost basis for landing charges for the coming year by the accumulated maximum permissible take-off weight of the aircraft that are estimated to take off from the airport in that year. Separate divisions could be made for international traffic and domestic traffic if the costs so warrant.

5.16 The rate, usually per tonne, is only an average figure. However, it is common for it not to remain constant throughout the weight scale, but to increase at two or more weight levels. The degree of increase and the number of weight levels depend on such factors as aircraft mix and, of course, the cost recovery policy being pursued. The extent of the increase in the charging rate serves to distribute more fairly the additional costs of the expanded runway, taxiway and ramp facilities required by larger aircraft. However, certain airports now charge larger aircraft on a straight linear scale or even assess them with declining unit rates once a certain weight level has been reached. This could be beneficial for an airport where the capital costs attributable to larger aircraft have been recovered and present runway capacity is becoming limited, if it encourages carriers to move more traffic by using larger aircraft, thus allowing postponement of costly investments in new runways.

5.17 Where the charge increases according to aircraft weight, it is suggested that the tariffs be structured in such a manner that it is only necessary to multiply the maximum weight of the aircraft by the rate applicable (per tonne) within the weight range in which the aircraft falls. An alternative approach is to multiply each portion of the aircraft's weight that falls into different weight intervals by the rate applicable to the weight interval concerned, and then add these multiples together to arrive at the landing charge payable. However, the latter approach is more time-consuming and would increase the likelihood of miscalculations.

5.18 It was noted in Part B of Chapter 4, paragraph 4.33, that the cost basis for landing charges would depend on, among other things, the range of airport facilities and services covered by the cost basis. Reference was also made to Doc 9082/7, paragraph 26 v), that "A single charge should be applied for costs of as many as possible of airport-provided facilities and services for normal landing and take-off of aircraft ...". Also relevant in this context is paragraph 26 vii) of Doc 9082/7 "The ordinary landing charge should cover the use of lights and special radio aids for landing where these are required, since it is in the interest of safety that aircraft operators should not be discouraged from utilizing aids by the imposition of separate charges for their use. If separate charges are made for facilities of this kind, they should not be levied on the basis of optional use but should be uniformly imposed on all landings occurring during periods established by the airport operators." This is relevant, for example, in the context of lighting charges because no gross inequity would normally result if an airport includes the costs of lighting in the cost basis for landing charges, as is the practice in a large number of States. This also simplifies the charging mechanism.

5.19 With traffic congestion becoming more prevalent, efforts have been made to even the flow of airport traffic by levying higher landing charges (and passenger- and aircraft parking-related charges) during peak hours, high fixed charges per aircraft movement during peak hours, or relatively high minimum landing charges. The effectiveness of peak pricing in redistributing traffic is, however, limited by the fact that very large differentials are needed for airlines to accept the commercial and operating disadvantages of off-peak arrivals or departures. Alternatively, peak charges have permitted recovery of airport costs attributable to traffic peaking. Where general aviation movements account for a relatively high share of total movements, a different and successful approach to regulating traffic has been to set minimum landing charges at such a level as to encourage the operators concerned to use other airports. However, charging structures to regulate traffic should be chosen in accordance with the Chicago Convention and the principles contained in Doc 9082, in particular paragraphs 23 i) and 23 iii). A successful approach for regulating airport traffic is that of scheduled coordination between the airlines and airport management and, where required, with State authorities.

LIGHTING CHARGES

5.20 Reference was made above to the desirability of including in the landing charge the costs of lighting required for aircraft movements. However, where separate lighting charges are levied, the approach used could be the same as that for determining landing charges. This involves dividing the estimated cost basis for lighting charges for the coming year by the accumulated maximum permissible take-off weight of the aircraft estimated to take off and land, when lighting is on, in that year. Alternatively, these charges could be levied on a per movement basis.

APPROACH AND AERODROME CONTROL CHARGES

5.21 Guidance on the establishment of these charges is provided in Doc 9082/7, paragraph 26 iii), which notes that "Where charges for approach and aerodrome control are levied as part of the landing charge or separately, they could take aircraft weight into account but less than in direct proportion."

5.22 The reason for this is that unlike, for example, costs of aircraft movement areas, the costs of providing air traffic control and related services are not significantly affected by aircraft weight. But in order to reflect the value to the aircraft operator of the service received from air traffic control, these charges would normally be based on weight. They would be arrived at in the same manner as landing charges by dividing the estimated cost basis for approach and aerodrome control charges for the coming year by the accumulated maximum permissible take-off weight of the aircraft estimated to take off from the airport in that year. However, unlike the normal practice with regard to landing charges, approach and aerodrome control charges would increase less than proportionately with aircraft weight.

PARKING CHARGES

5.23 The guidance provided in ICAO's Policies on Charges on parking and hangar charges is "For the determination of charges associated with use of parking, hangar and long-term storage of aircraft, maximum permissible take-off weight and/or aircraft dimensions (area occupied) and length of stay should be used so far as possible as the basis". (Doc 9082/7, paragraph 27 i), refers.) The area occupied is usually arrived at by multiplying aircraft length by wingspan (rotorspan in the case of helicopters unless the rotors are folded). However, the large majority of airports base the charge only on aircraft weight and the period the aircraft remains parked, usually measured in periods of 12 or 24 hours. Weekly, monthly or even annual rates are also frequently offered, particularly to small general aviation aircraft.

5.24 It is normal for the landing charge to include a period of free parking time immediately after landing, the length of which varies. This practice is assumed in ICAO's Policies on Charges, which note that the free parking period should be determined locally by considering aircraft scheduling, space availability and other pertinent factors (Doc 9082/7, paragraph 27 ii)). Consequently, costs of terminal ramp parking stands would be included in the cost basis for landing charges, although in some instances, separate ramp and off-ramp charges are levied (see also paragraph 5.25). The parking charges could be determined by first estimating the number of aircraft-tonnes (maximum permissible take-off weight) expected to be parked at the airport in the coming year and which would be subject to parking charges, and the accumulated number of hours of parking involved, to arrive at the total of parked aircraft tonne-hours for that year. The estimated cost basis for parking charges would then be divided by that figure to arrive at a basic rate for the parking charge. Increases in relation to aircraft weight increases, as is normally applied with regard to landing charges, also normally apply to parking charges but the rate levels tend to be fewer. It should be noted, however, that precision along the lines described here in the determination of parking charges may not always be practical in all circumstances, for example, those referred to in the following paragraph.

5.25 Parking charges frequently have a regulating purpose. Thus, in order to promote the rapid loading and unloading of aircraft and thereby make terminal ramp parking available to more aircraft, ramp parking charges, once they come into effect after the free parking period is over, are not only higher than off-ramp charges but may escalate more rapidly.

AEROBRIDGE CHARGES

5.26 Aerobridge charges are not levied at many airports, as often the costs of these facilities are included in the cost basis for passenger service charges. The number of passengers using an aerobridge is a good indication of the wear and tear to which it is subject; therefore, aerobridge charges could be determined by dividing the estimated cost basis for aerobridge charges for the coming year by the total estimated number of departing or arriving passengers for that year. In order to promote the rapid loading and unloading of aircraft, where this is required, the charges could be modified so that, in addition to the

number of passengers, charges would also be based on the period the aerobridge is used, and measured, for example, in periods of one, two, three or more hours.

HANGAR CHARGES

5.27 Hangar charges are determined in the same manner as parking charges, that is by dividing the estimated cost basis for hangar charges by the total estimated aircraft tonne-hours of hangar use.

PASSENGER SERVICE CHARGES

5.28 Passenger service charges are usually only levied on or in relation to departing passengers, although there are instances where they apply to arriving passengers as well. Two passenger service charges are usually levied, one for international passengers, the other for domestic passengers. The international passenger service charge is determined by dividing the estimated cost basis for international passenger service charges for the coming year by the total estimated number of departing and, if applicable, arriving international passengers for that year. The domestic passenger service charge is determined by applying the same procedure to the estimated cost basis for domestic passenger service charges and the estimated number of domestic passengers. The passenger traffic estimates should, in both instances, exclude passengers not subject to passenger service charges, including, where applicable, passengers in direct transit. Whether the charge should be levied on and paid directly by the air carrier or the passenger is discussed in Part C of this chapter.

CARGO CHARGES

5.29 Cargo charges are not yet levied at many airports, but they would be determined in the same manner as passenger service charges, that is by dividing the estimated cost basis for cargo charges by the total estimated tonnage of cargo loaded and/or unloaded at the airport. Separate international and domestic cargo charges could be levied if separate cost bases for each are developed, and if the difference in costs in relation to the volumes of international as opposed to domestic cargo justifies such separation.

SECURITY CHARGES

5.30 As noted in Chapter 1, paragraph 1.14, special attention needs to be given to the establishment of security charges. In this context, reference is made to paragraph 29 of Doc 9082/7, in particular to the principle stated very specifically in paragraph 29 iii) that security charges should be designed to recover no more than the relevant costs involved. The “relevant costs” can include assets directly related to the provision of the security service concerned. Where these assets are not wholly funded by debt finance, they may earn a return provided it reflects the lower risk attached to the recovery of costs incurred as a result of meeting a regulatory requirement. Such a return may be less than the return implied by ICAO’s Policies on Charges in paragraph 22 vii) but cannot exceed it.

5.31 With regard to the charging method used, it is recommended that in so far as air traffic is concerned, the charges be based either on the number of passengers or on aircraft weight, or a combination of both factors, and that they may be levied either as additions to other existing charges or in the form of separate charges (Doc 9082/7, paragraphs 29 v) and vi), refer). The majority of airports that pursue recovery

of their security costs appears to prefer to do so through separate security charges. The application of both passenger-based and aircraft weight-based security charges would normally require separate security cost bases to identify the elements of security costs attributable to passengers (for example, to passenger terminals) and to aircraft (for example, to air traffic movement areas).

5.32 A security charge or charge addition based on numbers of passengers could be determined by dividing the estimated cost basis for security charges for the coming year by the total estimated departing passenger traffic for that year. Although, according to Annex 17 — *Security*, each Contracting State shall ensure that principles governing measures designed to safeguard against acts of unlawful interference with international civil aviation are applied to domestic operations to the extent practicable, security for international traffic can be different from that for domestic traffic. Consequently, separate charges could be established for international and domestic passengers, provided the cost basis can be so divided. If the charge is based on aircraft weight, a parallel procedure would apply with the estimated cost basis for security charges for the coming year being divided by the accumulated maximum permissible take-off weight of the aircraft estimated to take off from the airport in that year, again with a separation being made, when applicable, between international and domestic traffic.

NOISE-RELATED CHARGES

5.33 Noise-related charges are, so far, levied at very few airports. As to the circumstances in which they would be applied, Doc 9082 recommends in paragraph 30 i) that “Noise-related charges should be levied only at airports experiencing noise problems and should be designed to recover no more than the costs applied to their alleviation or prevention.” Thus, as was noted above with regard to security charges, noise-related charges should not produce profits for the airport.

5.34 As to the charging system, Doc 9082 recommends in paragraph 30 ii) that “Any noise-related charges should be associated with the landing fee, possibly by means of surcharges or rebates, and should take into account the noise certification provisions of Annex 16[3] in respect of aircraft noise levels.” No specific noise-related charging or rebating method is recommended, but the effective perceived noise level (EPNL) of the aircraft concerned could be used as a charging or rebating parameter. The sophistication or complexity in the design of the scale would vary according to local circumstances and requirements. The scale could be linear or in steps. For ease of application, it could be supplemented with a list indicating the charge or rebate that would apply to the different aircraft types known to be operating into the airport which would be subject to the noise-related charges or rebates.

OTHER CHARGES

5.35 Other types of charges on air traffic would normally be arrived at by dividing the estimated cost basis for the facility or service concerned by estimates of the readily available parameter that best reflects the use of the facility or service being charged for.

PRE-FUNDING CHARGES

5.36 Specific charges for the pre-funding of projects are discussed in Attachment 6, paragraphs 12 to 14.

3. Annex 16 — *Environmental Protection*.

C — COLLECTION OF CHARGES

CHARGES LEVIED ON AIRCRAFT OPERATORS

5.37 Following the calculation of the various charges on air traffic, invoices must be prepared and issued in accordance with the terms and conditions of use of the airport, and payment collected from the operators concerned. Invoices will usually be presented for subsequent payment but, in some situations, the airport may prefer to collect the charge directly after landing or prior to take-off of the flights concerned. Both approaches may be used by a State depending on the types of operators involved. Where many flights by regular operators are involved, it would usually be more practical and economical to invoice operators periodically than to send a separate invoice for each flight. Most airports usually invoice operators at least once each calendar month. As to invoicing immediately after landing or prior to take-off, its main advantage is the prompt receipt of the amounts involved, which may be particularly relevant in the case of occasional or one-time users from whom collection might otherwise be difficult. Apart from such users, however, this approach is not generally applied or recommended, as it can involve more elaborate administrative arrangements to ensure the proper receipt and recording of payments.

5.38 Regardless of the approach, invoicing should be carried out as soon as feasible after the time the flight(s) involved took place, not only to accelerate the flow of revenues to the airport, but also to facilitate verification by the operator of the flight(s) involved and the facilities or services used and charged for. Very late invoicing by the airport (for example, many months or even a year after the flight(s) took place) could delay payment because of difficulties the operator may experience in such verification so long after the event.

5.39 The invoice must provide the aircraft operator with the information necessary for verification and payment purposes, for example, the type of charge(s) and amount(s) due, the flight(s) involved, and the date by which payment is required (which should be reasonably close to the invoicing date to avoid undue delays in the receipt of revenues). Terms of payment should also be indicated and where payment should be sent (for example, the airport itself or a bank, in which case the address(es) and account references should be included). If necessary, the invoice may also indicate that failure to make payment by the due date would lead to an interest penalty being charged, at the discretion of the charging authority. Guidelines for invoicing landing and associated charges is presented in Attachment 4.

COLLECTION OF PASSENGER SERVICE CHARGES

5.40 The collection of passenger service charges may require special considerations. Doc 9082 recognizes that revenues from these charges are essential to the economy of a significant number of airports. As indicated in paragraph 28 of Doc 9082, frequently there are major facilitation problems arising from the collection of such charges directly from the passenger, especially at large airports, and these problems will potentially continue to mount with the continuing growth of passenger traffic and the increasing number of high-capacity aircraft operated, especially at busy terminal buildings during peak hours.

5.41 Having experienced such difficulties or seeking to prevent their occurrence, a growing number of airports are electing to levy the passenger service charges as a separate element (so identified), which is added to the landing charge and thus payable by the aircraft operator. This method has eliminated facilitation problems that have arisen as a result of passenger service charges being collected directly from the passengers. It has also reduced the costs of collection to airports and improved control and audit of the revenues due from these charges. However, direct collection from the passengers of the charge enables the airport to immediately receive the amounts collected. The charge could be collected either by the airline(s) on behalf of the airport or by the airport itself. Considering the different situations that exist, the approach used in collecting the passenger service charges will depend on the circumstances involved.

COLLECTION OF PRE-FUNDING CHARGES

5.42 The specific aspect of the collection of pre-funding charges is discussed in Attachment 6, paragraph 17.

COLLECTION OF TAXES BY THE AIRPORT AS AN AGENT OF THE GOVERNMENT

5.43 Airports may, in some instances, be responsible for collecting taxes, for example, a value added tax on airport charges or a departure tax levied by the government for general or specific revenue purposes or other purposes unrelated to airport operations. In such instances, the airport acts solely as an agent of the government. The taxes collected should be recorded and held separate from airport revenues even when they are collected at the same time as airport charges (for example, when a departure tax is collected at the same time as an airport passenger service charge). As the taxes are collected they should be transferred directly to a specified treasury or other government account. However, if the airport needs to transfer the taxes collected only at certain intervals, such as once a month, it could place the taxes collected prior to the date of transfer in an interest-bearing account in its own name.

COLLECTION PROBLEMS

5.44 Problems may be encountered in the collection of charges on air traffic. In dealing with such problems, the extent and costs of any collection efforts should be commensurate with the amount involved. The extent of the difficulties encountered in collecting outstanding amounts will vary depending on whether the parties concerned are located in the State where the airport imposing the charge is located, in which case, collection may be easier because of the greater accessibility of the debtor. In extreme cases, preventing aircraft from taking off, or seizure of aircraft or other assets of the debtor may be necessary. Where an airport experiences frequent delinquencies in payment, a contract could be signed with a collection agency. Where the operator concerned is not located in the State of the airport, it may, in some situations, as indicated in paragraph 5.37, be advantageous to demand payment before the aircraft departs. An alternative is for an operator who frequently operates into the airport, but who is not located in the State, to appoint an agent in the State who would undertake to pay the charges due. The airport should make its acceptance of such an arrangement contingent upon the agent having proper authorization from the operator and being capable of making the payments concerned. More generally, and where circumstances so warrant, consideration could be given to all operators being requested to make advance deposits or other suitable guarantees or deposits as security to ensure that the charges due would be paid. The failure of any user to pay airport charges must not lead to an increase in the charges levied on other users.

