



Policies and Recommended Practices Handbook **2009**

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The ACI Policy and Recommended Practices Handbook contains the current policies of the organization for use by the staff of ACI World and the regional offices and by ACI representatives at international meetings. Questions about ACI policies can be relayed to the secretary of each World Standing Committee and Sub-Committee.

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Disclaimer It is noted that the Recommended Practices contained in this document are descriptions of means of addressing airport issues that, based on experience, are usually effective at mitigating or reducing adverse effects. The information is provided as guidance material. The recommendations are not legally enforceable and do not over-ride any legal or regulatory requirement in any ICAO State or region. The word “should” is used to demonstrate a best practice, rather than defining an obligatory action.

In the absence of regulatory requirements, these recommended practices identify actions and strategies that can help ensure growth that can be sustained in the longer term. In this respect the recommendations should be regarded as being in the self-interest of the industry and should not need enforcement.

Introduction

Organization and membership of ACI

Airports Council International (ACI) is the international association of the world's airports. It is a non-profit organization, the prime purpose of which is to foster cooperation among its member airports and with other partners in world aviation, including organizations representing governments, airlines and aircraft manufacturers. Through this cooperation, ACI makes a significant contribution to providing the travelling public with an air transport system that is safe, secure, efficient and environmentally compatible.

ACI is the "voice of the world's airports". It interacts with other world bodies, including the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA). ACI has observer status with ICAO and consultative status with the United Nations' Economic and Social Council (UN/ECOSOC). ACI presents the collective positions of its membership, which are established through committees, endorsed by the ACI Governing Board and reflect the common interests of the airport community.

As of 1 December 2009, ACI has 575 members operating 1633 airports in 179 countries and territories.

ACI has the following Mission:

ACI advances the collective interests of, and acts as the voice of, the world's airports and the communities they serve, and promotes professional excellence in airport management and operations.

ACI has the following Objectives and Role:

1. Maximize the contributions of airports to maintaining and developing a safe, secure and viable aviation industry in a responsible and sustainable manner.
2. Promote cooperation among all segments of the aviation industry and their stakeholders as well as with governments, regional and international organizations.
3. Influence international, regional and national legislation, rules, policies, standards and practices, based on established policies representing airports' interests and priorities.
4. Advance the development of the aviation system by enhancing public awareness of the economic and social importance of air travel and airport development.
5. Provide leadership in airport operations and management through the development of global technical standards and/or recommended practices.
6. Maximize cooperation and mutual assistance among airports.
7. Provide members with industry knowledge, advice and assistance, and foster professional excellence in airport management and operations.
8. Build ACI's worldwide organizational capacity and resources to serve all members effectively and efficiently.

ACI world standing committees

ACI has six standing committees which prepare policies in their specific areas of competence:

- The **Airport Information Technology Standing Committee**, which covers information and communications technology infrastructure at airports; common use and self-service environments; flight information displays systems (FIDS); machine readable travel documents (MRTDs); advance passenger information (API); RFID

- The **Economic Standing Committee**, which covers: airport charging systems; security, noise and passenger service charges; consultation with users; development of revenues from concessions; peak pricing; currency considerations; financial statistics; airport financing and ownership; State taxation; the impact on airports of airline deregulation and consolidation; air service agreements; competition between air transport and other modes of high-speed transport; collection of passenger and cargo traffic statistics; forecasts of future air traffic; and trends in airport privatization.
- The **Environment Standing Committee**, which covers: noise certification standards and procedures of jet aircraft, propeller aircraft and helicopters; noise-related operating restrictions; engine emissions and air pollution; land-use planning in the vicinity of airports; APU and engine ground testing noise; use of chemicals for anti-icing and de-icing; fire fighting training facilities, fuel storage and spillage; site remediation; storm water management; waste management; natural resource management; and environmental management systems.
- The **Facilitation and Airport Services Standing Committee**, which covers: facilitation of passengers and their baggage, freight and mail; quality of service at airports (standards and measurement); automated services for passengers and baggage, freight and mail; use of information technology, automated systems and telecommunications to support business and operational processes at airports; surface access to airports and intermodal issues; measures to combat drug trafficking; slot allocation and schedule coordination and the inter-relationship between facilitation and security.
- The **Security Standing Committee**, which covers: airside and landside security; measures related to access control; aviation security technology; the inter-relationship between security and facilitation; security implications of code-sharing; employee background investigations; security awareness programmes for the public; cargo security; and security in airport design.
- The **Safety and Technical Standing Committee**, which covers: airport planning and development; airspace and airport capacity and congestion; future air navigation systems; physical characteristics of runways, taxiways and aprons; visual aids for navigation; operational safety including airport equipment and installations; apron (ramp) safety and aerodrome vehicle operation; aerodrome emergency planning; rescue and fire-fighting; dangerous goods; the removal of disabled aircraft; and aircraft/airport compatibility issues, including the impact of new large aircraft (NLA).

Contents

1. Airport economics

- 1.1 General economic situation of airports
- 1.2 Airport ownership
- 1.3 Airport networks
- 1.4 Sources of investment at airports
- 1.5 Economics oversight
- 1.6 The cost basis for airport charges and airport charging systems
- 1.7 Rate of return
- 1.8 Minimum landing charges at congested airports
- 1.9 Passenger service charges
- 1.10 Costs associated with aviation security
- 1.11 Costs associated with aircraft noise
- 1.12 Consultation with users regarding charges and airport development
- 1.13 Non-aeronautical revenues and airport charges
- 1.14 Currency considerations
- 1.15 Airport accounting practices
- 1.16 Performance management
- 1.17 Government charges on civil aviation
- 1.18 Taxation on civil aviation

2. Air transport regulation

- 2.1 General
- 2.2 Basic objectives of air transport regulation
- 2.3 Air service liberalization, airline market access, safety nets and safeguards
- 2.4 Air transport liberalization and national ownership and control of airlines
- 2.5 Airports and the broader regulatory environment: competition laws
- 2.6 Airline product designation systems and the traveling public
- 2.7 Airports and international traffic flows
- 2.8 Airport charges provisions in air service agreements (ASAs)

3. Facilitation and airport services

- 3.1 Quality of service
- 3.2 Traffic peaks and capacity constraints
- 3.3 Code-sharing
- 3.4 Simplifying Passenger Travel
- 3.5 Schedule coordination and slot allocation
- 3.6 Maximum clearance times at international airports
- 3.7 Drug interdiction
- 3.8 Baggage delivery
- 3.9 Dual channel system of inspecting inbound baggage
- 3.10 Simplification of procedures for inbound passengers on international flights
- 3.11 Elimination of outbound passport and customs controls
- 3.12 Passenger service charges
- 3.13 Sign systems at airports
- 3.14 Placement of retail outlets
- 3.15 Control of shoppers, well-wishers, meeters and greeters
- 3.16 Airport facilities for persons with disabilities and those with special needs
- 3.17 Airport facilities for tour operators
- 3.18 Inadmissible passengers
- 3.19 Space and facilities for government inspection agencies at airports

- 3.20 Banks and foreign exchange facilities at airports
- 3.21 Vehicle parking facilities at airports
- 3.22 Duty-free shops on arrival
- 3.23 Transfer of downtown duty-free purchases
- 3.24 Facilities for general aviation
- 3.25 Airport handling arrangements
- 3.26 Landside transportation
- 3.27 Off-airport check-in facilities
- 3.28 Consultation between agencies on new procedures
- 3.29 National and airport facilitation committees
- 3.30 Courier shipments
- 3.31 Government inspection services for cargo
- 3.32 Maximum clearance time for arriving cargo
- 3.33 Elimination of the paper cargo manifest and of paper air waybill, and use of EDI
- 3.34 Release of documented partial shipments
- 3.35 Release of operators of cargo facilities from liability
- 3.36 Storage facilities in cargo terminals (including special cargo)
- 3.37 Cargo handling times and other indicators of performance and quality of service
- 3.38 Cargo facility planning
- 3.39 Mail handling

4. Airport automation and e-business

- 4.1 General
- 4.2 Information and communications infrastructure at airports
- 4.3 Systems and procedures - common use environment
- 4.4 Common use wireless infrastructure at airports
- 4.5 Cargo automation
- 4.6 Flight information display systems (FIDS)
- 4.7 Flight information display systems – display of code-share information
- 4.8 Machine readable travel documents (MRTDs)
- 4.9 Advance passenger information (API)
- 4.10 RFID usage at airports
- 4.11 Biometric identification systems
- 4.12 Baggage handling automation
- 4.13 Electronic identification standards for cargo
- 4.14 Airport-airline data processing and electronic data interchange (EDI)
- 4.15 Airline designators
- 4.16 Electronic ticketing - implications for airports
- 4.17 Self-service kiosks
- 4.18 Security systems
- 4.19 Airport web sites
- 4.20 Dot.aero top level domain
- 4.21 E-business
- 4.22 Risks of e-business
- 4.23 Opportunities of e-business
- 4.24 Technical requirements and criteria for success in e-business

5. Airport planning, design, operations and safety

- 5.1 Certification of airports
- 5.2 "Target Level of Safety approach to design"
- 5.3 New large aircraft (NLA)
- 5.4 Width of runways and runway shoulders
- 5.5 Width of taxiways, taxiway shoulders and taxiway bridges

- 5.6 Runway end safety areas (RESAs)
- 5.7 Visual aids and Advanced Surface Movement Guidance and Control for aircraft operations at airports
- 5.8 Aerodrome emergency planning
- 5.9 Airfield pavement surface unevenness and profile measurement
- 5.10 Effects of new development on aircraft operations (including aerodynamic, optical, electromagnetic, and obstruction effects)
- 5.11 Increase of airport and airspace capacity
- 5.12 Simultaneous operations on parallel or near-parallel instrument runways
- 5.13 Aerodrome Safety Management Systems and safety auditing
- 5.14 Measuring and expressing runway surface friction
- 5.15 Means of improving friction coefficients on wet runways
- 5.16 Pavement anti-icing and aircraft de-icing operations
- 5.17 Runway inspections
- 5.18 FOD prevention measures on the airside
- 5.19 Wildlife management at airports - operational aspects
- 5.20 Apron safety
- 5.21 Airport safety training
- 5.22 Airside vehicle operations
- 5.23 Runway incursions, excursions and confusion
- 5.24 Radio frequency spectrum protection
- 5.25 Disabled aircraft removal
- 5.26 Dangerous goods

6. Airports and the environment

- 6.1 Noise
- 6.2 Emissions and local air quality
- 6.3 Greenhouse gas emissions and global climate change
- 6.4 Sustainability – system methods
- 6.5 Sustainability – reporting and certification
- 6.6 Environmental awareness, training, sharing information and communications
- 6.7 Stakeholder communications and understanding

7. Security at airports

- 7.1 General
- 7.2 States' responsibility for aviation security
- 7.3 Airport security programmes
- 7.4 Quality control of aviation security programmes
- 7.5 Preventive security measures
- 7.6 Measures relating to access control
- 7.7 Measures relating to aircraft
- 7.8 Measures relating to passengers and their cabin baggage
- 7.9 Measures relating to hold baggage
- 7.10 Measures relating to cargo, mail and other goods
- 7.11 Measures relating to special categories of passengers
- 7.12 Public awareness of security
- 7.13 Code-sharing and other collaborative arrangements
- 7.14 One-stop security
- 7.15 New technologies
- 7.16 Contingency measures

8. Emergency medical services, hygiene and sanitation at airports

- 8.1 Emergency medical services at airports
- 8.2 Hygiene and sanitation at airports

- 8.3 Public health and animal and plant quarantine measures
- 8.4 Communicable diseases

Please note that pages are only numbered within sections.

1

Airport economics*

*(cf. ICAO Policies on Charges for Airports and Air Navigation Services Doc. 9082/8 (2009),
ICAO ANSConf 2000 Report, ICAO Airport Economics Manual Doc. 9562 (2006),
and ICAO Policies on Taxation in the Field of International Air Transport Doc. 8632 (2000))*

* Throughout this chapter, the term "airports" refers to airports managed individually and to those managed as part of networks or systems

1.1

General economic situation of airports

ACI POLICY

1.1.1 Airports are a critical part of the economy of the State within which they are located. They serve as engines of growth for their local, regional and national economies. In an increasingly commercial and competitive business environment, airports must be able to collect sufficient revenues to finance their investments and operations, and to maintain a level of service which is acceptable to all airport users, including passengers and aircraft operators, and to support the economic interest of the surrounding community.

ACI COMMENT

1.1.1a Airports are asset-intensive businesses that require many years to recover the significant capital investments in runways and terminals. Consequently, airports must take a long-term perspective to their business and ensure that capacity improvements are made before constraints occur.

1.1.1b The increasingly deregulated and liberalized aviation environment has induced many airports to re-examine their traditional business model and focus on new commercial activities with a view to achieving self-reliance and financial independence and to help support the development of their airport in line with the needs of all its customers from airlines to passengers. Commercialization of airports, changing airline business models and liberalization of air traffic, has caused airports to shift their focus to the passenger as the ultimate user and beneficiary of airport infrastructure.

1.1.1c Airport competition is an increasing feature of the industry, and the market power of airports has decreased as increasingly airlines pick and choose between various airports and destinations, moving aircraft, routes and bases. Airports compete with other airports in the same region for freight, connecting and O&D passengers, aircraft technical stops and for the services of low-cost carriers. Indeed in some cases, airports are competing with airports in other states or regions for low cost bases. Airports also compete on a global scale for hub status of carriers or global alliances and many of their commercial activities are subject to competition from local enterprises, such as restaurants, shops, hotels, convention centres and parking lots.

1.1.1d Airport performance is dependent on strong and effective airline customers. Airports can face the physical, financial and legal issues of failed or failing carriers, low-cost and startup carriers, as well as the changing business models of existing carriers. Airline alliances, which have proliferated in recent years, have added complexity to the airport/airline relationship. Large alliances bring a high degree of airline market power to the consultation table, but their instability due to membership changes can complicate the airport planning process. Alliances also can cause unpredictability in the mix of aircraft in the fleet which the airport must accommodate.

1.1.1e Since the early 1980s, except for temporary setbacks, the global airport industry has recorded continuous annual increases in traffic. At the same time traffic at a number of major airports has reached levels which give rise to congestion and delays, which create barriers to airline industry competition and further economic development. In these circumstances, the use of airport charges to manage scarce capacity and invest in additional capacity is warranted, particularly since most forecasts, including ACI's predict passenger movements to surpass 9 billion by 2027.

1.1.1f Despite these challenges and trends, according to ICAO statistics, airport charges worldwide since 1978 on average accounted for only 4.0% of total airline operating costs. Landing and associated airport charges as a proportion of total operating expenses have actually declined over the period 1998-2005, from 4.4 per cent in 1998 to 4.2 per cent in 2000, and then stabilized at 4.0 per cent since 2001. The ICAO figures are also in line with the findings of ACI's 2008 Economics Survey according to which aircraft related revenues accounted for less than 4% of total airline industry costs.

1.2

Airport ownership

1.2.1 Airports should be permitted to operate under a range of types of ownership. The type of ownership, and any participation by private capital, varies from airport to airport depending on local circumstances. The type of ownership at any individual airport should be such as to allow the airport flexibility in its business, and to ensure that the interests of airport users are protected by the application of sound economic principles to the airport's operations.

1.2.1a The trend towards greater diversity in the ownership and governance of airports is solidifying. Direct state control has in some cases been superseded by the establishment of private or public autonomous entities, or public private partnerships. Different forms of airport ownership may be appropriate to the situation of different airports recognizing that ownership structures must primarily serve the needs of the local community. Both private ownership and government ownership of airports have proved to be sound structures that can create efficiencies and innovation.

1.3

Airport networks

1.3.1 Airport operators have become full-fledged business enterprises which can manage a single airport, an airport system or an airport network applying the principle of cost relatedness. Any of these three models can provide efficient and cost effective management and benefit users and the economies they serve over both the short and long term. Moreover, airport systems and networks can also achieve economies of scale when managed prudently.

1.3.1a Airport systems and networks can achieve economies of scale in providing services to meet the short and long term needs of the airport users and the economies they serve. There are some common characteristics in those countries where the airport network concept is applied: e.g. difficult access to remote regions without alternative means of transport and the need to promote economic and social cohesion of the various regions of a State. Airport networks and systems may also help to achieve a smoothly functioning hub and spoke system, enhance flight safety, and provide alternate airports for use in case of bad weather or other emergencies.

1.3.1b Another advantage of networks is the improvement centralized management structures can bring in terms of efficiency and economies of scale. These synergies include joint procurement of equipment, sharing of research and development costs across the network, and establishing training facilities for employees across the network. In addition, best practices which are found to be beneficial at any airport in the network can quickly be adopted throughout the system.

1.3.1c Networks can often borrow in capital markets at favourable terms because of the spreading of the risk over the entire system or, in many cases, due to the fact that the networks are State-run, thus having a sovereign guarantor.

1.3.1d Airport networks are created within the framework of national transport policy with the objective to provide access to the air transportation network at a fair and reasonable cost and to ensure regional development. In this context, they need to be in a position to apply a common system of airport user charges to support smaller airports in remote regions by way of cross-subsidization. Similarly, airport systems serving the same city or conurbation must be enabled to apply a common charging system for reasons of traffic distribution to relieve congested airports.

1.4

Sources of investment in airports

1.4.1 Airports must be allowed access to sufficient funds to finance the investments which are needed to meet projected demand. In some cases, pre-financing of airport infrastructure projects through raising airport charges during or before the period of construction is appropriate, in line with the guidelines set out in ICAO Doc. 9082.

1.4.1a The scale of current and forecast demand at many airports clearly indicates a need for increasing levels of investment to maintain and enhance capacity at an appropriate service quality. Airport charges and non-aeronautical revenues are major sources of funds for investment. Airports should be permitted to retain and invest these revenues to finance future investments. Any action to restrict this use of revenues, or to require all commercial revenues to be used solely to reduce current user charges, could conflict with this objective and inhibit much needed investment.

1.4.1b In view of the significant levels of capital investment required for infrastructure development, to minimize price discontinuities, limit the amount and cost of debt, and to test the market's willingness to pay, pre-funding is in many cases appropriate and cost-efficient.

1.5

Economic Oversight

1.5.1 Economic Oversight and regulation of airports should be applied at an optimal level balancing the interests of the public, stakeholders and the airport operator. Competition issues should be addressed first and foremost by national competition law within the framework of the state's responsibility for economic oversight. Formal economic regulation should only be introduced where there is significant risk or evidence of market failure. The ultimate purpose of competition law as part of the economic oversight process is to protect the interests of the end user, the consumer. The interests of aircraft operators do not always equate to the interests of passengers or other airport users and should not supersede them.

1.5.1a Economic Oversight is mostly appropriately applied in as light handed a manner as possible. The form of economic oversight which is appropriate should be determined on a case by case basis and take into account the level of airport competition, and the national legal, institutional and governance framework, first and foremost, competition law. The application of economic regulation (as one specific form of economic oversight) should only be applied if the airport has demonstrable market power (assessed on a case-by-case basis). Any regulatory interventions should be kept at a minimum and need to be cost-effective, more specifically the direct and indirect cost of regulation should not outweigh its benefits.

1.5.1 b Any right of appeal of aircraft operators against decisions by the airport should be consistent with the form of economic oversight adopted in the State. In a functioning market the commercial freedom of airport operators should not be compromised by an appeal process potentially interfering with the airport's decision. Only in the event that market failure cannot be remedied, the decision of the airport should be subject to a review by an appeal body.

1.6

The cost basis for airport charges and airport charging systems

1.6.1 As commercial enterprises, airports have the right to determine their own economic and commercial policies taking into account national and local public policy and their financial independence.

1.6.1a The level of airport charges needs to be sufficient to cover the cost to operate the airport plus the long term capital investment required to meet the current and anticipated demand. The level and structure of airport charges should be related to the full economic costs of airport operations, including a reasonable return on assets at a sufficient level and the development of appropriate reserves to deal with unforeseen adverse circumstances.

1.6.1b The choice of charging systems is affected by many factors which vary from airport to airport. While aircraft weight is the basis for landing and parking charges in many airports, other economic principles may be applied in setting charges in accordance with the guidance in the ICAO Airport Economics Manual taking into account the "cost to access" scarce airport capacity. Charging policies of airports must take into account national and local public policy, the right of airports to determine their own economic policies and their ability to be financially self-sustaining. Passenger Service Charges should be related to the overall cost of processing the passenger at the entire airport, not only for the use of specific facilities. Whereas passenger and aircraft related charges would remain cost related, enhanced flexibility within and between the individual cost bases is desirable to offset a certain degree of risk for the aircraft operator by making his cost more variable.

1.6.1c The introduction of flexible service options, such as low cost terminals, or innovative charging schemes which rely on market economics to allocate capacity where it is in short supply (e.g. in peak hours) should be permissible and is in line with ICAO policies. Such options, however, need to be transparent and available to all airport users and must not discriminate against other users of the airport. The introduction of such options is at the discretion of the airport.

1.7 Rate of return

1.7.1 Airports are capital intensive and require a rate of return sufficient to satisfy investors and creditors.

1.7.1a Airports are entitled to a reasonable rate of return on capital employed to secure financing of new or expanded infrastructure and to remunerate their shareholders. Private equity and debt are the primary source of capital as public funding is hardly available in many countries.

1.7.1b To ensure future investment in airport infrastructure it is important that private and institutional investors maintain their confidence in airports as attractive investment targets. Introducing prescriptive and specific guidelines regarding the rate of return that airports are allowed to generate can damage investor confidence.

1.7.1c Reasonable rates of return should be determined on a case-by-case basis. When calculating a reasonable rate of return, the various and potentially significant degrees of risk airports are exposed to must be taken into account. Airports are significantly exposed to the airline industry which is very susceptible to external circumstances forcing it frequently to revisit business models and strategies which immediately affect airports. The airports' ability to react to negative developments can be limited as airport infrastructure cannot simply be decommissioned. Airport infrastructure development is a long term undertaking which must not be disrupted by short term airline industry volatility.

1.7.1d Any methodology applied to calculate the rate of return should exclude the contribution of non-aeronautical revenues to the overall airport financial performance. Non-aeronautical revenues should not be subject to any limitations on profitability as they are not derived from aircraft operators and generated in a competitive market environment.

1.8

Minimum landing charges at congested airports

1.8.1 Given the increasing congestion at major airports, ACI supports appropriate non-discriminatory charging structures for airlines and general aviation. ACI also supports, in principle, the concept of minimum charges which adequately reflect the economic cost of congested airside and landside facilities.

1.8.1a The concept of a minimum or fixed charge, for example at congested airports and during peak periods, is regarded as a means to signal the cost of investment in additional infrastructure, and as such has been accepted by ICAO. A minimum or fixed charge combined with a variable charge based on aircraft weight or other criteria more accurately reflects the true economic cost of providing airport facilities by charging all users on a cost recovery basis while also collecting the marginal costs associated with different aircraft types and operational characteristics.

1.9

Passenger service charges

1.9.1 Passenger service charges are an essential source of funds for airports. While they are ultimately a charge levied by the airport from the passenger, passenger service charges (and equivalent charges) should preferably be paid concurrently with the purchase of the air fare to facilitate collection of the charges.

1.9.1a Revenue accrued from passenger service charges is essential to fund the operating and capital costs of the airport.

1.9.1b Passenger service charges are either collected directly from the passenger by or on behalf of the airport operator, or billed to the airlines and incorporated in fares. Regardless of how passenger service charges are collected, they remain a charge to the passenger and do not represent a charge and cost to the airline.

1.9.1c ACI supports the ICAO Council Policies which emphasizes the need for consultations between airport operators and airlines with a view to alleviating problems related to the collection of passenger service charges. Direct collection from passengers slows down passenger flow and creates a need for bigger and more costly installations. Whenever the direct collection of passenger service charges gives rise to facilitation problems, they should be incorporated into the airline ticket, with such charges fully transparent to the passenger.

1.10

Costs associated with aviation security

1.10.1 States are responsible for ensuring the implementation of adequate security measures at airports. Terrorist acts against air transport are not directed at airports, airlines or air passengers, but aimed at States. It is therefore inequitable to single out the air transport industry for the payment of services designed primarily to protect the State. Moreover, it is the responsibility of the State.

1.10.1a Under international law to provide protection to all companies and individuals within its boundaries without discrimination, aviation security is the responsibility of the State. States should therefore bear the associated costs. If States insist upon recovering the costs of providing security at airports, these costs should be recovered in accordance with the ICAO Policies on Charges for Airports and Air Navigation Services (Doc. 9082).

1.10.1b Any such charges or transfers of security costs must be strictly cost related. Before any security costs are passed on by States, consultation must be held between all the parties concerned to ensure that the security standards established by the State are implemented in the most cost-effective manner and that the procedures are designed with facilitation in mind. Where security responsibilities are delegated by the State to airport operators, all associated costs which are not directly reimbursed by the State must be passed on to airport users. If any carrier or other entity requires services demanding a higher security standard than those established by the national security authority, that entity must pay the additional costs incurred.

1.10.1c Upon the introduction of new security provisions or requirements airports should be able to fully recover additional costs from the time when they were incurred.

1.11

Costs associated with aircraft noise

1.11.1 Airports experiencing noise problems should levy noise-related charges to encourage the development of quieter aircraft and expedite fleet airline renewals.

1.11.1a Airports have a major role in the mitigation of noise in dialogue with the surrounding community, and many are actively working in this regard. However, ACI rejects all attempts to hold airport operators responsible for the consequences of aircraft noise, which is outside the control of the airport. Airports are entitled to reflect the costs incurred in implementing aircraft noise alleviation measures in airport charges and to encourage the use of quieter aircraft.

1.11.1b A specific noise-related charge should be levied which reflects the degree of noise nuisance produced by the aircraft. Several different systems of noise measurement and noise charging are in operation at airports. The system chosen by an airport operator should reflect local objectives and be based on transparent criteria.

1.11.1c ACI encourages its members to apply the ACI Aircraft Noise Rating Index. The Index matches current trends and technologies and remains simple, while at the same time it reflects more faithfully the specific situation at each individual airport and is therefore of greater use.

1.12

Consultation with users regarding charges and airport development

1.12.1 Consultation with users is an important element in the development of airport user charges and airport infrastructure planning. All parties involved have a responsibility to engage actively and constructively in the consultation process and should primarily take into account the current and future interests of passengers and other end users. Consultation by definition are different from negotiations and do not require an agreement between the parties. The airport provider shall retain its autonomy and freedom to set charges after considering the information obtained from users during the consultation process.

1.12.1a Consultation is designed to increase the mutual understanding between providers and users, give them an awareness and knowledge of each others' plans and intentions, and should ideally result in all parties moving in the same direction to ensure necessary investment and funding.

1.12.1b Consultation is of value to both airport operators and their users. ACI supports the ICAO Policies on airport charges that state the aim of consultation "should be that wherever possible, users and providers should reach an agreement on the charging system or level of charges." However, consultation does not imply that airport operators have to negotiate and agree with airlines on setting or modifying user charges and on airport investment programmes. Airport operators are the sole decision-makers in such matters, since they are independently responsible for the management of their airports, and have a long term perspective which is not shared by airlines and which encompasses the interests of passengers as well as operators.

1.12.1c Airport operators should inform and consult airline users and operators on matters having an impact on the users rates and charges. In return, airlines should inform and consult airport operators about planning which may affect the development of air traffic and the revenue of airports (fares, networks, etc.). Airport operators should give reasonable advance notice to airlines when contemplating any revision of charges. However, the length of the advance notice must be left to airports, subject to economic considerations and national regulations.

1.12.1d To develop and maintain up-to-date and realistic airport traffic forecasts, an airport and its airline users should: collect and exchange statistics and other information needed to produce forecasts; exchange and discuss their assumptions; consult on forecasting methodology; and release any forecasts produced (subject to commercial confidentiality); The process of cooperation and consultation should include direct contacts between forecasting experts in the head offices of the airports and airlines concerned.

1.12.1e Dialogue between airlines and airports should be continuous and general and not confined to consultation on specific charges. Airport capital expenditure and development programmes, for example, are better focused when discussed in detail with the airports' users. Airlines should inform airport operators of their future requirements, which will assist airports to achieve a smooth expansion to accommodate increased traffic flow.

1.12.1f Many airports however experience difficulties with requirements imposed on them by aircraft operators at short notice which, in some cases, are later withdrawn after new facilities have been provided. ACI strongly recommends that airlines regularly provide airports with regular short- and medium-term forecasts of: future types, characteristics and numbers of aircraft to be used; anticipated growth of passengers and cargo; special facilities which the airport users desire and are willing to pay for; and other relevant matters.

1.13

Non-aeronautical revenues and airport charges

1.13.1 Airports are strongly encouraged to develop non-aeronautical activities and maximize non-aeronautical revenues at their facilities. There should be no requirement to use non-aeronautical revenues to reduce airport user charges, a practice known as the "single till", although some airports may deem a full or partial use of non-aeronautical to defray aeronautical charges as appropriate or necessary to increase their competitiveness or to meet not-for-profit requirements.

1.13.1a Airports should develop non-aeronautical activities at their facilities as far as practical and should generate revenues from concessions, rentals and other commercial activities. These activities also include maximizing returns on scarce airport property from such activities as parking, industrial parks, hotels and convention facilities. Commercial activities should be developed to the maximum state practical with due regard for passenger service and profitability.

1.13.1b Including non-aeronautical revenues in the cost basis for the calculation of airport charges can constitute an unwarranted subsidy to air carriers from the airport operator. This practice, known as the "single till," also acts as a disincentive to airports to develop non-aeronautical revenues.

1.13.1c ICAO policies specifically state that "it may be appropriate for airports to retain non-aeronautical revenues rather than use such revenues to defray charges." The practice of using the "single till" can be contrary to the objectives of cost-relatedness and the "user pays" principle which would require airport charges to cover all of the costs (including quantified and agreed external costs) of the services provided to users. Non-aeronautical revenues thus can be considered among other sources of funding by the airport operator to finance new investment, to pursue new business opportunities or to remunerate airport stakeholders at the sole discretion of the aircraft operator.

1.14

Currency considerations

1.14.1 Where local currency is not convertible, or inflation is high, airports may need access to hard currency to finance investment in equipment and facilities. Under these circumstances, there should be no prohibition on airports requiring that their charges be paid in such currencies.

1.14.1a In countries where the national currency is freely convertible, airport charges are normally payable in local currencies. However, in some countries, charges are denominated or payable in hard currencies. This may be necessary where high inflation is causing rapid depreciation of the local currency. Hard currency may also be necessary to pay for the import of essential airport equipment needed for safety, security and passenger service, or for the purchase of services from other countries.

1.14.1b Prohibition of charging in hard currency could therefore lead to severe deterioration in airport service, as well as damage to airport finances. ACI therefore opposes any policy which prevents the payment of charges in hard currencies.

1.14.1c The issue of hard currency charging has been linked to the broader issues of countries blocking the remittance of revenues from local ticket sales, or restricting the currency of payment for ticket sales. These are separate problems, and approval of the payment of airport charges in hard currency should not be made contingent on their resolution. To do so could threaten the provision of airport facilities and damage airport finances.