D — CONSULTATION WITH USERS

NATURE OF CONSULTATION

5.45 ICAO's Policies on Charges (Doc 9082/7, paragraph 31) recommend that airport entities consult with the users when significant changes in airport charging systems or levels of charges are contemplated. It should be understood, however, that the purpose of such consultation is to ensure that the provider gives sufficient information for users to understand the proposed change and gives proper consideration to the views of users and the effects the charges will have on them. The aim of consultation

should be that, wherever possible, changes should be made in agreement between users and providers; and, that failing such an agreement, the providers would be free to impose the charges concerned.

5.46 Consultations with users may provide useful comments and suggestions for improvements in the management of the charging system and lower costs for both providers and users. Consultations might also reveal aspects of the proposed charges which may inadvertently discriminate unfairly against certain user groups. Closely related to consultation concerning charges is the Council recommendation in Doc 9082/7, paragraph 32, concerning the desirability of regular airport users or their representative organizations being consulted as early as practicable when new airports or major developments of existing airports are being planned, especially in light of the very high and ever increasing costs of such projects. Consultations are useful to ensure that the developments envisaged meet the needs of users and that users are aware of the financial implications in terms of charges that they will have to pay when the new facilities are implemented. Regular consultations also draw the attention of users to their responsibility for providing advance planning data to individual airports, relating to their operations, requirements and other relevant matters.

APPROACH TO CONSULTATION, INCLUDING ADVANCE NOTICE

5.47 Inherent in the consultation process recommended by the Council is the need to give users reasonable advance notice of new or increased charges, to permit them to make any necessary arrangements to meet the additional costs involved. It is recommended in paragraph 31 i) of Doc 9082/7 that, insofar as possible, at least four months' advance notice of any significant review of existing charges or the imposition of new charges be given to the principal users, either directly or through their representative bodies. For the purpose of consultation, Doc 9082/7, paragraph 31 ii), recommends that users should be provided with transparent and adequate financial information. Summaries of the main revenue and expense items as well as other financial data described in Chapter 3, Part B, illustrates the type of information referred to. It should be stressed that the need for divulging financial information transcends the actual format of airport management used. Bodies representing the users include the various air carrier regional or global associations and the associations representing aircraft owners or private aircraft users. The advance notice, usually a circular letter and/or Class II NOTAM, would describe the intended new or revised charges or charging system and stipulate the date of effectiveness, and would invite comments on the proposed charges by a given date.

5.48 Consultation may be undertaken in various ways, the principal means being by consideration of written submissions and by consultative discussions with users or their representative bodies or associations. After consideration of the submissions, and any associated discussions, the notice of the final decision should be given to the users at the earliest possible date, which should fall within the four months' advance notice period referred to in the preceding paragraph. Where users' views have not been accepted, justification for the decision should be provided.

SPECIFIC CONSIDERATIONS RELATED TO PRE-FUNDING OF PROJECTS THROUGH CHARGES

5.49 Specific considerations related to the use of pre-funding charges for project financing are addressed in Attachment 6, paragraph 6.

DISPUTE RESOLUTION

5.50 With the rapid growth in the number of airport entities that are independent from direct government control, there may be a need for a neutral party at the local level to preempt and resolve

disputes related to airport charges before they enter the international arena (a “first resort” mechanism). Balancing the interests of both users and providers would be more effectively achieved through preventive measures including requirements for prior consultation and expeditious local treatment of complaints. A “first resort” mechanism should be flexible and its focus should be on conciliation or mediation but could also extend to full arbitration or possibly even to litigation if the State concerned so decides. Specific procedures for consultations of this type will have to be adapted to the diversity in the administrative, financial and legal frameworks within which airports function. The procedures at individual airports will also need to take into account the size and scale of the airport’s activities. The dispute resolution function might be included in the terms of reference of an independent regulatory body with the much broader responsibilities of overseeing the operations of the autonomous service providers, referred to in Chapter 2, Part B, or it might be separately established.

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CHAPTER 6

Development and Management of Non-Aeronautical Activities

This chapter focuses on the development and management of non-aeronautical activities.

Part A discusses ICAO's policy on the development of non-aeronautical activities at airports, and the relevance of the organizational structure under which the airport operates, together with the significance of traffic volume for the development of such activities.

Part B refers to various types of concessions and rentals, airport-operated non-aeronautical activities, and free zones.

Part C addresses the planning and selection of non-aeronautical activities, internal administrative arrangements, and promotional aspects.

Part D deals with determining the market value of non-aeronautical activities, setting concession fees, with separate reference to concessions directly associated with the operation of air transport services, setting rental charges, and the use and contents of tenders.

Part E focuses on contract stipulations and provisions for concessions and leases for premises, land and construction sites, length of contract periods, management contracts, and contracts related to free zone enterprises.

A — BASIC FACTORS

ICAO POLICY

6.1 ICAO's Policies on Charges (Doc 9082) recognize the continuing importance of revenues from non-aeronautical activities, and, recommend the full development of such revenues except in the case of concessions directly associated with the operation of air transport services such as fuel, in-flight catering and ground handling (Doc 9082/7, paragraph 34, refers). It should be noted that revenues from non-aeronautical activities are in fact the principal means by which a number of airports are able to recover their total costs, because their profits from these activities more than cover the losses that most of them incur on their airside operations. This does not mean, however, that aeronautical activities are inherently unprofitable. In some instances, the reason why these revenues appear not to cover the operating costs is often due to the fact that airport operators have set aeronautical charges to a level that does not allow for the proper recovery of these costs. A delicate balance has to be found, taking into account, inter alia, the fact that the

development of non-aeronautical revenues should not in any way compromise safety or security on airport land and premises, and that the primary role of an airport is to facilitate air traffic.

The significance of traffic volume

6.2 While a large number of airports in several regions of the world have actively developed revenues from non-aeronautical activities, in some other regions their development still appears to be below its potential, taking into account such factors as the overall volume of traffic and high share of international traffic. In this context, it has been observed that as airport traffic increases, not only do revenues from non-aeronautical activities tend to increase in absolute terms, but their share of total airport revenues also tends to increase compared to revenues from charges on air traffic. At some airports, however, inadequate terminal space management and lack of terminal space, as well as of financial resources can contribute to low levels of non-aeronautical development.

Organizational aspects

6.3 Organizational aspects may also hinder the development of non-aeronautical activities. For example, the airport administration may not be able to exercise any control over the granting of concessions or rentals, when this is vested in another entity with revenues either accruing to it or the national treasury. Under such circumstances, airport administrations may not have the same incentive to develop non-aeronautical activities as they would have if they were directly responsible for the management of these activities and the resulting revenues. It is important that an airport operator has the possibility to manage non-aeronautical activities to maximize the potential of the commercial opportunity presented by the airport location. Experience has shown that a mix of commercial activities needs to be kept under review to ensure that, in a dynamic market situation, airports continue to provide services and products that customers wish to buy.

B — NON-AERONAUTICAL ACTIVITIES — TYPES AND OPERATIONAL RESPONSIBILITIES

TYPES OF CONCESSIONS AND RENTALS

6.4 Non-aeronautical activities occupying airport building space and land are many and varied. They include a wide range of shops and service activities, office and other premises occupied by airlines and governmental agencies, as well as free zones. Airport revenues from non-aeronautical activities chiefly consist of fees for the rights to operate businesses at the airport, rentals of leased land and premises and, to a much lesser extent, receipts from commercial activities operated by the airport itself. Airports may also receive revenues from commercial activities operating off the airport but relying on airport traffic for their customer base.

6.5 Commercially oriented non-aeronautical activities cover a wide range. The most commonly found activities, listed in order of prevalence, are presented in Table 6-1. Most common are aviation fuel suppliers and food and beverage concessions (restaurants, bars, cafeterias, etc.). Also among the more common and significant activities are duty-free shops, banks and foreign exchange facilities, airline catering services, taxi services, car rental agencies and automobile parking. Even the smallest airport terminal buildings usually contain shops or stalls dealing in such items as confectionery, reading material and souvenirs. As airports increase in size, the trend is towards increased diversification and specialization as well as in the size of individual enterprises. The emphasis in merchandise trading is on light and compact items which can be carried as hand baggage and have a relatively high value per unit of weight and volume.

Table 6-1. Concessions most frequently found at international airports

- Aviation fuel suppliers
- Food and beverage concessions (restaurants, bars, cafeterias, vending machines, etc.)
- Various shops (not duty-free)
- Banks/foreign exchange
- Airline catering services
- Taxi services
- Car rentals
- Car parking
- Airport advertising
- Airport/city transport services (buses, limousines, etc.)
- Duty-free shops:
  - Liquor and tobacco
  - Perfume and toiletries
  - Watches
  - Optical and electronic equipment
- Petrol/automobile service stations
- Hairdressing/barber shop
- Vending machines not dispensing food and beverages
- Hotels/motels
- Freight consolidators/forwarders or agents
- Souvenir shops

6.6 Duty-free shops exist at most international airports, although sales may be restricted to liquor, tobacco and perfumes at the smaller locations. As traffic increases, duty-free sales tend to expand, often rapidly, to include watches, cameras and optical equipment, radios and other sound-producing equipment, various electronic devices (computers, calculators, games, etc.) and expensive but light designer clothing accessories. Although the emphasis is on high-value portable items, duty-free sales at a number of airports have in recent years expanded to include such bulky merchandise as automobiles and large television and audio sets. Providing high-quality goods and services at competitive prices remains necessary but is no longer sufficient for commercial success. Attention is increasingly being given to airport advertising revenues which have become a major generator of income at many airports. The increased ability to easily transport people within an airport, leaving passengers free to peruse their surroundings, has given rise to more advertising at some airports. Advertising has also been used effectively on jetbridges and in some airport facilities, floors, particularly near revolving doors or in other areas where passenger attention could be reached. Another logical area for advertising is at the baggage claim area, where many passengers have time to dwell. There are of course limits to the amount of advertising an airport can undertake, since it should in no way compromise good airport signage.

6.7 While access to duty-free shops was traditionally limited to departing traffic, in recent years a small but growing number of airports have also successfully operated duty-free shops for arrivals. It is recognized, of course, that establishing duty-free shops for arrivals may in most States require amendments to be made to customs laws and associated regulations. Another development has been the establishment of off-airport duty-free shops where the products sold are collected at the airport at airside by the passengers. Websites created by airports can also facilitate this practice. Many airports maintain sophisticated websites where they provide useful information to passengers and the public. These websites often include real-time flight information, airline timetables, airport maps, and information on ground transport. The websites are also used by many airport operators to inform passengers about airport retail

facilities and duty-free shops. Some airports have links that enable passengers to “pre-order” retail or duty-free shop items for pick-up at departure. Airport websites can be useful both from a customer service point of view and as a tool for enhancing non-aeronautical revenues.

6.8 The clustering of time-critical goods-processing facilities around airports is stimulating further expansion of air cargo, air express, less-than-load (LTL) trucking, freight forwarders and their party logistics providers along arteries leading into and out of gateway airports. Major forecasters project cargo volumes to grow more rapidly than passenger traffic over the next twenty years. The express parcel business and other time-sensitive services are expected to have the fastest rates of growth over this period. Airport operators are increasingly looking at cargo operations as an excellent option for using scarce airport capacity, since cargo can be moved at night or at other off-peak times for passenger traffic. Airports with ample space sometimes host “cargo villages” where trucking, containerization, warehousing and other cargo activities can be handled on airport property. This represents a considerable source of rental income for the airport operator and also creates jobs.

6.9 Historically, most of the concession trade has been aimed primarily at travellers and their accompanying friends and relations. However, a growing number of airports have been paying increasing attention to the market composed of persons working at the airport and those living in nearby communities, developing for this market such concessions as supermarkets, cinemas, and restaurants. Establishments of this kind need not be located in prime space in the major passenger flow areas or in the immediate vicinity of the passenger terminal(s), thus permitting more profitable use of building space and land than might otherwise have been possible.

6.10 Certain concession-type activities are frequently established at an airport, not because of their revenue-generating potential for the airport, but because they provide a service considered essential or highly desirable for passengers and/or persons working at the airport. Such activities may include employee cafeterias, post offices, government tourist information booths, etc.

6.11 With respect to rentals, in addition to the rental of premises for merchandising purposes, office space in terminal buildings, if available, can be leased. The main lessees would normally be airlines and governmental agencies. Rentals of hangars, workshops and warehouses (other than bonded warehouses) by the airport tend to be less common, as they are often owned by other entities although usually constructed on land leased from the airport.

Airport-operated non-aeronautical activities

6.12 Since they sometimes do not possess the varied expertise and marketing knowledge required, and also in order to limit their financial commitments, some airports prefer to arrange for non-aeronautical commercial activities to be conducted by outside parties specialized in the businesses concerned while retaining overall control through contractual arrangements. Airports may also wish to consider making the concessionaires or lessees responsible for finishing and furnishing the premises they occupy. This, however, should be done under the control of, and subject to the approval of, the airport and in conformity with airport plans to promote overall harmony and visual balance in interior and exterior layout and appearance. In some circumstances, however, it may be more advantageous for an airport to operate certain activities itself, particularly those not requiring specialized knowledge or substantial capital outlays or inventories, such as automobile parking, although more resource-demanding activities, such as the provision of conference facilities and services, have also been introduced. Even without previous direct retailing experience, airports are becoming more knowledgeable about the characteristics of their passenger base through the conduct of sophisticated passenger surveys, which provide useful indications on directions to follow for business development. The results of these surveys permit the careful establishment of retail strategies that are tailored to the needs and income levels of passengers through precise market segmentation.

6.13 A related situation, which is discussed in Part E, is when an airport itself owns a non-aeronautical activity, such as a hotel, but contracts out for the necessary expertise to operate that activity while retaining ownership and receiving the revenues it generates.

"Airport city" concept

6.14 The "Airport City" concept acknowledges the notion that large airports take the characteristics of a real city. They develop non-aeronautical services far beyond the core business of providing a location for passengers. Airports have not only become catalysts for employment and economic growth, but they have attracted a full range of businesses to the airport vicinity, which are reminiscent of the way seaports and river deltas became centres of economic activity in past centuries. Modern airports are becoming meeting places and indeed a destination in their own right, with corporations scheduling meetings at or near airports to maximize the valuable time of their managers. Many hotel chains report that airport hotels are among their most profitable properties, due not only to high demand for rooms, but also for revenues generated from conference services and catering. Airport cities are usually located only partially on land belonging to the airport, but also on off-airport land, a situation which may entail different treatment in terms of revenue for the airport operator.

Free zones

6.15 A small number of airport-operated free zones have been established, most commonly to accommodate bonded warehousing and storage, often with the primary objective of serving duty-free shops located at the airport.

6.16 The establishment of an airport free zone may impose substantial financial commitments on the airport and the State concerned, depending on the extent of the incentives which are offered to encourage enterprises to locate in free zones. These incentives would normally include:

a) exemption of goods imported, exported, stored or processed from any import, export, transit or processing taxes or duties;

b) goods produced benefitting from trade agreements to which the State may be party;

c) possibility of entering a new market or improving present market position;

d) tax exemptions or reductions regarding profits from export business;

e) freedom to repatriate capital and profits;

f) well planned secure zone with newly constructed buildings or sites prepared for construction with all necessary utilities;

g) availability of materials, utilities and skilled and non-skilled labour at low cost; and

h) satisfactory air and surface transport services.

The selection of incentives offered to enhance prospects for the operation of a successful free zone will, of course, be related to local circumstances and national laws and regulations.

6.17 Past experience, although limited, indicates that the type of industries most likely to be attracted to a free zone are primarily those involved in the manufacture of products with a high value per unit of weight and volume, or requiring a substantial component of inexpensive skilled and/or unskilled labour, or

both. Considering the requirements that may need to be met, free zones may not represent an economically sound proposition for a large number of airports (or States). However, airports may still find it feasible and desirable to establish or expand bonded warehouses and storage areas to allow for limited consolidation and assembly activities, as this frequently may not impose substantial financial commitments on the airport or the State concerned.

Off-airport activities

6.18 A number of industrial or commercial activities are also taking place in the close vicinity of airports. They take advantage of the proximity of the airport but do not need to be located on the airport grounds, or they simply cannot, because of the scarcity of land at airports. Examples of such activities include hotels, restaurants, convention centres, shopping centres, freight forwarding agents, warehouses, e-commerce distribution centres, press distribution centres, light industries, and surface transportation-related activities. In terms of revenues that airport operators can derive from these activities, however, the situation is not as straightforward as for activities located on airport grounds and will depend on local circumstances and regulations.