1.15 Airport accounting practices

1.15.1 Accounting practices must be adapted to local needs and regulations.

1.15.1a Accounting systems must meet the requirements of the body charged with responsibility for the airport. They must be adapted to the type of airport facility, the scope of its operation and the nature of its various cost areas and activities. Accounting systems must also comply with national regulations as well as the generally accepted accounting principles in a country or State.

1.16 Performance management

1.16.1 The development of relevant and appropriate performance indicators represents a best practice for airport managers, and is encouraged. Such performance indicators should cover activities by all service providers at an airport. Using airport performance indicators for benchmarking between airports or with other industries however should be done with caution as the comparability of the underlying data and its reporting is very limited since vast differences exist among airports.

1.16.1a The application of performance management systems is a common internal tool across the airport industry to enhance the performance and efficiency of an airport, airport system or network over time. Performance measures support the establishment of corporate goals and planning, identify areas requiring management attention and promote individual staff accountability. As many services critical to the airport performance are outsourced to suppliers or undertaken by other providers they should be included in the performance measurement system.

1.16.1b The incorporation of economic performance objectives as a form of economic oversight should only occur on a case by case basis and is the responsibility of the State within its economic oversight function. Such an intervention should be considered only if extreme situations, and where possible such review should be left to the airport management.

1.16.1c Airports are free to determine which individual indicators they wish to establish to ensure the organization's success. While reporting all performance indicators to users would be overly prescriptive and counterproductive, disseminating the information on some selected key performance areas should be part of the user consultation process.

1.16.1d The collection and reporting of performance indicators needs to address the risk that the data will be misused for simplistic and inaccurate industry benchmarking exercises. Comparing the performance of airports is complex and may produce misleading results. The definition of performance measures varies significantly between airports as costs are allocated and accounted for in different ways. Other variable factors are capacity, ownership structure, age of airport infrastructure, airport size, layout and location, level of commercial activities and level of outsourcing. Moreover, there is no consistency in the collection and reporting of data. Performance indicators are an information tool specific to an individual airport, they are not designed to serve as the basis for industry benchmarking unless agreed by all parties involved.

1.17

Government charges on civil aviation

1.17.1 Governments should impose charges only for services and functions which directly relate to and benefit civil aviation operations, and should not impose any charges for functions which are the primary responsibility of governments.

1.17.1a Government charges on air carrier traffic and air transport may be defined as levies or fees imposed by governments, intended to recover the cost of providing aviation facilities and services. Even though charges of this sort are sometimes erroneously referred to as “taxes”, under the above definition they should be referred to as charges.

1.17.1b ACI is concerned at the proliferation of government charges levied on air transport. Such charges should only be imposed for services and functions which have a direct relationship with, and which explicitly benefit civil aviation operations.

1.17.1c Governments should refrain from imposing charges which discriminate against civil aviation in relation to other modes of transportation. They should also refrain from imposing any charges for functions which are the prime responsibility of governments, such as security, immigration and customs.

Any charges, levies or fees imposed by a government authority on air transport should benefit the air transport industry and should not be used for other purposes. Charges, levies or fees levied to finance specific programmes should be withdrawn when these programmes are completed. All surplus income from these charges should be reassigned to support civil aviation in order to reduce any potential additional government charges. An increase in existing charges should be imposed only after consultation with the industry.

1.18

Taxation on civil aviation

1.18.1 ACI is opposed in principle to all government taxation on air transport which may create impediments to the development of air travel and trade and is extremely concerned over the proliferation of taxes imposed on international air transport.

1.18.1a A “tax” has been defined by ICAO as “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.”

1.18.1b ACI recognizes that imposition of general business, sales, income or use taxes levied fairly and uniformly on the conduct of all businesses within a political jurisdiction should be considered the legitimate right of governments. ACI’s policy is to oppose the proliferation of taxes imposed solely on air transport and used for non-aviation purposes.

1.18.1c ACI endorses only those taxes on international air transport that are justified, equitable, non-discriminatory and in accordance with the Chicago Convention and ICAO resolutions, preferably developed in consultation with the industry, including airports and airlines. Any other form of taxation has a detrimental impact on airline and airport finances and on consumers and constitutes a material obstacle to the development and expansion of international travel and trade. Furthermore, taxation solely on air transport for non-aviation purposes contributes to the erosion of the universally-accepted system of reciprocal exemptions from multiple and unfair taxation. ACI also opposes those taxes which discriminate in favour of transport modes which compete with aviation.

1.18.1d ACI strongly urges all States to uphold and actively support the implementation of ICAO resolutions on the taxation of international air transport (Doc. 8632: ICAO’s Policies on Taxation in the Field of International Air Transport). Accordingly, ACI urges all States to impose levies only to recover the costs of providing services and functions which directly relate to and benefit civil aviation operations.

2

Air transport regulation

*(cf. Documentation of ICAO Worldwide Air Transport Colloquium (April 1992),
and Documentation and Report of the Worldwide ICAO Air Transport Conference (1994 and 2003))*

***This section will be more completely reviewed by the ACI World Economics Standing Committee
following the ICAO CEANS Conference in September 2008.*

2.1 General

ACI POLICY

2.1.1 Liberalization should be welcomed in principle, but should be accompanied by Government action to maintain airline competition and a stable operating environment, which is essential for air carriers and airports. New regulatory arrangements should take account of airport capacity considerations and other interests in determining service levels, and should not erode or restrict airport proprietary rights. Airports should be represented in national delegations to air services negotiations.

ACI RECOMMENDED PRACTICE / COMMENT

2.1.1a Regulation of air transport is one of the most fundamental issues of international aviation and is therefore of great interest to all airport operators. Regulation policies affect the volume and character of air transport services and thus have a major impact on airports. Furthermore, the availability of adequate levels of high quality, safe and secure airport facilities is critical if the goal of the liberalisation of air transport is to be achieved. For these reasons, airports should be fully involved in the process.

2.1.1b Further gradual, progressive liberalisation of international air transport should be welcomed in principle, but it is essential that it contributes to the growth of air transport on a sound and stable economic basis. Adequate and effective safeguards must be in place to ensure fair competition, safety and security. Air carriers must have a continuing stable regulatory environment in which to operate and meet the needs of the market. This continuity and stability is also essential for airport operators which must finance and implement the expansion of airport capacity and ensure quality of service for passengers and cargo shippers on a long term basis.

2.1.1c Consistent with liberalisation, rules on the foreign ownership of airlines should be relaxed. Governments, however, should closely monitor the effects of liberalisation measures, and should be prepared to take action if they result in a reduction in competition to levels below those which are necessary to maintain adequate service and consumer choice.

2.1.1d Liberalization presents airports with new challenges for their operation, planning and development, and financing. The need for airports to have both the flexibility and financial resources to meet those challenges should therefore be recognised. In order to enhance their ability to properly establish and match airport capacity with the development of traffic, airports should be involved in the process of the determination of air services by governments, by being represented in national delegations to bilateral and multilateral air services negotiations.

2.1.1e Any move to replace the current bilateral air service system with arrangements between or within trading blocs or groups of States (such as the European Community) should allow for traffic services to be adapted to the capacity considerations of individual airports or regions. Similarly, any moves towards multilateral agreements should not inhibit the ability of each State to take account of airport capacity considerations.

2.1.1f Governments should not allow new forms of air service agreement, whether bilateral or multilateral, which are aimed at restricting or eroding the proprietary rights of airports as established under the present laws, regulations and contracts which govern airport/airline relationships.

2.2

Basic objectives of air transport regulation

ACI POLICY

2.2.1 Regulation may be appropriate to help States adapt to the changing aviation business environment, and to avoid a return to the heavily regulated system that existed in the past.

ACI RECOMMENDED PRACTICE / COMMENT

2.2.1a The world aviation industry is moving towards globalisation, liberalisation and private market responsiveness. Regulation may be appropriate to help States adapt, participate and play a flexible and creative role in such an environment. For these reasons, issues such as market access, ownership and control, and fair competition should not be defined in such a way as to return to the heavily regulated system that existed in the past, where national interests played too strong a role in regulating competition..

2.3

Air service liberalisation, airline market access, safety nets and safeguards

ACI POLICY

2.3.1 Caution should be exercised to ensure equitable delineations of market access when trying to design new regulatory arrangements. New regulatory arrangements should seek broader, mutually beneficial economic development.

ACI RECOMMENDED PRACTICE / COMMENT

2.3.1a Market access is the most important element in the regulatory framework of international air transport. ACI supports the conclusion of the 1994 Worldwide ICAO Air Transport Conference that one of the underlying purposes of any future market access arrangements should be, in the long run, to optimise efficient and economical trade and communication links among States and to promote to the fullest extent national and regional growth and development. ACI considers that if the quality and quantity of air transport services are increased, the wider benefits to communities, users, trade and economic development will more than offset any apparent inequity arising from specific situations with respect to market shares.

2.3.1b Great caution should be exercised to ensure equitable market access when trying to design new regulatory arrangements. Effective dispute resolution mechanisms must be in place and many already exist in national regulations and laws. New regulatory arrangements should not only focus on balancing the interests of providers of services but should seek to promote broader, mutually beneficial economic development.

2.3.1c Unrestricted market access should be promoted as long as the means of access, in particular the airline product designation systems, code-sharing operations and joint services, do not mislead the travelling public.

2.3.1d ACI agrees with the regulatory arrangement on a safeguard mechanism adopted by the 1994 Worldwide ICAO Air Transport Conference, and subsequently refined and incorporated in the ICAO Manual on the Regulation of International Air Transport (Doc 9626).

2.4

Air transport liberalisation and national ownership and control of airlines

ACI POLICY

2.4.1 The criteria of national ownership and control are no longer maintainable in the current context of increasing globalisation of industries and services and should be significantly modified, if not abolished altogether in the future.

ACI RECOMMENDED PRACTICE / COMMENT

2.4.1a States need to devise ways of pursuing the liberalisation of air transport policies while assuring an adequate *"quid pro quo"* in negotiations. This will require a substantive review of bilateral agreements and flexibility in designating airlines, while ensuring that they are under the regulatory control of the designating State. This has implications for market access, safety and security.

2.4.1b The criteria of national ownership and control are no longer maintainable in the current context of increasing globalisation of industries and services and should be significantly modified, if not abolished altogether in the future. Regulation that limits the possibilities for non-national ownership can be discriminatory and limit competition. However, if States consider that the modification or abolition of national ownership and control could lead to unfair competition. This could be dealt with under safeguards or applicable competition law.

2.5

Airports and the broader regulatory environment: competition laws

ACI POLICY

2.5.1 Regulation, if at all desirable, should aim to encourage the efficient, competitive and non-discriminatory functioning of the market. It should not erode airport operators' proprietary rights and should accommodate the divergent needs of airports worldwide. Where airline competition is threatened, government action should be considered to maintain competition at an acceptable level.

ACI RECOMMENDED PRACTICE / COMMENT

2.5.1a Any attempt at re-regulation or at broadening the regulatory environment should be considered very carefully at a time when the globalisation of the industry is dependent on less intrusive regulation. Regulation should aim to encourage the efficient and competitive functioning of the market. Such government involvement in the air transport industry should not interfere with an airport operator's right and ability to manage its proprietary affairs locally and should be broadly tailored to accommodate the divergent needs of airports worldwide. A number of existing clauses in air service agreements should be modified accordingly in order to give specific recognition to the proprietary rights of airports.

2.5.1b It is important that, before embarking upon a new, broader regulatory environment, the regulatory bodies responsible should be clearly identified and an explicit distinction should be made between the authorities responsible only for regulatory issues and those entrusted with the assessment of taxes/charges. A clear definition should also be developed of what is meant by competition and environmental laws.

2.5.1c Several governments and the European Union see the application of competition laws as a tool for achieving air transport objectives. Given this situation, ACI supports the 1989 ICAO model clause on competition laws (ICAO Circular 215-AT/85) in its present form. Competition laws should create a fully competitive environment for all parties and specifically prevent any discrimination against any party. Where competition is threatened, government action should be considered to maintain competition at an acceptable level.

2.6

Airline product designation systems and the travelling public

ACI POLICY

2.6.1 The airline product designation system should be made more responsive to the needs of the travelling public. Flight information displays in computer reservations systems (CRS) should be transparent, accessible and complete.

ACI RECOMMENDED PRACTICE / COMMENT

1.6.1a The proliferation of airline product designations has had the effect of confusing and misleading the public, while adding to the complexity of the bilateral negotiation process and to the difficulty of gaining acceptance by third party States. Such products include, for example, code sharing, change of plane and change of gauge with single flight numbers, single flights with multiple flight designations, interline restrictions, etc. Many of these arrangements are a response to biases built into the standards for flight information displays in computer reservations systems, but are not consistent with the principles that underlie the ICAO Code of Conduct on CRS.

1.6.1b ACI fully supports the ICAO Code of Conduct for the Regulation and Operation of CRS presented in Doc 9587 (Second edition – 1999). CRS displays should be made transparent, accessible and complete, in line with the revised ICAO Code.

2.7

Airports and international traffic flows

ACI POLICY

2.7.1 The principle of market forces determining international traffic flows should be pursued and implemented, whether through liberalised bilateral agreements, multilateral agreements or other international arrangements. To achieve this result, ACI supports the principles of effective market access, transparency, non-discrimination and fair competition.

ACI RECOMMENDED PRACTICE / COMMENT

2.8

Airport charges provisions in air service agreements (ASAs)

ACI POLICY

2.8.1 Air service agreements (ASAs) are not normally either necessary or appropriate mechanisms for the control of airport charges.

ACI RECOMMENDED PRACTICE / COMMENT

2.8.1a The primary purpose of bilateral or multilateral air service agreements is to permit and regulate the type and amount of air service between the contracting States to the agreement. Practical ground operational issues are generally left to normal commercial negotiations between airlines and service providers.

2.8.1b Most ASAs therefore contain only a general provision on airport charges restating the non-discrimination requirement of Article 15 of the Chicago Convention. A small number of agreements contain more detailed airport charges provisions, but these are rarely invoked. Where they have been invoked the process has proved slow, expensive and of limited value.

2.8.1c In most of the States which account for large volumes of air traffic, there are effective domestic legal systems which protect against excessive or discriminatory airport charges. As a result, airport charges have been a remarkably small and constant component of airline costs. There is therefore no need for any general policy covering the introduction of detailed provisions on airport charges into air service agreements.

3

Facilitation and airport services

(cf. ICAO Annex 9 - Facilitation, 12th Edition (2005); ICAO/IMO Doc. 9636 (1995) – International signs to provide guidance to persons at airports and marine terminals; and ICAO Annex 18, 2nd edition (1989))

General and passenger facilitation

ACI's objective in the area of facilitation is to develop policies and positions aimed at continuously improving service quality at airports, simplifying and speeding the flow and processing of passengers, baggage, cargo and mail through airports, while bearing in mind the different requirements of various authorities with particular regard to security, drug interdiction and dangerous goods.

3.1 Quality of service

ACI POLICY

3.1.1 Service quality should be a key component in an airport's business strategy and operations management.

ACI RECOMMENDED PRACTICE / COMMENT

3.1.1a Airport operators should monitor a wide range of factors related to quality, according to the needs of users and the characteristics of the airport.

3.1.1b Where airports have no direct control, they should strengthen their existing cooperation with all other organizations and agencies which have a guardian role for service delivery at the airport, in order to develop a "seamless airport service" with agreed minimum service standards.

3.1.1c They should also develop airport business continuity plans which are comprehensive and coordinated with all parties.

3.2 Traffic peaks and capacity constraints

ACI POLICY

3.2.1 Airport capacity limitations should be resisted by airport operators, in consultation with other involved agencies and airlines.

ACI RECOMMENDED PRACTICE / COMMENT

Despite the best efforts of airport operators to expand airport capacity to meet demand and remove artificial capacity restrictions, the phenomenon of traffic peaking may reduce the effects of such efforts, and has been the subject of increasing concern by airport operators around the world. Traffic peaking at airports generates severe economic penalties, such as under-utilization of costly airport facilities and services, opportunity costs from direct and indirect impact of lost services, and delays to aircraft and passengers.

Significant improvements can be obtained by attempting to redistribute traffic through effective consultation between the interested parties, i.e. in particular airlines, airports and government authorities. ACI and IATA have jointly produced a booklet entitled "Guidelines for Airport Capacity/Demand Management" to assist both airports and airlines to combat the problem of traffic peaking and resulting adverse effects, and to maximize the utilization of airport facilities and other resources for the benefit of all parties concerned.

3.3 Code-sharing

ACI POLICY

3.3.1 Code-sharing and alliance airlines should use the same terminal facilities whenever the airport operator considers this arrangement feasible and it does not jeopardize overall operation of the terminals.

ACI RECOMMENDED PRACTICE / COMMENT

Collaborative and code-sharing arrangements should be fully transparent to passengers, many of whom choose an airline on the basis of its level of service, frequent flyer programme and reputation for effective safety and security measures.

It is the responsibility of airlines to provide passengers with full written information, firstly at the time of booking/reservation, and secondly when tickets are issued, regarding the operational flight numbers, operating carrier(s), intermediate stops, changes of aircraft, airport terminal designators, etc., involved in the planned journey. Similar recommendations were adopted by ECAC in 1996 and by the ICAO Air Transport Regulation Panel in 1997, and are becoming a regulatory requirement in an increasing number of countries.

Airlines should inform airport operators well in advance of all the logistical details involved in a particular collaborative or code-share arrangement, including changes of aircraft at an intermediate airport or changes from an international to a domestic terminal (or vice versa) required on the same flight number.

With regard to the display of different code share airline identifiers and flight numbers on the FIDS, it is recommended that, where required, these be shown on a rotating basis in an additional column (e.g., 'Remarks') on the same line.

3.4 Simplifying Passenger Travel

ACI POLICY

3.4.1 Airports should note the principles of the Simplified Passenger Travel (SPT) initiative and incorporate these in their facility and process planning, where appropriate.

ACI RECOMMENDED PRACTICE / COMMENT

ACI is a member of an industry consortium called Simplifying Passenger Travel, whose objectives are to simplify and streamline the passenger process; help improve aviation security; increase customer satisfaction; make better use of existing airport space and resources; and make the transport system more efficient and reduce costs.

Strategies of the SPT project are to re-engineer the entire passenger journey, using and updating ongoing programmes such as e-ticketing and self-service check-in; catalyse industry change through promotion of these concepts and explanations of the benefit of their implementation; consider the entire passenger journey; promote benefits of cooperation, both internationally and between government and industry, to find collective solutions; implement new technologies for identification and communication; ensure international standards are established, where necessary; learn from experience by fostering pilot projects; partner with other groups engaged in related areas; and respond to threats to the aviation industry.

Compatibility must exist between the requirements of the relevant government inspection agencies at the origin and destination of a journey. Procedures related to the facilitation of passengers must be developed on an international level to allow for the standardization of documentation and handling methods. These procedures should recognize the desirability of the eventual replacement of processes now in existence in favour of automation and a paperless environment. Governments should also encourage the development of international communications networks allowing for the transmission of data between governmental agencies within a country and between countries.

Further information can be found at www.spt.aero.

3.5 Schedule coordination and slot allocation

Airports slots are important for access to the infrastructure resources of an airport, and the airport operator must play a leading role in the efficient allocation of slots to airlines. The airport operator is best placed to define and declare airport for runways (aircraft movements), terminals (passenger movements) and aprons (number of aircraft parking stands), in consultation with ATC and other appropriate authorities as necessary.

ACI POLICY

3.5.1 Airports' slots are important for access to the infrastructure resources of the airport operator. Airlines use this access to add value through their development of routes. Airlines should therefore be granted usage rights to slots but not property rights.

3.5.2 At airports where airline schedules are coordinated (allocation of slots) or facilitated, a coordination committee should be established, with full airport participation in the establishment of slot allocation rules, permitting periodic consultation and communication between airlines and the airports concerned. Interested airports should also be able to attend an IATA Schedule Coordination Conference at least as observers.

ACI RECOMMENDED PRACTICE / COMMENT

Over a long period of time, IATA has developed and refined a process for schedule co-ordination and allocation of airport slots (defined as the scheduled time of arrival or departure allocated or available for an aircraft movement on a specific date) which has, to a large extent, maintained a degree of coherence and stability in international air transport. However, with a few exceptions, the procedures and processes of slot allocation are still dominated by the interests of airlines, which may be contrary to the interests of airport operators and their local communities. It is possible that the direct control of slot allocation by the airlines could lead to anti-competitive behaviour. This has been recognized in many places where, as a consequence, both schedule coordination and slot allocation need government permission (e.g. competition rules or designation by a government of an airport as coordinated).

If studies should show that it would be advantageous, on condition of effective regulation and safeguards, to allow airlines to carry out secondary trading (buying and selling) of usage rights for slots and if, as a consequence, trading of slots should become government policy, then airlines should not be allowed to trade slots as if they were their own property. Any trading must reflect the allocation principles established at the affected airports, must not breach the airport's capacity limits, must not be anti-competitive, and should improve the efficient use of airport capacity. "Use-it-or-lose-it" rules must continue to apply, and must depend on respect of terms and conditions of use including those set out by the airports. The airport operator, because of its direct financial interest as provider of the infrastructure, should approve rules and procedures for slot trading. The airport operator also would have an interest to manage or oversee the trading process. Where this function is carried out by an independent airport coordinator, the airport must be closely associated.

At congested airports, where demand may exceed available slots, more stringent scheduling procedures should be developed with the aim of achieving the most efficient usage of capacity, including allocation of slots, under the responsibility of an independent coordinator. These procedures, to a suitable extent, should take into account historical precedence, new entrants, frequency of service on certain routes and aircraft size, aircraft noise or other environmental restrictions and underutilization of allocated slots. The procedures should be both transparent and fair. It is also important that provisions on sanctions are included to counteract abusive use of slots, i.e. repeated and deliberate operation significantly outside the allocated slot time.

The direct involvement of airports in slot allocation is essential for the efficient movement of persons and goods and to ensure that airports play a leading role in the economic development of the communities and regions they serve. Airport characteristics vary and it is therefore important that the allocation rules allow for the establishment, with active participation of the airport operator, of local rules that can take such characteristics into account.

In order to enhance competition, at the request of the airport concerned, some percentage of available slots throughout the day could be made available for re-allocation to new entrants, either on the basis of objective criteria or other means that reflect the economic value of the slots. It should also be recognized that at some airports, new entrants might not be the best way to enhance competition and that alternative local rules should be developed. Provisions might also be included, for example for new entrants, so that slots may be granted for certain types of flights, such as by small aircraft, noisier aircraft, or flights of a specific stage length, on condition that such special permissions are granted for a limited period only.

3.6

Maximum clearance times at international airports

ACI POLICY

3.6.1 Airports, cooperating closely with government agencies and airlines, should aim towards a passenger processing time of 45 minutes for normal arriving passengers.

3.6.2 Airports, cooperating closely with government agencies and airlines, should aim towards a passenger processing time of 60 minutes for normal departing passengers.

ACI RECOMMENDED PRACTICE / COMMENT

3.6.1a ACI supports Recommended Practice 3.39 in ICAO Annex 9, which calls for a goal for clearance within 45 minutes from disembarkation, for all arriving passengers requiring not more than normal inspection, regardless of aircraft size and scheduled arrival time. This goal is so important to the efficiency of international air transport that ACI will continue to press for it to be upgraded to a Standard.

3.6.1b Passengers should be provided with information concerning the entry requirements of customs, immigration and other authorities, so that clearance procedures are not unnecessarily delayed. Airport operators, airlines and control authorities should take every opportunity to ensure that this information is readily available and brought to the attention of passengers

3.6.2a ACI supports Recommended Practice 3.36 in ICAO Annex 9, which calls for the setting of a goal 60 minutes for completion of departure formalities for departing international passengers, including airline check-in. The total time should be calculated from the passenger's arrival at the first processing point at the airport (airline check-in, security control or other control) to the scheduled time of flight departure.

3.7

Drug interdiction

ACI POLICY

3.7.1 Airports should cooperate with customs administrations to interdict the transportation of illegal drugs and other contraband.

ACI RECOMMENDED PRACTICE / COMMENT

Customs administrations have a vitally important role to play in the field of drug interdiction. Airport operators can assist them, provided that there is a reasonable level of understanding between customs and airport management.

Airports have to fulfil many obligations in relation to various authorities, and there is a possibility that some of these obligations may conflict with each other. A good relationship, reinforced by a memorandum of understanding, guidelines or other instruments agreed at the local level may help in the resolution of any problems.

ACI has signed a Memorandum of Understanding (MoU) with the World Customs Organization and agreed the contents of the associated guidelines. These can form the basis of local MoUs and agreements.

3.8 Baggage delivery

ACI POLICY

3.8.1 Passenger's reasonable expectation of baggage delivery times must be taken into account in designing the arrivals process.

ACI RECOMMENDED PRACTICE / COMMENT

3.8.1a In order to improve baggage delivery, ACI recommends that: the baggage delivery system feed points be located as close as possible to the aircraft; wide, fast and reliable baggage belts, conveyors and baggage transporters be employed; and the design of baggage delivery areas should allow for flexibility and expansion.

3.8.1b ACI also recommends that the appropriate authority should establish and monitor compliance with delivery standards for baggage at each terminal and that performance records should be exchanged between airlines and airports.

3.8.1c Computer systems should be employed to monitor and control baggage delivery and to guide passengers.

3.9 Dual channel system of inspecting inbound baggage

ACI POLICY

3.9.1 The dual channel system should be introduced wherever possible and justifiable.

ACI RECOMMENDED PRACTICE / COMMENT

3.9.1a The merits of the dual channel or red/green system of customs clearance have been well proven at many airports around the world and the system should be implemented in all countries in order to speed up passenger flow.

Guidelines should be drawn up for the most appropriate design of dual channel facilities which offer customs administrations the maximum surveillance possibilities of passengers awaiting their checked baggage.

3.9.1b Moreover, additional guidance should be given to passengers on the functioning of the system, including the description and quantities of duty-free goods which are allowed through the green channel. This information should be presented in various languages. Emphasis should be placed on the passenger's legal responsibility when selecting the green channel.

3.10

Simplification of procedures for inbound passengers on international flights

ACI POLICY

3.10.1 The inspection of arriving passengers on international flights should be limited to passport examination, a sufficient number of immigration officers should be available and visa waiver arrangements should be extended to the maximum number of countries possible.

3.10.2 Where there is a requirement to undertake routine quarantine and health inspections on arriving passengers, these should be designed and implemented efficiently.

ACI RECOMMENDED PRACTICE / COMMENT

States should not require any information in writing (such as a disembarkation card) supplementary to or in repetition of that presented in their identity documents, from temporary visitors travelling by air, or from operators on their behalf. Where identity documents are machine readable, document readers should be used to capture relevant information. If such information is captured before flight departure, it can be sent to the destination airport in advance of the flight, in the form of Advance Passenger Information (see Chapter 4, paragraphs 4.8 and 4.9 concerning machine readable travel documents and advance passenger information).

At the local level, airport and airline consultative bodies, such as facilitation or airline operators committees, should collect statistical data on delays at immigration and customs check-points for use when negotiating facilitation improvements with governments.

Irrespective of national rules, regulations and procedures, States should provide necessary government inspection services (personnel and/or automated systems) free of charge at all international terminals, at any time in response to reasonable commercial demand, not just during pre-established working hours (as stated in ICAO Annex 9, Standard 6.60). ACI will continue to press for this change.

3.10.1a Where appropriate, separate immigration channels should be established for nationals and aliens in order to speed the flow of passengers through controls and minimize congestion. States should offer visa waiver arrangements to cover the maximum number of countries possible.

ACI supports ICAO Annex 9, Standard 3.42, which states that the public authorities "shall expeditiously accept passengers and crew for examination as to their admissibility into the State". However, ACI believes that a clarification should be added to the Standard stating that the provision is intended to ensure that arriving passengers are not held on aircraft due to a lack of clearance capacity on the part of public authorities.

ACI supports ICAO Annex 9, Standard 6.26, which states that "Contracting States shall make arrangements for a sufficient number of control channels so that clearance of inbound passengers and crew may be obtained with the least possible delay. Additional channel(s) shall be available if possible to which complicated cases may be directed without delaying the main flow of passengers". However, the wording "in operation" should be added after "control channels" in the first sentence, with the intention of ensuring that all installed channels are used when needed to meet the clearance time goal of 45 minutes.

3.10.2a These checks should be integrated into a seamless arrivals process, not cause undue delay to inbound passengers and, where possible, be temporary procedures (particularly regarding response to health emergencies such as SARS or Foot and Mouth outbreaks).

3.11

Elimination of outbound passport and customs controls

ACI POLICY

3.11.1 States should critically review the need to conduct outbound passport and customs controls; and should where possible eliminate them.

ACI RECOMMENDED PRACTICE / COMMENT

At some airports, queues at inspection points prior to departure lead to apron (ramp) and terminal congestion and aircraft departure delays, with consequential heavy financial losses to the airlines and disadvantages for passengers, especially those making interline connections. Elimination of departure controls, with due regard to security considerations, would not only facilitate the movement of passengers and their baggage, but would also permit the simplification of layout and routings within airport terminals.

If departing passengers have to present their travel documents, their movement can be facilitated if there are separate channels for nationals and aliens. In accordance with ICAO Annex 9, Recommended Practice 3.21, no supplementary identification information to that contained in the identity document should be required. ACI further believes that embarkation cards should be eliminated.

When outbound passport and customs controls are dispensed with, some authority must assume responsibility for ensuring that only persons who have been screened are allowed to proceed "airside" beyond the security checkpoint, or any other checkpoint established by the authority.

ACI supports ICAO Annex 9, Standard 3.38, which stipulates that "Contracting States shall not normally require the presentation, for border control inspection, of baggage of passengers departing from their territory."

3.12

Passenger service charges

ACI POLICY

3.12.1 For reasons of facilitation, passenger service charges should preferably be included in air fares.

ACI RECOMMENDED PRACTICE / COMMENT

Passenger service charges are either collected directly from the passenger, or incorporated in fares. It is always preferable for charges to be included in air fares (indirect collection), because direct collection from passengers slows down passenger flow and creates a need for bigger and more costly installations. There are two methods of indirect collection: either the airport bills the airline for the total number of passengers on each flight, or the airline charges the passengers directly and remits the proceeds to the airport operator.

3.12.1a Where it is unavoidable to collect passenger service charges directly from the passenger, payment of such charges should be possible either in local currency or in foreign currencies which are acceptable in the region, or by credit card.

3.12.1b For customer convenience and to minimize facilitation problems at the airport, advance notice of these charges should be given to passengers, for example in booking offices, travel agencies and hotels. (see also chapter 1, section 1.4)

3.13 Sign systems at airports

ACI POLICY

3.13.1 Directional signage for passengers should be easy to understand and clearly visible.

ACI RECOMMENDED PRACTICE / COMMENT

Experience shows that continued development of new pictographic systems is not the most effective or economical way of improving the information provided to passengers at airports. When airports contemplate introducing pictographs, they should consider existing sign systems, such as the ICAO system described in ICAO document 9636, rather than develop new ones. Airports should also enhance the value of pictographic information by restricting its use to items of major importance to the passenger.

3.14 Placement of retail outlets

ACI POLICY

3.14.1 Retail outlets, while being easily accessible, should not obstruct the flow of passengers within the terminal.

ACI RECOMMENDED PRACTICE / COMMENT

Whenever practicable, airport retail outlets should be readily accessible to all airport users but should not be located where they might obstruct the flow of passengers. In every case, a balance should be struck between the income generated by these visitors and the goals of improving facilitation and security measures.

3.15 Control of shoppers, well-wishers, meeters and greeters

ACI POLICY

3.15.1 The arrival facilities should be designed and managed in such a way to ensure that shoppers, well-wishers, meeters and greeters do not impede the flow of passengers.

ACI RECOMMENDED PRACTICE / COMMENT

At many airport terminals, congestion problems occur when well-wishers, meeters and greeters greatly outnumber passengers. This should be kept in mind when designing terminals and planning the allocation of terminal space.

3.16

Airport facilities for persons with disabilities and those with special needs

ACI POLICY

3.16. Airport facilities should include arrangements to meet the general needs of persons with disabilities and those with special needs.

ACI RECOMMENDED PRACTICE / COMMENT

Persons with disabilities, including the blind, the partially sighted and the deaf, as well as the physically challenged and the elderly, should as far as practicable be able to use passenger terminals in common with others.

3.16.1a The needs of persons with disabilities, determined in accordance with national requirements and international recommendations, should be borne in mind by architects and engineers responsible for designing new structures or modifying existing ones, and by those responsible for operating the airport in question, with a view to the provision of suitable means to ensure easy and comfortable access to all facilities by passengers with disabilities, at a suitable level of quality of service.

3.16.1b Persons with disabilities should be able to find out in advance the special problems which they may encounter, and the special aids or facilities which are available at airports of departure or arrival. More detailed recommendations are contained in ACI's handbook "*Airports and Persons with disabilities*".

3.16.1c Personnel whose work involves the handling of persons with disabilities should take into account their specific requirements and, where appropriate, the special characteristics of their treatment. Such personnel should be provided with adequate training in order to improve the handling of persons with disabilities.

3.16.1d Where necessary, in order to facilitate the embarkation and disembarkation of passengers with disabilities, including wheelchair users, alternative circuits should be established. These could even include circuits which do not pass through airport terminal buildings, provided that security and control regulations are complied with.

States should ensure that the necessary funding is provided to implement any modifications or adaptations to facilities which are required in order to ensure that persons with disabilities receive the level of special treatment which is generally recognized as being appropriate.

Many people without disabilities also need special facilities and/or assistance. Examples include young children and those responsible for them.

EC Regulation No. 1107/2006

EC Regulation No.1107/2006 concerning the rights of disabled passengers and passengers with reduced mobility when travelling by air took effect on 26 July 2008. This new regulation transfers the overall responsibility for providing assistance services from an airline to the airport operator. The regulation seeks to establish uniform service levels at all European airports.

The assistance service shall be provided without additional charge to the passengers with reduced mobility. The airport may, on a non-discriminatory basis, levy a specific charge on airport users for the purpose of funding this assistance.

Quality standards for assistance should be set in accordance with ECAC Document 30, Annex J: Code of Conduct in Ground Handling for Persons with Reduced Mobility. Persons who deal directly with passengers requiring such assistance should also be trained in accordance with ECAC Document 30.

The regulation requires the provision of information in advance to the airport. The passenger requiring assistance is required to notify the airline at least 48 hours prior to their departure, transfer or arrival at the airport. The airline is required to forward the necessary information to the airport operator at least 36 hours before the service is needed by the passenger.

3.17 Airport facilities for tour operators

ACI POLICY

3.17.1 Airports should take into account the needs of tour groups in the design and operation of terminal facilities, when appropriate, while also ensuring that they do not obstruct other passenger flows.

ACI RECOMMENDED PRACTICE / COMMENT

3.17.1a Tour operator facilities should, as far as practicable, be situated in a separate area where they do not obstruct the main passenger flows.

If this is not done, tour operators assemble their clients at the normal meeting points, which cannot usually accommodate large tour groups. When a new airport is constructed or an existing airport remodelled, an area should be reserved for tour operators. Wherever possible, tour groups should be allocated separate facilities for both arrival and departure. If possible, and subject to security considerations, tour group check-in may be conducted off the airport.

3.18 Inadmissible passengers

ACI POLICY

3.18.1 Inadmissible passengers are the responsibility of the state authority and the airline that transported them. Procedures should be implemented by them to ensure that inadmissible passengers are identified and processed in an efficient and expeditious manner, so as not to impede the facilitation of other passengers or the operation of the airport.

ACI RECOMMENDED PRACTICE / COMMENT

Travel documents should be simplified and standardized so that airlines can provide more effective assistance to these authorities. Passports and visas should be fraud proof and machine readable. The necessary automatic readers should be installed by the appropriate authorities. Advance Passenger Information (API) systems can also assist in the early identification of inadmissible passengers.

If passengers arrive in a State with fraudulent or forged travel documents, are no longer in possession of their documents, or are otherwise declared persona non grata on arrival, immigration authorities in that State should arrange for their deportation or detention. Costs arising from detention or deportation should be borne by the State authorities requiring such measures. Selective screening at the point of embarkation could be used to minimize the flow of potentially inadmissible passengers.

3.18.1a Good security in boarding and transit areas is needed to ensure that non-travellers have no access to areas where they could switch, remove or destroy the travel documents of passengers who have already been screened by airlines. When necessary, a document check can be made immediately prior to aircraft boarding.

3.19 Space and facilities for government inspection agencies at airports

ACI POLICY

3.19.1 Space and facilities for the authorities in charge of clearance controls should be provided at government expense

ACI RECOMMENDED PRACTICE / COMMENT

Government inspection and control requirements relating to passengers, baggage and cargo generate a need for space allocation, as well as certain specific facilities and services. ACI concurs with ICAO's view that "space and facilities for the authorities in charge of clearance controls should, as far as possible, be provided at public expense" (Annex 9, Recommended Practice 6.58). However, ACI continues to press for this provision to be raised to the status of a Standard, with the substitution of the word "government" for the term "public", to make quite clear that the cost burden should not fall on the airport or its users.

3.20

Banks and foreign exchange facilities at airports

ACI POLICY

3.20.1 Currency exchange facilities should be provided at international airports and in service at those times when passenger flights are operating.

ACI RECOMMENDED PRACTICE / COMMENT

Such facilities should be easily accessible to both arriving and departing passengers. If the volume of traffic at certain times does not justify the opening of banks, other currency exchange facilities such as vending machines should be made available. It is important that ICAO-recommended signs for currency exchange facilities be used universally.

3.21

Vehicle parking facilities at airports

ACI POLICY

3.21.1 Adequate parking facilities should be provided to meet the needs of passengers, crew, staff and members of the public using the airport facilities, when feasible.

ACI RECOMMENDED PRACTICE / COMMENT

The distance between vehicle parking areas and terminal buildings is not as important as the speed and convenience of access to the terminals from the parking areas.

3.22

Duty-free shops on arrival

ACI POLICY

3.22.1 Duty-free shops for arriving passengers should not replace those for departing passengers.

ACI RECOMMENDED PRACTICE / COMMENT

An increasing number of airports have established duty-free shops for arriving passengers. These should be in addition to the duty-free shops for departing passengers.

3.23

Transfer of downtown duty-free purchases

ACI POLICY

3.23.1 The general principles governing airport duty-free shops should apply to downtown duty-free shops.

ACI RECOMMENDED PRACTICE / COMMENT

3.23.1a The conveyance and delivery procedures involved should be simple and should place no obligation upon airline or airport personnel. The operator of the downtown shop should assume the costs of the facilities that are provided.

3.23.1b The delivery process should meet the security requirements in force at the airport and should not create congestion or interfere with the flow of passengers.

3.23.1c The goods should be delivered in sufficient time prior to boarding.

3.24 Facilities for general aviation

ACI POLICY

3.24.1 Where general aviation operations are permitted at an airport, adequate facilities and procedures should be in place for their facilitation.

ACI RECOMMENDED PRACTICE / COMMENT

3.24.1a Owing to the constraints imposed by air transport movements, some airports may need to impose restrictions on general aviation, both in terms of access and the services provided.

As general aviation may require more airport infrastructure (on a per passenger basis), an airport may consider it necessary to adopt different charges for general aviation, in order to recover its costs.

3.25 Airport handling arrangements

ACI POLICY

3.25.1 Airport operators should retain the right to approve ground handling services at their facilities.

ACI RECOMMENDED PRACTICE / COMMENT

ACI supports ICAO Annex 9 Recommended Practice 6.6 on airport traffic flow arrangements, which says that airlines should have the choice of providing their own ground handling services, "subject to reasonable limitations which may be imposed by the airport authorities". While agreeing with this RP, ACI wishes to point out that airport operators must retain the right to set limits on the number of Ground Handling Services Providers (GHSPs) and self-handling airlines at their facilities. The uncontrolled proliferation of handling agents and equipment could create check-in area and ramp congestion, and safety and security hazards.

If an airline is not allowed, or does not wish to provide its own services, it should ideally have more than one choice of GHSPs available.

3.25.1a ACI supports free and fair competition between GHSPs, so as to give a choice to airlines, provided that space at the airport allows, and the GHSPs meet minimum standards relating to safety and security etc.

3.25.1b If the airport operator itself provides handling services, it should also compete on a free and fair basis.

To take account of the different situations at airports, and in line with ICAO Council Statements on Charges for Airports and Air Navigation Services (Doc. 9082), ACI maintains that equal treatment for all user airlines implies that a concession fee should be charged on all providers of ground handling services, including the local carrier when it provides such services to other carriers.

3.26 Landside transportation

ACI POLICY

3.26.1 Ground transportation arrangements to, from, between and within airports are vital to all users and should be planned and operated in a coordinated manner involving the various bodies involved in the provision of transportation services.

ACI RECOMMENDED PRACTICE / COMMENT

As airports grow and develop to meet the increasing demand for air transport, it is essential for surface access facilities and services to respond to this rise in demand. Airports should be linked in an efficient and user-friendly manner to the markets which they serve. Such facilities and services may include public transport access by road, rail and any other applicable modes, as well as private transport, including private vehicles, rental cars, taxis, courtesy buses and commercial vehicles. Employees have different needs, and non-vehicular modes of transport, as well as vehicle-sharing should not be overlooked. A balance should be struck between the needs of all airport users, bearing in mind the local pattern of traffic needs, resources and priorities.

3.26.1a Information on public transport services, including fares and schedules, should be readily available to arriving and departing travellers. Where fares are charged, in order to expedite the service, arrangements should be made enabling travellers to purchase tickets before boarding.

Transportation within airports is as important as transport to and from airports. Where the distance between airport terminals, car parks, car rental facilities and public transport services is significant, transport connections should be considered, including the possibility of installing people-mover systems. Because of the need to maintain frequent and regular transport schedules within airports (between terminals), and because international connecting passengers often do not possess local currency, such transport should preferably be provided without direct charge to travellers.

3.26.1b There should be full consultation at the earliest possible stage between the airport operator and all agencies and operators involved in surface access to the airport, such as local transport authorities, municipalities and licensing authorities, to encourage increased coordination in the planning of surface access and the provision of relevant information to passengers.

3.27 Off-airport check-in facilities

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

ACI concurs with ICAO Recommended Practice 6.20 that governments should study the possibility of allowing the provision of off-airport check-in facilities, with due regard to the necessary security precautions and (border) control requirements. Furthermore, ACI believes that governments, airlines, airport operators and other relevant organizations should actively consider how such facilities can be developed, taking into account the facilitation of baggage transportation to and from the airport. Some of the most likely off-airport locations are railway stations, hotels and airline city-centre terminals.

3.28

Consultations between agencies on new procedures

ACI POLICY

3.28.1 Governments should consult with airport operators, control authorities and groups representing airport users at the earliest possible stage, whenever new government-mandated procedures require changes in facilities, including changes of layout within existing facilities.

ACI RECOMMENDED PRACTICE / COMMENT

3.29

National and airport facilitation committees

ACI POLICY

3.29.1 States authorities should establish a national air transport facilitation committee in accordance with Annex 9, Standard 8.19.

ACI RECOMMENDED PRACTICE / COMMENT

Appendix 12 to Annex 9 sets out guidelines for the establishment and operation of these committees. Airport operators should take the leading role in convening and conducting meetings of airport facilitation committees.

3.30

Courier shipments

ACI POLICY

3.30.1 Courier shipments should not impede normal passenger baggage operations at airports.

ACI RECOMMENDED PRACTICE / COMMENT

3.30.1a Courier shipments should, where practicable, be handled separately from passenger baggage in facilities specifically designed for the purpose.

3.30.1b ACI also believes that, where no such dedicated courier facility is available and where courier shipments are handled through passenger terminals, they should if possible be handled in a separate area allocated for this purpose.

However, if a separate area cannot be allocated and there is resulting congestion, it may be necessary to limit the courier shipments handled in the passenger terminal in terms of size or weight. Above such limits, courier shipments may need to be directed to a cargo terminal.

At airports where problems are encountered with the handling and clearance of courier shipments in passenger terminals, airport operators, airlines and other agencies concerned with courier shipments should consider jointly how to resolve such problems.

Cargo facilitation

3.31

Government inspection services for cargo

ACI POLICY

3.31.1 Government inspection services for cargo should be available and adequate to facilitate the expeditious clearance of cargo consignments.

ACI RECOMMENDED PRACTICE / COMMENT

International air cargo hub operations have evolved into a 24 hour per day, 7 day per week business, and the air cargo industry is catering for increasingly time-sensitive shipments. The "just-in-time" concept has given rise to the need for fast, cost-effective and seamless transport chains. Moreover, the rapid growth of traffic in perishable cargo creates a requirement for the streamlining of procedures, not only for the physical handling of goods, but also for the timely inspection and release of cargo. Governments should move to enhance the speed advantage of air cargo by making available government inspection services whenever they are needed.

ACI believes that compatibility must exist between the requirements of the relevant government inspection agencies at the origin and destination of a consignment. Procedures related to the movement of air cargo, as well as those related to intermodal transportation (air, sea, rail and road), must be developed on an international level to allow for the standardization of documentation and handling methods. These procedures should recognize the desirability of the eventual replacement of processes now in existence in favour of automation and a paperless environment.

Governments should also encourage the development of international communications networks allowing for the transmission of data between governmental agencies within a country and between countries. At airports where there is a lack of capacity for expansion, the airport operator may wish to develop off-airport facilities for initial acceptance, storage, distribution, consolidation, de-consolidation and final receipt and clearance of goods. In these cases, the cooperation of control authorities is sought to facilitate the establishment of off-airport clearance and storage facilities for bonded goods.

3.32

Maximum clearance time for arriving cargo

ACI POLICY

3.32.1 Maximum clearance times for different categories of cargo should be established by the customs authorities, in consultation with airports and airlines, and should meet or better the recommended performance standards in Annex 9.

ACI RECOMMENDED PRACTICE / COMMENT

ACI supports ICAO Annex 9 Recommended Practice 4.29 establishing a target Customs clearance time of three hours for arriving general cargo not requiring examination, from the time proper documentation or a legally acceptable electronic equivalent is presented. In line with ICAO Annex 9, Standards 4.25 to 4.27, shipments such as perishable goods, live animals, personal effects and low-value goods should be cleared promptly on arrival. As provided under ICAO Annex 9, Recommended Practice 4.28, goods imported by authorised importers who have demonstrated compliance with Customs regulations and who supply advance information, should be released immediately on arrival.

ACI recommends that physical examination of cargo by Customs should always be based on targeting and risk assessment criteria.

3.33

Elimination of the paper cargo manifest and of paper air waybill, and use of Electronic Data Interchange (EDI)

ACI POLICY

3.33.1 State authorities should reduce or eliminate the requirements for hard copy manifests or air waybills and leverage EDI and new technologies to facilitate the more expeditious processing and clearance of cargo.

ACI RECOMMENDED PRACTICE / COMMENT

Cargo manifests are unnecessary, since the same information can readily be obtained from air waybills in either paper or electronic form. The use of Electronic Data Interchange (EDI) for the submission of waybill information has significant cost and facilitation benefits for all parties involved in the cargo process. A further benefit is that information on incoming goods can be obtained by Customs in advance of the arrival of the aircraft. Existing UNEDIFACT standards for EDI messages should be used (see ICAO Annex 9, Standard 4.15).

Whether information appears in the cargo manifest or in air waybills, it is essential to limit the description of the nature of goods to the 15 characters set aside for this purpose. The use of more than one line of information per shipment is contrary to the goal of facilitation.

ACI supports Montreal Protocol no. 4, which entered into force in 1998, and provides a statutory basis for electronic submission of air waybills. It would be helpful if the number of signatory States would increase.

3.34

Release of documented partial shipments

ACI POLICY

3.34.1 Part-shipments of cargo should be released when the complete documentation for any such part-shipment has been presented.

ACI RECOMMENDED PRACTICE / COMMENT

ACI supports ICAO Recommended Practice 4.30, that part-shipments should be released when the complete documentation for any such part-shipment has been presented. This is expected to end the practice previously followed by some Customs authorities of holding part-shipments in bond until all the missing parts of the shipment have arrived, even though the part-shipment is documented.

3.35

Release of operators of cargo facilities from liability

ACI POLICY

3.35.1 Governments should absolve both airlines and airport operators or cargo warehouse operators from liability for customs duties, taxes and other charges at such time as goods are transferred, with the approval of the authorities, into the possession of a third party.

ACI RECOMMENDED PRACTICE / COMMENT

ACI believes that this release from liability should apply regardless of whether the third party has a security or guarantee on file with the customs authorities.

3.36

Storage facilities in cargo terminals (including special cargo)

ACI POLICY

3.36.1 Cargo terminals should be designed to facilitate the safe, efficient and secure processing and storage of cargo, including clearance by customs authorities.

ACI RECOMMENDED PRACTICE / COMMENT

3.36.1a All goods stored in cargo terminals should be protected against unauthorized access at all times, by means of video surveillance and access-card activated doors.

3.36.1b Wherever practicable, airports should be equipped with appropriate storage facilities for special cargo, including valuable goods, perishable shipments, live animals, human remains and dangerous goods, including radioactive materials.

3.37

Cargo handling times and other indicators of performance and quality of service

ACI POLICY

3.37.1 Airports should monitor the performance of the cargo operations on its ramp areas.

ACI RECOMMENDED PRACTICE / COMMENT

Airports attach great importance to minimizing ground handling and dwell times for air cargo. In order to monitor an airport's performance and gain knowledge of where corrective action may be necessary, spot checks or periodical surveys should be carried out by recording the times of: on-block-time of inbound aircraft; shipment check-in completed (time when goods and documents are available for action by consignee or his agent); entry procedure initiated (application for clearance filed with the customs and other control authorities); customs clearance completed; and collection of goods.

ACI recommends more extensive use of INTACT ULD to reduce handling time, prevent damage, eliminate the incidence of missing cargo and contribute to airport capacity.

Airports should take a leading role in measuring and monitoring the performance of airport cargo facilities and services. The methodology for assessing performance and service quality is not well defined or developed, and no generally accepted standards exist, but fast processing (average dwell time), high space utilization (e.g. tonnes of cargo handled per year per square meter of warehouse space) and low manpower requirements (e.g. tonnes of cargo handled per year per employee) should be among the criteria used for assessing economic and efficient cargo handling. The applicable standards for each criterion will vary, depending on the type of operation and cargo. Research is also needed to establish cargo status monitoring systems, using information technology.

3.38 Cargo facility planning

ACI POLICY

3.38.1 Airports should ensure that the future needs of air cargo are adequately covered in facility development plans.

ACI RECOMMENDED PRACTICE / COMMENT

Airport operators should review the present and future demand for facilities and the space available at their airport prior to deciding how to accommodate operators' needs within their facility planning, possibly including cargo operations with new large aircraft.

Airport operators may find it advantageous to develop common use facilities for joint use by several airlines or through one neutral handling agent, in view of the diminishing space available at many airports for the construction of exclusive-use facilities. Common use facilities permit greater building, ramp and handling area utilization, and may provide better economic justification for the construction of advanced handling systems, etc. However, existing principles of competition must be adhered to.

3.39 Mail handling

ACI POLICY

3.39.1 Airports should facilitate, where warranted and as far is practicable, the safe, efficient and secure processing and storage of mail consignments.

ACI RECOMMENDED PRACTICE / COMMENT

ACI recommends that airport operators should be flexible with regard to the needs of postal authorities, other mail operators and airlines for warehouse space and systems, and controlled access to apron areas for the handling of mail.

4

Airport automation and e-business

(cf. ICAO Annex 9, 12th Edition (2005) – Facilitation)

4.1 General

ACI POLICY

4.1.1 The role of the airport operator should be to promote and implement standardized shared solutions and systems. Centralized management of these systems by the airport operator is suggested wherever possible.

ACI RECOMMENDED PRACTICE / COMMENT

Automation via the application of Information and Communications Technologies (ICT) plays a vital role in the operation of airports and the facilitation of traffic, passenger processing and security. The role of the airport operator is to coordinate development of automated systems. In some cases, airport operators are also involved in or responsible for their provision and operation.

4.1.1a The airport operator should also ensure that the necessary communications infrastructure is provided, and that all necessary systems and procedures can be installed and operated. It is essential that information exchange between all airport users is coordinated and agreed upon, taking into account the technological solutions and standards best suited to each particular situation, and in accordance with international standards.

4.2

Information and communications technology infrastructure at airports

ACI POLICY

4.2.1 The usage of shared or common-use information and communications systems can contribute to the optimum use of airport capacity and enhanced levels of airport and airline service to passengers.

4.2.2 All data processing and communications activities and requirements at an airport which affect airport management and operations should be coordinated, and/or approved by, the airport operator.

ACI RECOMMENDED PRACTICE / COMMENT

4.2.1a Centralized management of this ICT infrastructure by the airport operator is suggested.

It is the accepted role of the suppliers of major physical facilities at an airport to equip those facilities with various utilities (such as electricity, air-conditioning, heating) to be shared by the tenants of the facility. In light of technological developments, cost factors and the dynamic nature of airport tenants, it is becoming increasingly worthwhile and feasible to equip facilities with information and data communications systems provided by the airport operator. This approach enables current and future users of the facility to use information systems and communicate with local and/or remote computers and databases in a coordinated manner, without having to re-invest in new infrastructure when there is a change of tenants or changes in airport infrastructure. Such systems should be based on international standards and recommendations.

4.2.2a The development and installation of shared use data communications systems at an airport should be the result of careful coordination between all parties involved (users, suppliers, operators) in order to achieve the most cost effective and operationally desirable technical and functional solutions for all airport users and customers.

4.2.2b Airport operators should develop standards and install a general multi-purpose infrastructure, in order to avoid heterogeneous and incompatible operations and information. These systems should include, but may not be limited to: shared cabling infrastructure, local area networks (LANs), wide area networks (WANs), wireless technologies, radio-frequency-based technologies and cellular technologies.

4.2.2c In environments where a shared common-use ICT infrastructure is installed, it is necessary to have adequate IT security procedures and operational contingency planning.

The airport and airline operating environments are, by nature, very sensitive to problems affecting their operational efficiency. In addition, the fact that various different partners will utilize ICT infrastructure, often simultaneously, requires that careful attention be paid to IT security - both physical and logical - as well as general ICT operational availability.

4.2.2d ICT Service Level Agreements should include standardized, agreed-upon security aspects, as well as the establishment of a contingency plan which takes into consideration airline and airport operational levels under different contingency situations.

4.3

Systems and procedures - common use environment

ACI POLICY

4.3.1 In order to ensure optimal, economic use of airport physical infrastructure, the airport operator should promote and prioritize the use of common-use systems.

ACI RECOMMENDED PRACTICE / COMMENT

4.3.1a The airport operator should discourage the use of dedicated systems, wherever clearly defined benefits can be achieved from applying economies of scale for the provider and users of the facilities, thus avoiding unnecessary and costly capital investments in airport and ICT infrastructure.

Common use systems provide various benefits for both the airport and airline, including standardized, cost-efficient operations, and optimization of airport infrastructure. These aspects produce economies of scale for the provider and user of the facilities, avoiding unnecessary and costly capital investments in airport infrastructure. Economies of scale can be realized by applying a "one to many" vs. "one to one" approach, where it is more cost effective to distribute the initial investment and recurring costs amongst the users of ICT infrastructure as opposed to investing in and maintaining different ICT solutions.

4.3.1b The airport operator should take a leading role in promoting these systems to the airline community.

Given the different options - both technical and contractual, for the commissioning of these systems, it is important that the airport operator and the airline user community work in partnership to define the most adequate options for a particular airport environment - in line with IATA and ICAO standards.

In any airport terminal, dedicated equipment for departure control systems can waste scarce resources and confuse passengers. In such circumstances, the installation of shared use equipment for the terminal may have conclusive advantages.

4.3.1c Where possible, automated local departure control systems should be utilized in order to ensure a reliable, auditable record of passenger check-in and aircraft boarding.

4.3.1d The airport operator should promote the use of these systems for each airline, and provide an airport-based system for those companies which do not have access to such systems, especially in cases where Common Use Terminal Equipment (CUTE) is in use.

Common Use Passenger Processing Systems (CUPPS) Recommended Practice (ACI RP 500A07), developed as the evolution of IATA's CUTE RP 1797, with ACI, ATA and IATA support, will provide airports the benefits included in its six foundational principles:

- 1. Applications should run on any platform*
- 2. CUPPS facilitates rather than mandates business processes*
- 3. The CUPPS platform will have minimum, defined functionality*
- 4. Affordability*
- 5. Serviceability*
- 6. Predictability*
- 7.*

(more information on www.cupps.aero and www.aci.aero)

4.4

Common use wireless infrastructure at airports

ACI POLICY

4.4.1 Airport Operators are concerned about the proliferation of independent Wireless Local Area Networks (WLANs) on the airport premises.

ACI RECOMMENDED PRACTICE / COMMENT

In order to avoid potential security and control deficiencies, duplication of investment, disturbance and interference, a "shared-use" approach is essential.

4.4.1a Airport operators should coordinate and manage the development and implementation of an integrated WLAN service infrastructure.

Companies operating at airports are increasingly demanding the installation of WLAN (also referred to as Wi-Fi) Access Points to optimize their activities. At the same time, airlines are increasingly demanding wireless Ground-to-Air and Gate-to-Cockpit applications. Furthermore, Mobile telephony Operators and Wireless Internet Service Providers (WISPs) are demanding the installation of WLAN Access Points at airports. WLAN services offer many current and potentially promising new applications for passengers and airport staff. The implementation of WLAN infrastructure allows different service providers to deliver this service to potential users.

However, Airport Operators are concerned about the proliferation of independent WLAN Installations on the airport premises. There is a risk of security and control deficiencies, potential operational disturbance and radio frequency interference as well as duplication of investment. Thus the airport community should adopt a 'common-use' policy enabling a Service Provider or tenant to offer services on the WLAN infrastructure at the airport.

4.4.1b Due to the security and operational requirements of the WLAN, the airport operator should undertake the professional management (itself or via a third party) of this wireless environment/infrastructure that ultimately services both the tenants and public.

4.4.1c When developing WLAN services, a 'neutral' infrastructure should be implemented. There must be clear rules how the services can be offered and installed. A multi-service provider environment should be realized via a common portal for public access.

Airport, Airlines and other tenants are increasingly using WLANs in support of critical operational requirements for services such as baggage reconciliation and mobile check-in. It is important that these critical functions are given priority access over less critical services such as public Internet access. Therefore the design, implementation, and management of the WLAN must consider multiple aspects of performance and security.

4.4.1d The airport operator, which has final responsibility for the consistency of different services, must coordinate and manage the wireless environment professionally. This can be achieved through a single infrastructure or a combination of different infrastructures of which the technical installation is evaluated and coordinated by the airport.

4.4.1e Airport operators should constantly evaluate competing technologies, so as to maintain low costs and increase capacity in line with demand, for the benefit of all tenants, concessionaires and others.

4.5 Cargo automation

ACI POLICY

4.5.1 Automation plays a vital role in the facilitation of international cargo.

ACI RECOMMENDED PRACTICE / COMMENT

4.5.1a The role of the airport operator should be to promote and implement standardized shared solutions.

In view of the proliferation of computer-based systems for the handling of cargo at airports, the objective of airports should be the usage of standardized common systems. However, it is recognized that this may not be achievable in the foreseeable future. ACI also advocates, where applicable, the development of integrated port systems covering all modes of transport at an airport, including sea, road and rail.

There is an acknowledged need for standardization in the development of new systems. For example, RFID standards for cargo information must be defined at three levels, consolidated unit cargo, home airway bill and house airway bill, in order to facilitate automation for cargo movement. There is also a need to establish interface requirements between existing and planned systems to facilitate information and traffic flows between a port system; its local cargo community, clearance authorities where appropriate, and ultimately systems at other ports. The role of the airport operator in this respect should be to coordinate system development, even if the airport operator does not itself provide the cargo system.

A successful system enables ports, as well as other parties, to achieve a more efficient use of physical capacity by virtue of a faster throughput of international cargo. This makes air cargo more competitive in comparison with other modes and leads to the deferment of capital intensive alternatives.

4.6 Flight information displays systems (FIDS)

ACI POLICY

4.6.1 Flight information display systems should be carefully tailored to the airport environment, and should be as simple and clear as possible.

ACI RECOMMENDED PRACTICE / COMMENT

4.6.1a Centralized management of these systems by the airport operator is suggested.

ACI generally favours standardization, but believes that the form, degree of detail and location of displays should depend to a great extent on the architectural design of the terminal and on the centralization (or decentralization) of particular operations.

4.6.1b It is important to standardize the presentation, i.e. the order of the various items of information, and to adopt and use standard abbreviations, designations and remarks. The systems should be as simple, clear and direct as possible. If a centralized computer system exists, airlines should not operate their own system without the airport's approval.

4.6.1c All the parties involved in the operation of flights, including airlines and air traffic control authorities, should provide on a timely and rapidly updated basis the relevant information on flights, including last-minute changes, to the authority responsible for the operation of the flight information display system. This authority should be responsible for establishing the list of data elements needed for this operation and the means of communicating them.

4.6.1d The displayed flight numbers should be preceded by the airline prefix codes as they appear on airline timetables, passenger tickets and boarding passes. In airport terminals used by only one airline, the airline prefix can be omitted. Where the national language is not written in the roman alphabet, provision should be made for repetition of the display information in the relevant characters and/or numerals. It is recommended to display flight information in English as well as the national language.

4.6.1e The use of flashing signals and colours should be kept to a minimum. Flashing signals should be restricted to the "remarks" column, and to information which requires passenger action. Slow scrolling (upwards/downwards or sideways) should be done in such a way that the passenger notices that more information is available. Different colours should be used logically, to highlight data elements which are important for passenger action (e.g. gate/time). A maximum of 4 to 5 colours should be used.