C — MANAGERIAL ASPECTS

PLANNING AND SELECTION OF NON-AERONAUTICAL ACTIVITIES

6.19 For a number of reasons, priorities may need to be established for the selection of those concessions which are likely to yield the highest net revenue while ensuring that public convenience is taken into account. Similarly, it is also necessary to ensure coordination in developing commercial activities, and harmonization in layout. All these factors are particularly important at the start of the master planning process and at the subsequent design stage of a new airport or terminal, when some compromises may be necessary in choosing among features required for the basic operational functions of the airport and those conducive to the profitable conduct of non-aeronautical activities. Periodic reviews of the various activities occupying airport space, to determine whether they are producing a satisfactory return and whether they could be replaced by more lucrative activities, will also need to be undertaken to ensure optimum use of the space available.

6.20 Since the market catered to by airport shops and services is composed of passengers, visitors and employees at the airport, it is useful to obtain information on these three groups of clients regarding their income levels, demands and the factors influencing their purchases. This would include information on preferred types of facilities, and opinions on prices charged and the quality of goods and services offered, which may be obtained by conducting periodic surveys. Other information that airport management is likely to find useful includes past, current and forecast air traffic volumes, including a breakdown of numbers of international and domestic passengers into arriving, departing and transit/transfer passengers; present and forecast numbers of visitors and airport personnel; the average duration of time spent by various categories of passenger traffic at the airport; and distribution of the passenger traffic over the hours of the day, days of the week, and months of the year.

Internal administrative arrangements

6.21 As non-aeronautical activities expand, airport administrations may find it necessary or desirable to assign their supervision to a separate managerial unit. The responsibilities of such a unit would

usually include the selection of the range of services to be provided to the public, the selection of concessionaires and tenants and the negotiation of contracts and leases, including selection of the appropriate concession fee structure, together with the subsequent monitoring of prices charged, quality of service and such other conditions as the contractual agreements may stipulate.

Promotional aspects

6.22 Particularly in the early stages of its development of non-aeronautical activities, the airport needs to actively promote itself by such means as the preparation and circulation of promotional material describing, for example, the potential market offered by the airport, indicating the size of that market and the above-average income levels in that market. Also, the media should be used to describe the airport as a place of trade; and contacts should be established with such interest groups as local chambers of commerce. These various aspects of non-aeronautical activity development and promotion also indicate the importance of developing an overall marketing plan for the airport.

D — SETTING FEES AND CHARGES FOR NON-AERONAUTICAL ACTIVITIES

APPROACHES TO DETERMINING MARKET VALUE

6.23 With the exception of the special service-oriented concessions referred to in paragraph 6.10, prior to setting a concession fee or rental charge it is necessary to estimate the costs, to the airport, of providing building premises or land to each of the various concessionaires or lessees involved, in order to establish a minimum for the fees and charges to be set in each case. This is to prevent the airport from incurring any losses on the activities concerned. However, since a prime objective is normally for the airport to derive as much profit as possible from non-aeronautical activities, it is necessary, particularly in relation to commercial trading activities, to establish the market value of the various airport premises for different non-aeronautical activities. It should be recalled, in this context, that it is the customer potential and the location of the premises, not only at the airport as such, but also within a certain building (terminal or other) or the airport area, which determines how attractive it is to a prospective concessionaire or lessee, and consequently determines the level of the fee the airport can charge for its use.

6.24 Market value can be determined by a tendering procedure or can be assessed by the airport itself. Often a combination of these two procedures is used. Most airports using the tendering process do so as a general practice and also use it for the renewal of concessionary contracts on their expiry. Some other airports use the tendering approach selectively, usually confining its use to the potentially more lucrative activities. Tenders will be discussed in more detail later in this section.

6.25 An assessment of the market value of the premises offered usually involves comparison with premises of similar character in the vicinity of the airport or in the downtown area, taking account of factors such as the nature of the trading activity, the size of the market to which access is provided and the volume of business transacted. In this context, it should be noted that certain areas or locations within the airport, particularly in the terminal building(s), are commercially much more attractive than others because they may be more visible to and accessible by prospective clients. Consequently, an airport may divide building space and land into different zones, setting a range of market values per unit of floor space (within, for example, a terminal building) or land depending on the location and the type of activity for which it is intended. In general, the more remote the location of the building space or land, the lower the market value.

Setting concession fees

6.26 With exceptions, such as those referred to below, concession fees may be variable or fixed, or a combination of both. The combination-type fee is normally preferable, particularly with regard to such major activities as restaurants, bars, duty-free sales and gift shops, as well as car rental and car parking operations because it creates the right commercial incentives for retailers and concessionaires, particularly on airports with limited commercial space. The range of activities to which the fees would apply would generally increase with airport size; and at airports handling a very large annual volume of traffic, the tendency would be for most concession fees to be assessed in this way.

6.27 The fixed and variable components in a concession fee should recover all airport costs attributable to the concession concerned as well as produce the level of profit desired. It is for the individual airport to decide how much of the costs and profits, respectively, would be covered by the fixed as opposed to the variable components of the fee for a concession. The variable component of the fee should normally be expressed as a percentage of the turnover of the business concerned rather than as a percentage of net profit since the latter can raise various monitoring and auditing problems, and is thus more difficult to apply satisfactorily. While it is common practice to use a percentage rate that remains constant for one activity, irrespective of the volume of business, in some cases the percentage payable increases as the business volume increases, particularly when major concessions are involved.

6.28 Difficulties may be encountered in determining the turnover of a concession activity for fee assessment purposes. The airport will therefore need to establish the necessary accounting, auditing and control procedures to monitor turnover levels, and include the necessary provisions in the concession contracts (see also paragraph 6.43 h)).

6.29 The fixed-amount type of concession fee would usually be applied selectively to those activities of a specialized nature likely to yield only modest profits (e.g. flower, barber, book and newspaper shops, photo slot-machines, taxis and hotel reservations). Contracts of this type should, however, be for relatively short periods, or if they are longer-term contracts, provide for review of the fee at periodic intervals.

6.30 Certain forms of concession fees are distinctly different from those more commonly used. Perhaps most interesting among these are the practices of assessing certain kinds of shops a fixed amount for each arriving and departing passenger; charging car rental companies a fixed amount for each car delivered, or a fixed rental plus a fixed sum for each airport passenger; and, in the case of taxi operations, imposing a licence fee payable by each taxi authorized to operate at the airport.

6.31 Caution is suggested when attempting to increase airport revenues by raising the level of concession fees. Careful and subsequent monitoring and evaluation are recommended to avoid the concessionaire charging higher retail prices that may have an adverse effect on that concessionaire’s gross revenue (as well as on the maintenance and appearance of the premises involved) and consequently on airport income. Airport management should, therefore, exercise reasonable control over prices charged at the airport to ensure that they are fair and competitive, when compared with the major airports of destination and departure of its traffic.

Fees for concessions directly associated with the operation of air transport services

6.32 ICAO’s Policies on Charges (Doc 9082/7, paragraph 34) encourage the full development of revenues from non-aeronautical activities, with the exception of concessions directly associated with the operation of air transport services, such as fuel, in-flight catering and ground handling. This group of activities nevertheless remain concessions and therefore not subject to the same limitations that it is recommended be applied to charges on air traffic, although caution should be exercised when the fees for

these activities are being determined. As far as, for example, in-flight catering is concerned, it would essentially involve a lower fee being charged for that type of concession than for other food and beverage concessions at the airport. Because of their special characteristics, aviation fuel and ground-handling services concessions are referred to separately below.

Aviation fuel concessions

6.33 Specific attention is drawn to aviation fuel concessions, the concession fees for most of which tend to be in the form of fuel "throughput" charges. Doc 9082/7 recommends, in paragraph 35, "… that where fuel 'throughput' charges are imposed they should be recognized by airport entities as being concession charges of an aeronautical nature and that fuel concessionaires should not add them automatically to the price of fuel to aircraft operators, although they may properly include them as a component of their costs in negotiating fuel supply prices with aircraft operators. The level of fuel 'throughput' charges may reflect the value of the concessions granted to fuel suppliers and should be related to the cost of the facilities provided, if any. The Council also recommends that any such charges or fees where imposed should be assessed by airport operators in such a manner as to avoid discriminatory effects, either direct or indirect, for both fuel suppliers and aircraft operators and to avoid their becoming an obstacle to the progress of civil aviation."

6.34 ICAO's Policies on Charges (Doc 9082) thus set out the position that the concession fee for an aviation fuel concession may reflect the value of this type of concession to the concessionaire. In practice, the "throughput" charge is, as a rule, added by the concessionaire directly to the price of the fuel sold to aircraft operators. This has given rise to much dissatisfaction among aircraft operators, as a result of which some airports have replaced or are contemplating replacing the "throughput" charge by another form of charge (this could involve increasing the fixed element in the concession fee).

Ground-handling concessions and ground-handling charges

6.35 At most airports, ground handling is performed by airlines or concessionaires, although a considerable number of airports provide this function partly or completely themselves. Focusing first on ground handling provided by the airport, it should be noted that the extent and nature of the ground-handling services provided by the airport — for example, if they cover passenger check-in and/or loading and unloading of aircraft — determine the scope of the charge(s) levied. Other considerations include whether there should be one or more charges, and on what parameter(s) the charge or charges should be based. The charging scales used could be arrived at by dividing the estimated ground-handling costs for the coming year by that year's estimated total volume of international and domestic passengers, and/or weight of baggage and cargo handled, and/or accumulated maximum permissible take-off weight, which would establish the estimated basic unit costs. The airports' profit margin would be added to this cost in order to arrive at the basic unit rate(s) in the charging scale(s). Unit rates could increase at certain intervals depending on the volume handled in each case. It should be noted that a prerequisite for two or more separate cost-based ground-handling charges is that the overall cost basis be subdivided accordingly.

6.36 When ground-handling services are provided by concessionaires, whether they are airlines or separate ground-handling agents or companies, the concession fee could be in the form of a fixed component plus a percentage on turnover. Where the ground-handling services are provided by one or more entities other than the airport itself, the airport should carefully monitor the charges being levied on aircraft operators to prevent them from being excessively high compared to those at a neighbouring airport, as this could cause traffic to be diverted to that airport. It should be noted that competition in the provision of ground handling may have the beneficial effect of reducing ground-handling charges without compromising the quality of the service provided.

Setting rental charges

6.37 The approach to setting rental charges is broadly similar to that outlined for concession fees. An assessment of the market value of the building space and land involved could be arrived at by taking into account the level of rentals charged for similar building space or land in the vicinity of the airport or in other comparable areas.

6.38 Since the market value of a rental property is strongly influenced by its location, an airport would normally divide building space and land into different zones, setting a range of charges per unit of floor space (particularly within terminal buildings) and lot of land, with much lower charges applying to space in more remote areas of the airport. In this context, airports may wish to consider making a distinction between space required by airlines that is essential for their operations at the airport, as opposed to space required by them for other purposes. Apart from airlines, airports may also choose to charge certain categories of tenants less than others, for example, other aviation enterprises, flying clubs, certain government departments and non-profit organizations. Moreover, some airports charge below what could be termed an adequate return for airport locations where they wish to encourage the establishment of certain activities.

Tenders

6.39 The practice of inviting public tenders is extensively used in making arrangements for the offering of concessions, and also sometimes for the renting of airport premises or land, because it is often the most practical way of determining the market value of business trading rights at the airport or of airport premises. It also provides airport management with a widely acceptable means of selecting clients and tenants on favourable terms. It is worth noting that it may not necessarily be advisable to accept the highest tender since other factors, such as standards of service and competitive prices, could play a major role in arriving at the selection most profitable to the airport. Many airports follow specific procedures in the invitation and processing of bids by tender to ensure that all requirements are met. In some cases, particularly where major concessions are involved, the process is undertaken in two stages — the first to select candidates that meet the basic qualifications to provide the standard of service desired; and the second to invite these candidates to submit tenders for evaluation.

6.40 When airports invite public tenders, it is usual for such invitations to include information on which the bid may be based, together with specific indications as to the information required in support of the bid and the way the bids are to be submitted. In the case of simple rentals, the points covered might be expected to include:

a) details of the size, location and condition of the premises;

b) the nature of the activities that could be conducted on the premises;

c) the proposed date of commencement and duration of the lease;

d) maintenance and services provided;

e) improvements expected to be carried out by the lessee;

f) security or guarantee deposit requirements; and

g) closing date for tender submissions.

6.41 For concessionary trading activities, information on some or all of the following additional aspects is usually included in tender documents:

a) specific information on the type(s) of concessionary activity envisaged, including the variety of merchandise or services to be provided;

b) the nature of any exclusive trading rights to be granted;

c) qualifications and other requirements regarding personnel;

d) the standards set for merchandise, service, fittings and furnishings;

e) the nature of furniture and fittings to be provided by the concessionaire;

f) insurance requirements;

g) data on past traffic volume and predictions for the future;

h) past sales figures, if applicable;

i) trading hours; and

j) extent of control to be exercised by the airport entity.

E — CONTRACTUAL ASPECTS

GENERAL

6.42 Once the concessionaire has been selected, a contract needs to be drawn up establishing and defining the relationship between the airport and the concessionaire. The airport should normally prepare the draft contract. If the headquarters of the concessionaire are located in a State other than that of the airport, the contract should be drawn up under and governed by the laws of the State where the airport is located. The contract should also stipulate that where arbitration procedures fail, any disputes that might arise should be settled before the courts of that State. The same general considerations would apply with regard to leases.

CONCESSIONARY TYPE CONTRACTS

6.43 Apart from what has been stated in the preceding paragraph, contracts governing concessionary trading activities normally incorporate stipulations and provisions, such as:

a) duration of the contract;

b) specification of the activity to be carried out on the premises and prohibition of any changes in the intended utilization of the premises;

c) arrangements concerning subletting, if applicable;

d) level of concession fees, terms of payment and arrangements for review of fees;

e) payment of cost of registration of contract, various services and taxes;

f) requirement to make security or guarantee deposits;

g) obligation to adopt proper accounting procedures and to submit audited accounts periodically;

h) right of the airport to have full and unrestricted access to all the accounting and financial records of the concessionaire that relate to the concession;

i) designation of the premises to be occupied, statement to the effect that they have been inspected by the parties concerned, and right of the airport administration to carry out inspection and supervision of the premises;

j) obligation to maintain the premises in their initial condition or, alternatively, obligation to submit to airport management any project for alterations, and terms for evacuation of premises on termination of the contract, including undertaking to return such premises in their initial condition;

k) conditions governing maintenance and repair of the premises and cleaning arrangements;

l) insurance requirements and determination of liability with respect to:

1) accidents sustained by occupants or by third parties;

2) thefts with or without forced entry involving damage to the premises; and

3) damage caused by fire or water; or by floods, lightning and other Acts of God;

m) obligation to observe current laws and regulations;

n) conditions governing advertising and signs on the premises;

o) causes for termination of contract (bankruptcy, criminal conviction, non-compliance with terms of contract, etc.) and conditions regarding the application of sanctions in such cases;

p) arbitration procedures;

q) definition of terms used; and

r) options for renewal of contract.

6.44 Depending on the nature of the concessionary activity, various other clauses may be included, such as the:

a) guarantee of exclusive rights to operate the type of concession specified;

b) opening and closing hours;

c) obligation to sell merchandise at competitive prices and at the prices displayed, and the nature of price control exercised by the airport;

d) quality standards, control of merchandise and such aspects of the sale and serving of food and beverages as:

1) quality, procedure of preparation and storage of food and beverages;

2) quality, condition, maintenance and cleanliness of apparel, tables, chairs, etc.; and

3) hygiene standards for personnel;

e) right to install specialized equipment; and

f) requirements concerning qualifications of personnel engaged in specialized services and security procedures.

LEASES FOR PREMISES, LAND AND CONSTRUCTION SITES

6.45 Leasing contracts, concerned primarily with the occupation and use of airport property, are usually less complex in terms of the variety of provisions they contain, although in some cases certain clauses may need to be expressed in greater detail. It is unusual for these contracts to contain any provisions concerning the accounting procedures of the lessee, or to impose any obligation to submit financial statements to the airport; clauses relating to the nature of the enterprise to be conducted might often be less specific than in the case of a concessionary trading contract.

6.46 Since leases relating to land, and to construction sites in particular, are usually negotiated for longer periods than is normal for leases of airport premises or concessionary trading contracts, there is a greater need for them to include provisions for periodic reviews of the rental charges, so that due account may be taken of property revaluation. It is prudent for contracts of this nature to be quite explicit concerning the airport's right to repossess the property after expiry of the contract, and the conditions and terms under which this may be effected. Repossession of property by the airport may also take place if the lessee defaults on payments, if the airport needs to repossess because of its operational requirements, or if repossession would be in the public interest. If repossession takes place, compensation, if due, may also need to be addressed.

LENGTH OF CONTRACT PERIOD

6.47 The length of the contract period would normally be influenced by factors such as the type of business or rental involved and the extent of the investment in fixed assets by the concessionaire or lessee. Thus, longer term contracts would usually be offered in cases where significant investments are involved. Generally, contracts would make specific provisions for renewal.