4.7

Flight information display systems — display of code-share information

ACI POLICY

4.7.1 ACI recommends, for reasons of clarity, a reference level for the display of code-share flight information.

ACI RECOMMENDED PRACTICE / COMMENT

4.7.1a Airport FIDS systems may use various methods of displaying code-share flights. ACI recommends that, wherever possible, the preferred method should be to display the code-share flight numbers successively on a single line of a display monitor, or at most two lines.

Such flight numbers can be alternated, wiped or scrolled, and each flight number should be displayed for sufficient time to be clearly legible to all passengers. Given also that the "cycle time" should not be excessive, a maximum of two or three flight numbers per display line is suggested. An alternative method which may be found useful is to reserve a separate monitor for the display of code share flights only - with reference in the main display.

4.8

Machine readable travel documents (MRTDs)

ACI POLICY

4.8.1 ACI supports the worldwide issuance of MRTDs, in accordance with ICAO/ISO standards, as recommended in ICAO Annex 9.

ACI RECOMMENDED PRACTICE / COMMENT

In order to automate and expedite the clearance of passengers through government controls with increased security, an ICAO group (on which ACI is represented) has adopted and continues to improve worldwide standards for machine readable passports, machine readable visas, machine readable official travel documents and machine readable crew member certificates, including biometric ID.

It also urges the installation of automated document readers linked to border control systems at international airports, thus enhancing security and obtaining the intended efficiency of automated controls. Even States which do not issue MRTDs can benefit from installing automated arrival controls for the inspection of the MRTDs of foreigners.

4.9

Advance passenger information (API)

ACI POLICY

4.9.1 ACI supports advance passenger information collection

ACI RECOMMENDED PRACTICE / COMMENT

ACI supports the collection, prior to passenger departure, of internationally standardized API data (in accordance with World Customs Organization/ IATA guidelines, as amended by ICAO) for transmission to the destination government authorities, in order to expedite the clearance of passengers by immigration and customs authorities.

4.9.1a The use of document-reading devices to capture the information in the machine readable travel document should be encouraged. The collection of this data should take place in a manner which avoids extra handling or passenger processing time or the creation of congestion at the airport.

4.10 RFID usage at airports

ACI POLICY

4.10.1 Airport operators should coordinate and manage the development and implementation of RFID detection infrastructures as well as provide common use infrastructures for the means of baggage handling and position measuring on the apron.

ACI RECOMMENDED PRACTICE / COMMENT

Airport Operators are concerned about the possible proliferation of independent RFID detection equipment, infrastructures and related networks (RFID installations) on the airport premises. In order to avoid potential security deficiencies, duplication of investment and interference, a "shared-use" approach is essential.

Companies operating at airports are increasingly demanding the installation of RFID detection equipment and infrastructure to optimize their activities. Examples of such systems are position detection of ground handling equipment (e.g. multilateration) as well as the identification of cargo containers and loads. Airlines, together with the airport and ground handling agents, are also moving to use standard RFID enabled bag tags for the baggage handling process from check in to loading. RFID based services offer many current and potentially promising new applications for all stakeholders.

However, airport operators are concerned about the proliferation of independent RFID installations on the airport premises and especially the apron. There is a risk of duplication of investment, of over-usage of valuable space through the proliferation of detection equipment in frequently used areas as well as the potential for operational disturbance through radio frequency interference or security infringement. Thus the airport community should adopt a 'shared-use' policy enabling a stakeholder to offer services on the basis of a single infrastructure provided by the airport.

4.10.1a Due to the operational requirements of infrastructures such as, network and equipment used by the detection devices, the airport operator needs to be responsible for the professional management of such infrastructures. The airport should also establish a procedure to approve and register all RFID based applications.

4.10.1b The parties concerned should consider if the airport should take the role of installing and maintaining a common use infrastructure, if required, including the detection equipment as well as the use of standardized RFID tags that interact with the detection devices. There should be clear rules as to how the services can be offered and installed.

The airport operator, which has final responsibility for the consistency of different services, must coordinate and, if necessary, manage the RFID environment professionally. This can be achieved through the implementation of a single infrastructure or a combination of multiple infrastructures of which the technical installation is evaluated and coordinated by the airport. In addition, airport operators should constantly evaluate competing technologies, so as to maintain low costs and increase capacity in line with demand, for the benefit of all tenants, concessionaires and others.

Airports request that stakeholders wishing to install RFID systems consult and coordinate with the relevant airports services on the costs and design of the systems to be implemented. Costs should either be entirely borne by the stakeholders or on a cost sharing model between the various project stakeholders. For example the airports are within their rights to charge a rental fee to the tenants on usage of airport facilities and infrastructure.

4.11 Biometric identification systems

ACI POLICY

4.11.1 ACI supports the worldwide use of ICAO's internationally standardized globally interoperable biometric system for MRTDs which uses face as the globally interoperable biometric for machine assisted identity confirmation with an MRTD.

ACI RECOMMENDED PRACTICE / COMMENT

ACI recognizes the benefits of using biometrics to confirm personal identity for border control, airport passenger processing and airport access control, to improve security, efficiency and facilitation. Identity can be verified using a biometric of the individual against reference data securely recorded on an MRTD, a "smart card", or stored in a database. These methods, together with APP/API, can enhance security, speed up clearance and alleviate congestion and delays at airports.

An optional secondary biometric, either fingerprint or iris, may be added to the MRTD. ICAO's standard MRTD and biometric specifications are published in ICAO Doc 9303.

The ICAO 'toolbox' of highly developed standardized specifications for MRTDs, in particular those for ID; credit card size cards; biometrics; and their use in confirming a person's identity and facilitating inspection. The specifications also offer significant advantages for other uses at airports such as airport access control, ID cards for airport personnel and crew members, passenger processing, and lookout checking systems. The specifications also cover security features, data presentation and recording formats and standardized placement of technologies for data storage on documents which encourage standardization and global interoperability.

4.11.1a ACI encourages ICAO and governments to continue to promote the use of the ICAO globally interoperable biometric for MRTDs and the use of the globally interoperable data formats for the three biometrics specified in the ICAO Standard (face, fingerprint, and iris). Also important, is the promotion of the installation of ICAO compliant document reading systems and biometric capture and authentication systems at airport border control points to assist in identifying the rightful holders of MRTDs. Data privacy concerns will need to be taken into account in implementing biometric identification systems.

4.12 Baggage handling automation

ACI POLICY

4.12.1 The "licence plate" concept should be normalized by airlines, airports and handling agents.

ACI RECOMMENDED PRACTICE / COMMENT

The "licence plate" concept includes a coded baggage-tag (bar code and/or RFID) with a unique number, which can be read automatically and transmitted electronically by means of standardized messages between airlines, airports and handling agents. It enables these parties to provide higher quality baggage sorting and handling services. Passenger/Baggage reconciliation applications (reference ICAO Annex 17) can also use the same data elements.

This concept is being put into practice by airlines, airports and handling agents, with major consequences for investment by airports in baggage systems. It is essential that any changes in the concept and definition of the licence plate are compatible with equipment at airports, so that airport investment is not wasted.

4.12.1a Improvement of the quality and efficiency of baggage processing will bring considerable benefits for passengers, airlines and airports. The system should be adopted by as many airlines, airports and handling agents as possible within the shortest possible time-scale.

4.13

Electronic identification standards for cargo

ACI POLICY

4.13.1 The early introduction of an international electronic identification standard for cargo consignments, such as bar coding or radio frequency identification, is necessary to enhance harmonization, facilitate shipment and tracing, and so benefit all parties involved in the handling of cargo.

ACI RECOMMENDED PRACTICE / COMMENT

4.14

Airport-airline data processing and electronic data interchange (EDI)

ACI POLICY

4.14.1 All systems which use aircraft movement information as well as security systems should obtain the same information from common, verifiable data sources, obtaining real-time updates as changes occur.

ACI RECOMMENDED PRACTICE / COMMENT

In order to maximize the benefit from new technology, the airport community has a need to share certain data relating to flights, including flight schedules and updates, airport facility allocation (such as aircraft stands, gates, check-in desks and baggage belts), including real-time updates, aircraft details, actual times, delays and aircraft load data. Most such exchanges are currently implemented by technically obsolete means. In order to ensure optimal airport resource allocation, cover all security requirements in and around the airport environment, ensure orderly airport passenger flows and customer service, it is essential to establish safe and reliable information exchange between the partners.

To meet the ever-growing requirements for on-time, real-time information, it is important that airport operators take a leading role and guide concentrated efforts to ensure the maximum level of integration between all informational and operational systems, ensuring data integrity and delivery within the airport environment. In this respect, Airport Operational Data Bases (AODBs) provide a powerful and practical solution for the centralization of airport information and should be considered as a single repository for all aircraft movement information - planned and real-time.

A standard format for such messages exists, complying as far as possible with UN/EDIFACT definitions. Other standards are also being introduced, such as XML and other web based techniques.

Aviation Information Data Exchange (AIDX) Interface Recommended Practice (provisionally accorded ACI RP 501A09) describes the interface specifications and standards by which airlines, airports and other participants can exchange information within or between their systems, using defined XML schemas. It will ensure that the Data Receiver obtains the correct flight information in a timely and reliable manner.

(more information on www.cupps.aero and www.aci.aero)

4.15 Airline designators

ACI POLICY

4.15.1 ACI recommends that airports ensure that their information systems can display both 3-letter and 2-letter airline designators, pending a total airline conversion to 3-letter designators.

ACI RECOMMENDED PRACTICE / COMMENT

4.15.1a If airports are requested to display 2-character numeric/alpha or alpha/numeric designators before total conversion to 3-letter designators, and if this requires additional airport investment, ACI recommends that airports should suppress either the entire designator, or just the numeric element.

4.16 Electronic ticketing — implications for airports

ACI POLICY

4.16.1 ACI supports the implementation of methods which do not require passengers using electronic tickets to have additional printed material (besides their normal identity documents) in order to be checked-in.

ACI RECOMMENDED PRACTICE / COMMENT

Electronic ticketing promises tremendous savings for the airline industry, by reducing ticket costs, speeding up accounting and billing processes, and reducing the distribution and handling costs involved with paper tickets. Electronic ticketing is considered likely to become the leading way to develop an advanced system that combines all the advantages of Internet booking, self service check-in and smart cards.

Besides electronic ticketing, passenger processes are not always completely paperless. Most airlines need to issue a boarding pass to track the passenger in their airport-related processes. Also, due to government regulations, for international flights, a paper boarding card or ticket may still be needed to pass outbound immigration controls. Additionally, international conventions on liability require that various paper notices be provided to passengers.

ACI supports measures to eliminate requirements for printed notices in the future. For example, before passing immigration or buying tax free goods, passengers need to prove that they have booked or are checked-in on a flight departing that day. By having access to some data elements of electronic travel documents, immigration and retail staff could verify automatically whether a person is a valid passenger or not.

4.17 Self-service kiosks

ACI POLICY

4.17.1 ACI recommends a “common use” approach in developing and implementing self service check-in kiosk infrastructure.

ACI RECOMMENDED PRACTICE / COMMENT

Airport operators are concerned about the unnecessary proliferation of airline-dedicated self-service kiosks, with the attendant floor space requirements. To make optimum use of available floor space and kiosk capacity, and to offer passengers greater ease of use and airlines an integrated self-service environment, a “common use” approach is essential in developing and implementing self service check-in kiosk infrastructure.

4.17.1a Airport operators should promote and recommend that airlines develop and implement off-site check in solutions for their customers. This type of implementation should allow airport operators to save floor space and optimize passenger processing.

Nevertheless airlines are increasingly demanding the installation of self service kiosks at airports. Self service kiosks can reduce the time required to process passengers, increase passenger choice, and assist airlines and airport operators in dealing with increasing passenger volumes, for passengers with or without an electronic ticket. The implementation of self service check-in kiosks allows airports and airlines to increase their check-in capacity without investing in new facilities.

However, airport operators are concerned about any unnecessary proliferation of kiosks, with their attendant floor space requirements, especially in already congested check-in areas. It is therefore recommended that a “common use” policy is adopted by the airport community when a self service check-in kiosk infrastructure is implemented, either with CUSS, web check-in, or other emerging technologies.

4.17.1b When developing and implementing a self service kiosk infrastructure which allows airport community partners, like airport operators, airlines and concessionaires, to offer their services to passengers, certain combinations of applications at one type of kiosk or at one location should be avoided.

4.17.1c Applications which are used to provide essential services to passengers and to improve logistic-related processes in a common use environment (e.g. at check in), should not be combined with applications which are not time critical from an operational point of view (maps, shopping and general information, ticketing).

4.17.1d ACI recommends that suppliers of CUSS kiosks should design and certificate their products according to CUSS Technical standards maintained by IATA on behalf of the Industry. This will ensure both interoperability and a competitive market for the procurement of CUSS kiosks, with a choice of suppliers.

4.18 Security systems

ACI POLICY

4.18.1 Airports should give careful consideration to the security requirements when planning and implementing new facilities or enhancements to existing facilities. Where appropriate, airports should use technology to optimize the effectiveness of security measures.

ACI RECOMMENDED PRACTICE / COMMENT

4.18.1a Airport operators should take a leading role in the implementation of automated security systems, in close collaboration with the entities responsible for airport security. The implementation of CCTV, access control, fire detection and building management systems in particular must take into account security requirements and any infrastructure modifications which are being planned or executed so as to optimize airport security.

In addition, planning should take into consideration the interactivity and integration of security and other airport systems and how the different security systems complement each other, in order to provide a maximum level of security. As an example, baggage screening technology can be complemented by CCTV technology to provide a process that covers security requirements for both content screening and handling of baggage in the airport environment. Close coordination between IT and physical security is necessary. The integration of different security systems gives the security authorities a powerful tool for monitoring the airport environment centrally, capturing events, setting thresholds to highlight contingency situations (alarms) and providing centralized recording of all events according to criteria pre-defined by the security authorities.

4.18.1b Wherever possible, the implementation of these systems should be centrally coordinated and managed to maximize economies of scale, ensure adhesion to airport and/or government-defined requirements and policies, as well as to ensure a uniform level of service.

4.18.1c Even if the airport operator is not be the provider or not involved in the coordination or implementation of the systems, its role should take into account complementary needs such as flight and resource allocation information as well as communications infrastructure which may be required.

4.19 Airport web sites

ACI POLICY

4.19.1 Airport should harness the power of the internet and the use of airport websites as a means to communicate with the travelling public.

ACI RECOMMENDED PRACTICE / COMMENT

Airport web sites provide an attractive and practical solution to the diffusion of airport information. The natural attraction of flight information generates a high level of visits by local and international users alike.

4.19.1a Airport operators should consider web site content in such a manner that the airport environment is adequately represented, working closely with all airport partners to ensure consistent, up-to-date and compatible content for informational as well as commercial purposes, taking into account both local and international site visitors.

4.19.1b As for other airport-specific systems, the airport operator should take a leading role or direct responsibility for the definition, development and management of the airport web site, applying technological standards and ensuring the highest level of security.

4.20 Dot.aero top level domain

ACI POLICY

4.20.1 Airports are encouraged to register and use the ".aero" domain.

ACI RECOMMENDED PRACTICE / COMMENT

4.20.1a The ".aero" top level domain name for the aviation industry (community) provides a mechanism for distinguishing aviation from other Web domains. The implementation process for airport operators has been coordinated with SITA, which has been assigned by ICANN to establish and manage the .aero TLD.

4.21 E-business

ACI POLICY

4.21.1 Airport operators should recognize the significance of Electronic or e-Business, which encompasses all forms of business activity which can be facilitated by electronic information technology. It includes Electronic Commerce (e-Commerce) and Collaborative Commerce (c-Commerce).

ACI RECOMMENDED PRACTICE / COMMENT

E-Business is reshaping the economy and changing the very notion of business itself. Airport operators should recognize and promote the transformational power of e-Business and accelerate adoption of e-Business principles. E-Business (or Electronic Business) encompasses all forms of business activity, which can be facilitated by electronic information technologies, including marketing, supply chain management, research, product positioning and on-line customer support.

E-Commerce is a sub-set of e-Business, using electronic information technologies to conduct business transactions. C-Commerce or Collaborative Commerce is another sub-set of e-Business, which can enhance the productivity of teams using web-based document management, workflow and project productivity tools.

Many airports have public Internet sites, but most are first-generation sites, i.e.: not e-Commerce-enabled, involving simple one-way communications from the airport to the general public. By gaining transactional capability, a website can provide sufficient income to become a profit centre rather than a cost centre. It can also provide responses to queries from airport customers and stakeholders. Additionally, many airports have an internal Intranet, a closed site with access given only to airport employees, used to improve internal collaboration, including management of important documents and critical workflow. Airports also use Extranets, to provide an e-Commerce work-space for airport trading partners. The synthesis of Internet, Intranet and Extranet is sometimes known as an Enterprise Portal.

Business to Consumer (B2C)

Airports are not only using the e-Business model to improve transactional efficiencies, but also to enhance and/or exploit new business opportunities. Examples include offering travel services, currency exchange, retail shopping, car parking, and other premier services. Airports should allocate resources to facilitating e-Business development, and will benefit by better protecting existing revenues, and by tapping into new income streams.

Business to Business (B2B)

Some major airports are embracing new B2B models. Airports now can move core commercial transactions on-line, to streamline procurement and selling processes. Airports can develop their own applications or capitalize on efficient, collaborative e-Business "hubs", which organize complex business processes between multiple internal and external participants into a virtual commerce community or marketplace.

4.21.1a Business process owners should play a key role in the development of an airport's e-Business strategy and the management of technology. The Business Units of the airport, rather than IT professionals, should manage the content of the web-site and exercise dynamic control of the information included.

4.22 Risks of e-business

ACI POLICY

4.22.1 Airports should understand the opportunities and risks associated with e-business.

ACI RECOMMENDED PRACTICE / COMMENT

There are two kinds of risks associated with e-Business, those of becoming involved, and those of not becoming involved. Airports have many concerns about e-Business, e.g. costs, choice of partners, quality of content, ease of use, loss of neutrality in choice of partners/services advertised, privacy, cannibalization, unrelentingly changing content of Web sites. However, the barriers of entry for e-Commerce (particularly B2C) are sufficiently low that unless airports consider more aggressive e-Business initiatives, their revenue has a high probability of being eroded by other competitors.

In e-Business, it is easy to emulate the business model of another business. Airports need to become increasingly aware of the products, services and data that they own which are unique and cannot be readily replaced by a substitute. In e-Business a consumer is never more than a few clicks away from a competitor's products or services. The airport may not be given the opportunity to know, let alone bargain with a customer. The consumer will "belong" to someone else, e.g. an airline, travel portal, or other third party.

In e-Business, the threat of new entrants is great. The barriers to entry are minimal, and nimble solution providers can quickly develop a portal which can substitute for products and services typically provided by an airport operator. Examples in the B2C space may include duty free shopping, transportation and accommodation.

4.23 Opportunities of e-business

ACI POLICY

4.23.1 The opportunities created by e-Business should be carefully assessed. Airport operators are in a unique position to act as natural and trusted "aggregators" for travellers and businesses active in the air travel industry.

ACI RECOMMENDED PRACTICE / COMMENT

Airport operators have a unique brand which is difficult for a competitor to substitute. Airports are natural aggregators of products and services, and this position can be leveraged to protect and grow commercial opportunities. Airports already provide a strong value proposition to the traveller, have strong branding, provide products, services and information to travellers, and act as coordinators of multi-modal transportation hubs. These attributes apply equally to the on-line environment.

Although the physical dwell time of passengers at airports is being reduced, the Web can extend their virtual dwell time back to when they book tickets, possibly months in advance of travel. An effective e-Business presence allows airports to intercept travellers earlier, while they research their travel plans. An e-Business presence allows the airport to act as a single point of contact for the traveller, thus facilitating transport, accommodation and other related travel requirements.

E-Business provides opportunities to unite the industry and reduce the often extensive bargaining power of suppliers. By creation of e-Commerce hubs, members of the airport industry can negotiate arrangements collectively, in each member's best interest. E-Procurement can improve time-efficiency and reduce purchasing costs.

Another opportunity is to create a comprehensive collaborative environment which can store, share and manage critical information for the benefit of the whole airport industry. This involves creating an on-line community for publishing and exchanging industry news, information and events. Any airport member can freely and easily provide input to the community. This could evolve into a form of Knowledge Management for the airport industry.

4.24

Technical requirements and criteria for success in e-business

ACI POLICY

4.24.1 An airport e-Business platform needs to be efficient, satisfying and easy to use. Acknowledged design principles should be followed.

ACI RECOMMENDED PRACTICE / COMMENT

Airports face new challenges in the growing e-Commerce market, especially in designing a high-performance, mission-critical and fault-tolerant system. Once an e-Commerce site is launched, keeping it up and running is a high priority. A system architect must address these aspects: the platform chosen to build the system should be available, reliable and scalable. The platform also should provide an ease of implementation, inter-operability, and a short turn-around time to market. The front-end and back-end systems and the networking infrastructure must work together effectively, to provide high performance and reliable web-sites to the online customers.

An airport's e-Business web-site needs to be efficient, satisfying and easy to use, so that the visitor does not want to leave or cannot wait to come back. The following are some brief design principles: keep the interface simple and straightforward; place the user in control and provide pro-active assistance; build on users' prior knowledge; make actions predictable and reversible; create a feeling of progress and achievement; and allow users to customize the interface to their needs and desires. If the web-site provides transactional capability, it also needs to be secure for payment purposes.

A certain minimum of internal competence is required to manage e-Business activities. If the creation of an e-Business model has been out-sourced initially, airports should ensure that they retain sufficient information from external consultants to build up their own knowledge, competence and judgment capabilities.

5

Airport planning, design, operation and safety

*(cf. ICAO Annex 14 Volume I - Aerodrome Design and Operations, 5th Edition, 2009,
Volume II - Heliports, 3rd Edition, 2009,
Manual on Certification of Aerodromes, Doc. 9774, 1st Edition, 2001,
Safety Management Manual, Doc 9859, 2nd Edition, 2009
Global Air Traffic Management Operational Concept, Doc 9854)*

5.1 Certification of airports

ICAO Annex 14, as from amendment 4, (applicable from November 2001) requires an international airport to be certified for safety purposes. ACI supports the general principles put forward by ICAO, although it believes that standards (basic requirements) should be distinguished from recommended practices and only standards should be part of the certification process.

ACI POLICY

5.1.1 The Recommended Practices (as distinct from Standards) for airport design in Annex 14 should NOT be made mandatory for certification purposes.

5.1.2 Safety regulations should be clear, practical, efficient and similar worldwide: safety measures related to design and operations should be implemented where they give the highest benefit, and with international consistency. Regulations should not be written in an excessively prescriptive manner, but allow aerodrome operators the flexibility to mitigate risk in different ways.

5.1.3 Airports which have been certificated under pre-existing arrangements should not be arbitrarily refused certificates, or required to comply with new standards without due notice or a transition period, taking into account any site-specific impediments at the airport.

ACI RECOMMENDED PRACTICE / COMMENT

In 2001, ICAO introduced new requirements in Annex 14 to ensure universal safety certification of airports. As of 27 November 2003, States are required to certify aerodromes used for international operations, while, for all other aerodromes open to public use, this is a recommendation (Recommended Practice 1.3.2). As of 24 November 2005, all certified aerodrome operators must implement a Safety Management System (SMS) acceptable to their State. These international requirements form the basis for national regulations and their enforcement. ACI supports ICAO's general principles of safety regulation for airports, and welcomes ICAO's programme of Safety Audits of States. All States should adopt Regulations for Aerodrome Certification and for Safety Management Systems, based on the ICAO model. ACI believes that ICAO needs to further develop its documents (including the Manual on Certification of Aerodromes), to take account of aerodrome operators' comments, including the points below.

5.1.1a ICAO Recommended Practices should not be made mandatory by national regulators, when aeronautical studies show that the target level of safety can be achieved by other means (see policy 5.2 on target level of safety),

5.1.1b National regulations for the operational use of safety management systems (see section 5.24), should be based on international "best practice" and experience.

5.1.2a National safety regulatory bodies (Civil Aviation Authorities) should be clearly separated from airport management to ensure independence.

5.1.2b There should be no excessive fees or unnecessary administrative requirements for certification.

5.1.2c ACI requests safety regulators to consult aerodrome operators on all matters relating to regulatory policy.

5.1.3a When introducing new certification requirements for airports, Civil Aviation Authorities should recognize the difference between existing and new airports and engage in dialogue with aerodrome operators.

5.1.3b ACI members are encouraged to undertake relevant research and analysis to determine those safety initiatives which should be given priority. Any such exercise of common interest should in turn be brought to the attention of ACI and other members, to improve the relevant regulations and disseminate "best practice".

Hazards may be mitigated through appropriate means of compliance, which must be agreed between the airport and its regulator.

5.2 "Target Level of Safety approach to design"

To enhance airport safety while ensuring optimum use of resources, airport design regulations should be developed to meet a generally accepted Target Level of Safety (TLS), as has been done for many years in the field of aircraft certification. However, it is important to note that the airport safety TLS should focus on preventing accidents, fatalities, injuries or significant damage.

ACI POLICY

5.2.1 Design standards should be based on hazard analysis, taking into account the probability and severity of all foreseeable and known hazards.

5.2.2 ICAO Annex 14 should reflect the TLS approach to design.

ACI RECOMMENDED PRACTICE / COMMENT

Present ICAO SARPs for airports are generally not designed to reflect specific risk levels. Their safety rationale is apparently not consistent across all airport facilities and systems. There are no clear links between airport design and aircraft operations in present regulations to satisfy the need for consistent and optimized safety improvement measures.

Recent analysis uses criteria such as those of the Joint Aviation Authorities (JAA) or the Federal Aviation Administration (FAA) (e.g. JAR/FAR-OPS) to evaluate risk. If the focus is kept on preventing accidents, fatalities, injuries or significant damage, the basic TLS should be as low as reasonably practicable (ALARP). Methods of calculating risk should be further developed, and should be referred to in regulations. This may be done by establishing criteria for carrying out aeronautical studies. (Risk = frequency x severity (Ref. ACI Airside Safety Handbook))

5.2.2a Safety Management Systems and "best practices" must not only be regarded as complementary to regulations, but be integrated in methods to calculate risk.

5.2.2b The TLS approach to design should be reflected in the following elements of ICAO Annex 14: the reference code, runway strips, separation criteria (RWY/TWY and TWY/TWY), RESAs and obstacle limitation surfaces. Revisions and supplements must also encompass New Large Aircraft (ICAO Aerodrome Reference Code Letter F).

The Target Level of Safety (TLS) is the maximum level of risk considered acceptable, in the context of a particular activity or activities, of a given incident or a type of incident occurring. The severity of a potential incident should be borne in mind when considering the TLS. The TLS can be compared with the anticipated future risk of particular events or circumstances occurring, based on calculation. Safety regulations should be based on calculated risk (systematic anticipation of future risk). However, it is impossible to guarantee that a particular risk level will not be exceeded in practice.

5.3 New large aircraft (NLA)

ACI POLICY

5.3.1 The full implications of the introduction of new large aircraft need to be carefully studied.

5.3.2 ACI considers that NLA should not be planned to exceed Code F wingspan and wheel span, and in particular, wingspans of over 80 metres may prove unacceptable.

5.3.3 Aircraft manufacturers should design all future aircraft in a manner which does not provide greater stress to pavements than current aircraft.

5.3.4 The cost of modifications to airports to accommodate new aircraft types should be recovered from airport users.

ACI RECOMMENDED PRACTICE / COMMENT

As from the third edition of Annex 14, published in 1999, ICAO introduced Aerodrome Reference Code Letter F, covering a wingspan of up to 80 metres, and an outer main gear wheel span of up to 16 metres. Code F aircraft (e.g. Airbus A380) will in most cases have to use existing Code E airports, many of which have experienced difficulty in meeting Code F specifications in full.

5.3.1a Whilst ACI would encourage all airports to meet Code F specifications wherever possible, in the case of the Airbus A380, aeronautical studies have shown that meeting the full Code F specifications is not essential for safety. For example, the A380's certification process has demonstrated its ability to operate safely on 45 metre-wide runways.

Operational requirements for NLAs and their justification are contained in ICAO Circular 301 on Accommodating NLAs at existing airports

For the A380 in particular, recommendations are contained in the Common Agreement Document of the Airbus A380 Compatibility Group

5.3.2a Pending further studies of the necessary modifications to airport infrastructure and their costs, the total capacity gains and losses, and the principles of cost recovery, manufacturers and airlines should take full account of other dimensions and characteristics of proposed NLA which may be critical for some airports, including length, fin height, wheelbase, outer main gear wheel span, outer engine span, jet blast, weight, aircraft classification number (ACN), seating capacity and ground power and handling requirements..

As regards any further NLA, airlines and aircraft manufacturers must involve aerodrome operators in their studies.

5.3.4a In accordance with the ICAO principle that "users shall ultimately bear their full and fair share of the cost of providing the airport" (see ICAO Document 9082), ACI believes this principle should also apply to the introduction of NLA.

5.4 Width of runways and runway shoulders

ACI POLICY

5.4.1 The runway width recommended by ICAO for Code Letter E is 45 metres, and for Code Letter F is 60 metres. ACI believes that existing 45 metre runways may also safely handle Code F operations, provided that adequate shoulder width and aircraft guidance systems are provided.

ACI RECOMMENDED PRACTICE / COMMENT

The main factors affecting minimum runway width requirements and the need for shoulders are: the type and handling requirements of aircraft, such as cross-wind limitations; landing gear track; the overhang of engines outside the main-wheel bogies; and the prevention of ingestion of loose material by engines. ICAO Annex 14 recommends a runway width of 45 metres, where the Aerodrome Reference Code Letter is C, D or E (for reference field length over 1,800 metres).

5.4.1a As regards Aerodrome Reference Code Letter F, for existing runways, ACI considers that a 45 metre width is acceptable provided that adequate shoulders are provided and the airport has installed adequate aircraft guidance systems, such as centreline lighting.

5.4.1b For new runways designed for Code Letter F operations, ACI supports a width of 60 metres.

5.4.1c Runway shoulders should be provided to minimize damage to aircraft running off the runway, to prevent ingestion of loose soil particles, to avoid erosion of the soil by jet engine blast, and to allow easy access by rescue and fire-fighting vehicles. The type and width of these shoulders, if any, should be determined by the characteristics of the most demanding aircraft serving the airport, the type of soil, local drainage and vegetation, and the requirements of rescue and fire-fighting vehicles. The total width of runway pavement including shoulders should not be required to exceed 60 metres for Code E, or 75 metres for Code F.

5.4.1d For Code Letter F operations at existing airports, an inner and outer shoulder may be provided, adding up to a total paved width of 75 metres. The function of the inner shoulder (extending from 45 to 60 metres width) is to provide sufficient strength for the occasional passage of an aircraft, while that of the outer shoulder is limited to avoiding ingestion damage to outer engines, or erosion damage to the shoulder from jet blast.

5.5

Width of taxiways, taxiway shoulders and taxiway bridges

ACI POLICY

5.5.1 The taxiway width recommended by ICAO for Code Letter E is 23 metres, and Code Letter F is 25 metres. ACI believes that existing 23 metre taxiways may also safely handle Code F operations, on the condition that adequate aircraft guidance systems such as centreline lighting are provided.

5.5.2 The width of a taxiway bridge should not be less than that of the pavement plus shoulder width of the connecting taxiways (exclusive of shoulder provided for FOD-protection)

ACI RECOMMENDED PRACTICE / COMMENT

5.5.1a For Code Letter F, ACI believes that a taxiway width of 23 metres is acceptable for operations on existing taxiways, provided that the taxiway is equipped with centreline lighting or other adequate guidance systems.

5.5.1b For new Code F taxiways, ACI supports a minimum width of 25 metres.

5.5.1c Taxiway fillets may be required on curves and at junctions for long wheelbase aircraft. The design of fillets should be studied to ensure that the additional paved area provides sufficient wheel-to-edge clearance, when aircraft are steered with the cockpit over the centreline.

5.5.1d Taxiway shoulders with appropriate bearing strength and surface characteristics may have to be provided. The total paved width on straight sections of taxiways should not be required to exceed 44 metres for Code E, or 60 meters for Code F.

5.5.2a The width of a taxiway bridge should if possible extend to the strip width of the connecting taxiway. Jet Blast protection and other forms of shielding (e.g. for security purposes) should be considered, based on the use and service characteristics of the area under the bridge. Attention should be paid to the possible role of the bridge regarding access by rescue and fire fighting vehicles, and the width required for potential deployment of emergency chutes on the bridge.

5.6

Runway End Safety Areas (RESAs)

ACI POLICY

5.6.1 A runway end safety area should be provided to mitigate the consequences of overruns and undershoots, which may result from a combination of adverse operational factors.

5.6.2 At airports where adequate distance and suitable terrain is available, a greater length of RESA than the ICAO Standard should be provided.

ACI RECOMMENDED PRACTICE / COMMENT

5.6.1a ACI endorses the Standard in ICAO Annex 14 that a runway end safety area (RESA) must extend beyond the end of a runway strip, to a minimum of 90 metres (for code number 3 or 4 runways), which corresponds to a minimum of 150 metres beyond a runway end or stopway.

5.6.2a ACI endorses the recommended practice in Annex 14 that a RESA should extend to a distance of at least 240 metres beyond the runway strip for a code number 3 or 4 runway (i.e. any runway with a reference field length of 1,200 metres or more), which corresponds to a minimum of 300 metres beyond a runway end or stopway.

5.6.2b Where it is not possible to comply with the ICAO recommendation of 240 metres, for space and other development reasons, alternative solutions may include providing an arrestor bed, or other equivalent mitigating measures.

5.7

Visual aids and Advanced Surface Movement Guidance and Control (A-SMGCS) for aircraft operations at airports

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

It is necessary for visual aids installed at airports to be designed in accordance with recognized standard specifications and to have high reliability. The lighting system should include a secondary power supply, in case of failure of the primary supply.

Visual aids need to be supported by careful and effective preventive maintenance and monitoring. They should be designed to achieve effective operation under the worst visibility conditions during which it is intended that an airport will remain operational. Special care should be taken to avoid confusing pilots by the excessive brightness or proliferation of visual cues, especially during night operations at busy airports.

5.7.1 ACI supports efforts to develop and implement Advanced Surface Movement Guidance and Control Systems (A-SMGCS) to provide surveillance, alerting, guidance and control.

5.7.1a A-SMGCS can provide a means to enhance airport capacity while maintaining safety levels and mitigating the possibility of runway incursions

ACI encourages efforts to bring airport capacity during Instrument Meteorological Conditions as close as possible to the capacity achieved during Visual Meteorological Conditions, without prejudice to safety standards.

Satellite and ground-based navigation systems may have the potential to provide high precision taxi guidance under low visibility conditions, when this is necessary.

5.8

Aerodrome emergency planning

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

ICAO Annex 14, Chapter 9, Section 9.1, contains Standards and Recommended Practices covering emergency planning and the testing of plans through periodic exercises. The cooperation of external agencies which play a role in handling emergencies is essential, and these should be involved in training as well as the testing of the system to ensure that the planning is adequate to cope with different types of emergencies.

5.8.1 ACI fully endorses the ICAO requirement to conduct a full-scale emergency exercise at intervals not exceeding two years, with partial exercises in the intervening year and exercises which may involve night-time and poor weather conditions as well as table-top exercises to ensure that any deficiencies have been corrected.

5.8.1a ACI advocates that regular training drills with individual agencies be undertaken several times a year, and that a full-scale exercise embracing the critical elements of the emergency plan be held at intervals not exceeding two years, with the participation of all relevant agencies.

Reference: ACI Handbook on Emergency Procedures

ACI agrees with ICAO Annex 14 that the emergency plan should be commensurate with the airport's traffic

5.9

Airfield pavement surface unevenness and profile measurement

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

The longitudinal profile of a section of airfield pavement greatly affects the "ride quality" experienced by aircraft. The occurrence of long wavelength bumps or dips with relatively small amplitudes cannot easily be detected by ground vehicles; however, aircraft can incur severe dynamic loads, especially at various critical speeds. The repetitive dynamic effect can also be transmitted into the pavement structure, and may reduce pavement life.

ACI supports continued efforts to develop profile measurement techniques. It also supports correlation studies with aircraft dynamics and pavement response.

5.9.1 ACI supports the development of airfield pavement profile measurement techniques.

5.9.1a Periodic profiling can detect conditions which could easily be overlooked when relying exclusively on reports from pilots. This is especially true of surface conditions on parts of the runway which only experience the passage of high-speed aircraft during unusual operations such as rejected take-offs.
See ICAO Annex 14 Guidance material

5.10

Effects of new development on aircraft operations (including aerodynamic, optical, electromagnetic, and obstruction effects)

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

Severe wind turbulence on, or in the vicinity of, the runway threshold may endanger landing or departing aircraft. Such turbulence can be caused by terminals, buildings, engine test sites, other facilities or landscape changes in the vicinity of runways. The problem is increasing, due to the enlargement of built-up areas around airports and changes of landscape or terrain due to infrastructure improvements. Hills in the approach paths to runways may also cause turbulence.

ACI also recommends that suitable text be developed and incorporated in ICAO Annex 14 and the ICAO Airport Services Manual.

5.10.1 ACI recommends that the responsible authority should require an evaluation of all proposed new buildings and changes of landscaping which may affect the safety of aircraft operations. The evaluation should be carried out in conjunction with the airport operator and air navigation service providers,

5.10.1a ACI recommends that, in cooperation with the air navigation service provider and civil aviation authority, wind tunnel testing and/or simulation are performed on models of proposed new buildings and changes of landscaping which may affect the safety of aircraft during approach and departure, including for one-engine out operations

In case new construction may cause significant wind shear and turbulence, ACI supports the provision of NOTAM or AIP warnings to aircraft operators and/or implementation of systems to allow real-time information to pilots. Such systems may include Automatic Wind Shear Warning Systems

5.10.2 ILS and radar reflection problems should also be borne in mind, as well as reflection of sunlight.

5.10.2a Proposed developments may have other effects on aircraft operations, ranging from optical (e.g. reflection of sunlight from windows of buildings), to electromagnetic (e.g. reflections or other interference with radio transmissions, radar signals or other Nav aids such as ILS). The authority responsible for ground based navigation aids should model all such effects to determine their impact on the safety of aircraft operations.

5.10.3 Obstacle limitation surfaces should be protected. including from obstruction by new developments and activities inside or outside the airport boundary.

5.10.3a Aerodrome operators should also be consulted on all developmental planning applications, both inside and outside the airport boundary, which have the potential to conflict with the ICAO obstacle limitation surfaces (OLS), with particular attention to take-off climb and approach, transitional and inner horizontal surfaces for each runway. If planned developments or activities including temporary construction cranes would infringe these latter surfaces, permission should be refused by the responsible authority.

5.11 Increase of airport and airspace capacity

ACI POLICY

5.11.1

ACI believes that technical and operational means should be developed to improve airport and airspace capacity at existing facilities, as well as the building of new capacity

ACI supports closer cooperation with ANSPs to develop better models, tools and procedures to determine capacity

ACI considers that a useful measure of the performance of airports or airspace management can be derived from a careful assessment of delay information.

5.11.2 ACI supports the further development and the introduction of ICAO's CNS/ATM (Communications, Navigation and Surveillance/Air Traffic Management) systems concept*, as well as the continued use of the Instrument Landing System where essential, until its replacement by new precision approach and landing systems.

5.11.3 ACI supports further research programmes and activities aimed at mitigating the effect of wake vortices, in order to reduce aircraft separations while maintaining safety.

5.11.4 To minimize runway occupancy times by aircraft, the runway and taxiway infrastructure should be optimized, including studies of elements such as the optimal location of rapid exit and access taxiways and their lighting and marking.

ACI RECOMMENDED PRACTICE / COMMENT

The capacity of a given airport and runway system is determined by many factors, such as airfield layout, the air traffic control system and its management, the type and mix of aircraft, traffic peaking, weather conditions, environmental considerations, etc. Some of these factors can be accurately assessed, while others are site specific, very difficult to quantify and subject to rapid change. In order to make realistic judgments and comparisons with regard to capacity, there would have to be universal agreement on the specific details of each factor and, since there are so many variables, it is doubtful whether any uniform operational measurement of potential capacity could be developed.

Measurement and analysis of runway occupancy and pilot performance may also be appropriate. Runway occupancy should be defined as in 5.11.4 below.

Improvements in system capacity cannot be achieved by any one sector acting in isolation. The air transport industry must work in close cooperation with governments, regulatory agencies and air navigation service providers to achieve the full capacity potential of existing facilities and to enhance them, where possible, through the adoption of new technologies and enhancements to procedures which permit higher movement rates in a safe operational manner. In addition, major initiatives will be necessary to develop new facilities required for airports to meet growing demand. New technologies and practices which provide the means of increasing capacity should be assessed and implemented whenever there is proven economic benefit.

5.11.2a ACI strongly supports accelerated deployment of the Global Navigation Satellite System (GNSS), including related Augmentation Systems and procedures to support precision approach and landing capability, and thereby optimize system capacity. *ACI supports equipage of aircraft with Multi-Mode Receivers (MMR) to enable aircraft so equipped to operate flexibly during the transition period from existing precision approach and landing systems to new systems, regardless of the system deployed at a particular airport to support all-weather operations.*

ACI supports the development of standard criteria for certifying procedures using GNSS, as already developed for RNP/ RNAV. These may enable more flexibility in SIDS and STARS, including curved approaches, which may assist in noise mitigation

5.11.4a ACI encourages the appropriate location along runways of rapid exit and access taxiways whose design complies with ICAO specifications and whose layout does not increase the risk of runway incursions.

Runway occupancy time is an increasingly important factor in determining airport capacity. Another important factor in minimizing runway occupancy time is the maintenance of adequate runway surface friction characteristics (see also sections 5.18 and 5.19).

**(ICAO has published, in 2005, the Global Air Transport Management Operational Concept (Doc. 9854), which guides the implementation of CNS/ATM technology by providing a description of how the emerging and future ATM system should operate.)*

5.12

Simultaneous operations on parallel, near-parallel or intersecting instrument runways

To improve airport and airspace capacity, simultaneous operations on parallel or near-parallel instrument runways should be considered as a means of optimizing the use of new or existing parallel runways.

ACI POLICY

5.12.1 ACI supports all efforts to achieve simultaneous operations on parallel or near-parallel instrument runways under visual and instrument meteorological conditions which are consistent with operational safety and efficiency.

5.12.2 At airports with intersecting runways, to enhance capacity Simultaneous Intersecting Runway Operations (SIRO) may be allowed following appropriate hazard analysis and risk assessment

ACI RECOMMENDED PRACTICE / COMMENT

ACI encourages the ICAO work programme to evaluate the use of GNSS for the purpose of supporting simultaneous operations on close-spaced parallel instrument runways.

5.12.2a SIRO should be performed only when the necessary safety measures are effective, for instance as proposed in the ICAO European Air Navigation Plan (EANP). SIRO may include both take-offs (intersection take-offs, multiple line-ups) and landings (Land and Hold Short – LAHSO)

5.13

Aerodrome Safety Management Systems and safety auditing

Aerodromes should establish a Safety Management System encompassing an audit process covering all safety-critical operations at the aerodrome, encompassing those conducted by other companies.

ACI POLICY

5.13.1 ACI recommends that aerodrome operators should move away from the simple monitoring of compliance with rules and regulations to the development of a safety management system.

5.13.2 Self monitoring and control should be the basic principle underlying all safety of work routines at aerodromes. All personnel should be aware of and adhere to the safety standards for their work set by management.

5.13.3 Safety audits should be carried out regularly to ensure that international as well as national and local procedures and standards are fully observed.

ACI RECOMMENDED PRACTICE / COMMENT

Such systems have been implemented in many industries, and consist of a cyclical process, including: setting a written safety policy (this should identify hazards and risks); organizing and training staff, establishing a safety culture and communication systems; planning and setting standards, including the elimination or effective control of risks; and performance management, including active monitoring of compliance and reactive monitoring of incidents.

5.13.3a Audits, in cooperation with local management and personnel, are an effective method of checking the actual level of safety and detecting flaws or hazards. The establishment of a regular audit process is a core element of a Safety Management System.

** For additional information refer to: ACI Airside Safety Handbook, ACI Aerodrome Bird Hazard Prevention and Wildlife Management Handbook and ACI Apron Markings and Signs Handbook.*

5.14

Measuring and expressing runway surface friction

ACI POLICY

5.14.1 Runway surface friction readings should be measured on a uniform scale, and there should be consistency between the scale used for maintenance testing and that used for operational testing.

5.14.2 ACI supports the Joint Winter Runway Friction Measurement Programme, as well as a new ICAO task which aim to gather data on which a review of the consistency of operational testing results could be based.

ACI RECOMMENDED PRACTICE / COMMENT

It is theoretically possible to convert the output from each recognized friction measuring device to a common scale, when used for maintenance testing of a dry surface using self-wetting. It is highly desirable that agreement be reached on the use of this common scale when measuring runway friction. It is also desirable that information on the reproducibility of surface friction measurements (i.e. the maximum difference to be expected between measurements by different devices of the same type on an identical surface) should be available. Further work in this area is essential if the global consistency of reported friction readings is to be significantly improved.

5.14.2a The use of continuous friction measuring devices for operational testing on runways contaminated by snow or ice is accepted by ICAO, but the guidance provided for the interpretation of the readings is in need of review.

5.14.2b Reports from pilots of landing aircraft are a valuable source of information.

5.15

Means of improving friction coefficients on wet runways

ACI POLICY

5.15.1 The effectiveness of different means of improving friction coefficients of wet runway surfaces should be assessed. ACI advocates adequate surface drainage, as well as removing rubber and contaminants from the runway surface on a regular basis. Any methods used for this purpose must meet local and international requirements.

ACI RECOMMENDED PRACTICE / COMMENT

5.15.1a The surface drainage of a runway is one of the most important factors in optimizing the coefficient of friction between tyres and wet pavement. Improvements in drainage processes (e.g. grooving) should therefore be sought. Other means of improving the braking action of landing aircraft, such as the use of tyres with appropriate profiles, could be further developed. ACI recommends that further studies be carried out on the design of runway surfaces, including grooving, pavement composition, surface texturing and the effect of tyre and landing gear design on runway braking action.

5.15.1b Rubber and contaminants must be removed from runway surfaces on a regular basis. ACI suggests that aerodrome operators endeavour to use practices that are both effective in restoring friction coefficients and minimize environmental impacts.

5.16

Pavement anti-icing and aircraft de-icing operations

ACI POLICY

5.16.1 The greatest care should be exercised in the use of chemicals for anti-icing operations on paved surfaces and the de-icing of aircraft.

5.16.2 The decision to deice an aircraft is entirely the responsibility of the aircraft operator, working within whatever rules or guidance may be set out by the appropriate regulatory authorities.

ACI RECOMMENDED PRACTICE / COMMENT

5.16.1a ACI encourages the use of effective anti-icing and de-icing chemicals that are environmentally acceptable and non-hazardous, as well as non-destructive to pavement (especially asphalt flexible pavement surfaces) and aircraft.

5.16.2a Aircraft de-icing facilities should be located so as to minimize taxiing time to departure runways and ensure that holdover times for de-icing fluids are not exceeded. These locations may be on the apron or on specifically designed de-icing pads which may be located on aprons, taxiways or at the runway end. Their operational use, as determined by the aerodrome operator, will depend on a number of variables, in particular the runway and taxiway layout and the mode in which the aerodrome is currently operating. If there are no such facilities, procedures should be developed to take proper account of safety and environmental concerns.

5.16.2b Certain aircraft de-icing substances may have a tendency to make paved surfaces slippery and special arrangements may need to be made to ensure that this does not cause a safety hazard.

5.17

Runway Inspections

The major purpose of inspecting the runway is to check for debris such as aircraft parts and fluids and any loose material, as well as wildlife remains. Other purposes include to check lighting, markings and signs, and check for obstacles.

ACI POLICY

5.17.1 ACI supports the ICAO recommendation of a minimum frequency of every six hours during operating periods, in particular at dawn, morning, afternoon and dusk.

5.17.2 The method employed for such inspections should be carefully considered, in terms of number of staff, their training and the vehicles used.

5.17.3 Special attention should be paid when construction works are in progress at the aerodrome and immediate checks should be made when pilots advise sightings of debris, etc.

ACI RECOMMENDED PRACTICE / COMMENT

5.17.1a Each aerodrome operator should establish a programme for carrying out regular runway inspections in line with local conditions and both national and international regulatory requirements. The aerodrome operator should periodically review the frequency of such inspections, based on the aerodrome's on-going risk assessment process.

5.17.1b The frequency of inspections should be based on the scale of operations and the local risk assessment. The condition, age and maintenance levels of runways and the likelihood of deterioration of their surface will also affect the frequency of inspections.

5.17.2a Other important factors are the effective planning of inspections with ATC, and communications with ATC before, during and after inspections are carried out. Inspections and communications should be recorded for corrective action and audit purposes.

5.18

Foreign Object Damage prevention measures on the airside

ACI POLICY

5.18.1 In order to protect aircraft against Foreign Object Damage (FOD), and in particular the risk of ingestion of debris by aircraft engines, aerodrome operators should ensure that active measures are taken to keep airside areas clear of loose objects and debris.

5.18.2 A written programme should be established, setting out the practices and procedures required. Regular consultation should take place with the Airside Safety Committee, to obtain widespread support for FOD prevention measures.

5.18.3 It is recommended to collect and measure the amount of FOD found on the airside at regular intervals.

ACI RECOMMENDED PRACTICE / COMMENT

5.18.1a The aerodrome operator should carry out frequent cleaning of the entire airside area, using techniques such as sweeping (magnetic and broom), vacuuming and washing.

5.18.1b Appropriately designed FOD bins should be made available.

5.18.1c High power engine ground runs should only be carried out in designated areas.

5.18.1d Special consideration should be given to operation of aircraft and maintenance of the airside under adverse weather conditions such as high winds and snow and ice.

5.18.1e Consideration may be given to installing an automatic FOD detection system for the runway. Where such a system is installed, it should be integrated into the airport's FOD management programme.

5.18.2a A programme should be established by the aerodrome operator, setting out preventive measures to be taken by all users to eliminate or minimize FOD. This should include the practices required of aerodrome users such as airlines, handling agents, aerodrome tenants, and contractors, to minimize FOD.

5.18.2b Contractors should be expected to sign a contract clause taking responsibility for FOD containment.

5.18.3a Collected FOD should be examined to ascertain its origin, and appropriate feedback given to the Airside Safety Committee for appropriate improvement measures. Records should be kept of all incidents where damage has occurred due to FOD, and the follow-up measures taken by all parties concerned.

5.19

Wildlife management at airports - operational aspects

Despite dissuasive environmental measures (which are covered in the following chapter on airports and the environment), some elements of wildlife hazards to the safety of aviation are likely to remain. Aerodrome operators will therefore need to take operational steps to manage these hazards in a humane and responsible manner.

ACI POLICY

5.19.1 Aerodrome operators must remain permanently vigilant to assess the risk in real time and take the necessary measures immediately. It is crucial either to implement a bird hazard prevention and wildlife management unit, or specially trained and equipped staff to manage wildlife on the aerodrome.

ACI RECOMMENDED PRACTICE / COMMENT

5.19.1a The bird hazard prevention and wildlife management unit, as well as other staff members, should constantly monitor the risk through site observation and should take appropriate measures to scare away species that constitute a risk and implement more long term pro-active measures which prevent such hazardous situations from re-occurring.

5.19.1b Aerodromes should equip themselves with bird dispersal devices, such as pyrotechnics, lasers, dogs, birds of prey, acoustic and visual systems.

In general, the greatest threat to aviation related to wildlife is caused by birds, although the risks related to mammals should not be underestimated. Birds may be resident or migratory, which might also have a major impact on the risk level and the ways in which it must be addressed. These consist of cartridges and shell crackers, as well as audio systems to produce noise and bird distress calls. In certain cases, the use of natural predators, e.g. falcons or border collie dogs (perceived by birds as natural predators) may prove to be an interesting option. Sometimes it may be necessary to remove certain species, although in most cases this method has shown its limitations, as the birds that are targeted may be replaced by an even greater number of other species. Such removal of birds can only take place with the prior knowledge and approval of governmental nature conservation and environmental authorities, where applicable. Bird-scaring methods must be used in an appropriate manner to avoid habituation, which considerably restricts the long-term effectiveness of such methods.

5.19.1c To be effective, aerodrome operators may find expert opinion, including a baseline audit, useful if making significant changes to bird hazard prevention procedures, which should be adapted to the specific situation of each aerodrome.

Wildlife control operatives have to be trained and motivated. Technological developments should be monitored for continuous adaptation of the active measures used. The environmental monitoring of the site should, in turn, provide the basis for the adaptation or introduction of new passive long term ecological measures.

5.19.1d Regular audits need to be carried out to monitor the effectiveness of the active and passive wildlife management methods adopted at aerodromes.

The compilation of precise statistics of wildlife observations and wildlife strikes should allow for effective analysis of the data and help improve wildlife hazard management. The collected data should be included in international statistics, such as the ICAO IBIS system.

5.19.1e Natural environments and agricultural activities in the vicinity of the aerodrome should also be monitored by the aerodrome staff responsible for bird hazard prevention and wildlife management.

Depending on the region, aerodrome operators may have the possibility to participate and be consulted in the management of areas within a predefined radius and in the vicinity of the airfield. It is generally agreed that a radius of 13 km / 8 miles should be considered for constant monitoring purposes.

5.19.1f The aerodrome site should be fenced to limit the possibility of mammals on the airfield as much as possible. Where necessary, fences should be extended underground, sloped outward to prevent mammals from digging underneath the fence and be strong and high enough so that animals cannot break through or jump over it.

5.20 Apron safety

ACI POLICY

5.20.1 All apron operations require absolute attention to safety. ACI supports the establishment of an Apron Safety Committee to coordinate campaigns, workshops, seminars and meetings to enhance apron safety.

ACI RECOMMENDED PRACTICE / COMMENT

5.20.1a ACI recommends the Apron Safety Committee (under the umbrella of an overall Safety Committee for the airport) should coordinate initiatives such as local apron safety campaigns and workshops, highlighting awareness among all stakeholders, who should also be made aware that accidents and the consequent financial losses can be prevented.

5.20.1b ACI has targeted and will contact a number of aerodrome operators to participate in the annual ACI Apron Safety Survey.

5.21 Airside safety training

ACI POLICY

5.21.1 Before receiving an airside security pass, all staff having access to the airside, including contractors, should receive appropriate safety training, which highlights the hazards associated with that area.

ACI RECOMMENDED PRACTICE / COMMENT

5.21.1a Recurrent training on airside safety should be an established element of an airport's airside safety management program for all airside operators – ground handlers, caterers, fuellers, etc.

5.21.1b For those contractors and visitors who have a need and authorization from the aerodrome operator to access the airside, the requirement for safety training may be waived if they are escorted by appropriately trained personnel.

5.22 Airside vehicle operations

ACI POLICY

5.22.1 Aerodrome operators should publish comprehensive rules and introduce a permit system governing all vehicles and mobile equipment to be operated airside, and their drivers.

ACI RECOMMENDED PRACTICE / COMMENT

5.22.1a Aerodrome operators should publish comprehensive rules and regulations governing the driving and operation of all vehicles and mobile equipment on the airside. They should also establish a system for monitoring airside driving and enforcing regulations, including a range of penalties for more serious or repeated infringements, while favouring to the extent possible voluntary, non-punitive reporting.

5.22.1b All vehicles should display an Airside Vehicle Permit (AVP). The aerodrome operator should ensure through an audit process that vehicles are safe for intended use and regularly maintained.

5.22.1c All staff who are required to drive vehicles or operate equipment airside should be trained and when qualified issued with an Airside Driving Permit (ADP).

Note: unless there is a legal requirement to grant an exemption to certain operators, the above also applies to police and security forces, the military, civil aviation authority staff, rescue and firefighting personnel, air traffic controllers or other staff. Non-qualified vehicle operators are only allowed to drive airside if they are under escort by an ADP permit holder, or when given a temporary exemption by the aerodrome operator, subject to satisfactory segregation measures, which meet safety standards. Specific training for specialist equipment must be provided by the employer.

5.22.1d All airside drivers should obtain a standard ADP, however those required to operate on the manoeuvring area should undertake additional specific training including RT as appropriate. A system should be established for the training and qualification of drivers. At many airports, the aerodrome operator has delegated training and testing for drivers on the aprons to airlines and handling agents. However, the aerodrome operator should issue all ADPs, and should periodically audit or check the training and testing systems of the companies.

5.22.1e Drivers should be required to prove medical fitness to their employer, particularly with regard to eyesight (including colour perception) and hearing.

5.22.1f The employer of any person having a need and a right to drive airside should obtain and maintain an insurance policy and provide the aerodrome operator with a certificate of insurance. The aerodrome operator should establish the minimum coverage of any such policy. Failure to obtain or to maintain the insurance policy may result in the cancellation of the employer's ADPs. Alternatively, the Airport Operator may take out generic insurance cover, and charge the cost back to companies operating on the airside.

5.23

Runway Incursions, Excursions and Confusion

There have been many serious incidents and accidents on runways at airports worldwide. Runway *incursions*, defined by ICAO as: "any occurrence at an aerodrome involving the incorrect presence of an aircraft, person or vehicle on the protected area of a surface designated for the landing and take-off of aircraft", have been of particular concern. More recently, the risks of runway *excursions* and runway *confusion* (wrong runway operations) have been highlighted.

ACI is participating in the Runway Safety Initiative (RSI), an industry group chaired by the Flight Safety Foundation, which is working on prevention and mitigation measures related to runway incursions, excursions and confusion at aerodromes. Within this framework, ACI has submitted the following definition of a runway excursion: "Any occurrence at an aerodrome of an aircraft leaving the surface designated for landing or take-off at an incorrect or unauthorized position".

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

5.23.1 Aerodrome operators, ATC and authorities and all other parties involved should do all in their power to eliminate the risk of runway incursions, excursions and confusion.

5.23.1a Runway incursions, excursions and confusion have the potential to be very hazardous events and therefore aerodrome operators, airlines, ATC providers and all other parties involved should work together to raise awareness and do all that is practicable, within their areas of responsibility, to ensure that such incidents do not occur. The causes of any incidents or accidents, which take place despite all precautions, should be carefully analysed for their potential to reoccur, and appropriate measures taken to prevent this.

5.23.2 Preventive measures should include signs, markings lighting, use of standard ATC phraseology, the concept of "one runway, one frequency, one language", and training for airside drivers, especially at night and in low visibility conditions.

5.23.2a Aerodrome operators should ensure the provision of appropriate signs, markings and lighting (as defined by ICAO and national authorities) to demarcate and protect the entry points to all runways for use in all weather conditions for which the aerodrome is certified (e.g. day, night, reduced visibility).

5.23.2b Aerodrome operators / ATC should ensure that a common radio frequency is used by all aircraft and vehicles operating on or adjacent to each runway.

5.23.2c ICAO Aviation English phraseology should always be used for ATC/pilot dialogue, even where English is not the local language. All manoeuvring area users, including RFF, technical and operations staff, should be trained in the use of ICAO Aviation English.

5.23.2d All drivers operating on the manoeuvring area should be trained appropriately and be aware of the meaning of all airside signs, markings and lighting. Specific training for operating at night and in low visibility conditions should be given.

5.23.2e Consideration may be given to installing A-SMGCS systems for aircraft guidance, and systems for precise surveillance of aircraft and vehicles on the airfield (e.g. multilateration). Consideration may also be given to installing position tracking devices and moving map displays in all vehicles used on the manoeuvring area.

5.23.3 Mitigation measures such as frangibility requirements should also be introduced.

5.23.3a ACI supports ICAO recommendations on frangibility requirements for visual and non-visual aids. However, signs must have sufficient strength to avoid damage by jet blast.

5.23.3b Any proposals which necessitate the replacement of existing installations should be shown to be cost effective and result in an increase in the overall level of safety.

5.24 Radio frequency spectrum protection

ACI POLICY

5.24.1 The availability of protected Radio frequency spectrum for air navigation systems is extremely important to aerodrome operators, to achieve high levels of capacity and safety.

5.24.2 The necessary frequencies must therefore be safeguarded.

ACI RECOMMENDED PRACTICE / COMMENT

The capacity of systems used for aircraft navigation, together with other technical (aircraft, air route and air traffic control) factors, can be a determinant of the arrival and departure capacity of runways. Major aerodromes are under unrelenting pressure to increase annual passenger and flight movement capacity, while maintaining the highest level of safety and service quality. New areas of radio frequency spectrum have been allocated for CNS/ATM, and these will be of great value to improve navigation, safety and runway capacity under all weather conditions, especially to provide improved precision approach and landing guidance. The necessary frequencies must therefore be safeguarded. Similarly, spectrum reserved for MLS is important to aerodrome operators, where such equipment is installed.

In addition to navigation frequencies, aerodromes have other frequency spectrum protection needs including radio communications for police, fire, medical response, ground handling, airport maintenance and for radar systems used in Automatic FOD Detection Systems and Wildlife Tracking. In addition, a variety of commercial requirements must be catered for.

5.25 Disabled Aircraft Removal

ACI POLICY

5.25.1 The safe and timely removal of a disabled aircraft and rendering the movement area fully operational are critical elements of the airport's operational readiness plan. Especially at a single-runway airport, it is vital to minimize any closure period, for safety, continuity of operations and economic reasons.

ACI RECOMMENDED PRACTICE / COMMENT

5.25.1a ICAO Annexes 9, 13 and 14, as well as the Airport Services Manual, Chapters 5 and 8, provide information pertaining to the removal of a disabled aircraft. ACI has been involved in the drafting of these provisions, and agrees with them. Some significant points are set out below.