6.48 While the length of concession contracts vary, most tend to fall in the one- to five-year range. Leases of airport premises are usually for somewhat shorter periods, with up to three years or less being most common. For the rental of airport land involving the construction of buildings by the lessee, the general range appears to be from 10 to 40 years, with the most common period being around 20 years. This reflects recognition of the need to grant lessees of construction sites a reasonable period in which to amortize the usually large investments involved. It is important that, except in cases where concessionary or rental contracts are of short duration, they provide for a periodic review (for example, once a year) of the fees charged during the contract period to ensure their continuing appropriateness.

MANAGEMENT CONTRACTS

6.49 As noted in Part B of this chapter, a special form of contract is the "management contract", which may be used by an airport in cases where it may wish to contract out for the necessary expertise to

conduct an activity of a commercial nature but still retain ownership of and a high degree of control over the activity concerned. Such contracts would specify the type of activity to be performed in exchange for a management fee, while stipulating that the net revenues earned accrue to the airport, possibly after deduction of a commission.

CONTRACTS RELATING TO FREE ZONE ENTERPRISES

6.50 The airport free zone concept has so far only had limited application. The nature of free zones and the contractual arrangements involved would depend largely on local circumstances. Contracts and leases with commercial enterprises operating in free zones are likely to contain certain clauses not common to the other types of contracts mentioned above; where foreign enterprises are involved, such clauses may contain reference to requirements imposed by legislation or governmental regulations.

6.51 The creation of the free zone and various aspects of its operation by the entity charged with its administration (whether the airport itself or a subsidiary established by it) would probably be covered by special legislation, while the rights and obligations of an enterprise functioning in the zone would be defined in the legal instrument (such as a charter or letters of incorporation) effecting its creation. Stipulations applying to foreign enterprises concerning their ownership, expatriation of capital and profits, employment of nationals, etc., would therefore not normally be covered in any contractual arrangements drawn up by the free zone entity, since such matters would already be governed through the mechanisms of the administrative or corporation law of the national, State or other jurisdiction concerned.

CHAPTER 7

Financing Airport Infrastructure

This chapter addresses various aspects of financing that need to be considered when embarking on an airport infrastructure investment project, which may entail construction of a new airport or expanding the capacity at an existing airport.

Part A addresses the relevance and content of traffic forecasts in the context of project development and financing, and refers to related policy and other guidance available.

Part B outlines the types of experts likely to be involved in an infrastructure project.

Part C focuses on the relevance and purpose of economic and financial analyses, and outlines elements of their contents.

Part D considers the purposes of financing plans, addresses currency requirements, and discusses the repayment of loans.

Part E focuses first on possible domestic sources and then on foreign and other sources, including pre-funding, that might be used for financing an airport investment project.

A — TRAFFIC FORECASTS

7.1 Sound traffic forecasts are essential to any airport infrastructure development project and its financing. The main purpose of such forecasts is to identify traffic developments and to establish the associated capacity requirements of the airport. The forecasts should cover the planned life of the project concerned and should include forecast annual volumes of international and domestic scheduled and non-scheduled aircraft movements and passenger and cargo traffic. They should also include, where relevant, general aviation and exempted flights, including military traffic. Distribution of traffic by month and day (and, if required, within the day) would also be required in order to recognize traffic trends and peaking patterns, as would data relating to aircraft types expected to be operated.

7.2 For guidance on the preparation of traffic forecasts, reference is made to the *Manual on Air Traffic Forecasting* (Doc 8991). Reference should also be made to Doc 9082/7, where it is recommended in paragraph 32 that airport users, particularly airlines, should "… provide advance planning data to individual airport entities on a 5- to 10-year forecast basis relating to future types, characteristics, and numbers of aircraft expected to be used, the anticipated growth of passengers and cargo to be handled, the special facilities which the airport users desire, and other relevant matters".

B — USE OF EXPERTS

7.3 During the planning and throughout the implementation of an airport investment project, it may often be desirable and advantageous for an airport without sufficient expertise in the planning field to obtain the services of one or more outside consultants. In so doing, however, it is important that every effort be made to ensure the consultant selected is thoroughly knowledgeable in the area of expertise required. Under normal circumstances, it is also desirable that the consultant not be affiliated with a major bank, investment bank, contractor or a manufacturer of airport equipment, as this could possibly influence any technical specifications drawn up by the consultant or prepared on the basis of the consultant's report. Airport management should also work closely with the consultant, regularly monitor the work and carefully review the resultant report, assessing, for example, whether it is realistic and whether national and local circumstances have been fully taken into account. (With regard to obtaining expert assistance, reference should also be made to paragraph 7.51 (see Part E).) The type of experts generally used in an airport investment project are:

— Economists trained in evaluating the costs and benefits of public investments;

— Financial advisors with an expertise in airport financing to assist in negotiating with banks and other fund providers (they should be independent of the entity providing the loan);

— Attorneys with expertise in drafting documents related to airport investment projects; and

— Project management companies, generally engineering companies with expertise in planning and construction.

C — ECONOMIC AND FINANCIAL ANALYSES

7.4 All organizations are faced with decisions on how best to pursue their objectives. To guide investment decisions, organizations use evaluation techniques that focus on the options and search for that which maximizes net benefits. Every major investment decision taken by an airport should be supported by analyses to demonstrate costs and benefits accruing from investment in infrastructure to providers, users and, as appropriate, the wider community. Consultation with users should assist States in guiding their major investment decisions. With regard to analyses undertaken, commonality in approach within a State or region would be desirable.

7.5 Economic and financial analyses of major airport projects are becoming an increasingly important component of proposals seeking government funding or private financing. These activities are crucial given that airports can make an important contribution to a State's economy by generating employment and other economic activity, not only at the airport and the surrounding community, but for the country as a whole.

7.6 The following paragraphs describe various types of analyses that should be considered prior to beginning any large-scale investment project. These are the economic impact, cost-benefit, business case, and financial analyses. Each is designed for a specific purpose.

ECONOMIC IMPACT ANALYSIS

7.7 An economic impact assessment of a major airport investment project [1] identifies the cumulative economic effects of this project on a national, a regional or a local economy. It goes beyond the

1. Such a project could be either a new "greenfield" airport or a major expansion of an existing airport.

projected or existing generation of revenues and employment, and assesses the wider contribution made or expected to be made to the national, regional or local economic development. The results of such assessments are often used in the decision-making process of determining the economic viability of an investment in aviation infrastructure.

7.8 The airport's contribution to the economy can be assessed on the basis of the following factors from which direct, indirect and induced economic activities can be derived: sales revenues, labour income, tax revenues, capital investment and employment. Accordingly, economic impact assessments can be designed to collect information on a wide range of economic activities taking place both on-site and off-site the airport, in the surrounding region, or even throughout the State.

7.9 Economic impact assessments include information on the number of jobs directly provided by the airport operator, air carriers and other airport-related employers, such as the air navigation services provider, and companies dealing with procurement and aircraft servicing, maintenance and repair. Direct and indirect employment could represent a sizeable labour income and constitute a major segment of the region's or the State's economy.

7.10 Beyond the direct and indirect economic impacts of the airport on the economy concerned, there is the induced impact created by spending labour income from direct and indirect economic activities. For an airport of a medium to large scale[2] input-output models are applied to identify the multiplier effects[3] throughout input-providing and consumer industries. An economic impact assessment can reveal benefits from tourism and various related activities to the economy concerned. Economic activities attributable to the tourism industry that are highly dependent on air transport services can be accounted for as catalytic demand effects when applying an extended approach of an economic impact assessment.

7.11 An economic impact assessment can reveal the share generated by air transport services and multiplier effects in a State's Gross Domestic Product (GDP). The knowledge of the contribution made by an airport to the GDP may positively influence the decision-making process regarding investment in additional capacity or infrastructure.

7.12 While the preceding paragraphs have focused on the potential benefits of new or expanded airport development, it should be recognized that such projects often involve certain disadvantages. For example, the specialized equipment needed for security and baggage handling may have to be imported, causing concerns regarding the balance of payment in the national accounts of a developing economy. Construction projects may strain limited supplies of national human, physical and financial resources, thereby delaying or postponing other projects. Also, the project may place demands on other infrastructure (such as air navigation systems, access roads and power supply) in excess of their capacity, leading to reduced services to other users or other costly expansion. Moreover, the project may pose environmental and ecological problems, such as pollution from aircraft noise and other emissions. The determination and, where possible, the quantification of some of these disadvantages must be addressed separately, while some others will be analysed in a complementary environmental impact assessment.

7.13 A well prepared and researched positive economic impact study can be instrumental in obtaining financing, or better financial terms, for an airport project. Indeed, the absence of such an economic impact evaluation may make it more difficult to secure financing from foreign sources, such as development banks and funds, where the effects on the national economy of the proposed project are taken into account in the evaluation process.

2. References are provided in Circular 292, *Economic Contribution of Civil Aviation*.
3. See definition in Attachment 1.

7.14 In conclusion, it should be emphasized that the combination of successfully relating airport plans to regional development plans, recognizing and displaying sensitivity to environmental concerns, and presenting well researched economic impact analyses, provide useful planning and management tools which may encourage investment. This also produces a clear message to public authorities, business partners and investors, which may trigger further investment with consequential benefits for the economy of the State concerned.

COST-BENEFIT ANALYSIS

7.15 When airport projects are publicly funded, a methodology that reflects both the public and private benefits and costs of the project should be considered. Cost-Benefit Analysis (CBA) identifies the investment option that best conforms to the economic goal of maximizing net societal benefits. This obviously goes well beyond a financial evaluation (see paragraphs 7.28 and 7.29) that focuses on the project's financial accounts and cash flows. In addition, there are differences between a financial evaluation and a CBA on the treatment of capital costs. While a financial evaluation would normally re-state the capital costs into annual depreciation and interest expenses, a CBA measures capital costs by the cash expenditures required in future years — not by depreciation and interest. The cash stream of expenditures is compared to the stream of benefits and the annual net amounts are discounted to compute a net present value (NPV)[4] for the investment option.

7.16 To illustrate the different scope of a financial evaluation and a CBA, consider the extension of a passenger terminal at an airport. The financial evaluation would look at the financial cash flows and required user charges associated with this investment, while a CBA would consider the benefits and costs of all parties involved. These would include the air carriers' benefits from improved passenger processing and the passengers' benefits from time-savings. Additionally, if considering the wider social effects, the negative effects, such as increased traffic and noise experienced by individuals living or working in the vicinity of the airport, need to be taken into account.

7.17 There are also potential productivity gains for the airport that must be taken into consideration. For example, an investment in an enhanced baggage handling system may reduce the number of agents required in the future thereby reducing future operating costs. Transportation efficiency benefits may also accrue to the air carriers and would include savings arising from the quicker turnaround of aircraft, and possibly greater service reliability and predictability. Similar considerations to those noted in the last sentence of the preceding paragraph would also apply.

7.18 The measurement of safety benefits requires an analysis of the safety risks that are a composite measure of the probability and the severity of an adverse occurrence. A CBA takes the consequences determined by a risk analysis and attributes a specific monetary value to them. Where accident losses involve tangible goods such as property, accident risks can be valued on the basis of replacement or repair costs. Where losses have intangible consequences such as personal injury or loss of life, the proper valuation of accident risk becomes more uncertain and judgemental, and should be approached with care. Given the difficulties involved with measuring safety benefits, they are often omitted in these analyses unless the safety benefits would differ among the options considered or prove decisive in establishing a positive net benefit for a single infrastructure investment. Where a project cannot be justified by consideration of the non-safety benefits, it may be necessary to consider whether the project will lead to an improvement in the level of safety.

4. The NPV is the discounted value of future income (or benefits) from a particular investment less the discounted value of expected costs. A positive NPV indicates that an investment project is worthwhile. Also used in this context is the Internal Rate of Return (IRR), which is the discount rate that makes the NPV of an investment project equal to zero. The latter is a widely used method of investment appraisal as it takes into account the timing of cash-flows.

7.19 Projects may have negative or positive effects that are experienced by third parties (for example, environmental impacts). The identification and measurement of these effects are less readily identifiable and may have no obvious market value. It is nevertheless useful to list these and quantify them using analytical techniques if at all possible.

7.20 The impact on the environment is an important effect of many large transportation projects. Whether considered as a cost or as a negative benefit (environmental effects are often unintended and typically negative), these effects are difficult to measure precisely. Nevertheless, it is important that they be identified and carefully evaluated. Extensive research has been carried out in the quantification of environmental effects.

7.21 Once all of the benefits and costs have been identified and forecast, in order to determine if a project is cost-beneficial, or to assess which option yields the greatest net benefits, the net cash stream of benefits and costs is discounted to today's value to produce a single NPV. The preferred option, from an economic perspective, would be the one with the highest NPV. The need for discounting stems from the fact that the value placed on income and expenditures depends on when they occur. One unit of currency to be received a year from now is worth less than the value of one unit of currency in one's pocket today because of opportunities foregone during the year.

7.22 Benefits and costs do not necessarily follow the same distribution of cash flows arising from a financial evaluation. In addition, benefits accruing to aviation users may be insufficient to cover the total cost of the project.

BUSINESS CASE

7.23 An important purpose of a business case is to facilitate coordination with all parties involved and to support the negotiations with financial institutions. The development of a business case is often a complex process and includes a number of assumptions and assessments. A major part of a business case study is the financial analysis (or evaluation) discussed earlier. A business case often includes also, among other components, a cost-benefit analysis and a risk management section. The information required for a business case goes beyond the scope of the budget and business plans (see Chapter 3).

7.24 A business case sets out the context, identifies the issue(s) to be addressed and provides a detailed description of the proposal selected, as well as the rationale for its selection among other options, and a comprehensive assessment of its benefits, costs and risks. The other options should also be described together with their benefits, costs and risks. In addition, a business case may provide analyses of, and information on, products and services, markets, employees, technologies, facilities, equipment, capital, financing, contingency plans, etc. It evaluates performance and productivity, and critical success factors are identified and discussed. Key risk factors are identified together with the indicators that would signal changes in results. For each risk factor, mitigating measures should be indicated. The impact on the organization and on human resources would need to be assessed with regard to recruitment, redeployment, training and discharging.

7.25 The business case should identify airport business activities and processes that will be impacted, and should evaluate this impact and propose appropriate measures for dealing with it. For example, in the case of the construction of a new terminal or the expansion of an existing one, a business case would try to identify what the impact would be on airport users, such as airlines, passengers, and general aviation, and on providers, such as ground-handling services, catering and other services. It would examine the impact on human resources in terms of recruitment, layoffs, redeployment or training.

FINANCIAL ANALYSIS

7.26 For airports that seek investment funds from quasi-private or private sources, a financial evaluation will likely be necessary to secure funding for the proposed project. A properly completed financial evaluation will provide a complete assessment of the cash flows, including the risks of the downstream revenues associated with each investment option, and also assist with choosing between alternative solutions. How the evaluation is conduced is largely dependent on its target audience. However, most evaluations begin with an estimate of the project's capital cost, projected output such as passenger enplanements or aircraft operations, and annual revenues, expenses and deductions. Measures such as the Net Present Value (NPV), Internal Rates of Return (IRR), and Payback periods are frequently used to summarize the financial attractiveness of a proposed project and its possible alternatives. Pro forma earnings statement, debt redemption schedules, and statements of cash flows are also typically prepared.

7.27 It is sometimes suggested that a financial analysis also be conducted on every publicly financed airport project. However, such analysis does not measure the full economic costs and benefits of a project and is therefore of limited value to the State in these circumstances. The following factors may cause public benefits to vary from those envisaged by the project builder and operator:

— Producers (airports) sometimes create benefits for other members of the economy but are unable to obtain payment for these benefits, or, alternatively, they may cause losses to others without having to pay the full costs. These events are called externalities. A frequently cited negative externality to airport operations is aircraft noise. In the case of externalities, the measure of net benefits to the producer will not be the same as the net benefits to the public.

— Public costs and benefits may not be fully realized in market transactions due to imperfect information. The full value of saved passenger time or improved air safety attributable to an investment may not be understood by passengers and thus may be difficult to recover through higher air fares and airport fees.

— Some airports are, de facto, monopoly providers of regional airport services to certain classes of aircraft. Users of such an airport do not have reasonable alternatives should the airport increase its fees to cover a project's cost, although the project may or may not have benefits equivalent to the rate increase. (Thus, the ability of an airport to cover a project's costs by a rate increase does not necessarily mean that the project has economic merit from the public's standpoint.)

— A project at an airport may have important benefits, but if some users are in a position to block the project (e.g. by refusing to pay higher landing fees), the worthwhile project could be blocked. For instance, a dominant airline might oppose the addition of new capacity that would disproportionately benefit its competitors, or, due to short-term financial problems, may reject any project with future benefits that would increase current costs.

D — THE FINANCING PLAN

PURPOSE AND CONTENTS OF A FINANCING PLAN

7.28 Prior to embarking on an airport investment project and securing the financing required, various data need to be compiled. Thus, broad order-of-magnitude estimates of the costs of the project involved need to be prepared and, as noted in Part A, annual traffic estimates need to be made for the

period extending over the life of the airport infrastructure created by the project. Possible sources for financing the project would need to be identified, as would potential airport revenue sources subsequently required to meet debt-servicing obligations for which the airport would be responsible. All this information is also relevant to the preparation of the analyses referred to above.

7.29 Once it is decided to proceed further with the airport project, it becomes necessary to develop a much more detailed plan — the financing plan — which provides such basic information as:

a) estimates of the component costs (labour, materials, equipment, contingency, etc.) of each distinct part of the overall project;

b) the cash flow required to make disbursements at various stages in the project's progress, including construction cost and payment on the related debt;

c) the currencies in which payments are to be made; and

d) the sources from which the funds are to be forthcoming, whether from:

   1) sources generated by the airport itself from its operations (e.g. retained earnings); or

   2) other sources including information on the applicable conditions (e.g. interest rate and repayment period).

7.30 Also to be emphasized is the importance of the availability of data showing the trend in the financial situation of the airport over recent years, as well as anticipated developments over the period of debt repayment. Historical financial data are contained in airport accounts showing data such as those described in Chapter 3, Part B — Accounting. Of particular relevance is the recording of revenues and expenses by major item. Estimates regarding future financial developments would emanate from the airport budgets and longer-term financial plans. In that context, reference is made to the text on the budgeting process in Chapter 3 under Part A — Basic aspects. In the absence of such financial data, it will be much more difficult for those outside the airport to decide whether the loan or financing sought should be granted and, if granted, what terms should be offered.

7.31 It should be understood that apart from regular reviews prior to the decision to proceed with the airport project, once that decision has been made, the original cost and revenue estimates will need to be reviewed and updated. This process should continue throughout the project construction and implementation phase.

CURRENCY REQUIREMENTS

7.32 An important — and in some instances a determining — factor as to whether an airport investment project can proceed is the demand it places on foreign currency, and the extent to which costs can be defrayed in domestic currency. Where, as will often be the case, project costs call for payment in foreign funds and the national currency is not freely convertible, it is essential to establish, at an early stage, the practicability of obtaining the foreign exchange required. The provision of such exchange will need to be examined with the appropriate fiscal authorities of the government, and for this purpose, a statement should be prepared detailing, as fully as possible, both the foreign currency payments involved and the extent to which prospective sources of financing for the project can be expected to accommodate foreign exchange requirements. While arrangements securing the loan of foreign funds or even the provision of foreign goods and services on extended credit terms serve initially to reduce exchange problems, all such arrangements remain a legitimate concern of the fiscal authorities of the government, since repayment of the debt involved ultimately constitutes a demand on foreign exchange reserves.

7.33 The extent to which payment of project costs can be made in the domestic currency or will involve foreign exchange depends on the many and varied factors present in each situation; it is therefore only possible to give the following general guide as to the kinds of costs that might typically be expected for each category.

Costs typically payable in domestic currency

7.34 Such costs may include:

a) construction work and other services performed by domestic contractors and firms;

b) land acquisition including associated costs of any easements (e.g. rights-of-way over another's property);

c) salaries, wages and other related costs of national employees;

d) domestic materials, supplies and equipment of which the country is not a net importer;

e) interest on domestic credit; and

f) taxes.

Costs typically payable (wholly or partially) in foreign currency

7.35 Such costs may include:

a) construction work and other services performed by foreign contractors and firms;

b) imported equipment, materials and supplies;

c) wages, salaries, allowances and other related costs of expatriate personnel; and

d) interest on foreign credit.

It should be noted that policy directives and contractual arrangements seeking maximum use of domestic labour and materials can be effective restraints on foreign currency requirements.

REPAYMENT OF LOANS

7.36 Early in the planning stages, a determination needs to be made of the future ability of the airport to service loan obligations. Economists and financial advisers can work with the airport to determine the ability of the airport to repay loan obligations. That ability depends to a large extent on the airport's revenue-generating capacity, which may increase significantly as a result of the availability of the new or improved airport facilities financed by the loan concerned. In this context, it may be recalled that most airports still do not recover their total costs and those with low traffic volumes have little or no immediate prospects of doing so. Where this is the case, the burden of securing funds to service the loan will normally become the responsibility of the government concerned. Nevertheless, where circumstances permit, growing emphasis is

being placed on airports assuming responsibility for providing the funds required for meeting a part of the interest and instalment payments on a loan taken to finance airport infrastructure developments.

7.37 Where such responsibility is assigned to the airport, a schedule should be drawn up showing, for every loan or part of a loan involved, when each instalment and interest payment is to take place and the amounts involved, as well as what revenue or other income the airport intends to pledge against these commitments. Funds required to service the debt obligations would need to be channelled from the overall revenue flow of the airport, principally revenues from charges on air traffic, concessions and rentals.

7.38 Payment of foreign loans usually requires outlays in convertible currency. To the extent the airport is responsible for any servicing of this type of loan, it may be advisable for it to be given access to such convertible currency as it might have generated from its operations. This could involve the establishment of a convertible currency account (or accounts) being held for that purpose by the airport, or trustee, subject, if required, to monitoring by the foreign exchange authorities in the State concerned to ensure it is being used as intended.

E — SOURCES OF FINANCING

7.39 A survey of potential sources of funds for an airport project, and the selection of which of these to consider, should be done as early as possible in the planning process. Financial advisers can assist in locating sources of funds for airport infrastructure development. It is important to do so in order to have, from the outset, an indication of whether financing will be available; to provide adequate time for completion of the usually lengthy preliminaries preceding the conclusion of specific financial arrangements; and to become versed in the procedural and other requirements of such arrangements in time to incorporate those requirements directly into the planning process itself wherever compliance therewith would be facilitated by so doing.

7.40 Potential sources of funds will vary considerably from State to State, and which of them are to be approached has to be studied and decided individually for each project. Historically, the most common source of funds for airport development has been from government sources. This includes funds provided by the government directly as well as through government-owned or sponsored financial institutions, including development or export-promoting agencies. The government may be a national government, or one or more foreign governments. Also, one or more international governmental institutions or agencies may be involved. One of the main sources of financing,[5] however, now appears to come from retained earnings, although this does not mean that self-financing is or will be the largest source of financing. The reliance on government financing still remains significant in many States, but is expected to decrease considerably in the years to come with the continuous increase in the number of autonomous bodies operating airports. Compared to the situation a few years ago, the use of commercial loans has shown a remarkable increase, again reflecting the growth in autonomous entities that are expected to secure their own financing. An interesting new trend is the growing importance of bonds and share capital, which again is clearly linked to the new organizational structures. Pre-funding of capital projects through airport charges is another source of financing that is sometimes used in specific cases and under certain conditions (see Attachment 6).

DOMESTIC SOURCES

7.41 Costs to be met in domestic currency may be financed by various means available within the State itself, including loans (and sometimes grants) from government sources, commercial loans negotiated

5. See Chapter 3 of Circular 286, *Highlights in the Economic Development of Airports and Air Navigation Services*, published in June 2002.

through banks and other domestic financial institutions, and the extension of credit by contractors and other firms engaged in the project. Also relevant in this context is income from the sale of airport land, particularly where a new airport will replace an existing airport, the site of which can then be sold. Government assistance in the form of interest-free loans or even grants can appropriately be sought in recognition of the local, regional and national benefits derived from the airport's existence and development. Where revenues are insufficient to cover total operating costs, including depreciation and interest, the execution of any new development project will inevitably depend on government assistance in some measure, and the benefits just mentioned could play a role of particular importance in securing such assistance. Their evaluation, even though only practicable in broad terms, should therefore not be neglected and is a primary purpose of the economic impact surveys referred to in Part C. Financial assistance in recognition of such benefits may of course be sought from the local and regional, as well as the national, governments, but in so doing, the airport should be prepared to demonstrate that the particular communities within such jurisdictions do, in fact, derive distinct benefits beyond those realized nationally.

7.42 Where an airport seeks commercial loans directly from banks or other domestic financial institutions, it can expect that forecasts of its future operating costs and revenues will be required as a basis for assessing its ability to repay such loans. Where that ability is judged adequate, such commercial financing will probably be obtainable against an appropriate pledge of future airport revenues, but to the extent that it is found lacking, it is likely that the loan will only be forthcoming if repayment is backed by the government or some other acceptable guarantor.

FOREIGN SOURCES

7.43 Further to that noted in paragraph 7.32, project costs payable in foreign funds constitute a demand on the State's reserves of foreign exchange and as such their financing will usually have to be arranged through, or with the approval of, the appropriate government authorities. While the fluctuations in the value of these funds can add to the cost of an airport development project, hedge funds can be established to help reduce the volatility and risk associated with the use of financing airport development using foreign funds.

7.44 Depending on the magnitude of the costs involved and the state of exchange reserves, it may prove possible to obtain the required financing through such domestic institutions as those mentioned above, but usually this will not be the case and foreign sources will need to be found. In any event, quite apart from foreign exchange considerations, such sources should always be explored as a matter of course, since financing may be available from them on more favourable terms than those obtainable from domestic institutions (lower interest rate, repayment over a longer period, etc.).

7.45 For most States, particularly developing States, the foreign sources of financing are principally government-operated. The following paragraphs focus first on such foreign governmental financing sources as bilateral institutions, and development banks and funds, and then comment on foreign commercial sources such as commercial banks, contractors and suppliers.

Bilateral institutions

7.46 Foreign financing may be available from foreign governments in the form of loans negotiated directly with the government of the recipient country, or may otherwise be facilitated by particular agencies of government which have been established for the primary purpose of promoting the nation's export trade. The development of transport facilities and the consequential benefits to the national economy as a whole expected to result from any given project may evoke the provision of such assistance for various reasons, among them being the desire to promote trade and cultural relations between the two countries. Additionally,

as mentioned, the wish to facilitate the export of technology and equipment required for the project and available in the assisting State may be a further reason for interest. Such assistance, as well as any subsequent negotiations, will usually need to be pursued through the appropriate governmental authorities of the State in which the project is being undertaken.

7.47 In the case of developing countries, such assistance may be available through specific aid programmes, which certain governments have established to promote economic and social development in various areas of the world. These programmes extend assistance in forms such as loans on preferential terms and the direct provision of supplies, equipment and technology. Examples, by State, of such sources of funds are presented in Attachment 5, Part A.

7.48 For projects not qualifying for aid from such sources, assistance in meeting the requirements for foreign financing may be available through the special export-promoting agencies of certain governments. Assistance from these sources takes various forms, including direct loans by the agency itself, guarantees covering private loans, and insurance of the risk assumed by national enterprises in providing goods and services on credit terms. Examples of agencies of this nature are the Export Development Corporation of Canada, the Export-Import Banks of Japan and the United States, COFACE of France, HERMES of Germany, and the Export Credits Guarantee Department of the United Kingdom.

Development banks and funds

7.49 Possibly of most importance among the possible sources of foreign financing available to developing States are the international banks and funds that have been established to assist in the financing and execution of projects seeking to promote national economic development. It should be noted, however, that such projects cover a wide range of economic activities, of which airports are but one. Prominent among these banks and funds are the International Bank for Reconstruction and Development and its affiliates, the International Development Association and the International Finance Corporation (although the purpose of the latter is to promote development through loans to the private sector), and various regional development banks and funds. A list of such institutions is presented in Attachment 5, Part B.

7.50 As in the case of financing by foreign governments, the possibilities of obtaining financial assistance from the above institutions for any particular airport development project, and the procedures to be followed in applying for such assistance, will inevitably involve the government of the State in which the project is being undertaken. There are two reasons for this: first, any loan or grant that may be extended will be made either to a government or government agency, or to a private entity with the support and guarantee of the government; second, the first test of suitability of a project is usually whether the sector of the economy in which it is categorized, and the project itself, are of high priority for development and are so recognized in the government's development plans.

United Nations Development Programme

7.51 The United Nations Development Programme (UNDP) should be borne in mind by developing States as a source of assistance when seeking to finance airport project(s). The various kinds of expertise required for the consideration, planning and execution of airport development projects, which will be needed for the necessary feasibility and cost-benefit studies, in the preparation of master plans and in the actual construction phase itself, may be requested from the State's programme of UNDP-funded technical assistance. As well as expertise, funding for minor necessary airport equipment may also be obtained through the UNDP. Where such technical assistance is to be sought for any airport development project, the specific requirements will need to be formulated and submitted to the national government for approval within the country's overall programme of development projects for which technical assistance is being requested. It should always be remembered, however, that the principal role of the UNDP is to provide expertise and not the funds required to finance airport construction or expansion.

Commercial sources

7.52 One of the simplest ways of dealing with costs payable in foreign funds is to place the responsibility for financing arrangements on foreign contractors and suppliers who stand to benefit directly from the project. In foreign commercial dealings, it is often the practice for suppliers to be required to state, as part of their bid, the financing arrangements that they are prepared to offer, and for contractors to be given the responsibility for securing financing on the most favourable terms. When applied, such practices will not only help to reduce the financing problems encountered in airport projects, but will also enable the acceptability of bids to be evaluated from all perspectives, including financial. For the latter purpose, the bids should of course be required to quote supply prices separate from the financing charges involved, so that such charges may be compared with the cost of financing through alternative sources. Financing of costs in such a manner, however, poses a risk that needs to be guarded against, which is that during the process of selecting bids, a firm's financing capability may be allowed to assume an importance disproportionate to that of other considerations more basic to the project's successful execution.

7.53 Banks, investment houses and other traditional commercial credit institutions operating in the private sector of the country of a contractor providing equipment, supplies or services for the airport project may, of course, be approached directly for financing assistance. However, the cost and other terms of credit obtained in this manner are in general likely to be more onerous than those obtainable from the various public sources described in the preceding paragraphs. Commercial institutions of the kind referred to here exist in a variety of forms in different States, and for any particular State, those likely to assist with an airport project are probably best ascertained directly from the government concerned.

DEBT FINANCING

7.54 Financing airport infrastructure improvements has taken different paths around the world. In the United States, and more recently in Canada and Australia, the use of long-term debt through bonds to finance capital improvements has become a common practice. Short-term debt is often used to bridge periods of high interest rates or during a construction phase where the risk of rising interest cost is offset by the invested principal of the debt obligation. Airports with large construction programmes often keep a portion of their debt portfolio in short-term debt, balancing the risk of rising interest rates. In other parts of the world, airports have used bank loans or other government supported financing mechanisms to finance airport development. With the prospects of a growing number of airports moving toward partial or complete financial self-sufficiency, long- and short-term debt financing is increasingly viewed as an attractive alternative. Of course, the terms under which a debt obligation must be offered in order to be marketable, as well as the cost of the issue, will determine, in each instance, whether a debt obligation is more advantageous than other forms of financing.

7.55 The attractiveness to investors of an airport debt obligation in the financial markets can be gauged by the following three conventional indicators of investment quality:

a) credit ratings — a simple system used by major investor services to grade bonds according to investment quality;

b) interest cost — the interest paid by the airport to attract investors relative to what issuers of competing bonds pay; and

c) tax-exemption (exemption from income taxes of a bond's purchase price and/or interest paid, for example) can frequently be an important factor when determining a debt obligation's attractiveness to a potential investor.

7.56 Debt obligations should not be planned and undertaken without the active involvement of experts because of the various and specific qualitative and quantitative judgements that need to be made,

the thorough knowledge of the market required, the relatively large funds needed in an issuance, and the costs of the issuance. Financial advisors independent of the loan provider generally provide an issuer greater assurance of the risks and rewards of financing a project.

Credit rating

7.57 A credit rating is a measure of the history and ability to repay loan obligations. A number of firms specialize in evaluating new debt obligations and providing ongoing surveillance on outstanding debt of an entity. Credit rating agencies will review credit history and analyse an airport's historical financial statements. Rating agencies look at many aspects of an airport's financial and operational history and forecasts to rate the airports ability to repay its debt obligations. Some of the criteria rating agencies evaluate are:

a) financial strength;

b) competitive position;

c) airline diversity;

d) control over facilities;

e) geographic location;

f) demographics;

g) environmental issues; and

h) management/ownership structure.

7.58 Financial ratios such as debt per passenger, debt service coverage, and airline cost per passenger can be used to evaluate the financial position of an airport. Operating ratios, such as gate utilization and relative use by individual air carriers, can be used to determine the competitive position of an airport. As the structure of debt obligations and governance has become more complex, rating agencies typically review the underlying legal documents of the financing while assessing a rating.