5.25.1b The airport operator should establish a plan for the removal of an aircraft, disabled on or adjacent to the movement area, for the airport, and should designate a coordinator to implement the plan, when necessary. The plan should identify key parties, their responsibilities and the lines of communication. In addition, the airport operator should request a copy of the disabled aircraft removal plan from each aircraft operator prior to the latter commencing regular operations at the airport. Good communication between the airport operator and the aircraft operator is essential. The airport operator should maintain and constantly update its database of relevant contacts in aircraft operators' operations centres.

Note: "aircraft operator" is the ICAO terminology for the owner and/or the operator of the aircraft.

5.25.1c The disabled aircraft removal plan should be based on the characteristics of the aircraft that may normally be expected to operate at the airport, or use it as an alternate, and include among other things: a) a list of equipment and personnel on, or in the vicinity of the airport, which would be available for such purpose; and b) arrangements for the rapid receipt of aircraft recovery equipment kits available from other airports. Mutual aid agreements between airports should be considered.

5.25.1d The disabled aircraft must be removed in a timely and efficient manner, taking into account safety and operational requirements (e.g. number of movements, single runway operation and other considerations), subject to authorization by the State accident investigation authorities. If the aircraft operator fails to take responsibility for the removal operation within a suitable time period, the airport operator may take over the responsibility, contract the removal to a third party and pursue cost recovery from the aircraft operator. Written permission or a "hold harmless" document should be sought from the aircraft operator either as part of the operating agreement between the airport operator and the aircraft operator, or at the latest prior to commencing the disabled aircraft removal operation. Failure to obtain such a document should not unnecessarily delay this operation. The airport operator should ensure visual records of the disabled aircraft removal operation are made and kept.

5.25.2 The airport operator, in conjunction with aircraft operators, should - as part of its emergency preparedness training - organize an exercise covering all aspects of disabled aircraft removal.

5.25.2a The airport operator should, as part of the emergency preparedness training cycle, include a disabled aircraft removal partial and/or tabletop exercise. This will provide an excellent training and learning opportunity allowing all participants to exchange information, identify gaps in the different plans and responses and initiate corrective action.

5.25.2b Key parties to the disabled aircraft removal plan are: the airport operator, aircraft operators, ground handlers, State accident investigators, aircraft manufacturers, Customs officers, Dangerous Goods/Hazmat specialists, environmental specialists, Workplace Health and Safety officers, insurance representatives, cargo specialists, ARFF personnel, air traffic controllers, MET info providers, specialized equipment operators, construction crews, security staff, NavAids personnel, planning and engineering staff, contractors and consultants, police having jurisdiction and other interested parties.

5.26 Dangerous goods

ACI POLICY

5.26.1 Airports should facilitate the transportation of properly documented and packed consignments of dangerous goods but should also have appropriate contingency measures in place to handle incidents involving them.

ACI RECOMMENDED PRACTICE / COMMENT

There are sufficient regulatory agencies monitoring the documentation, packing and handling of dangerous goods to make it unnecessary for ACI to produce guidelines in this area. However, ACI believes that there is a need for procedures governing the movement of dangerous goods from an airport operations standpoint, especially for cases where these goods exceed the quantities allowed in UN, ICAO or IATA regulations. For shipments in excess of the quantities specified in these regulations, shippers, handling agents and airlines should notify airport operators officially in order to make appropriate arrangements. Local manuals enumerating contacts within airlines would be advantageous, in case of incidents or accidents.

ACI recognizes the potential hazard created by the carriage of dangerous goods in aircraft. Airport emergency plans should consider the problem created by dangerous goods as defined in ICAO Annex 18 and the Technical Instructions on the Carriage of Dangerous Goods by Air (Doc. 9284). Airports should liaise with airlines and handlers to ensure they are providing adequate facilities and training to deal with the spillage of dangerous substances. Procedures should be developed for dealing with situations in which the presence of dangerous goods is detected by security staff.

6

Airports and the environment

***This section has been completely re-written and re-formatted
by the World Environment Standing Committee.
It serves as a model for how the other chapters of the
ACI Policies and Recommended Practices will evolve in the coming years.*

6.1 Noise

ACI POLICY

6.1.1 Minimize or mitigate the adverse effects of aircraft noise on people.

6.1.2 ACI supports the implementation of ICAO's Balanced Approach (BA).

ACI RECOMMENDED PRACTICE / COMMENT

Noise remains the most clearly identifiable impact on local communities and the environmental issue most likely to mobilize a local community against infrastructure or capacity expansion, giving rise to operational restrictions and constraints.

ICAO aircraft noise certification

The International Civil Aviation Organization (ICAO) was established by the Chicago Convention in 1944. Annex 16 Volume 1 of this document contains standards for the assessment and certification of noise emission levels from an aircraft during take-off and landing. ICAO's noise standards are usually adopted by Member States as regulations. Effectively these standards are ICAO's main instrument for addressing aircraft noise.

There are 3 noise certification assessment locations – landing centreline, take-off centreline and take-off sideline. Noise limits that apply to aircraft are described in Chapters 2, 3 and 4 of Annex 16 Volume 1. In most developed countries Chapter 2 aircraft were banned after 2002, so most aircraft currently flying meet Chapter 3 requirements.

The Chapter 4 limits were approved in 2001 and are now in force for new aircraft/engine combinations certified after 1 January 2006 (and not for those already in production). Chapter 4 requires that the cumulative sum of the noise improvement on the Chapter 3 standards at the 3 measurement points must be at least 10 decibels. There is no requirement for an improvement at all 3 of the measurement points, just a minimum cumulative total of 10.

ICAO's Committee on Aviation Environmental Protection (CAEP) developed the Balanced Approach to Aircraft Noise Management (BA), comprised of four elements:

- 1. Reduction of noise at source;*
- 2. Land use planning;*
- 3. Noise abatement operational procedures; and*
- 4. Operating restrictions.*

The BA document was updated in 2007 to include "people issues" and to incorporate community engagement techniques. While equal weighting should be given to each of its four components, ACI recognizes that the BA stipulates that it should be applied on an airport-by-airport basis, allowing individual airports to apply the most appropriate elements according to local conditions. There are measures for managing aircraft noise that are not fully addressed in the BA and airports may implement many of these initiatives.

6.1.2a Airports should implement the Balanced Approach to Aircraft Noise Management (ICAO Document 9829, updated 2007), placing equal weighting on each of the four components and, as stipulated in the document, implementing it on an airport-by-airport basis. The process can be used to address an existing noise problem or to prevent a noise problem from developing.

Items not fully addressed in the Balanced Approach are also considered here.

6.1.3 Reduction of noise at source is the most effective and lasting way to curtail aircraft noise on a permanent and global scale.

Aircraft noise stringency standards

In the Balanced Approach, "reduction of noise at source" specifically refers to the aircraft noise certification stringency standards contained in Annex 16 Vol. 1. It is the element of the BA over which ICAO has sole standard setting authority, and implementation of this element should underpin the global approach to addressing noise from aviation.

Future traffic growth should be offset by continual improvement in noise reduction technologies; although traffic and fleet projections indicate that this will not be achieved.

6.1.3a Airports should support ACI's efforts at CAEP to ensure that noise stringency remains on the work agenda and standards are regularly updated. This support could involve airports and regional airport associations, especially those in CAEP member States, working with their States' ICAO or CAEP representatives and other government representatives to advocate and indicate their support ACI policies, positions and working papers at ICAO.

6.1.4 Land use planning is an effective tool in minimizing the impact of aircraft noise.

6.1.4a Airports should work with local or regional authorities or government to ensure that only noise compatible land use is developed in areas affected by aircraft noise on land around the airports. Many airports must deal with several levels of government (local or municipal versus regional or state) and multiple jurisdictions (e.g. adjacent cities/counties).

6.1.4b Land use activity incompatible with airport noise includes, but is not limited to, residential, schools, childcare facilities and hospitals.

6.1.4c In many cases, airport noise contours based on average noise levels (such as Leq, Ldn, Lden, NEF or ANEF) are appropriate for determining the level of airport noise impact for land use planning purposes. An extended averaging period (e.g. 3 months or a year) can be used to allow for daily and seasonal variations in the wind and traffic flows. In some cases, it may be appropriate to use the average noise level during specific periods (e.g. night time) or the noise from specific aircraft events (e.g. Lmax, SEL, EPNL) to identify the level of airport noise impact and assess land use compatibility.

6.1.4d Land should be protected from incompatible activity based on the best available projections of future noise levels, taking into account the growth of air traffic activity, the future composition of fleets and new infrastructure such as runways, terminals and taxiways. Traffic projections should be based on a minimum of 30 years and in some cases it would be appropriate to protect land based on airport capacity. If aircraft fleet changes create a reduction in noise contours, but traffic projections indicate that noise levels will return to similar or higher levels, encroachment of incompatible land uses should be avoided, by using calculated noise contours from an appropriate future operational scenario.

6.1.4e In noise-affected areas where there are existing residential and other incompatible activities, land-use planning should be used to prevent the development of new incompatible activities, including any increase in the residential density. Additionally, opportunities for compatible redevelopment should be sought.

6.1.4f The State (or regional/local authority) should be urged to legislate and apply, in close consultation with airport management and airlines, land-use planning around the airport in order to avoid sensitive buildings in the areas, which may become noise impacted.

6.1.4g If local circumstances cannot prevent new residential and other noise sensitive land uses, local authorities should be urged to require that new buildings be built with appropriate sound insulation and ventilation or air-conditioning. Sound insulation should be designed and constructed so that appropriate internal noise levels are achieved.

6.1.5 Sound insulation is part of the solution for residences, classrooms and other noise sensitive buildings affected by aircraft noise.

6.1.6 Noise abatement procedures can be used to help reduce aircraft noise levels.

Graduated schemes

Many planning schemes use a graduated scheme based on projected noise contours. Criteria for Low, Medium and High levels are defined and different restrictions apply. In some New Zealand cities, for example, Low is defined between Ldn 55 and 60 dBA, Medium between Ldn 60 and 65 dBA and High greater than Ldn 65 dBA; all are based on 30 year traffic projections. In High areas, new residential is prohibited and existing residential is subject to the upgrading of sound insulation and ventilation. In Medium areas, new houses are subject to sound insulation and ventilation requirements. In Low areas new residents must be notified of the airport noise situation.

Sound insulation

6.1.5a Sound insulation of existing or new residences and other noise sensitive buildings is designed to improve the internal noise environment for those buildings. Usually only "habitable" rooms such as bedrooms, living rooms, kitchens, dining rooms and studies are targeted. "Non-habitable" rooms such as garages, bathrooms and laundries are not treated.

6.1.5b Typically the major noise intrusion paths include windows/skylights, external doors, roofs/ceilings, and walls. Chimneys and ventilation openings can be noise-flanking paths that require treatment. Sometimes, older buildings do not have fibrous thermal insulation and miss the acoustic benefit that it provides so it should be retrofitted. Lightweight construction of windows, roofs, ceilings and walls may require considerable upgrades. Warped or ill-fitting windows or non-sealing windows (e.g. glass louvers) may need complete replacement.

6.1.5c Sound insulation should be regarded as only a partial solution, as it cannot address the exterior noise environment in residential areas.

6.1.5d Depending on the local climate, alternative ventilation or air conditioning may also be needed because the sound insulation of a building envelope is only beneficial when windows and external doors are closed. In tropical climates, for example, permanently open ventilation openings would need to be closed off.

6.1.5e The cost of sound insulation and ventilation retrofit programmes where appropriate should be passed on to airport users. The cost of sound insulation of new buildings where appropriate should be borne by the owner or developer.

Operational noise abatement procedures

6.1.6a Operational procedures to reduce noise impacts should be developed in close consultation with stakeholders, including aircraft operators, pilots, the air navigation service provider (ANSP) and community representatives.

Measures can include:

- Noise abatement take-off procedures such as limitations of power and flap management
- Noise abatement approach procedures such as continuous descent approaches (CDA)
- Preferential flight track or runway use
- Concentration of flights over non-populated or non-noise sensitive areas
- Dispersion of flights of populated areas or noise sharing
- Flight re-scheduling
- Displaced take-off and landing thresholds
- Restrictions on engine run-ups and/or ground equipment use

6.1.6b Such measures should be backed up by monitoring and enforcement procedures and sanctions should be considered for frequent violations.

6.1.6c Such measures should be evaluated for their impact on fuel consumption and air emissions as part of consideration for implementation.

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

6.1.7 Restricting operations can reduce noise disturbance at sensitive times, usually at night.

Restrictions can apply to the numbers and/or types of aircraft or movements (take-offs or landings), sometimes on specific runways or flight tracks. Sometimes the night time limit may be a noise contour limit, in which case more movements can occur if quieter aircraft are used.

The blanket introduction of curfews at airports is not advocated, but these are sometimes imposed on airport by local authorities or national governments or agreed to on a voluntary basis to secure planning approval for infrastructure development.

Night time operational restrictions including curfews may have adverse effects on other airports possibly in countries or regions. This could lead to under-utilization of infrastructure during day and have financial and social effects far beyond national borders.

6.1.8 Noise monitoring at airports is an important process in understanding and dealing with aircraft noise impacts.

Noise monitoring involves the use of specialized equipment including microphones and computerized/automated logging/recording devices to measure the noise levels from aircraft. The reasons for monitoring vary and can include the following:

- *Determining and tracking aircraft noise levels in residential areas*
- *Compliance monitoring if individual aircraft or overall airport noise is subject to limits*
- *Measuring individual aircraft noise events for the purpose of charging.*

6.1.8a When locating a permanent or temporary monitoring site, consideration should be given to background or ambient noise sources such as roads, trains, weather, animals, and to security issues and access for regular calibration and maintenance.

6.1.8b If a monitor is located too far from the airport, aircraft noise levels may not be sufficiently high above ambient noise conditions to register as clear, separate noise events. Crucially, the system must be able to distinguish between aircraft events and other noise events.

6.1.8c Automated systems should to be linked to radar or other aircraft identification systems to ensure that recorded noise events are aircraft movements and that a sufficient and representative proportion of all movements are captured.

6.1.9 Interaction with communities affected by noise is an important tool in community / airport cohesion.

A wide variety of non-acoustic factors affect community attitude to airport operations and tolerance of noise disturbance. Communication and active engagement between airports and their neighbouring communities is critical to maximizing community tolerance of noise and hence the potential for airport growth.

Communications concerning aircraft noise and traffic movements should be clear, accurate and presented in a format understandable to a person without a technical background. However there should not be a compromise between detail and simplification. If data is simplified for general clarity, the detailed background information should also be made available for those who want to delve deeper.

(More discussion on Communications is contained in Section 6.7)

Complaints

Many airports provide dedicated telephone lines for community complaints. Options include toll free lines, facsimile (fax) lines and Internet (or email) facilities.

- 6.1.9a** A complaint processing system should include the following features:
- Well-advertised complaint services and easy access to telephone lines, web sites etc
 - A systematic process for complaint handling, analysis and internal and external reporting to ensure consistency and transparency
 - A guaranteed standard of response, explanation, acknowledgement, and follow-up
 - Regular quality performance reviews of the complaint handling system.

6.1.9b Complaints can be an indicator of the level of community disturbance due to airport activity, but should not be viewed in isolation. Other methods for gauging community response should include social surveys, public consultation and analysis of media coverage. An airport should not wait for public responses to infrastructure planning applications to determine the level of community annoyance.

6.1.10 Noise metrics provide a valuable tool for communicating with communities.

Alternative/Supplemental noise metric

Land-use planning and some regulatory limits or planning agreements are often based on calculated airport noise contours based on the noise level averaged over an extended period (e.g. Ldn, Lden, NEF or ANEF on a 3 month or 1 year period). The use of a logarithmic or decibel scale averaged over an extended period can mean that important changes in activity (e.g. extended peak traffic periods or flights changing from late night to early morning) can result in only minor changes in noise contours. Experience has shown the communities and individuals often find this information unclear or confusing and dislike being told that certain changes will have "no audible impact" or would be "acoustically imperceptible."

Many airports are finding that noise metrics based on single events are better for communicating with residential communities. Average noise level is increasingly being considered as unhelpful.

Alternative or supplemental noise metrics include the maximum noise level (Lmax), the sound exposure level (SEL) of an event, and the number of events above a certain maximum noise level (N60 or N70). Another metric being used in Australia to demonstrate noise or runway sharing schemes is called Respite, a report of periods where no aircraft are using a specific flight track or airspace.

6.1.10a In order to build trust and partnership with local communities and governments, airports should provide information on noise and flight activity in a clear and readily understandable format.

6.1.10b It can be important to provide both aggregated and detailed information on both noise levels and aircraft movements, allowing individuals to better understand the impacts of past, current and future flight activity. Programmes, such as the Transparent Noise Information Programme (TNIP) developed in Australia, can provide this.

6.1.10c The A-weighted noise level can also fail to account for low frequency noise, which can cause windows and objects to rattle. C-weighted noise levels or low frequency (eg 31 Hertz octave band) may better represent this phenomenon.

6.1.11 ACI Positions on CAEP issues

6.1.11.1 CAEP should review its stringency standards at least every second CAEP cycle (i.e. 6 years).

Standards and certification

In ACI's view the Chapter 4 noise certification requirements of Annex 16 to the Chicago Convention do not reflect state-of-the-art technologies. The vast majority of in-production aircraft already comply with the requirements, most with a considerable margin. The A380 exceeds the Chapter 4 requirements by a cumulative total of approximately 15 decibels.

ACI believes that ICAO standards should lead industry and not merely underpin existing technology.

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

6.1.11.2 Future noise stringency standards should include a minimum improvement at each of the 3 noise certification locations as well as a cumulative sum.

New trans-sonic aircraft and new supersonic transports should meet the noise standards of other new sub-sonic aircraft.

The new prop fan or 'open rotor' powered aircrafts should meet the noise standards of other sub-sonic jet aircrafts.

6.1.11.3 ACI supports a single noise certification for aircraft.

ICAO should adopt appropriate noise standards for vertical / short take-off and landing (V/STOL) aircraft, so that the overall noise level around the airport is not increased.

ICAO Annex 16 should incorporate noise certification standards for future APU installations. International Regulation for noise certification is necessary.

ACI supports a single noise certification for aircraft. The certificate to be carried on board should reflect its noise performance for its maximum certified take-off weight (MTOW). If operators want to change the noise value by limiting weight or by use of different types of engines, the same shall be acceptable. ACI opposes dual or multiple certification.

Marginally compliant chapter 3 aircraft

The noisiest Chapter 3 aircraft make a disproportionate contribution to the noise climate and level of noise disturbance around airports. ACI holds the position that the noisiest Chapter 3 aircraft – those that comply by a cumulative margin of less than 5 dB – should be phased-out as a next step.

Developing nations shall be allowed to renew their fleets at their own pace, provided that renewal plans are made public and duly communicated.

ACI supports all efforts to limit the operation of jet aircraft certified according to Chapter 2. Every effort should be made to ensure that Chapter-2 wide-bodied aircraft or those fitted with high by-pass ratio engines, which are currently exempted from phase out requirements, are reduced in number or heavily restricted after the final cut-off date.

6.1.12 Noise-related user charges can be a strong incentive for airlines to operate quieter fleets.

Many airports have a noise-related component associated with their landing fees. This can offer a financial reward to operators using quieter aircraft and thus an incentive not to operate noisy aircraft. Charging schemes can be based on an aircraft's certificated noise levels or on actual measured aircraft noise levels or some other system. Narita International Airport in Japan has implemented a landing charge scheme based on the ACI Noise Rating Index.

Some airports have penalty schemes designed to ensure that aircraft stay on track and follow preferred noise routes. Penalties are often returned to communities as grants.

6.1.12a A noise related charging scheme should be "revenue neutral" for an airport, in that, the scheme itself should generate no net income for the airport. This can be achieved if the total of the discount or reduction in landing fees for low-noise aircraft is equal to the total of the increased landing fees for higher-noise aircraft over a given period (e.g. a year). Alternatively, all funds raised by a noise charges scheme should be used for addressing or mitigating an airport noise issue such as in a residential sound insulation programme, a community fund, or other noise programme.

ACI Noise Rating Index

ACI considers that the current ICAO noise classification system is not sophisticated enough to adequately describe the different noise levels generated by various Chapter 3 and Chapter 4 certified aircraft.

ACI recommends using the ACI Noise Rating Index (NRI) for a refinement in the classification of aircraft with respect to their noise emissions. Under such a scheme, all aircraft types are rated from A to F based their 3 certified noise levels using two rating criteria. The first is the cumulative reduction from the ICAO Chapter 3 standard, summed over the 3 certified noise levels.

6.1.13 Ground-based noise sources must also be considered for mitigation measures.

The second is the minimum of the 3 individual reductions from the Chapter 3 Standard. In this manner, the NRI recognizes aircraft that provide noise reductions at all 3 ICAO certification locations. At the time of writing (July 2008), the ACI NRI is being updated to take into account the new generation of quieter aircraft.

The ACI Noise Rating Index can be used as a basis for a noise-charging scheme and to assess the fleet make up at a particular airport for the purposes of benchmarking.

Noise sources from ground-based airport activities can include aircraft start-up and taxiing, aircraft engine testing, auxiliary power units, ground service equipment, road traffic and plant such as power and heat or cooling generation stations.

The noise limits that apply to these sources will usually be under the jurisdiction of the local or territorial government and, depending on the land zoning rules, will usually be similar to noise limits that apply to general land-based industrial activities. Noise limits are usually applied at the residential (or other noise sensitive) locations, nearest the airport property.

Depending on the local regulations that apply to an airport, the size of the airport property, the proximity of noise sensitive receiver locations and other local factors, noise mitigation of ground based airport noise sources may include options outlined below.

6.1.13a Engine start-up and taxiing noise can sometimes be screened by bunds, acoustic fences or screens. Such measures will only be beneficial if receiver locations are close (within 50 or 100 m) to the noise source and have a direct line-of-sight to the noise source (that is, not already screened). However, some residents that choose to live near an airport may prefer to have a view of taxiways. At greater distances (>100 m), screening can be ineffective due to atmospheric effects on noise propagation. Open areas of greater than 100 m can benefit from the growth of forest to enhance noise absorption, although a single or several rows of trees will provide virtually no acoustic benefit.

6.1.13b Noise mitigation of in-situ aircraft engine run-up or ground testing usually requires a test enclosure, often U-shaped to allow access. The barrier itself needs to be of solid construction, substantially higher than the aircraft engines and to have its internal surfaces lined with an acoustically absorbent surface (which must be protected from the weather). A U-shaped semi-enclosure will typically provide 10 decibels of noise reduction in 3 directions and virtually none in the direction of the opening.

6.1.13c A fully enclosed building can provide more than a 10-decibel reduction in all directions but must be properly ventilated and acoustically lined. Restriction on engine ground running hours is a simpler solution but often overnight maintenance requires an engine run-up before the first flight in the morning.

6.1.13d Noise from an aircraft's Auxiliary Power Unit (APU) can be mitigated by providing electrical (400Hz) power and pre-conditioned air (PCA) to an aircraft parked at a terminal gate or cargo loading position.

6.1.13e Noise from Ground Service Equipment (GSE), if an issue, can be mitigated by modernizing the equipment. Acoustic barriers may also be appropriate.

6.1.13f Road traffic noise is not usually within the jurisdiction of an airport. Noise reduction (without reducing road traffic itself) can be achieved by noise barriers or bunds, porous road surfaces and roadway realignment.

6.1.13g Noise from electricity and heating/cooling stations and their associated mechanical plant items is best treated at the design stage, rather than as a retrofit to address an existing problem. Specialist acoustical advice may be required and solutions may range from bunds and screening, enclosing a noise source to replacement or modification of old equipment.

6.2 Emissions and local air quality

6.2.1 Prevent, minimize or mitigate the adverse effects of aviation-related air pollution.

The management of Local Air Quality involves two major components

1. Assessment
2. Response

Assessment involves the following steps detailed below:

- Local air quality regulation or standards.
- Measurement or monitoring
- Inventory of emissions sources
- Dispersion modelling

6.2.2 Assessment should be based on local air quality regulation or standards.

Most states have local air quality (LAQ) standards or regulations that apply to air pollutants, including oxides of nitrogen, or NO_x (i.e., NO and NO₂), carbon monoxide (CO), ozone, sulphur oxides (SO₂), particulate matter (PM), and hydrocarbons (HC). In some regions, fine PM (particulate matter) is being cited as having a major impact on public health.

These are usually in the form of acceptable concentration levels of specific pollutant species. Sometimes regulations specify assessment locations (e.g., in residential areas) and assessment periods (e.g., 1-hour or 24-hour averaging periods). States usually set their regulations for the protection of human health and well being. In the absence of national standards, international bodies such as the World Health Organization (WHO), provide guidance material.

For airports that are located in areas that fail to comply with these standards or regulations, LAQ and the management of the relevant emission sources can be a significant environmental issue.

Whether or not the airport is the dominant source of a certain pollutant, the issue can affect the ability of an airport to continue or expand its operations or to obtain local governmental permission for infrastructure expansion.

NO_x is often the most important pollutant of concern for airports, predominantly due to emissions from aircraft engines during landing and take-off (LTO), but also during taxiing and idling. The proximity of major roads can also mean that motor vehicle emissions on- and off-site can be a major contributor. Other important airport emissions sources include auxiliary power units (APU), ground service equipment (GSE), air and landside vehicles, ground transportation, power production, construction and fire fighting training.

6.2.2a Airports should assess the local air quality at and around the airport and adopt measures to prevent, minimize or reduce the emissions of air pollutants from airport sources, as deemed necessary.

6.2.2b Airport LAQ management should begin with assessment of the LAQ situation. An assessment should determine if the airport is currently complying with the applicable local regulations for each pollutant species and if the projected airport activities are expected to comply.

6.2.3 Measurement

Measurements of the concentrations of specific pollutant species are usually conducted as according to national regulations, methodologies, or standards. In the case where all measured levels comply with regulations and there is no issue of non-compliance, the current LAQ situation may well be acceptable. There may still be a possibility that future airport activity could cause non-compliance and this may require further investigation, as outlined below.

If measurements indicate that LAQ standards are being exceeded, several steps are required to determine the cause of the non-compliance, if airport or non-airport sources cause or contribute to the problem, and what mitigation actions might be required.

6.2.4 Inventory of emissions sources

An inventory of emission sources lists and quantifies the airport and non-airport sources for each pollutant species of concern.

Airport and airport-related sources can include aircraft LTO, aircraft taxiing, aircraft APU (auxiliary power units), aircraft engine start-up and testing facilities, ground service equipment, GPU (ground power units), airport ground vehicles (landside and airside), power and heat generation and cooling plants, de-icing, fire fighting training, passenger and staff vehicles, taxis, buses and trains.

Non-airport sources can include any industrial and transportation sources in the vicinity. The definition of the relevant air shed or area of land to be considered may depend on the local regulations, usually taking into account the local topography, climate and geography.

The emissions inventory will also need to consider the location and the timing of each emissions source (i.e., spatial and temporal distribution). Where is each source? When does each source emit each pollutant species?

An inventory based on the expected airport activity at future dates should also be conducted in order to help predict and mitigate possible future LAQ issues. Projections should take into account the future aircraft fleet, future passenger and aircraft movements, infrastructure developments and the like.

6.2.5 Dispersion modelling

An emissions inventory determines only the mass of the pollutants emitted over a given period. LAQ is usually assessed and regulated in terms of the concentration of each pollutant in the local atmosphere.

There can be several steps between the source of an emission and the concentration of a pollutant species in the air at a receptor or measurement location. These include dispersion due to distance, weather, topography and buildings, and chemical changes involving conversion of primary emission species into secondary pollutant species (e.g., emitted NO_x can cause the production of smog or ozone.)

Dispersion modelling is the process by which an emissions inventory is used to calculate or estimate the expected pollutant concentrations at receptor locations. This can be a complex calculation and usually requires a specific computer model to take into account the location of the source, wind and other weather factors, topography and other physical features, chemical reactions, and other factors.

Ideally, an accurate inventory (that also includes non-airport sources) and the results of detailed dispersion modelling should correlate with pollutant concentration data obtained from measurements. The results should identify the most important emissions sources (airport and non-airport) that are causing the LAQ problem or non-compliance issue.

For example, if excessive NO_x levels have been measured, the inventory and modelling may identify that both aircraft engines during LTO and cars on a nearby motorway are the major contributors. This assessment can then be used to tailor the most appropriate mitigation solutions.

6.2.6 Addressing a local air quality issue requires an Emissions Response Policy with four elements.

Emissions response should address all sources of emissions, as identified in the inventory and modelling. There are four main types of measures:

1. **Regulatory measures:** Setting standards on emission sources or restrictions on operations (Main engine standards, APU standards, APU restrictions, etc)
2. **Technical measures:** Reducing emissions by implementing technical solutions (e.g., filter traps, catalytic converters, ground power support systems, etc)
3. **Operational measures:** Reducing emissions by reducing fuel consumption or changing operating times or procedures (including ATM, aircraft maintenance)
4. **Economic or market-based measures:** Creating economic incentives to change to activities or equipment with lower emissions (including local emission charges and global or regional emission trading schemes).

Major instruments and practices are described below

6.2.7 Mitigation of LAQ pollution is best achieved by reducing emissions at source.

6.2.8a When the above steps identify an existing or future LAQ problem, airports should develop and implement mitigation plans that reduce emissions at source.

6.2.8 ACI's position is that ICAO should use its authority to implement more stringent NOx standards every second CAEP cycle (i.e. every 6 years).

ICAO Aircraft Emissions Certification

Annex 16 Volume 2 of the Chicago Convention contains standards for the assessment and certification of gaseous emissions from aircraft during take-off and landing, with limits on NOx (including NO and NO2), CO, HC and smoke.

These emission standards for new aircraft-engine types are generally adopted by Member States as regulation and are ICAO's main emissions reduction instrument.

ICAO's Committee on Aviation Environmental Protection (CAEP) is developing a new NOx stringency standard for its next meeting in 2010, that is CAEP/8. A new standard would only apply to new aircraft/engine types certified after the application date expected to be either 2012 or 2016.

ICAO Guidance Material on Local Air Quality

CAEP is publishing Guidance Material for Airport Air Quality. The initial part (Doc 9889, 2007) addresses local requirements and inventories. Further work is being conducted to complete the inventory section and to discuss pollutant measurement, dispersion modelling, mitigation, and interdependencies with other environmental issues, such as noise and greenhouse gases.

In 2007, ICAO published Guidance on Aircraft Emissions Charges Related to Local Air Quality (Doc 9884).

6.2.9 Reductions in aircraft taxiing, queuing and APU usage reduce LAQ emissions.

Aircraft engines are usually the largest source of NOx and other LAQ pollutants at an airport. However, airports usually have little control over take-off and landing emissions, which can account for more than half of an airport's inventory.

6.2.10a Measures that reduce taxiing and queuing, such as the construction of efficient and direct taxiways, virtual queuing, holding aircraft at terminal gates and runway capacity enhancements, will contribute to reduced fuel burn and lower emissions.

6.2.10b Providing electrical power (400Hz) and pre-conditioned air (PCA) to aircraft parked at a terminal gate or cargo loading position, allows aircraft to switch off their auxiliary power units (APU). Some airports make use of this ground-based power mandatory.