7.59 To provide a quick snapshot of the credit worthiness of a business entity such as an airport, credit rating agencies have developed various rating scales. Over the course of time, each rating agency has developed their own ranking system, but the purpose remains the same. For example, one leading credit rating company ranks long-term debt as shown in the box below. Long-term debt judged to be of the

Bond Credit Ratings Scale		
Investment Grade	AAA AA A BBB	Highest quality High quality Upper medium grade Medium grade
Speculative Grade	BB B CCC	Speculative Speculative, low grade Danger of default
Default	D	Questionable value
Individual company ratings will vary slightly and may indicate slight variance from the standard by using "+" or "–".		

highest quality with the smallest investment risk receives a rating of “triple A”, followed by a rating of “double A” for debt deemed to be of high quality. Debt judged to be of upper medium quality receives a rating of “A”, followed by a rating by “triple B”. Ratings below this level are assigned to debt that is considered speculative or in danger of default.

7.60 The risk for short-term debt is limited to the length of time the debt is held by the investor, anywhere from one day to one year.

PRE-FUNDING OF PROJECTS THROUGH AIRPORT CHARGES

7.61 When more traditional sources of funds are not available, it has been recognized that the use of pre-funding can be an acceptable means of financing airport development, under certain conditions. Guidelines for pre-funding of airport charges are contained in Attachment 6 (see paragraphs 4 and 5).

OTHER SOURCES

7.62 Some airports have found it advantageous to sell equity capital in the airport as a means to generate funds for airport development projects. In issuing these shares, the equity owners share in the profits as well as the risks of the operation of the airport.

7.63 Although relatively rare, another option to fund airport development is through a “build, operate and transfer” (BOT) arrangement. Under these arrangements, an enterprise undertakes the construction and operations of an airport facility, such as a terminal, for a predetermined number of years after which ownership is transferred to the airport.

7.64 Leasing rather than outright purchase of equipment may in some cases provide an attractive alternative where, for example, vehicles and machinery are involved. The benefit to the airport would be that it can have the use of the item(s) leased without having to incur a substantial financial outlay. Also, such use would normally take place sooner than if financing had to be sought in order to purchase the items. Leasing, moreover, does not significantly influence the overall debt the airport needs to serve, and leasing arrangements may not be subject to the same extensive and time-consuming approval processes frequently required for purchases.

7.65 On the negative side, the airport does not enjoy the benefit of ownership, including the addition to total airport assets. This may be relevant when financing for other airport investment projects is being sought and assets that can be considered security are to be identified. Of greater significance is that leasing tends, in the long run, to be more expensive to the lessee because the overhead and profit of the lessor must be covered by the lease payments. In some circumstances, however, there may be offsetting factors; for example, where the items leased are renewed frequently, the maintenance expenses incurred by the airport may be reduced. Tax laws in some States may also encourage leasing arrangements.

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ATTACHMENT 1

Glossary of Terms

Note.— The following terms are described as they apply in the context of this manual. This list is not exhaustive. Other terms, for which a definition is provided in the body of the manual, may be found in the Index.

Amortization. The gradual extinguishment of the cost of an asset by periodic (annual) charges to expenses, usually applicable to intangible assets (e.g. development costs).

Asset. A resource from which future economic benefits are expected to flow to the entity that owns or controls it.

Bond. Documentary promise to repay long-term borrowed money with interest at a definite or determinable future date.

Capital assets. Assets acquired with the expectation that they will remain in service for a number of accounting periods.

Charge. A levy that is designed and applied specifically to recover the costs of providing facilities and services for civil aviation.

Commercialization. An approach to management of facilities and services in which business principles are applied or emphasis is placed on development of commercial activities.

Concession. The right to operate a certain commercial activity at the airport, commonly on an exclusive basis and usually at a specified location.

Cost of capital. The cost of raising debt or equity funds.

Depreciation. The decrease of an asset in value due to wear and tear through use, action of the elements, inadequacy or obsolescence, normally over a predetermined period of time (depreciation period/book life of the asset).

Direct transit passengers. Passengers arriving at an airport of a State and continuing their journey on the same through flight (differs from “transfer/connecting passengers” defined below).

Economic life (of an asset). The period during which an asset is expected to yield a rate of return.

Economic regulation. Measures taken by a State with regard to legislation or rule-making, establishment of a regulatory mechanism, etc., to perform its economic oversight functions.

Equity capital. Money furnished by the owner(s) of the entity.

Fuel “throughput” charges. A concession fee levied by an airport on each litre (or other liquid measure) of aviation fuel sold at the airport.

General aviation. All civil aviation operations other than scheduled air services and non-scheduled air transport operations for remuneration or hire.

Liabilities. Debt of the entity in the form of financial claims on an entity's assets.

Multiplier effect. Normally expressed as a factor showing how much the direct economic impact of the airport is increased by the indirect and induced economic effects of airport activities.

Rental. The right to occupy certain defined premises or a specific area of land against payment of a fee.

Tax. Is a levy that is designed to raise national or local government revenues which are generally not applied to civil aviation in their entirety or on a cost-specific basis.

Transfer (or connecting) passengers. Passengers arriving at an airport of a State and continuing their journey on another flight at the same or another airport of that State (differs from "direct transit passengers" defined above).

ATTACHMENT 2

Extracts from *ICAO's Policies on Charges for Airports and Air Navigation Services* (Doc 9082/7)

I. INTRODUCTION

Financial background

7. The Council notes that the financial situation of airports as well as that of air navigation services are in a stage of evolution, and the financial situation of their primary users, the scheduled airlines, generally fluctuates with the performance of national, regional and global economies[1].

Scope and proliferation of charges

8. The Council recommends that States:

i) Permit the imposition of charges only for services and functions which are provided for, directly related to, or ultimately beneficial for, civil aviation operations;

ii) Refrain from imposing charges which discriminate against international civil aviation in relation to other modes of international transport.

9. In this regard the Council is concerned over the proliferation of charges on air traffic and notes that the imposition of charges in one jurisdiction can lead to the introduction of charges in another jurisdiction.

Organizational and managerial issues

Autonomy and privatization

10. The Council observes that experience gained worldwide indicates that where airports and air navigation services have been operated by autonomous entities their overall financial situation and managerial efficiency have generally tended to improve. Nearly all the entities have been established by governments although the operation of many such entities, in particular those operating airports, has since been transferred partly or completely to private enterprise.

11. The Council therefore recommends that where this is in the best interest of providers and users, States consider establishing autonomous entities to operate their airports or air navigation services, recognizing that in some circumstances a single entity may operate both airports and air navigation services, and that the entity may be in the form of an autonomous civil aviation authority.

1. Historical trends and recent information on the financial situation of the various parties may be found on the ICAO civil aviation statistics Web site and in the relevant ICAO publications.

12. The Council also encourages international cooperation in the provision and operation of air navigation services where this is beneficial for the providers and users concerned. (See also paragraph 18 addressing charges collection).

13. The Council emphasizes with regard to private involvement that States, when considering the commercialization or privatization of airports and providers of air navigation services, bear in mind that the State is ultimately responsible for safety, security, and, in view of the monopolistic nature of airports and air navigation services, economic oversight of their operations.

14. The Council also wishes to stress that where an autonomous body or entity is established, whether by a government or by private interests, to operate an airport(s) and/or air navigation services, the State should stipulate as a condition for its approval of the new body or entity that it observe all relevant obligations of the State specified in the *Convention on International Civil Aviation* and its Annexes. The observance by autonomous bodies or entities of other ICAO policies and practices, such as those contained in the present Policies on Charges, should be recommended or required as necessary, by States.[2]

Independent mechanism for economic regulation of airports and air navigation services

15. The Council notes that with the rapidly growing autonomy in the provision and operation of airports and air navigation services many States may wish to establish an independent mechanism for the economic regulation of airports and air navigation services. Such a mechanism, the establishment of which in such circumstances is recommended by the Council, would oversee economic, commercial and financial practices and its objectives could be drawn or adapted from, but need not be limited to, the following:

i) Ensure non-discrimination in the application of charges;

ii) Ensure there is no overcharging or other anti-competitive practice or abuse of dominant position;

iii) Ensure transparency as well as the availability and presentation of all financial data required to determine the basis for charges;

iv) Assess and encourage efficiency and efficacy in the operation of providers;

v) Establish and review standards, quality and level of services provided;

vi) Monitor and encourage investments to meet future demand;

vii) Ensure user views are adequately taken into account.

Development and application of performance parameters

16. The Council recommends that States encourage their airports and providers of air navigation services to:

i) Develop and collect data on performance in the provision of their services (such as aspects related to safety, delay, predictability, flexibility, efficiency, availability, access, environment and cost of service);

2. Guidance on the organizational structures of airports and of air navigation services is contained respectively in the *Airport Economics Manual* (Doc 9562) and *Manual on Air Navigation Services Economics* (Doc 9161).

ii) Use these parameters to evaluate and improve the quality of services provided;

iii) Take these parameters into account to help support their investment decisions;

iv) Undertake consultations with users to achieve mutual understanding and consensus;

v) Develop and maintain costing systems that permit users and providers to understand the true costs of providing services.

Best commercial practices for airports and air navigation services

17. The Council endorses the application of principles of best commercial practice for airports and air navigation services in order to promote transparency, efficiency and cost effectiveness in the provision of an appropriate quality of services and facilities. The Council therefore recommends that States apply best commercial practice in such areas as:

i) Quality and timeliness of services;

ii) Assessment of investment proposals;

iii) Consultation process and dealings with users;

iv) Accounting practices and transparency;

v) Subsidization;

vi) Development plans.

Charges collection

18. For the successful collection of charges for airports and air navigation services entities, it is essential that a collection policy be established by an airport or air navigation services entity, or where applicable by a State, and that the following functions be up-to-date: national legislation; accurate invoicing; comprehensive and updated databases on airlines; a transparent cost recovery system with a fair and equal treatment of all users; precise and correct accounting; credit control; and enforced recovery procedures. Regarding air navigation services, the Council recommends that States or their delegated service providers consider participating in joint charges collection agencies whenever this is advantageous.

Other factors affecting the economic situation of airports and air navigation services

19. The Council notes that a number of additional factors are likely to exert an important influence on the organization and economic development of airports and air navigation services. These include the growing liberalization of air services, air carrier concentration including mergers, changes in approaches to financing with airports (in particular) and providers of air navigation services being expected to assume primary responsibility for financing investments in their infrastructure requirements, capacity management, airport and airspace congestion, and environmental concerns. Also, the number of autonomous entities operating airports or air navigation services is expected to increase. This is resulting in more situations

where an airport is operated by a different entity from that providing air navigation services (both approach and aerodrome control and route air navigation services). Also, additional resources will be required to deal with the problem of airport and airspace congestion, and to implement satellite-based communications, navigation and surveillance (CNS) and air traffic management (ATM) systems, as well as other multinational facilities and services, and other improvements in infrastructure.

20. The Council observes that under these circumstances many airports and providers of air navigation services may find it necessary to increase their charges and in the case of airports place greater emphasis on further developing revenues from non-aeronautical sources. However, recognizing that users face restrictions with regard to their choice of particular airports and of routes to be flown, the Council recommends that caution be exercised when attempting to compensate for shortfalls in revenue and that account be taken of the effects of increased charges on air carriers which may need to adjust their tariffs to deal with increases in cost arising from higher charges. The Council also considers that there should be a balance between the respective interests of airports and providers of air navigation services on one hand and of air carriers on the other, in view of the importance of the air transport system to States and its influence in fostering economic, cultural and social interchanges between States. This applies particularly during periods of economic difficulty. The Council therefore recommends that States encourage increased cooperation between airports and providers of air navigation services and air carriers to ensure that economic difficulties facing them all are shared in a reasonable manner.

II. ICAO'S POLICIES ON AIRPORT CHARGES

The cost basis for airport charges

21. The Council considers that as a general principle it is desirable, where an airport is provided for international use, that the users shall ultimately bear their full and fair share of the cost of providing the airport. It is therefore important that airports maintain accounts which provide information adequate for the needs of both airports and users and that the facilities and services related to airport charges be identified as precisely as possible. In determining and allocating the total cost to be met by charges on international air services, the list in Appendix 1 may serve as a general guide to the facilities and services (including satellite services) to be taken into account. Airports should maintain accounts that provide a satisfactory basis for determining and allocating the costs to be recovered, should publish their financial statements on a regular basis and should provide adequate financial information to users in consultations.[3] Moreover, the Council recommends that States consider the application, where appropriate, of internationally accepted accounting standards for airports.

22. The Council also states that in determining the cost basis for airport charges the following principles should be applied:

i) The cost to be shared is the full cost of providing the airport and its essential ancillary services, including appropriate amounts for cost of capital and depreciation of assets, as well as the costs of maintenance, operation, management and administration, but allowing for all aeronautical revenues plus contributions from non-aeronautical revenues accruing from the operation of the airport to its operators.

ii) In general, aircraft operators and other airport users should not be charged for facilities and services they do not use, other than those provided for and implemented under the Regional Air Navigation Plan.

iii) Only the cost of those facilities and services in general use by international air services should be included, and the cost of facilities or premises exclusively leased or occupied and charged for separately should be excluded.

iv) An allocation of costs should be considered in respect of space or facilities utilized by government authorities.

v) The proportion of costs allocable to various categories of users, including State aircraft, should be determined on an equitable basis, so that no users shall be burdened with costs not properly allocable to them according to sound accounting principles.

vi) Costs related to the provision of approach and aerodrome control should be separately identified. (Principles applicable to the recovery of such costs are addressed more fully in the Policies on Charges for Air Navigation Services.)

vii) Airports may produce sufficient revenues to exceed all direct and indirect operating costs (including general administration, etc.) and so provide for a reasonable return on assets

3. Guidance on accounting contained in the *Airport Economics Manual* (Doc 9562) may be found useful in this general context, although there are other approaches.

at a sufficient level to secure financing on favourable terms in capital markets for the purpose of investing in new or expanded airport infrastructure and, where relevant, to remunerate adequately holders of airport equity.

viii) The capacity of users to pay should not be taken into account until all costs are fully assessed and distributed on an objective basis. At that stage the contributing capability of States and communities concerned should be taken into consideration, it being understood that any State or charging authority may recover less than its full costs in recognition of local, regional or national benefits received.

Airport charging systems

23. The Council recommends that charging systems at international airports be chosen in accordance with the following principles:

i) Any charging system should, so far as possible, be simple and suitable for general application at international airports.

ii) Charges should not be imposed in such a way as to discourage the use of facilities and services necessary for safety.

iii) Charges should be determined on the basis of sound accounting principles and may reflect, as required, other economic principles, provided that these are in conformity with Article 15 of the *Convention on International Civil Aviation* and other principles in the present Policies.

iv) The charges must be non-discriminatory both between foreign users and those having the nationality of the State in which the airport is located and engaged in similar international operations, and between two or more foreign users.

v) Where any preferential charges, special rebates, or other kinds of reduction in the charges normally payable in respect of airport facilities are extended to particular categories of users, governments should ensure, so far as practicable, that any resultant under-recovery of costs properly allocable to the users concerned is not shouldered on to other users.

vi) To avoid undue disruption to users, increases in charges should be introduced on a gradual basis; however, it is recognized that in some circumstances a departure from this approach may be necessary.

vii) Where charges are levied by different entities at an airport, they should, so far as possible, be consolidated into a single charge or a very small number of different charges, the combined revenues being distributed among the entities concerned in a suitable way.

viii) Maximum flexibility should be maintained in the application of all charging methods to permit introduction of improved techniques as they are developed.

ix) Airport charges levied on international general aviation should be assessed in a reasonable manner, having regard to the cost of the facilities needed and used and the goal of promoting the sound development of international civil aviation as a whole.

Pre-funding of projects

24. The Council considers, notwithstanding the principles of cost-relatedness for charges and of the protection of users from being charged for facilities that do not exist or are not provided (currently or in

the future) that, after having allowed for possible contributions from non-aeronautical revenues, pre-funding of projects may be accepted in specific circumstances where this is the most appropriate means of financing long-term, large-scale investment, provided that strict safeguards are in place, including the following:

i) Effective and transparent economic regulation of user charges and the related provision of services, including performance auditing and "benchmarking" (comparison of productivity criteria against other similar enterprises);

ii) Comprehensive and transparent accounting, with assurances that all aviation user charges are, and will remain, earmarked for civil aviation services or projects;

iii) Advance, transparent and substantive consultation by providers and, to the greatest extent possible, agreement with users regarding significant projects;

iv) Application for a limited period of time with users benefiting from lower charges and from smoother transition in changes to charges than would otherwise have been the case once new facilities or infrastructure are in place.

Currency issues

25. The Council recommends:

i) That under normal circumstances user charges be expressed and payable in the local currency of the State concerned;

ii) That under special circumstances, for example where economic conditions are not stable, when a State proposes, or allows, denomination of user charges in other than local currency, air carriers could apply the same currency of denomination, using the same exchange rate, for their local ticket sales;

iii) That every effort be made to remove obstacles preventing an air carrier based in one State from transferring in convertible currency its net income from sales in another State[4].

Landing charges

26. The Council recommends that the following principles be taken into account when landing charges are established:

i) Landing charges should be based on the weight formula, using the maximum certificated take-off weight as indicated in the certificate of airworthiness (or other prescribed document) as the basis for assessment. However, allowance should be made for the use of a fixed charge per aircraft or a combination of a fixed charge with a weight-related element, in certain circumstances, such as at congested airports and during peak periods.

ii) The landing charge scale should be based on a constant rate per 1 000 kilograms or pounds in weight, but the rate may be varied at a certain level or levels of weight if considered necessary.

4. Further aspects of currency conversion, remittance of earnings and payment of local expenses are contained in *Policy and Guidance Material on the Economic Regulation of International Air Transport* (Doc 9587).

iii) Where charges for approach and aerodrome control are levied as part of the landing charge or separately, they could take aircraft weight into account but less than in direct proportion. (Principles applicable to such charges are addressed more fully in the Policies on Charges for Air Navigation Services.)

iv) No differentiation in rates should be applied for flights because of the stage length flown.

v) A single charge should be applied for costs of as many as possible of airport-provided facilities and services for normal landing and take-off of aircraft (generally excluding hangars and certain terminal-building and other facilities as are normally handled by leases or other usual commercial practices).

vi) Where restrictions on aircraft payload are imposed by airport limitations, consideration should be given locally to adjusting the landing charge indicated by the weight scale in cases where the restrictions are of a severe and long-lasting nature.

vii) The ordinary landing charge should cover the use of lights and special radio aids for landing where these are required, since it is in the interest of safety that aircraft operators should not be discouraged from utilizing aids by the imposition of separate charges for their use. If separate charges are made for facilities of this kind, they should not be levied on the basis of optional use but should be uniformly imposed on all landings occurring during periods established by the airport operators.

Parking and hangar charges

27. The Council recommends that the following principles be applied in establishing parking and hangar charges:

i) For the determination of charges associated with use of parking, hangar and long-term storage of aircraft, maximum permissible take-off weight and/or aircraft dimensions (area occupied) and length of stay should be used so far as possible as the basis.

ii) The period of free parking time for aircraft immediately following landing should be determined locally by considering aircraft scheduling, space availability and other pertinent factors.

Passenger service charges

28. The Council recognizes that the revenue accrued from passenger service charges is essential to the economy of a significant number of airports. Frequently, however, there are major facilitation problems arising from the collection of such charges directly from the passenger, especially at large airports, and these problems will potentially continue to mount with the continuing growth of passenger traffic and the increasing number of high-capacity aircraft operated, especially at busy terminal buildings during peak hours. The Council therefore recommends that States endeavour to ensure that the levying of passenger service charges does not create additional queueing and delays at airports, if appropriate by avoiding the collection of these charges directly and separately from the passenger at the airport. More specifically, the Council recommends that where the collection of a passenger service charge directly from passengers at an airport gives rise to facilitation problems, this charge should be levied instead on the air carriers where practicable. The Council also emphasizes the need for consultations between airport entities and air carriers at the local level with a view to alleviating collection problems.

Security charges

29. The Council notes that States are responsible for ensuring the implementation of adequate security measures at airports pursuant to the provisions of ICAO Annex 17 — *Security* to the *Convention on International Civil Aviation* and that they may delegate the task of providing individual security functions to such agencies as airport entities, air carriers and local police. The Council also notes that States may determine in which circumstances and the extent to which the costs involved in providing security facilities and services should be borne by the State, the airport entities or other responsible agencies. With reference to the recovery of security costs from the users, the Council recommends that the following general principles be applied:

i) Consultations should take place before any security costs are assumed by airports, air carriers or other entities.

ii) The entities concerned may recover the costs of security measures at airports from the users in a fair and equitable manner, subject to consultation.

iii) Any charges or transfers of security costs should be directly related to the costs of providing the security services concerned and should be designed to recover no more than the relevant costs involved.

iv) Civil aviation should not be charged for any costs that would be incurred for more general security functions performed by States such as general policing, intelligence gathering and national security.

v) No discrimination should be exercised between the various categories of users when charging for the level of security provided. Additional costs incurred for extra levels of security provided regularly on request to certain users may also be charged to these users.

vi) When the costs of security at airports are recovered through charges, the method used should be discretionary, but such charges should be based on either the number of passengers or aircraft weight, or a combination of both factors. Security costs allocable to airport tenants may be recovered through rentals or other charges.

vii) Charges may be levied either as additions to other existing charges or in the form of separate charges but should be subject to separate identification of costs and appropriate explanation.

Noise-related charges

30. The Council recognizes that although reductions are being achieved in aircraft noise at source, many airports will need to continue the application of noise alleviation or prevention measures. The Council considers that the costs incurred in implementing such measures may, at the discretion of States, be attributed to airports and recovered from the users and that States have the flexibility to decide on the method of cost recovery and charging to be used in light of local circumstances. In the event that noise-related charges are to be levied, the Council recommends that consultations take place on any items of expenditure to be recovered from users and that the following principles be applied:

i) Noise-related charges should be levied only at airports experiencing noise problems and should be designed to recover no more than the costs applied to their alleviation or prevention.

ii) Any noise-related charges should be associated with the landing fee, possibly by means of surcharges or rebates, and should take into account the noise certification provisions of ICAO Annex 16 — *Environmental Protection* to the *Convention on International Civil Aviation* in respect of aircraft noise levels.

iii) Noise-related charges should be non-discriminatory between users and not be established at such levels as to be prohibitively high for the operation of certain aircraft.

Consultation with users

Charges

31. The Council emphasizes the importance of consultation with airport users before changes in charging systems or levels of charges are introduced. The purpose of consultation is to ensure that the provider gives sufficient information to users relating to the proposed change and gives proper consideration to the views of users and the effect the charges will have on them. The aim should be that, wherever possible, changes are made in agreement between users and providers. Failing such agreement, airports would continue to be free to impose the charges concerned subject to users having the right of appeal to a body independent of the airport, where available, but the appeals process used should be consistent with the regulatory regime in the State concerned (see also paragraph 33). It is not possible to lay down a specific procedure for consultations of this kind owing to the diversity in the administrative, financial and legal frameworks within which airports function; the procedures at individual airports will also need to take account of the size and scale of the airport's activities. However, subject to these considerations, the Council recommends that:

i) When a revision of charges or the imposition of new charges is contemplated by an airport operator or other competent entity, appropriate notice should normally be given to users or their representative bodies at least four months in advance, in accordance with the regulations applicable in each State.

ii) In any such revision of charges or imposition of new charges, the users should be given the opportunity to submit their views and consult with the airport operator or competent entity. For this purpose the users should be provided with transparent and adequate financial, operational and other information to allow them to make informed comments.

iii) Reasonable advance notice of the final decision on any revision of charges or imposition of new charges should be given to the users.

Airport planning

32. The Council also considers it important in light of the very high and ever-increasing cost of new airports and major developments at existing airports that users or their representative organizations be consulted before the finalization of plans for projects. The purpose of such consultation is to ensure that, wherever possible, the developments concerned meet the needs of users and that users are aware of the financial implications in terms of the charges that would be paid by them. Equally, in order that airport entities may better plan their future financial requirements, airport users, particularly air carriers, should for their part provide advance planning data to individual airport entities on a 5- to 10-year forecast basis relating to future types, characteristics and numbers of aircraft expected to be used, the anticipated growth

of passengers and cargo to be handled, the special facilities which the airport users desire, and other relevant matters. Such planning could best be accomplished by two-way discussions between airports and air carriers, either directly or through their respective representative organizations.[5]

"First resort" mechanism

33. The Council considers, with regard to charges in particular, that with the rapid growth in the number of airports that are independent from direct government control, there may, in the interest of the airports and their users, be a need for a neutral party at the local level to preempt and resolve disputes before they enter the international arena (a "first resort" mechanism). The mechanism should be flexible, and its focus should be on conciliation or mediation but could range to full arbitration if the State concerned so decides. Such a function might be included in the terms of reference of an independent body with the much broader responsibilities of overseeing the operations of the autonomous service providers, referred to in paragraph 15, or it might be separately established.

Development of revenues from concessions, rental of premises and "free zones"

34. The Council recognizes the continuing importance to airports of income derived from such sources as concessions, rental of premises, and "free zones". The Council recommends that, with the exception of concessions that are directly associated with the operation of air transport services, such as fuel, in-flight catering and ground handling, the full development of revenues of this kind be encouraged while keeping in mind the need for moderation in prices to the public, the requirements of passengers, and the need for terminal efficiency. All possibilities for developing airport concession revenues should be studied, and ICAO should be kept informed of practices and conclusions in this regard so that the benefit of experience may be made available to all.[6]

Fuel concession fees

35. The Council recommends that where fuel "throughput" charges are imposed they should be recognized by airport entities as being concession charges of an aeronautical nature and that fuel concessionaires should not add them automatically to the price of fuel to aircraft operators, although they may properly include them as a component of their costs in negotiating fuel supply prices with aircraft operators. The level of fuel "throughput" charges may reflect the value of the concessions granted to fuel suppliers and should be related to the cost of the facilities provided, if any. Alternatively, consideration may be given, where feasible, to replacing fuel "throughput charges" by fixed concession fees reflecting the value of the concession and related to the costs of the facilities provided, if any. The Council also recommends that any such charges or fees where imposed should be assessed by airport operators in such a manner as to avoid discriminatory effects, either direct or indirect, for both fuel suppliers and aircraft operators and to avoid their becoming an obstacle to the progress of civil aviation.

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5. Extensive guidance on airport planning may be found in the *Airport Planning Manual* (Doc 9184).
6. In the development and determination of the fees for concessions directly associated with the operation of air transport services, reference might be made to the relevant guidance contained in the *Airport Economics Manual* (Doc 9562) and to the model clause on ground handling for optional application in air services agreements in *Policy and Guidance Material on the Economic Regulation of International Air Transport* (Doc 9587).

APPENDIX 1

GUIDE TO THE FACILITIES AND SERVICES TO BE TAKEN INTO ACCOUNT IN DETERMINING AIRPORT COSTS[7]

Approach, landing and take-off facilities and services

Landing area with cleared approaches and taxiways with necessary drainage, fencing, etc. Also, lights for approach, landing, taxiing and take-off, as well as communications and other special aids for approach, landing and take-off (sometimes provided by other than the airport operator).

Approach and aerodrome control: air traffic control for approach, landing, taxiing and take-off with necessary communications, navigation and surveillance supporting services. (Approach and aerodrome control is sometimes partly or wholly provided by other than the airport operator. See also Appendix 2).

Meteorological services (frequently provided by an entity other than the airport operator). (See also Appendix 2 as to when an allocation of the costs of these services, proportional to their utilization for airport operations, should be considered).

Fire and ambulance service in attendance.

Terminals, aircraft parking space, hangars and other facilities and services provided for aircraft operators

Passenger and public waiting rooms and concourses with necessary heating, lighting, janitor service, approach roads, etc.

Accommodation for air carrier offices, traffic counters and air crews, and for the handling of passengers and cargo.

Assistance in handling passengers and cargo, and necessary equipment.

Special servicing of aircraft (air conditioning, cleaning, etc.).

Towing and other handling of aircraft.

Space for parking and long-term storage of aircraft.

Hangar, workshop, stores, garage and other technical accommodation.

Land leased to aircraft operators for various purposes.

Provision of aircraft fuel (usually via concessions) and other technical supplies, and also of maintenance and repairs for aircraft.

Communication facilities (aircraft operating agency messages — Class B).

Common services such as the provision of light, heat, power and heating fuel.

7. Further guidance on airport accounting is provided in the *Airport Economics Manual* (Doc 9562).

Security measures, equipment, facilities and personnel for the following functions

Security control, including screening of passengers and their cabin baggage.

Security control, including screening of hold baggage.

Security control of cargo, mail and other goods.

Security control of airport and airline personnel.

Monitoring of aircraft and security restricted areas.

Background checks on persons with access to security restricted areas.

Identification systems for security purposes at airports.

Training of security personnel.

Note.— These functions relate to the Standards and Recommended Practices of ICAO's Annex 17 (and the definitions used therein) imposing on each Contracting State to have as its primary objective the safety of passengers, crew, ground personnel and the general public in all matters related to safeguarding against acts of unlawful interference with civil aviation.

Accommodation for other than aircraft operators

Accommodation for shops, hotels, restaurants, ground transport providers, banks/money exchanges, post office, telegraph office, etc.

Facilities paid for directly by the public (car parking, sightseeing, etc.).

Accommodation for necessary government activities, customs, immigration, public health, agricultural quarantine, etc.

Land rented to other than aircraft operators (including grazing rights, etc.).

Noise alleviation and prevention

Noise monitoring systems, noise suppressing equipment and noise barriers.

Land or property acquired around airports.

Soundproofing of buildings near airports and other noise alleviation measures arising from legal or governmental requirements.

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ATTACHMENT 3

Service Level Agreements

Introduction and overview

1. Generic standards at airports should distinguish the service levels, for common use areas, that an airport has to deliver to all airlines equally in return for the charges they pay. In some States, generic service quality and performance benchmarks are woven into regulatory frameworks, which govern the relationship between airports and their airline users. Regulated prices are sometimes linked to quality standards and the delivery of certain levels of service. In circumstances where specified generic standards are not met, the regulation may provide for rebates for users.

2. Service level agreements (SLA) usually refer to bilateral agreements where individual airlines, or groups of airlines (e.g. alliances) request a service above the generic standards. An SLA can take many forms and in some cases may include (e.g. where an airline provides a particular service at an airport) commitments on the part of airlines to meet performance targets for services they deliver at airports.

3. An airport/airline(s) service level agreement is founded on the concept that airports and airlines are partners in serving the same customer — the airline passenger. The passenger experiences a joint airport/airline product that influences his or her opinion of the total travel experience. Dissatisfaction with any aspect of the airport experience may reflect unfavourably on the airport, the airline, or both, since the passenger is often unaware as to the actual provider of a given service at an airport.

4. SLAs are viewed as a useful tool for defining the level of service and the terms of engagement or rules that will govern the airport/airline(s) relationship on the agreed service(s). Both airports and airlines would determine up-front which services and performance levels would be provided in exchange for the charges paid for their use, and decide how success or failure will be measured. Failure of the airport to meet the agreed service levels may mean earning less money or even a financial penalty. Surpassing expectations may earn the airport financial rewards.

5. SLAs can take many forms, from a simple non-binding understanding between airports and airlines to more complex documents, including contractual arrangements.

Objectives and characteristics of SLAs

6. An SLA should be thought of as a communications tool and conflict-resolution tool for gauging service effectiveness when evaluating service quality. It should not only prescribe service expectations, but also remedial action or measures to be taken when service levels do not meet expectations. SLAs can therefore contribute to the delivery of consistent, appropriate and timely service quality. An SLA can promote a robust service partnership by clarifying the key operational targets and delineating accountabilities within airport/airline(s) operations.

7. To be effective, an SLA should incorporate the following elements:

Service elements

— a description of the facilities and services to be provided;
— the conditions of service availability;
— the service standards;
— the cost versus the benefit of providing the service standard;
— the responsibilities of both parties; and
— service escalation or de-escalation procedures from the current service standard.

Management elements

— a description of how service effectiveness will be tracked;
— a description of how service effectiveness will be reported and addressed;
— a description of how service-related disagreements will be resolved; and
— a description of how the agreement will be reviewed and revised.

8. The following success factors are critical:

a) Close consultation between the parties on both the service and management elements is required throughout the process of planning, establishing and implementing the agreement.

b) Service standards are to be jointly agreed by the airport and the airline(s) involved. Where multiple airlines are engaged in the dialogue with the airport on an SLA, this might complicate consultations, therefore, there must be airline consensus on the key service elements of the SLA in order to provide the airport operator with clear service expectations.

c) The service standards described in an SLA should be carefully chosen to reflect performance in essential areas that are important to both airports and airlines and that have a demonstrable impact on the passenger in terms of service delivery.

Implementing SLAs

9. For implementing SLAs, the following conditions should be met:

a) Airports and airlines must agree on the particular airport areas/services (refer to the list below) for which SLAs are to be implemented. Airlines must review and clarify their service needs and priorities; airports should examine their service history and determine the level of service they can provide. Furthermore, both airlines and airports should assess passenger service satisfaction so as to clearly understand passenger concerns and establish a baseline for assessing service levels.

b) A precise definition of the service to be measured must be followed by adequate time to collect data on actual performance.

c) Specific targets on service levels to be achieved must be agreed (e.g. the escalators should be working for passengers' use for 97 per cent of the operational day).

d) The parties must agree on the timing of the period over which the SLA will be in place. This will depend on the complexity of, and level of difficulty involved to improve, a particular service to the agreed service level.

e) A mechanism for measuring and tracking performance against targets should be developed jointly by the airport and the airlines (e.g. airports should provide management information systems for performance monitoring), and report to airlines on a monthly basis. Airports and airlines may need to consider jointly the cost implications of performance monitoring if sophisticated, costly systems are required in the monitoring process. For incentivized SLAs (see below), settlements of bonuses and penalties should be transacted with the airline(s) concerned.

f) Once implemented, a mutually agreed calibration period will be needed to fine-tune the SLA.