6.2.10c Landing fee schemes that include a component based on gaseous emissions can provide an incentive for aircraft operators to use aircraft types with low emissions characteristics. ICAO has prepared Guidance Material on Charges relating to emissions that affect Local Air Quality.

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

6.2.10 Airports should review infrastructure for emissions sources where reductions can be achieved.

6.2.11a Airport stationary sources like boilers and power production facilities can produce significant emissions for certain pollutant species. Measures should be sought to reduce emissions from those sources, including changes in fuel (e.g., CNG), modernization of equipment, and procedures and designs to increase efficiency.

6.2.11 Airports should review ground service equipment (GSE) and ground vehicles (airside) for emissions reduction opportunities.

Most ground service equipment (GSE) has traditionally run on diesel or gasoline and can represent in the order of 10 to 15% of an airport's NO_x, CO, and PM emissions.

6.2.12a Ground service equipment (GSE) and other airport ground vehicles should be kept well maintained and aging equipment should be up modernized.

6.2.12b Alternative fuels can provide significant LAQ emissions benefits compared with petrol and diesel equipment. Options include compressed natural gas (CNG), liquid petroleum gas (LPG), low emissions vehicles (LEV), hydrogen vehicles, and electric vehicles.

6.2.12c Fuel conservation programmes including the use of hybrid cars and educating drivers on more efficient (low acceleration, soft braking) driving techniques can reduce mobile equipment emissions.

6.2.12 Airports should review ground vehicles (landside) and land transport for emissions reduction opportunities.

6.2.13a The LAQ assessment should indicate which modes of ground transport are significant polluters and require mitigation. Actions should target reducing the emission by reducing the activity itself, increasing efficiency and using other vehicles with produce less (or no) emissions

6.2.13b Car emissions can be reduced by discouraging drop-off and pick-up of passengers and providing public transport/mass transit. Taxi deadheading (e.g., taxis that travel to an airport with a passenger but depart without) should be avoided. Hotel and car rental shuttles should be consolidated to reduce traffic. Engine idling of stationary vehicles should be discouraged or prohibited.

6.2.13c "Green" vehicles – hybrid and alternatively fuelled passenger cars and taxis – can be encouraged by priority or reduced-price parking and priority taxi queues. Infrastructure for CNG, hydrogen and electrical recharge can be provided.

6.2.13d Airports can develop themselves as inter-modal transport hubs by including local and region bus and coach facilities, and train stations for local trains, light rail, subway/metro systems, and regional/international trains. Other possibilities include dedicated fast train services between an airport and city centre, and facilities for off-airport and city centre check-in.

6.2.13e Airport and tenant staff should also be provided with incentives to reduce car usage. This can include public transport and economic incentives to use it, car pooling schemes and facilities to assist cyclists (showers, changing rooms, bicycle racks etc).

6.2.13 Airport-wide cooperation

6.2.14a Airports should encourage and support (or even require) all tenants at the airport premises to cooperate and contribute with their own mitigation plans.

6.3 Greenhouse gas emissions and global climate change

ACI POLICY

6.3.1 Minimize or mitigate the adverse impact of aviation on climate change.

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In some regions, the aviation industry has become the subject of political, NGO and public attention with regard to climate change, and this pressure is manifesting itself as opposition to airport infrastructure development proposals. If aviation as an industry does not address the physical and perceived effects of its contribution to climate change, external actions such as prevention of infrastructure expansion or regulations and taxes may be imposed.

Aviation and Climate Change

Aviation's main contribution to global climate change is through emissions from the combustion of fuel in aircraft engines.

The Stern Review Report on the Economics of Climate Change (2006) indicates that fuel combustion in aircraft contributes 1.6% of global greenhouse gas (GHG) emissions. (This statistic also appears in the document, Navigating the Numbers, Greenhouse Gas Data and International Climate Policy, WRI, 2005.)

Based on anticipated aviation traffic growth and the assumption that other industries will achieve significant cuts in GHG emissions, the Stern Review Report estimates that aviation's share as a proportion of the remaining emissions could rise to approximately 2.5% of the global total by 2050.

Aviation is likely to be responsible for a greater proportion of the total human contribution to climate change than that indicated by emissions alone. Effects of emissions at high altitude, ozone, water vapour, soot, condensations trails and cirrus clouds are unclear, and some issues are poorly understood. One approach used by the United Nations Intergovernmental Panel on Climate Change (IPCC) is to compare the climate impacts of different sources of anthropogenic emissions using the concept of radiative forcing. According to the IPCC, the best estimate of the radiative forcing in 1992 by aircraft was about 3.5% of the total radiative forcing by all anthropogenic activities, and the predicted radiative forcing by aircraft in 2050 is 3.8 times the value in 1992, or approximately 5% of the total 2050 radiative forcing (IPCC, 1999).

Airport sources / contribution

Based on the reports cited above, emissions from fuel combustion in aircraft represent 2 to 4 percent of the total global GHG inventory. Based on airport emission inventories prepared to date, emissions from non-aircraft airport-related operations represent an additional 0.1 to 0.3 percent of the global total. One of the most significant sources of emissions is related to transportation of employees and passengers to and from the airport, and they may be accounted for elsewhere in "on road" transportation emissions inventories. While the airport contribution can be relatively small, many improvements can still be made.

ACI believes that it is important to distinguish between aircraft emissions and those emissions directly associated with airports. Most discussions of the impacts of global aviation emissions refer to aircraft emissions.

The best approach for addressing aviation's climate change emissions, including those from airports, is a long-term strategy that identifies and phases in environmentally effective, economically efficient, and politically viable measures for each category of emissions. The first step is to identify emission sources and their contributions, so that emissions reductions can be implemented. CO₂ is the most common GHG, and it may serve as the best starting point for an airport GHG inventory.

As indicated previously, fuel combustion in aircraft engines is usually the largest contributor to an airport's CO₂ inventory. In practice, airports use a variety of definitions to determine the aircraft emission contribution. Some base the emissions entirely on the fuel dispensed at the airport. Others count the emissions from aircraft only while their wheels are on the ground; others include the whole (landing and take-off) LTO cycle down from and up to an altitude of 3000 feet. A regulator at one airport took the approach of assigning CO₂ emissions for the entire flights of arriving and departing aircraft. Including the LTO, taxiing, and APU use, the aircraft emissions contribution to an airport CO₂ inventory is typically in the range of 50% to 80%.

Other major sources of CO₂ at airports are fuel combustion in GSE (ground service equipment) and airside and landside motor vehicles. Airside vehicles include passenger transfer buses and service vehicles, while landside vehicles include passenger and staff transport to and from the airport.

Utility plants at airports that burn fossil fuels to produce electricity, heating and cooling can also be large sources of GHG emissions. In Europe, some airports have power generation stations that are already subject to restrictions and emissions trading under the EU's Emissions Trading Scheme.

Aviation's overall contribution to the global GHG emissions inventory is dominated by aircraft in flight and these emissions are beyond the control and influence of airports. Discussion here is limited to actions airports can take to address GHG sources within their control and influence.

ICAO

ICAO States have endorsed the development of an open emissions trading system (ETS) for aviation and in 2007 published guidance material on developing such a scheme.

In 2007, the ICAO Assembly Resolution stated that any ETS should be based on mutual consent between countries. The EU placed a reservation on this section, because it proposes an ETS that applies to all flights to, from and within the EU.

ICAO also established the Group on International Aviation and Climate Change (GIACC) to develop an Action Plan. Developments are occurring rapidly in this area.

ACI believes that, as an industry, aviation should address its climate change impacts on a global level. ICAO should establish a roadmap for long-term global action, with an Action Plan that identifies interim stages, specific measures, and sets out the policy milestones for achieving aviation's emissions objectives by 2050.

This Action Plan should identify the measures and timeframe for addressing the climate-related effects associated with non-GHG emissions, such as NO_x and water vapour, and the resultant ozone, contrails, and cirrus clouds, once there is greater certainty over the scale and nature of those impacts. If, in the future, the effects of NO_x and other non-Kyoto gaseous emissions are addressed by aviation, it will be important that they are also addressed by other industrial and transport sectors.

Recognizing the role of ICAO in setting standards, ACI calls upon this institution to continually devise more stringent emission standards for aircraft.

The policy measure with the least negative impact on the aviation industry will be the integration of aviation's CO₂ emissions into a global emissions trading system.

Capacity constraints, taxation, or charges that do not satisfy ICAO's criteria for legitimate aeronautical charges, are not viable solutions to address aviation's contribution to climate change.

6.3.1a Airports should continue to take action to minimize emissions within their direct and indirect control.

6.3.1b Airports should support the development of infrastructure, technologies, operational practices, and design strategies in the aviation industry that will help to reduce aircraft emissions globally.

In 2007, ACI's Annual Assembly passed a resolution that encourages member airports to commit to strategies to reduce carbon emissions, with the ultimate target of becoming carbon neutral. In April 2008, more than 300 airports, and leaders of aviation industry companies and aviation organizations, signed a declaration on climate change, committing to a pathway to carbon-neutral growth and a carbon-free future.

Note: This is a rapidly evolving issue. At the time of writing (July 2008) several different regions are developing guidelines on conducting airport inventories and frameworks for addressing GHG emissions. These recommended practices will be revised and reissued in the near future.

6.3.2 Airports should inventory airport and airport-related greenhouse gas (GHG) emissions, clearly demarking responsibility or ownership and location (on and off airport).

6.3.2a An airport inventory of GHG emissions should identify the sources, extent (e.g. annual quantity) and ownership of emissions. The ownership is important for avoiding double counting when regional or industry-wide aggregate inventories are conducted.

6.3.2b Airport-related sources can be categorized in 3 groups, based on the airport's level of control or influence:

1. **Direct Control.** The airport has full (or almost full) responsibility for the emissions. Such sources would include heating and power plants, terminal buildings, and airport vehicles.
2. **Influence.** The airport can only influence the emitter or the sources and does not bear direct responsibility for these emissions. These include aircraft taxiing and queuing, airline-owned GSE, taxis and hotel shuttle buses, and aircraft APU usage.
3. **Little or No Influence.** City or regional ground transportation infrastructure is often beyond the influence of airports. Airports can work with a city to build, for example, train lines, and may contribute financially, but final decisions are made by other authorities.

Categorization of activities is not always clear, and can vary between airports. Providing parking lots is an example. If a city is car-reliant, an airport has no choice but to provide parking, at least in the medium-term. Parking at the airport can actually reduce trips and emissions, if drivers do not make two one-way trips to drop off and pick up passengers.

6.3.2c An inventory should also record where emissions occurred and whether on or off the airport site.

It is important that an inventory cover all airport-related emissions sources, so that recognition can be given for actions taken by airports that reduce off-airport emissions (e.g., building a transit link or supporting bus service). However, many sources (e.g. aircraft and off-airport road transport) will be included in the inventories of other parties (e.g. the airlines and the city) and inventory process should avoid double counting or assigning the responsibility for the same emissions to two parties.

6.3.3 Goals and action plans should be developed with the ultimate target of becoming carbon neutral.

6.3.3a Based on a complete inventory, an airport should set goals and develop an action plan to achieve these goals.

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6.3.4 Reductions in aircraft taxiing, queuing and APU usage reduce GHG emissions.

Measures that reduce fuel use or emissions from aircraft engines provide benefits for GHG emissions.

6.3.4a See Section 6.2.10

6.3.5 Airports should review ground service equipment (GSE) and ground vehicles (airside) for GHG emissions reduction opportunities.

Most measures that reduce fuel use and LAQ emissions from ground vehicles also benefit GHG emissions.

6.3.5a See Section 6.2.12

6.3.6 Airports should review ground vehicles (landside) and land transport for GHG emissions reduction opportunities.

6.3.6a See Section 6.2.13

6.3.7 New buildings should employ best practice energy efficiency and GHG technology.

Infrastructure design can be the single most significant factor affecting the GHG emissions associated with operating an airport. Engineering and architectural features of new terminal buildings can greatly enhance energy efficiency.

6.3.7a Underground thermal sinks can be used to enhance heating and cooling efficiencies.

6.3.7b Combined cooling, heat, and power (CCHP) systems use waste heat from electricity generation to heat the terminal in winter. In summer, absorption cycle refrigeration systems can use the same heat source to generate chilled water to cool the building.

6.3.7c Smart building technologies can be used to reduce lighting and heating or cooling in unoccupied spaces. Unoccupied escalators can be slowed or paused until people need to use them.

6.3.7d For large interior spaces in hot climates, thermal stratification can be used to cool occupied areas at floor level while allowing unoccupied space near the ceiling to remain hot.

6.3.7e In cold climates, new steam plume-suppressing technologies can be used to allow heating plants to be located close to terminal and control tower structures without affecting visibility. This can substantially reduce piping losses and inefficiencies.

6.3.8 Existing building should be reviewed for energy efficiency and retrofits conducted where appropriate.

6.3.8a A building retrofit project will usually start with an energy efficiency audit. Retrofitting and modifications can cover a wide range of building features including the following examples. Many provide significant operational cost savings, and projects can "pay off" within reasonable time frames.

6.3.9 Now and existing buildings should have best practical thermal insulation and glazing.

6.3.9a Installation of shading or light-filtering films on windows to reduce solar load.

6.3.9b Modifying and modernizing heating, ventilation and air-conditioning (HVAC) systems, such as installing variable speed electric motors to reduce air flows when occupancy is low or temperatures are mild.

6.3.9c Installation of more efficient and long-life light bulbs for both interior and exterior lighting.

ACI POLICY

6.3.10 Operational procedures can also be used to improve energy efficiency.

6.3.11 Renewable energy should be used where practicable to reduce fossil fuel consumption.

6.3.12 Offsets may be purchased to reduce GHG footprint towards achieving Carbon Neutral Status, but such offsetting should not replace emissions reduction efforts.

ACI RECOMMENDED PRACTICE / COMMENT

6.3.10a Maintenance hangar door opening and closing procedures can be improved to reduce heat loss in winter or heat gain in summer.

6.3.10b Lighting procedures can be improved to minimize lighting in unoccupied areas or during low occupancy.

6.3.11a Purchasing electricity from suppliers with certified renewable sources, such as hydroelectric, wind, solar, biomass, etc.

6.3.11b Generating electricity on site with wind turbines, photovoltaic, solar cells and the like.

6.3.11c Solar hot water heating.

6.3.11d Using bio-fuels, hydrogen and other non-fossil fuels for ground vehicles and support equipment.

6.3.11e Using boilers that burn wood pellets or similar forestry or recycled waste material.

6.3.12a Offsetting is a mechanism to provide funding for projects that reduce carbon emissions at another location, in order to compensate for carbon emissions that cannot be avoided. For example, airport authorities that want to achieve carbon neutral status would need to minimize CO₂ emissions under their control. Offsets would then need to be purchased to account for the remaining CO₂ emissions that cannot be eliminated. However, it should be noted that funds invested in offsetting do not in themselves improve the operation of the airport, and such funds would preferably be invested in airport carbon reduction programs.

6.3.12b Clean Development Mechanism (CDM) projects under the Kyoto Protocol are the most rigorously reviewed offsetting projects.

Revenue diversion issues associated with offset purchases may need to be addressed in the US.

6.4 Sustainability – System Methods

Sustainability is a general term that encompasses the concept of meeting the needs of the present without compromising the ability of future generations to meet their needs.

The three pillars of sustainability are **economic, social, and environmental**. For an enterprise such as an airport to sustain itself over the long-term it must maintain positive economic benefits to invest in its activities and for its stakeholders, it must develop positive impacts broadly across society both in its community and in communities affected by its activities, and it must participate in maintaining a healthy environment. Sustainability is thus a critical objective in considering all aspects in this chapter on the environment and indeed other chapters on the economics of airport construction and operation and even Safety and Security.

This section will focus primarily on environment issues not elaborated on in other sections, covering the following major considerations:

- Reduction of the use of natural resources
- Reduction of waste especially that going to land-fills
- Reusing materials including glass, aluminium and compostable waste
- Recycling of waste including demolition material and aggregate
- Reduction and avoidance of pollution causing incidents
- Rehabilitation of contaminations of land, air and water
- Enhancement of biodiversity by habitat creation

The three key environmental issues of noise, local air quality and climate change are primarily addressed in Sections 6.1, 6.2 and 6.3, but of course, all fall under the umbrella of striving toward a sustainable enterprise. As well as specific practices or system methods, two other aspects of sustainability, namely reporting and certification, will be addressed in Section 6.5.

In this document sustainable development is not distinguished from Sustainability.

Various efforts on developing frameworks for sustainability for airports are in process and this document is likely to be updated by mid-2009.

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

6.4.1 Promote sustainability by improving the environmental performance during airport development and operation.

6.4.2 Buildings and HVAC plants should be built and operated to maximize energy efficiency and minimize non-renewable energy usage.

6.4.2a Use of non-renewable and polluting energy sources should be reduced while sustainable energy sources should increasingly supply airport energy needs. Energy use, energy efficiency and renewable energy sources in the context of reducing greenhouse gas emissions are also discussed in Section 6.3.

Building Technology

6.4.2b Designing and constructing a new building provides many opportunities to implement energy efficiency technologies. "Green designs", "smart" building management systems and the like are much more easily incorporated at the planning and design stages, but many can be installed as a retrofit to an existing building.

6.4.2c The extra cost of construction or materials should be taken in to account in a "whole of life cycle" analysis, discussed later in this section.

6.4.2d Building energy efficiency features can include the following:

- Building orientation to maximize benefit of local weather and solar conditions
- Insulation of roof spaces and walls, and use of thermal double glazing
- Natural ventilation to reduce or avoid the need of air conditioning
- Planting (e.g. deciduous trees), tinted glazing and operable window shades to minimize summer solar heat load and maximize winter heat gain
- Renewable energy sources (photo-voltaic cells, wind or solar energy, etc.)
- Natural lighting and other building features and materials that require little maintenance or resources for operations
- Low energy lighting (e.g. light emitting diodes, compact fluorescent bulbs) both internal (terminals, offices etc) and external (runway, tarmac, roads etc)
- 'Smart' building and control techniques – utilizing automatic control systems that regulate energy use according to occupation and other factors
- Simplification of plumbing infrastructure requiring less pumping
- Optimization of heating, hot water, and electrical infrastructures to minimize loss and degradation over the system

Heating, Ventilation and Air Conditioning (HVAC)

HVAC is one of the major energy consumers at most airports. Efficiency improvement projects can have short payback periods and provide both climate change and local air quality benefits.

6.4.2e Many traditional and innovative technologies are available, some for new installations and some as retrofits.

- Natural ventilation and offices with operable windows can be used during temperate condition.
- Relaxed dress codes in offices (e.g. sweaters in winter, no neck ties or suits in summer) can permit in offices to be less heated in winter and less cooled in summer.

- Efficient lighting systems including low energy and long-life bulbs and reduced lighting in unoccupied spaces.
- Smart building technologies can be used to reduce lighting and heating or cooling in unoccupied spaces.
- Underground thermal sinks can be used to enhance heating and cooling efficiencies.
- Combined cooling, heat and power (CCHP) systems use waste heat from electricity generation to heat the terminal in winter. In summer, absorption cycle refrigeration systems can use the same heat source to generate chilled water to cool the building.
- For large interior spaces in hot climates, thermal stratification can be used to cool occupied areas at floor level and allowing unoccupied space near the ceiling to remain quite hot.
- In cold climates, new steam plume-suppressing technologies can be used to allow heating plants to be located close to terminal and control tower structures without affected visibility. This can substantially reduce piping loss inefficiencies.
- Modifying and modernizing Heating, Ventilation and Air-Conditioning (HVAC) systems, such as installing variable speed electric motors to reduce airflows with occupancy is low or temperatures are mild.
- Maintenance hangar door procedures can be reviewed to reduce heat loss in winter or heat gain in summer.

6.4.3 Water resources should be used in a sustainable manner.

The main uses of water include bathrooms and toilets, catering, laundries, cleaning, landscapes and gardens, aircraft and vehicle washing and aircraft potable water supply. Other uses might include runway de-icers, construction, and maintenance.

Sources of water include municipal supply, underground aquifers, surface water (including artificial dams) and rain water (from building roofs and hardstanding). Some airports have their own wastewater processing plants.

6.4.3a Good water management practices include the following:

- Installation of water saving devices such as waterless urinals, infrared toilet flush controls, self-closing sink taps and low flow shower heads.
- Rain water collection and grey-water recycling for non-potable uses such as toilet flushes and landscape (garden watering).
- Water recycling of vehicle wash and other lightly contaminated effluents.
- Prevention of incidental loss through leakage.

6.4.3b As with all resource management systems, the process needs to assess current usage, set goals, implement processes and assess progress.

Land and Groundwater Management encompasses many environmental issues covered in other sections of this Chapter. Most fall in under the discussion on the management of the impacts of pollution, while some concern the operational procedures to prevent spillage or other damage to soil and groundwater.

6.4.4 Land resources include habitat, soil and groundwater and should be used and managed in a sustainable manner.

6.4.4a The following potentially contaminating activities at airports should be reviewed for past and possible contamination events and dealt with as described later in this Section:

- Delivery, storage and use of fuel, oils and solvents, and vehicles containing these
- Vehicle and aircraft maintenance
- Fire fighting and training
- De-icing and anti-icing
- Accidents involving spillage of fuels, chemicals or hazardous cargoes.
- Waste disposal
- Heavy rainfall on areas where the above take place.

Wildlife habitat and biodiversity management

Airports attract a wide range of wildlife, such as birds, and domestic livestock, which represent a threat to aviation and need to be controlled. Critical safety zones for aircraft operations may extend well beyond the airport's boundary. Land uses such as landfills, lakes, marshes, wetlands, reservoirs, recreational facilities, conservation areas etc. may attract wildlife which should be discouraged or if unavoidable, should be managed, keeping aviation safety as a priority. Legislation to suit such measures of management may be implemented, if required.

6.4.4b Airports should adopt programmes to ensure safety without compromising the preservation of wildlife habitat and biodiversity.

6.4.4c Airport boundary control is exercised by denying wildlife access through barriers, fences or other means. Habitat management including grass management should be employed to minimize attraction of wildlife into airport lands. If wildlife is present, then other measures, such as the use of bioacoustics and pyrotechnics, should be implemented.

6.4.4d While aviation safety is paramount, airport wildlife management measures shall be implemented taking into consideration the best practices for environmental protection.

6.4.4e For more detailed information see ACI's "Aerodrome Bird Hazard Prevention and Wildlife Management Handbook" (2005).

6.4.5 Fuel and air should be used in a sustainable manner.

Clean air should be viewed as a precious natural resource that must be carefully managed as much as water or fuel. While the efficient use of fuel can be readily assigned a value in terms of cost savings, the efficient management of local air quality is of fundamental importance. Air quality is generally well regulated, so poor management could have other consequences for airports. As the majority of air pollutants are associated with combustion and vehicles, fuel and air are addressed together.

6.4.5a Measures to address local air quality and the efficient use of fuel are discussed in **Sections 6.3 and 6.4**.

Fuel storage and handling

Storage and distribution of fuel oil for aircraft can include above or below ground tanks, sometimes under pressure, and piping networks. Many of these activities are addressed by local regulations.

6.4.5b Leakage or loss-detection systems are crucial to monitor waste and prevent or minimize ground contamination.

6.4.5c Storage tanks should be subject to regular integrity tests and inspections including routine pressure testing. Bunds and drainage areas should be incorporated in the design of fuel handling and maintenance areas.

6.4.6 Air pollution is best managed by reduction of emissions sources.

6.4.6a Once emitted, pollutants in the atmosphere in the vicinity of airports cannot easily be removed by other than natural processes such as wind and rain. Local air quality management is invariably reliant on controlling, reducing or eliminating the sources of emissions, rather than attempting to remove air pollutants or reduce human occupation of impacted areas.

6.4.7 Airports should adopt policies and procedures to reduce, minimize or eliminate the impact of storm water discharges on receiving water bodies.

Storm water

Airport operations include a variety of industrial activities (e.g. washing, de-icing/anti-icing, maintenance, fuelling, landscaping, etc) that often require the use of a variety of chemical substances or products that when mixed with storm water can be discharged to surrounding environs.

6.4.7a Airports should consider means and methods [often referred to as Best Management Practices (BMPs)] to reduce the use of chemicals outdoors to the extent practicable, thereby reducing the potential for exposure to precipitation; consider more environmentally friendly chemicals; and/or provide treatment of impacted storm water runoff.

6.4.7b The following storm water treatment systems can be considered, as appropriate: vegetative swales, oil-water separation devices, dry-type detention basins, sediment settling basins/traps and infiltration basins. Prior to considering any type of onsite treatment system, airports should also consider potential wildlife attractants and consider appropriate procedures to mitigate this potential. Airport development and construction can also impact the surrounding environs leading to the potential for soil erosion and high levels of sedimentation in nearby water bodies. Construction contractors utilizing chemicals and fuels as part of the construction activity may also result in spills and releases to surrounding environs. These spills could enter storm water drainage systems and contaminate storm water runoff. Engineers should design improvements to minimize the potential for adverse impacts of construction and Contractors should prepare appropriate plans and be trained in appropriate controls to be incorporated into the construction project

6.4.7c The vast impervious areas associated with airports and airport developments often result in greater peak storm water discharge rates and greater volumes of storm water runoff into receiving streams or water bodies. Without control, the large impervious areas can increase flooding downstream. Airports should properly evaluate reduction and flood control measures like detention of peak storm events.

6.4.7d Programmes should be developed to reduce the sources of storm water runoff impacted by the regular operation of an airport (e.g., maintenance and fuelling) and from accidental incidents like fuel spills. Controls and measures to minimize the effects of these activities should be incorporated into the design of airport facilities. Policies, procedures, response plans, and training programmes should be developed to inform airport and tenant employees in appropriate spill handling and management. The intent of these programmes should be to prevent, prepare, respond and appropriately report spills. Developing an effective spill prevention and response program will greatly assist airport management in reducing the costs of remediation, the adverse impacts of spills on surrounding environs and improving community relations.

6.4.7e The sampling and analysis of storm water discharges can be used to assess the potential impact of discharges on water bodies on and off the airport. These data may also assist in identifying activities impacting storm water and requiring further consideration or controls. In some situations, monitoring of storm water discharges is required by legislative bodies and may be used to measure compliance with regulatory standards.

6.4.8 Airports should adopt policies and procedures to reduce, minimize or eliminate the impact of anti-icing chemicals on receiving water bodies.

De-icing and anti-icing activities

Chemicals used to deice and anti-ice (collected referred to as "deicers") aircraft and pavement may cause adverse environmental impacts if not appropriately reduced, contained, stored and treated. These impacts may include decreased dissolved oxygen levels in runoff and receiving waters, toxicity to aquatic life, increased foaming, objectionable odours, colour and/or bacterial growth.

6.4.8a To minimize the potential adverse impacts of deicers, airports should conduct evaluations and assessments to determine appropriate controls to avoid pollution and meet local regulatory requirements. Every airport is unique and solutions to minimize and control discharges are highly site specific. Airports should consider the appropriate means and methods to control deicer-laden storm water runoff through an evaluation of the variety of options (including combinations) that may exist including, but not limited to, the following:

6.4.8b Source Reduction Options

- Efficient mixture of glycol for the storm event
- Hybrid de-icing trucks (forced air/glycol mixtures)
- Minimize aircraft exposure to adverse weather (diversions, hangars, etc.)
- Weather forecasting and proactive anti-icing
- Use of pavement sensors for better detection of pavement conditions

6.4.8c Collection or Containment Options

- Glycol recovery vehicles (GRVs)
- Centralized de-icing pads
- Gate collection systems
- Runway end de-icing pads

6.4.8d Storage Options

- Underground storage tanks or containment vaults
- Aboveground storage tanks
- Retention/detention ponds

6.4.8e Treatment – Disposal Options

- Onsite treatment facilities
- Offsite treatment facilities
- Recycling systems

6.4.8f Pavement Options

- More environmentally friendly alternative pavement deicers
- More efficient mechanical removal
- Weather forecasting and proactive anti-icing

6.4.9 The adverse effects of all activities should be managed in a sustainable manner.

Solid Waste Management

Despite many different sources of waste, an airport authority is usually responsible for the management of waste. The variety of sources includes:

- *Office waste including paper and cardboard*
- *Catering waste including food and cooking oils*
- *Oils, solvents and parts from aircraft maintenance and refurbishment*
- *Scrap metal*
- *Construction waste*
- *Deplaned or in-flight waste*

6.4.9a Waste management should incorporate a waste hierarchy in the following order of decreasing priority:

- Prevent or minimize
- Reuse
- Recycle and compost
- Burn and recover energy
- Disposal or dump to landfill

6.4.9b Some airports have conducted waste analysis to determine the composition of the waste and to identify the sources of each waste stream and the areas that would best benefit from effective management.

6.4.9c Sorting is required to separate the streams of waste. Sorting at the point of collection (e.g. using multiple bins) can be the most efficient but can have problems with contamination of streams, especially with public collection points. Public collection points need to provide clear and simple procedures to ensure maximum benefit.

6.4.9d Collection from tenants and airport staff has the most potential for successful sorting as the most important waste streams can be targeted and procedures can be reviewed and developed.

6.4.9e The cost of sorting may be recoverable as some types of waste including cardboard, aluminium and other metals have a monetary value. In addition, reduction in the amount of waste going to landfills can also represent a cost saving.

6.4.9f De-planed waste can be problematic. Airline crew must be involved (usually on a voluntary basis) and disposal procedures will vary at different airports. Aluminium cans are the best potential waste stream. At most airports, waste from international flights is required to be incinerated.

6.4.9g Hazardous waste generally requires special handling and disposal, usually at significant cost.

6.4.10 Contamination of land and soil should be addressed with an appropriate strategy.

Soil contamination

6.4.10a A land or soil contamination strategy should consider the following:

- Identification of potential contamination from historical or current activity
- Risk assessment of potential exposure to contamination by humans on or near airport and ground and surface water
- Establish need for intrusive investigation (sampling and testing) to determine extent and severity of contamination
- Regulatory requirements
- Plan and prioritize remedial action
- Validation and monitoring

Historic contaminated sites

Former industrial activities, handling of chemicals and wastes, and a historic lack of understanding may have resulted in contamination of soil and ground water on airport properties. Fuel spills, leaking fuel storages facilities, abandoned landfills, fire training areas, inappropriate hazardous material/waste handling practices, or similar military activities have sometimes resulted in property being contaminated.

6.4.10b Airports should thoroughly understand their own liabilities associated with contaminated sites and implement programmes to address, assess and remediate contaminated sites that may be further impacted by an airport's activities.

6.4.10c Airports should identify potential contaminated sites on their properties and should investigate any property being acquired. Airports should refer to appropriate standards associated with environmental site assessment prior to acquisition to document current environmental condition and limit future airport liabilities.

6.4.10d Airports should thoroughly assess contaminated sites that may be impacted by future development or that may be resulting in a furtherance of chemical migration and potential harm to human health or the environment. Remediation of such contaminated sites should be undertaken when deemed appropriate or when obligated to do so by a regulatory agency.