Scenarios for SLAs

10. SLAs can take a variety of forms:

a) *"One-way"* — reflecting commitments by an airport to deliver a particular quality of service to the airline(s); or

b) *"Two-way"* — reflecting mutual commitments by both the airport and the airline(s) to deliver particular service quality levels to the other parties;

c) *Non-financially incentivized* — these are voluntary commitments by an airport, or airline(s), to use their best endeavours to deliver a service quality level at the airport, but without any financial or legal implications if that level is not achieved; or

d) *Financially incentivized* — these can be partially binding SLAs or fully binding SLAs. Financial capping and collars should apply to penalties and to rewards, to limit financial exposure of both airports and airlines. In this context, it should be clear that airlines and airports are seeking a mutually agreed desired level of performance, and not solely attempting to save money or to increase profits, respectively. However, airlines should be prepared to pay more for above average performance where it adds value.

Non-exhaustive list of airport facilities and services that could be subject to SLAs

11. Facilities and services that could be subject to SLAs could include, for example, the following:

Airside

— fixed electrical ground power serviceability;
— aircraft parking (dedicated) stand availability; and/or
— remote coaching performance.

Passenger terminals

— people mover systems serviceability (escalators, lifts, passenger conveyors, transit trains and buses);
— transfers standards — coaching performance, security queuing;
— baggage systems (outbound, transfer, inbound);
— queuing standards: security;
— ease of finding way around terminals and flight information;
— departure and gate lounges — quality of services (e.g. seat availability); and/or
— cleanliness of terminal facilities.

Conclusion

12. The regulatory environment in which an airport operates can have a bearing on the implementation of SLAs, e.g. on areas/services where SLAs could be applied.

13. SLAs can be an innovative and constructive mechanism for managing service level expectations, but also for improving the quality of service offered at an airport. Such a mechanism will be influenced by local circumstances, including the degree of congestion at the airport, both landside and airside, the number of airlines seeking service quality commitments, and the life cycle of the airport facility.

14. Above all, in the aviation industry, which is subject to cyclical changes in economic performance, SLAs can embody the concept that airport services are delivered through a partnership between airports and airlines, and establish an element of transparency and stability in a sometimes adversarial relationship.

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ATTACHMENT 4

Sample Format for Invoicing Landing and Associated Charges

1. Invoices presented by the airport to aircraft operators should provide the aircraft operator with all the information necessary for verifying and paying the invoice. The invoices should contain:

a) airport name and address, and, if applicable, address and account references of bank(s) designated to handle payment of invoice;

b) information identifying the aircraft operator being charged and the terms and currency of the payment for the services;

c) data on the aircraft to which the services have been provided (type, maximum take-off weight or mass (MTOW), registration number);

d) data on the flight performed (flight number, date, route); and

e) data on the volume of services provided.

In order to speed up receipt of payment for the services provided, it is advisable to minimize the number of invoices presented to one aircraft operator over a given period of time. It is also advisable that invoices be presented not less frequently than once a month.

2. Two basic approaches may be followed in the preparation of invoices:

a) The preparation of a general summary format containing all the information on the flights charged and services provided. Since it may not be possible to include in a single summary format all the information required by the aircraft owner in order to verify the invoice, it may be necessary to attach vouchers to the invoice.

b) The preparation of invoices according to the types of services provided or according to groupings thereof with detailed information given on the services provided. In this case, it is no longer necessary to attach vouchers, but the number of invoices will increase.

3. At airports providing a small range of services, it is advisable to prepare invoices in the form of a single summary format. Such a summary invoice may also include charges for air navigation services in the event that the airport is empowered by the civil aviation authority to collect such charges. A possible format for such a summary invoice is given below.

4. In addition to information on the services provided and charged for, the invoice should contain information on the terms and date of payment as well as banking details.

5. In order to ensure timely payment of invoices by the aircraft operator, it is advisable to refer to penalties that may be imposed in the event of non-payment within the time limits established. The amount of the penalties would be regulated by local legislation.

6. Airport entities should take the necessary measures to ensure timely presentation of the invoices to aircraft operators. In some circumstances, it may be advisable to present the invoices to the operator's representative at the airport, rather than send them by mail to the head office, since the latter involves considerable delays in the receipt of the invoices by the accounting services of the airline. This leads to delays in the payment of the airport's invoices. Faster communication means, such as facsimile or e-mail, should be used whenever feasible.

7. Frequently, payment of the invoice is made by means of a bank transfer in a currency other than that stated in the invoice. For that and other reasons, it is desirable for the invoice to contain a detachable portion (payment counterfoil) which should be returned with the payment to the airport or its designated bank(s) as required. This will assist the airport in identifying the payee and properly crediting the payment against the amount charged.

SAMPLE INVOICE FORMAT

AIRPORT:

INVOICE NO.:
AND DATE:

AIRPORT
ADDRESS:
TELEPHONE:
E-MAIL:
FAX:

AIRCRAFT OPERATOR
ADDRESS:
CODE:

CHARGES

Flight number	Aircraft Type	Aircraft Regis-tration	Arrived from	Departed to	Arrival Date	Arrival Time	Departure Date	Departure Time	Number of passengers Arrived	Number of passengers Departed	Landing charge	Parking charge	Misc. aircraft related charges	Passenger related charges	Air navi-gation facility charge	Other charges	Total amount

TERMS: PAYMENT IS DUE (E.G. 30) DAYS FROM INVOICE DATE
CREDIT TRANSFERS MAY BE MADE DIRECT TO OUR BANK:
BANKING DETAILS

CURRENCY:
CURRENCY:
CURRENCY:

TOTAL:
TAX:
INVOICE TOTAL:

PAYMENT COUNTERFOIL

PLEASE RETURN WITH PAYMENT TO (AIRPORT NAME AND ADDRESS):

AIRCRAFT OPERATOR AND CODE:

INVOICE NO. INVOICE DATE INVOICE TOTAL

ATTACHMENT 5

Bilateral and International Sources of Financing

Part A — Bilateral development agencies

Belgium	Belgian Development Cooperation — Brussels
Canada	Canadian International Development Agency (CIDA) — Gatineau, Quebec
Denmark	Danish Development Assistance (DANIDA) — Copenhagen
France	Agence Française de Développement (AFD) — Paris
Germany	Ministry of Economic Cooperation and Development (BMZ) — Bonn
	Kreditanstalt für Wiederaufbau (KfW) — Frankfurt
	Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) — Eschborn (Frankfurt)
Italy	Direzione Generale per la Cooperazione allo Sviluppo (DGCS) — Rome
Japan	Japan Bank for International Cooperation (JBIC) — Tokyo
Netherlands	Ministry of Foreign Affairs — The Hague
Norway	Norwegian Agency for Development Cooperation (Norad) — Oslo
Russian Federation	Ministry of Economic Development and Trade — Moscow
Spain	Agencia Española de Cooperación Internacional (AECI) — Madrid
Sweden	Swedish International Development Cooperation Agency (SIDA) — Stockholm
United Kingdom	Overseas Development Administration (ODA) — London
United States	U.S. Agency for International Development (USAID) — Washington, D.C.

Part B — Development banks and funds

African Development Bank Group (AfDB)	Abidjan, Côte d'Ivoire
Andean Development Corporation (CAF)	Caracas, Venezuela
Asian Development Bank (ADB)	Manila, Philippines
Black Sea Trade and Development Bank (BSTDB)	Thessaloniki, Greece
Caribbean Development Bank (CDB)	St. Michael, Barbados
Central American Bank for Economic Integration (CABEI)	Tegucigalpa, Honduras

East African Development Bank (EADB)	Kampala, Uganda
Eastern and Southern African Trade and Development Bank (PTA Bank)	Nairobi, Kenya
European Bank for Reconstruction and Development (EBRD)	London, United Kingdom
European Development Fund (EDF)	Brussels, Belgium
European Investment Bank (EIB)	Luxembourg, Luxembourg
Financial Fund for the Development of the River Plate Basin (FONPLATA)	Sucre, Bolivia
Fund for Cooperation, Compensation and Development (ECOWAS Fund)	Lome, Togo
Inter-American Development Bank (IDB)	Washington, D.C., United States
International Bank for Reconstruction and Development (IBRD)	Washington, D.C., United States
International Development Association (IDA)	Washington, D.C., United States
International Finance Corporation (IFC)	Washington, D.C., United States
Nordic Development Fund (NF)	Helsinki, Finland
Nordic Investment Bank (NIB)	Helsinki, Finland
Organization of Petroleum Exporting Countries (OPEC) Fund for International Development	Vienna, Austria

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In addition, the following institutions are established and financed essentially by Arab States:

Abu Dhabi Fund for Economic Development	Abu Dhabi, United Arab Emirates
Arab Bank for Economic Development in Africa (BADEA)	Khartoum, Sudan
Arab Fund for Economic and Social Development (AFESD)	Kuwait City, Kuwait
Arab Monetary Fund (AMF)	Abu Dhabi, United Arab Emirates
Islamic Development Bank Group (IDB)	Jeddah, Saudi Arabia
Kuwait Fund for Arab Economic Development (KFAED)	Kuwait City, Kuwait
Saudi Fund for Development (SFD)	Riyadh, Saudi Arabia

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ATTACHMENT 6

Pre-funding of Capital Projects Through Charges

Introduction

1. This manual and *ICAO's Policies on Charges for Airport and Air Navigation Services* (Doc 9082) espouse the principle of cost-relatedness in establishing user charges. Under this principle, the development of airports is normally financed using funds obtained from sponsoring States, retained earnings of autonomous airport entities, commercial loans, or the issue of debt securities. Once facilities are completed and are commissioned, their capital cost is generally recovered by including associated amortization or depreciation costs in user charges. Thus, aircraft operators are only charged the cost of services actually provided.

2. However, the possible use of pre-funding for the development of airports in specific circumstances and subject to detailed safeguards is recognized in paragraph 24 of Doc 9082/7. The safeguards include effective and transparent economic regulation of user charges and the related provision of services including performance auditing and benchmarking; comprehensive and transparent accounting; substantive consultation; and application of charges for a limited time period. Pre-funding should only be employed where aircraft operators will benefit by the provision of needed, improved, or lower cost service, which could not otherwise be provided because regular sources of financing are insufficient and it is not possible or it is too costly to access capital markets. Management and accounting safeguards should clearly identify links between pre-funding charges and project costs, link charges to users who ultimately benefit from the project, encourage advance consultation, and ensure that transparent and generally accepted accounting principles are implemented for the project in question. Further detail on pre-funding criteria and procedures are outlined below.

Economic oversight

3. Section B of Chapter 2 provides guidance on the need for, and potential forms of, economic oversight. Of particular relevance, when pre-funding is contemplated, is the need to protect users against overcharging which results from abuse of a dominant position by the service provider and the provision of dispute resolution mechanisms.

Criteria for capital projects

4. Airport management should be able to clearly demonstrate to aircraft operators and economic oversight authorities the advantages of pre-funding over traditional capital funding techniques. Pre-funding should be considered only for capital expansion projects that have reached a substantial level of maturity in the capital planning process, including project justification, project scope, proposed implementation schedule (including project start and completion dates), cost estimates, and required project approval levels. In the case of developing countries, consideration could also be given to funding large-scale capital refurbishment

projects. Pre-funding should not be used for the establishment of a capital sinking fund for undefined projects as current ICAO cost-recovery policies allow for limited capital reserves, nor should pre-funding pay for operating costs.

5. Pre-funding may be used to pay capital project related development and implementation costs including preparation of final engineering and architectural project plans, contracting and administration costs (including reasonable costs related to the collection of the pre-funding charge), construction, equipment purchases, environmental costs, and construction site security costs. When it is possible to finance some, but not all project development costs, pre-funding should not be used as the sole-source for financing the totality of the project. Rather, airport management needs to consider what percentage of total project costs reflects an acceptable balance between the benefits and risks of undertaking a pre-funding initiative and should consult with users, and if appropriate, the economic oversight authority.

Consultation with users

6. Airports contemplating the use of pre-funding should consult with aircraft operators, and, if appropriate, authorities responsible for economic oversight, in advance of project initiation. The requirement for comprehensive consultation prior to the establishment and subsequent operation of a pre-funding account is both a challenge and the key to the success of any pre-funding initiative. The objective of a consultation is to illustrate to users the financial benefits derived through pre-funding, the respective share on a multi-year basis of each of the financing methods planned for the project, and the opportunity to explore other financing solutions. Ideally, consultations should be able to clearly articulate the benefits of a proposed pre-funding initiative to users. The introduction of a pre-funding charge should not be undertaken until transparent and substantive consultations with airport users are completed, and the appropriate approvals prescribed within the economic oversight regimes of individual States are received. Appropriate consultations and notice provisions should be undertaken in any proposed revisions to pre-funding charges, including a change in the level of the charge, or a material change in the scope, timing or cost of the designated project.

Accounting for revenues and expenses related to pre-funding of projects

7. Comprehensive and transparent accounting for the pre-funding of capital projects is a necessary safeguard to ensure that revenues derived from pre-funding charges are being collected and allocated against a specific project in a manner consistent with the pre-funding framework, the cost-recovery methodology of the airport operator, and the economic oversight framework of the State, wherever applicable. The objective is to ensure that no abuses are committed resulting from the monopoly from which airport management benefits, and that all available measures are taken to lead airports to improved productivity.

8. A dedicated or separate pre-funding account should be established for the project in question. A dedicated funding account will result in greater transparency regarding the degree to which project-specific charges are being allocated to airport users, the crediting and debiting of the account in relation to the project implementation schedule, and will enable management to clearly demonstrate the cessation of charges to users once the need for the pre-funding account is no longer required. Transparent accounting, in conjunction with comprehensive consultation with user groups, will serve as a means of ensuring that users will not be double-charged for the facility under traditional charging regimes once the facility becomes operational.

9. Any interest accrued in the course of establishment of a pre-funding account should be applied to offset or reduce the costs of the specific project for which the account was established.

10. User charges collected through pre-funding should be evaluated commensurate with Chapters 4 and 5 but without taking into account, in the cost basis, the amortization of the pre-funded share of the investments.

11. Where applicable, the principal elements of a pre-funding framework, and a summary of the revenue and expenditure transactions in a fiscal year, should be reflected in annual reports or other public accountability documentation of the airport. The dedicated, pre-funding account should also be subject to the provider's audited financial statements for the fiscal year and as part of any specific financial or performance auditing of the specific capital project in question. This could also include any documentation prepared by airport management that supported the benefits of implementing a pre-funding strategy over traditional funding techniques prior to the introduction of the pre-funding charge.

Source of pre-funding charges

12. Pre-funding frameworks should reflect the broader ICAO principle of cost-relatedness for charges and these charges should not be set at levels that would, based on reasonable and prudent projections, generate revenues that exceed cost-based funding requirements. Pre-funding sources could include a surcharge on existing aviation charges or through the introduction of a new but project-specific aviation charge.

13. Operators could also employ a mixed pre-funding strategy whereby new charges could be levied on different users of the airport in a manner commensurate with the costs and benefits assumed by the respective users upon the completion of the project, consistent with the charging methodologies of the airport operator. This would provide airport operators with greater flexibility to respond to their unique operating environment. Other external sources of funding such as grants, contributions or other subsidies (both principal and interest) should be considered in the overall funding strategy**.**

14. Pre-funding charges should be consistent with, and applied within, the economic oversight framework of individual States, and should be in accordance with the airport operator's accepted methodology for determining user charges. A pre-funding framework would also have to be developed within the context and possible limitations imposed by any existing cost-recovery agreements with airport users. The pre-funding framework should also recognize those segments of the user population which are otherwise exempt from user charges (e.g. military and other flights exempted from charges).

Timing and restrictions

15. The commencement of a pre-funding period is linked to the complexity of the project, the financial maturity of the service provider undertaking the project, the portion of the project that pre-funding is eligible to fund, and other sources of funding available to management.

16. A pre-funding framework should include provisions regarding the cessation of pre-funding charges if a project has not commenced within a certain time frame, is halted for a defined period of time, is completed, or if total project funding requirements are met when all revenue sources are considered.

Collection of pre-funding charges

17. Depending on the form of the pre-funding charge (surcharge on an existing aviation charge or new project-specific aviation charge), the collection aspects of this charge will be of the same nature as those described in Part C of Chapter 5. In view of potential facilitation problems, and also for better acceptance by the travelling public, consideration will need to be given, whenever possible, to solutions that do not create additional queueing and delays at airports.

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Note.— Where several paragraphs in the same section of a Chapter contain the word/expression, only the first reference in the section is mentioned.

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The following summarizes the various publications and related products in the air transport field issued by the International Civil Aviation Organization:

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