6.4.10e ACI supports that the party responsible for contamination should pay for assessment and remediation. ACI supports research and development and exchange of information on environmentally protective, cost-effective and risk-based remediation programmes.

6.4.11 The adverse effects of fuel spill and fire fighting practice managed in a sustainable manner.

Fuel spills

6.4.11a The management of fuel spills should be covered by standard procedures often required by regulation.

6.4.11b Minor spills are usually dealt with by appropriate spill kits including containment and absorption equipment. The ready accessibility of equipment and appropriate training of employees is crucial.

6.4.11c The possibility of major spillage events, especially in the event of heavy rain, need to be taken into account in the design of the airport and its drainage systems, interceptor capacity and storm water management. Such systems usually seek to prevent the linkage between a spillage source and sensitive receptors such as soil, surface water and groundwater.

6.4.11d Remedial action options usually cover containment and soil and ground remediation. At this stage, regulators will usually be involved so approval, monitoring and validation will be required.

Fire fighting training facilities

6.4.11e To avoid pollution of soil, groundwater and storm water, fire fighting training facilities should be designed to minimize chemical and fuel release. The use of impermeable containment basins, as well as environmentally sound fuel storage and distribution system should be considered at all fire training facilities.

6.4.11f Local air quality requirements and/or regulations should be consulted and reviewed to confirm any potential restrictions on training with live fires and fuels. As consistent with regulatory requirements, lead-free hydrocarbons, natural gas or other appropriate fuels should be used to create fires.

6.4.11g The ability to use waste oils should be confirmed with appropriate regulatory agencies. Optimization of fire training should be encouraged to avoid excessive use of training exercises. Airports are encouraged to consider use of joint training facilities with other local jurisdictions.

6.5 Sustainability – Reporting and certification

ACI POLICY

ACI RECOMMENDED PRACTICE / COMMENT

6.5.1 Promote sustainability by improving the environmental performance during airport development and operation (same as 6.4)

6.5.2 Airports embarking on a sustainability programme should use standard Key Performance Indicators and reporting methodologies.

Key performance indicators (KPI)

KPI's are standardized means for quantifying the environmental performance of an activity. By measuring and tracking KPI's, an airport can evaluate the status of current performance, compare this with other airports and track the performance of environmental initiatives.

There are a number of pitfalls associated with KPI's including variations between methodologies at different airports nullifying the benefit of comparisons and the complexity of some indicators to address very specific issues. Blind adherence to efforts to improve a poorly selected KPI can sometime cause paradoxical adverse effects (e.g. concentrating flight tracks to reduce noise contour area causing increased community annoyance.)

The following table provides a sample of some KPI's commonly in use.

6.5.2a Noise

- Land area or number of residents with a certain noise contour (e.g. DNL 55 dBA)
- Percentage of arrival using CDA or NPR
- Number of breeches of noise limits
- Number of (night time) engine run-up tests
- Percentage of Chapter 2, 3 and 4 aircraft using airport and the contribution of each to total noise levels
- The number of noise complaints for residents

6.5.2b Local air quality

- Total (or change in) NOx emission from airport activities, as a whole and subdivided in to each airport source
- Total (or change in) other significant pollutants from airport related activities
- As above calculated per passenger, per aircraft arrival or per tonne of freight
- The number of complaints relating to odour

6.5.2c GHG and climate change

- Total (or change in) CO₂ (or CO₂ equivalent) emitted, as a whole and subdivided in to each airport source
- As above calculated per passenger, per aircraft arrival or per tonne of freight
- Annual quantity of renewable energy bought or generated, in total and as a proportion of total energy used
- Annual quantity of carbon offsets or allocations purchased

6.5.2d Building energy efficiency and water usage

- Annual energy (electricity, gas or other fuel) consumption total, per passenger and per unit building area
- Annual water consumption total and per passenger

6.5.2e Ground transportation and airport authority business travel

- Numbers of passengers and employees using each mode of transport, including public transport, walking, cycling, cars, taxis, buses etc
- Number of percentage of staff using car sharing or other single occupant vehicle alternatives
- Percentage of taxis or other ground transport using alternative or renewable fuel or that are hybrids
- Use of conference calls and video conferencing and associated reduction in travel

6.5.2f Land and soil contamination

- Land area (or percentage of airport area) under investigation, confirmed as uncontaminated and identified as problematic
- Land area (or percentage of airport area) remediated

6.5.2g Waste management

- Waste generated – total and per passenger
- Waste sent to land fill – total and per passenger
- Percentage of all waste generated recycled (including and excluding construction/demolition material)

6.5.2h Water management

- Measured pollutant levels in discharged water flows and compliance assessment
- Annual water reuse (total and per passenger)

6.5.2i Global reporting initiative (GRI)

Reporting is a key process for tracking KPI's and communicating progress in a robust and consistent manner.

A leading format for reporting on environment, social and economic issues is the Global Reporting Initiative, G3 Guidelines. (See www.globalreporting.org). The Global Reporting Initiative (GRI) has pioneered the development of the most widely used sustainability reporting framework. This framework sets out principals and indicators that organizations can use to measure and report their economic, environment and social performance – the 3 pillars of Sustainability.

Unless the concept of sustainability is fully supported by senior management, environmental issues may be better reported following the ISO 14001 Environmental Management System series (below).

Sustainability reports base on the GRI framework can be used to benchmark organizational performance with respect to laws, norms codes, performance standards and voluntary initiatives; demonstrate organizational commitment to sustainable development; and compare organizational performance over time.

The GRI guidelines help to provide the basis for an airport authority's disclosure reporting on their sustainability performance and continuous improvement. Those airports with environmental management systems will probably also be able to fulfil the requirement for reporting within the same document.

The GRI is currently exploring the opportunity to develop sector specific guidelines for airports. Tentatively scheduled to start in late 2008, the GRI will work with airports and their stakeholders to create a customized set of reporting indicators specifically for airports' use. The sector indicators will be developed in a consensus seeking process from all corners of the globe. The process will take until approximately 2010 to complete.

The guidelines are voluntary, however the reporter is "graded" based on what level of the guidelines have been applied (Application Level). There are three ways to report – self declare; third party opinion and have the GRI check the self-declaration.

Environmental management system

6.5.2j Airports should adopt an environmental management system (EMS) for a systematic approach to managing environmental issues associated with operation, development and eventual decommissioning of their infrastructure.

Airports should keep their environmental impact to a minimum, by adopting a systematic approach to address environmental impacts. The approach should include activities of all concerned parties such as operators, tenants and concessionaries and define their responsibilities and its service partners (airlines, ATC, terminal service providers)

The approach should deliver strategy, objectives, targets and action plans and these should be documented. A controlling system should be implemented for reviewing strategies, targets and programs and to aim for continuous improvements.

The prevention, minimization and mitigation of adverse environmental impacts through design of infrastructure and appropriate use of technologies and operational practices shall be supported and encouraged.

http://www.aoa.org.uk/publications/environmental_guidance_manual.asp

6.5.2k Life cycle assessment

A life cycle assessment (LCA, also known as life cycle analysis and cradle-to-grave analysis) is the investigation and valuation of the environmental impacts of a given product or service caused or necessitated by its existence.

The importance of LCA for airport environmental managers is that a project is not assessed merely on its initial cost but that the whole accumulated lifetime benefits including reduced energy consumption and other environmental benefits are factored in to the decision making process. As airport infrastructure is typically long-lived, airports' investment is significantly greater over the life-cycle of the infrastructure as compared with the initial capital investment (perhaps 70%-90%). This is an important concept in reducing long-term costs and environmental effects.

The formal procedures for LCA are part of the ISO 14000 in ISO 14040:2006 and 14044:2006.

6.5.3 Airports seeking recognition or certification for sustainability projects can use established systems such as LEED or BREEAM.

Certification

Certification is a process by which a project such as a new building or modification can obtain formal recognition that certain standards of sustainability have been met. The process will usually ensure that all issues are adequately addressed and provide an opportunity to achieve the best publicity for environmental investments.

6.5.3a LEED

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council (USGBC), provides a suite of standards for environmentally sensitive construction. See www.usgbc.org

The hallmark of LEED is that it is an open and transparent process where the technical criteria proposed by the LEED committees are publicly reviewed for approval by the more than 10,000 membership organizations that currently constitute the USGBC. LEED was created to accomplish the following:

- *Define "green building" by establishing a common standard of measurement*
- *Promote integrated, whole-building design practices*

- Recognize environmental leadership in the building industry
- Stimulate green competition
- Raise consumer awareness of green building benefits
- Transform the building market

Green Building Council members, representing every sector of the building industry, developed and continue to refine LEED. The rating system addresses six major areas:

- Sustainable sites
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation and design process

There are four levels of certification – Certified, Silver, Gold and Platinum.

6.5.3b BREEAM

BREEAM is the UK Building Research Establishment's (BRE) environmental assessment method. There are 8 main areas to an assessment:

- Energy
- Transport
- Pollution
- Materials
- Water
- Land Use and Ecology
- Health and Well Being, and
- Management

Standard assessments exist for offices, industrial units, schools and homes. For other types of buildings including airport terminals, special assessments can be made. Each area has a number of criteria and are assigned credits. Ratings are made on a scale of Pass, Good, Very Good and Excellent. See www.breem.org

6.6

Environmental awareness, training, sharing information and communications

ACI POLICY

6.6.1 Improve environmental awareness, training and sharing of information among world airports.

ACI RECOMMENDED PRACTICE / COMMENT

6.6.1a Airport environmental staff and management should participate in or at least follow the progress and outputs of the World Environment Standing Committee and ACI's regional environmental committees. Staff should also be encouraged to attend and participate in environmental training events and conferences.

6.7

Stakeholder communications and understanding

ACI POLICY

6.7.2 Promote understanding, cooperation and collaboration with stakeholders.

ACI RECOMMENDED PRACTICE / COMMENT

Physical environmental issues are usually addressed by technical mitigation and engineering solutions. Physical results can usually be measured and compliance with some standard or regulation is targeted and, hopefully, achieved.

In many cases, stakeholders (especially the communities living near an airport) may perceive that there is an environmental problem regardless of compliance with standards or de minimus impacts. Such a perceived issue is also a real environmental issue and communication with stakeholders can play a key role in addressing the issue.

It is the groups that immediately surround an airport that will provide vocal opposition to any expansion that may be planned. However, they are not the only audience for airports. Their vocal and local opposition may have an effect on regional and national politicians and media. In addition, the environmental issue of climate change has a potential public relations impact on the industry far beyond the edge of the airport.

For environmental issues at airports, there are a number of key stakeholder groups:

- **Immediate community:** the most important stakeholders are usually the residential communities living either near the airports or under or near flight paths near the airport.
- **Governments:** local and regional governments are also important, because along with residential communities, they have important influence on the ability of airports to provide infrastructure to meet the demands of the air transport system. Governments are also interested in ensuring that the air transport system provides the maximum economic and social benefit for their citizens. In some countries, governments are also airport owners and/or operators.
- **External audiences:** Other important stakeholders include environmental groups, local business associations, tourism organizations and members of the aviation industry including airlines, ANSP's, aircraft manufacturers, ICAO, and the travelling public.
- **Airport community:** environmental programmes often involve and impact upon businesses, airlines and government agencies operating at the airport. These are an important audience for environmental messages.

Having a sustained and comprehensive environmental and community communications strategy is increasingly important to airports. There is a continual need to build reputation capital among stakeholders, in order to establish trust and ensure more balanced responses to future development proposals.

A well-developed community relations strategy will also provide valuable operational assistance, both day-to-day in furthering an airport's environmental targets and programmes and also in response to emergency environmental situations such as a fuel spill.

Being proactive with an environmental communications programme may assist the airport to avoid over-regulation by authorities that may not be aware of the environmental measures and projects already being undertaken.

Communicating effectively will also allow a greater understanding of the issues facing an organization, and clarification of the real impact of an airport on the environment. Combating misperceptions by highlighting the actual facts is an important purpose of a communications strategy – too often rumours and gossip can become the only information source if not countered by factual and open communications from an airport.

The most important element of a successful community relations strategy is trust.

The audience must trust the information being presented. This trust develops over a long period and is built upon a culture of honesty and transparency. An airport should be actively engaged with its local community – the relationship cannot just be built when something is needed from them.

6.7.3 It is best to use a range of communications tools with residents affected by your airport.

Consultative or community liaison committees: *These can be established to provide a forum for interaction with the community. Often, these will include representation from the airport, major carriers, a Board of Airlines, the local or regional government and members of the community. These committees hold regular meetings where they are updated with airport news and given a chance to respond.*

A well-constructed consultation process: *If consultation needs to be undertaken with the community or affected people, the process for consultation should follow the lines of open and transparent good faith between the parties.*

Publications and community newsletters: *These are useful for keeping members of the community and other stakeholder groups informed is important. A number of airports publish community newsletters, or extend on-airport newsletters to neighbouring communities.*

Media relations: *Proactive relationships with the news media about all aspects of an airport's operations (including environmental) can provide a valuable insight to journalists.*

Environmental or sustainability report: *This should be published regularly (e.g. annually) providing a broad review of all environmental and sustainability issues at the airport including policies, goals and targets, progress in achieving these, Key Performance Indicators (KPI) and the like.*

Web site, noise hotlines and community relations telephone numbers: *the airport's website is a valuable resource centre for information for all stakeholder groups and a mechanism for feedback to the airport is important.*

Community involvement, open days and town hall meetings: *all provide important interaction opportunities with the local community and special interest groups.*

Intra-airport community relations and environmental programmes: *such as a cross-airport branded recycling scheme, car pooling programme or environmental events can help bring an airport community closer together, while highlighting important environmental goals. Work with other businesses, tenants and customers on-airport on programmes that can benefit everyone.*
Internal company communications: having a well-informed staff, many of whom may live in the surrounding area, is vital to the good operations of an airport company.

Education programmes: *schools are always looking for assistance with sports teams, events and fundraising drives. Airports provide a great learning opportunity across a number of curriculum areas and a good relationship with local schools can prove valuable, both for the schools and the airport community. Many of the students may have parents who work at the airport.*

7

Security at airports

(cf. ICAO Annex 17 - Security, 8th Edition (2006), and ICAO Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference, Doc. 8973/6, 2002)

***This section has been revised to take into account new ICAO standards and practices, as well as merging two other ACI security policy documents into one.*

7.1 General

ACI POLICY

7.1.1 ACI strongly condemns all acts of unlawful interference with civil aviation wherever they may occur, and by whomever they may be perpetrated, particularly where they result in the injury, loss of life or abduction of passengers, crew members, ground personnel and others.

7.1.2 ACI calls on States to intensify their efforts to eradicate such unlawful acts by complying fully with the specifications of Annex 17 to the Chicago Convention, and by concluding appropriate multilateral or bilateral agreements for the extradition or submission of the offender to the competent authorities for prosecution.

7.1.3 Aviation security measures should be threat based and risk managed.

ACI RECOMMENDED PRACTICE / COMMENT

Should any State be unwilling to comply with the basic requirements of civil aviation security or cooperate with other States in bringing the criminals to justice, all other States should impose appropriate sanctions on that State.

Where ICAO Annex 17 standards are not fully implemented, any party who becomes aware of such non-compliance should advise his own State of the shortcomings, so that appropriate steps can be taken, including additional security measures at receiving airports. Those States should also bring any shortcomings to the attention of the deficient State and ICAO.

Historically, aviation security regulators have adopted a reactive 'layered approach' to security. When there has been a new type of attack or threat, the regulators have responded by applying additional measures (another 'layer'). When viewed holistically the current set of measures lack a consistent rationale.

There is a growing realization that the industry cannot sustain the continued addition of layers of measures. A risk management approach to aviation security is urgently required.

Aviation security measures may have an adverse effect on system capacity and facilitation. The requirements made by governments in this context should therefore realistically match the assessed risk.

Governments must also consider the implications for existing airport facilities when introducing new security measures. Older terminal buildings were not designed for current levels of security and additional security measures may be difficult and expensive to implement.

7.2

States' responsibility for aviation security

ACI POLICY

7.2.1 States have the unequivocal responsibility for protecting their citizens from acts of terrorism or other acts of unlawful interference against civil aviation.

7.2.2 It is the responsibility of States to undertake the formal threat assessment. The level of threat should be kept under review at all times.

7.2.3 ACI urges law enforcement agencies and to share intelligence with each other and, when such intelligence concerns a threat to civil aviation, that the threat information be promptly shared with the airport operators concerned.

ACI RECOMMENDED PRACTICE / COMMENT

The attacks in the U.S. on September 11, 2001, for example, were against a nation state and its citizens, and countermeasures against such attacks and their funding are a matter of national defence. When international or national regulations call for more stringent security at airports, such measures should be developed in full consultation and coordination with airport operators, airlines and other segments of the industry. Airlines and airport operators should provide the supporting facilities required by the security services. It is the States' unequivocal responsibility, however, to safeguard civil aviation against acts of unlawful interference and to ensure the implementation of security measures at airports pursuant to the Standards of ICAO. ACI endorses ICAO resolutions on aviation security and will continue to cooperate to the maximum extent possible with ICAO and other international organizations in this vital area. ACI fully supports ICAO's programme of universal, mandatory security audits of States' aviation security programmes and of airport compliance with Annex 17. A number of States have instituted security measures beyond the Standards and Recommended Practices contained in ICAO Annex 17. Some of the measures affect existing bilateral aviation agreements and cause legal difficulties because of their extra-territorial applicability. In advance of enacting such measures, prior consultation by governments with airport and airline operators can alert governments to some of the complications arising from extra-territorial measures.

It is crucially important for the level of threat to be identified and met with appropriate measures, it is equally important for this assessment to be monitored on a continuing basis to ensure that measures do not remain in force unnecessarily. This requires regular consultation among all parties involved in international civil aviation, including airport operators, the airlines and the appropriate State agencies.

Lack of constant review of the level of threat will prevent necessary adjustments to security measures and could lead to an over extension of special procedures, thus diminishing their effectiveness. This could in turn destroy the economic viability of civil aviation, damaging the service offered to the public whom the special procedures are intended to protect.

7.2.4 The provision and cost of aviation security needs to be borne by the State from general revenues and not from taxes and user charges.

The funding of aviation security is a controversial topic. While some States do contribute substantial sums towards the cost of aviation security, many do not. The 'user pays' principle is often put forward as a reason by such governments but this is often shown to be inconsistent with the same government's approach to protecting other forms of public transport or the protection of public buildings and monuments.

7.2.4a When measures to enhance security at airports are funded through a tax or charge on the passenger, such charges must be directly related to the cost of the service provided and should be administered according to ICAO principles on charging found in ICAO Doc. 9082/6. Any taxes or charges of this nature should be fully transparent to the passenger.

7.2.5 It is the responsibility of States to protect aircraft operating in or through airspace over the territory of that States. This includes protection against attack by Man Portable Air Defence Systems (MANPADS) on aircraft operating at vulnerable altitudes, particularly during the takeoff and landing phases at airports in that State.

7.2.5a Airports should not be responsible for protecting aircraft operations against MANPADS attack launched from outside the airport restricted area.

7.3 Airport security programmes

ACI POLICY

7.3.1 An airport security programme needs to be established at each airport.

7.3.2 An authority at each airport needs to be designated with responsibility for coordinating airport security measures.

7.3.3 An airport security committee needs to be established to advise on the development and implementation of security measures at each airport.

7.3.4 Design requirements, including architectural and infrastructural-related requirements necessary for the implementation of security measures need to be integrated into the design and construction of new facilities and alterations to existing facilities.

ACI RECOMMENDED PRACTICE / COMMENT

Guidance on the structure and content of an airport security programme is provided in the ICAO Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference, Doc. 8973.

Experience has shown that there may be many changes to the requirements of aviation security during the life of an airport terminal building.

7.3.4a Careful consideration should therefore be given to all existing and foreseeable aspects of security at the beginning of the design process. States, airports and airline security experts should work together to achieve the best overall results.

It is essential to make provision for security systems, devices and requirements during the planning and design of a new facility if the security operations are to be cost-effective and efficient.

7.3.4b The design of new facilities should take account of: contingency plans to reduce the risk of lethal attacks at terminals; the segregation of those who have been subjected to security controls from those who have not; the screening of passengers and their carry-on baggage; the provision of special facilities for high-risk passengers/flights; the screening of checked and transfer baggage; and construction features to minimize secondary damage and injuries following an act of unlawful interference.

Different terminals in different States present individual problems. The mix of international and domestic traffic, the proportion of high-risk flights and the particular requirements of each State mean that there can be no common solution. Furthermore, the pattern of traffic usually changes considerably during the operating life of a facility.

7.4

Quality control of airport security programmes

ACI POLICY

7.4.1 Airports need to implement and maintain quality controls in their airport security programmes to determine compliance with and to validate the effectiveness of the programme.

7.4.2 Aviation security staff need to be carefully selected and properly trained and supervised to ensure that they are consistently able to carry out their duties in a highly proficient manner.

ACI RECOMMENDED PRACTICE / COMMENT

7.4.1a Audits, tests, survey and inspections should be carried out on a regular basis to verify compliance with regulatory requirements and performance objectives set in the airport security programme.

7.4.1b Persons conducting audits, tests, survey and inspections should be properly trained and have the necessary authority to carry out these activities and enforce corrective actions.

7.4.1c A process should be established to record and analyse the results of these quality control activities. Deficiencies should be identified, analysed and corrected, as part of a continual improvement process.

The highest priority must be given to the quality of security staff and their professional training, including regular refresher training and proficiency training on new equipment and techniques. Particular attention should be paid to commitment and motivation, bearing in mind the pressures involved in carrying out work that is often by its nature very repetitive. Even higher standards must be applied to the selection and training of those selected to fill supervisory positions, who must be capable of assuming the considerable responsibilities involved.

7.4.2a States should ensure that staff recruited for civil aviation security duties have clearly defined job descriptions and be trained to a level of proficiency which will enable them to perform their assigned tasks. Those persons responsible for training such staff should verify that the requisite standards have been attained.

7.4.2b Induction training for screening staff should comprise a combination of classroom and practical instruction utilizing equipment and techniques in use at the airport where the screeners will be employed. Induction training should be followed by a period of on-site training.

The selection of security screening staff should be based on systematic, objective and fair means of testing that ensure that candidates have the right aptitude for the task. Competency should be maintained and enhanced through additional in-service training and regular performance review.

7.4.2c Refresher training at frequent intervals should be provided. This training should be aimed at improving techniques, knowledge and motivation. Staff should be recertified in respect of their proficiency following refresher training.

7.4.2d Separate supervisory training programmes should be established. These programmes should include "supervisory skills". Training personnel should be qualified instructors.

7.4.2e Persons implementing security controls should be subject to background checks and selection procedures.

7.4.2f Persons implementing security should meet standards of physical and mental fitness which should be specified by the relevant State authorities.

7.5 Preventive security measures

ACI POLICY

7.5.1 Measures need to be established to prevent weapons, explosives or any other dangerous devices, articles or substances, which may be used to commit an act of unlawful interference, the carriage and bearing of which is not authorized, from being introduced, by any means whatsoever, on board an aircraft engaged in civil aviation.

ACI RECOMMENDED PRACTICE / COMMENT

This is the objective of the preventive security measures as stipulated in ICAO Annex 17, Standard 4.1.

7.6 Measures relating to access control

ACI POLICY

7.6.1 Access to airside areas at airports needs to be controlled to prevent unauthorized entry.

7.6.2 An airport permit or identification system needs to be established in respect of persons and vehicles to prevent unauthorized access. The identity of the bearer and the validity of the permit needs to be verified before access is allowed.

7.6.3 Background checks need to be conducted by the relevant government authorities on persons other than passengers granted unescorted access to security restricted areas.

7.6.4 As a minimum, a proportion of persons other than passengers being granted access to security restricted areas, together with items carried, need to be screened.

ACI RECOMMENDED PRACTICE / COMMENT

7.6.1a Security restricted areas should be established at each airport. The separation between restricted areas and other areas should be clearly defined. The zoning of restricted areas should be introduced wherever practicable to reduce the danger of unauthorized staff movement within the airport.

7.6.2a People who are not authorized or appear not to be authorized to be in the area should be challenged and, if their presence cannot be satisfactorily explained, should be reported to the appropriate law enforcement authority.

7.6.3a Persons (such as visitors) who have not undergone background checks should be escorted at all times within the security restricted area.

7.6.3b Persons issued with airport permits or identification cards should be subject to periodic background re-checks by the relevant government authorities.

7.6.3c The issue of identity documents (IDs) should be restricted to those who genuinely need to enter the restricted area. IDs should have a specific period of validity, and the bearers should wear them visibly at all times in restricted areas.

7.7

Measures relating to aircraft

ACI POLICY

7.7.1 Commercial air transport operators are responsible for implementing security measures to protect their aircraft and the persons and articles transported on them.

ACI RECOMMENDED PRACTICE / COMMENT

This includes the implementation of access controls to their aircraft, conducting security checks of aircraft, ensuring the disembarking passengers do not leave items on board aircraft and securing the cockpit, which are required in ICAO Annex 17.

7.8

Measures relating to passengers and their cabin baggage

ACI POLICY

7.8.1 Passengers and their cabin baggage need to be screened prior to boarding an aircraft departing from a security restricted area. This applies equally to transfer passengers, unless the alternative arrangements described in ICAO Annex 17, Standard 4.4.2 are implemented.

7.8.2 Measures need to be implemented to protect passengers and their cabin baggage that have been screened from unauthorized interference from the point of screening until they board their aircraft. If mixing or contact does take place, the passengers concerned and their cabin baggage need to be re-screened before boarding an aircraft.

7.8.3 Where transit operations take place at an airport, measures need to be established to protect transit passengers' cabin baggage from unauthorized interference and to protect the integrity of the security of the airport of transit.

7.8.4 The use of carefully defined individual passenger assessments, based on internationally accepted standards (as incorporated into national legislation), as an element of risk analysis, may be to facilitate the identification of individuals who may pose a threat to the safety and security of civil aviation.

ACI RECOMMENDED PRACTICE / COMMENT

ICAO Annex 17, Standard 4.4.2 provides that transfer passengers and their cabin baggage may be exempt from screening at the transfer airport if there is a validation process and procedures are continuously implemented, in collaboration with the other contracting state where appropriate, to ensure that such passengers and their cabin baggage have been screened to an appropriate level at the point of origin and subsequently protected from unauthorized interference from the point of screening at the originating airport to the departing aircraft at the transfer airport.

7.8.1a Passengers who arouse suspicion after being questioned as to whether their baggage contains electronic and battery operated items should be subjected, together with their baggage, to more detailed inspection.

ACI advocates a strategy for improving the pre-departure screening process which involves improving the process itself (making it less predictable and by using profiling or selection techniques to allow more resources to be focused on passengers that pose the greater risk), implementing human factors best practices and increasing the use of explosive detection equipment in the process. Further information is available from ACI World.

7.8.2a Where practicable, passengers that have been screened should be segregated physically by walls or barriers.

7.8.2b Where this is not practicable, manual controls (using staff) should be used to achieve the objective.

7.8.2c Where physical segregation of arriving and departing passengers is not a feature of the design, the seating areas in piers should be designed/arranged so as to reduce the opportunity of items being left by arriving passengers for those who are departing. However, this may not be a concern if boarding gate screening is employed.

7.8.4a Processes should be developed to facilitate the movement of passengers who, through appropriate risk assessment, are deemed to pose no risk to safety and security and thus permit more effective targeting of resources.

Historically, aviation security measures have focused on detecting weapons rather than to identify persons with malicious intent. As suicide terrorists have already targeted civil aviation and as home made explosives can be made out of common household items, there is a need to focus more on the person being screened. There is growing recognition, therefore, of the importance of the need for security staff, law enforcement personnel and airport staff in general to be more conscious of the behaviour of persons around them. A person who is about to commit a terrorist attack or criminal act will likely manifest some signs of nervousness (etc.) in their verbal communication and body language. Identifying these cues can help to pre-empt the act and can enable the security and law enforcement personnel to focus more attention and resources on these persons.

7.8.5 States need to address the risk from explosives in liquid, aerosol or gel form, by implementing the restrictions (on the carriage of liquids, aerosols and gels in cabin baggage) and the associated measures recommended by ICAO in its State Letters of 1 December 2006, 30 March 2007 and 6 July 2007.

7.8.5a States should fully implement the ICAO recommended measures, which provide a framework for States to recognize measures undertaken in other States to protect the supply chain for travel retail items and the Security Tamper Evident Bag (STEB).

These are considered to be interim measures pending the development of equipment which can routinely screen for liquids, aerosol and gel based explosives.

7.9

Measures relating to hold baggage

ACI POLICY

7.9.1 Measures need to be implemented to ensure that originating hold baggage is screened prior to being loaded onto an aircraft engaged in commercial air transport operations from a security restricted area.

7.9.2 Measures need to be taken to ensure that all hold baggage to be carried on a commercial aircraft is protected from unauthorized interference from the point it is screened or accepted into the care of the carrier, which ever is earlier, until departure of the aircraft on which it is being carried. If the integrity of hold baggage is jeopardized, the hold baggage needs to be re-screened before being placed on board an aircraft.

7.9.3 Transfer hold baggage needs to be screened prior to being loaded onto an aircraft engaged in commercial air transport operations, unless the alternative arrangements stipulated in ICAO Annex 17, Standard 4.5.4 are implemented.

7.9.4 The commercial air transport operator is normally responsible for ensuring that only items of hold baggage which have been individually identified as accompanied or unaccompanied, screened to the appropriate standard and accepted for carriage on that flight by the air carrier, are transported. All such baggage should be recorded as meeting these criteria and authorized for carriage on the flight.

ACI RECOMMENDED PRACTICE / COMMENT

Guidance is provided in the ICAO Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference, Doc. 8973.

7.9.2a Baggage handling systems and make-up areas should be protected and access restricted to authorized staff, in order to prevent pilferage, interference with items of baggage and the introduction of unauthorized items of baggage. Such areas should normally form part of the security restricted area.

ICAO Annex 17, Standard 4.5.4 provides that transfer hold baggage may be exempt from screening at the transfer airport if there is a validation process and procedures are continuously implemented, in collaboration with the other contracting state where appropriate, to ensure that such hold baggage have been screened at the point of origin and subsequently protected from unauthorized interference from the originating airport to the departing aircraft at the transfer airport.

Computerized baggage reconciliation systems are normally used to perform these measures and to produce a baggage manifest.

As the prospect of criminals or terrorists willing to commit suicide while perpetrating an act against civil aviation becomes a real possibility, the limitations of the positive passenger to bag match are obvious. Therefore, while still of considerable value in preventing a Lockerbie type of scenario in which a device is introduced onto an aircraft unaccompanied by a passenger, should never be considered as a substitute for 100 percent screening of checked baggage.

7.9.4a Procedures should be established, which should include a security risk assessment, to deal with unidentified baggage.

This refers to unidentified hold baggage, normally inside the security restricted area. Such baggage may have lost its baggage tag and have no other means of identifying the owner.

7.10

Measures relating to cargo, mail and other goods

ACI POLICY

7.10.1 Security controls need to be applied to cargo and mail, prior to their being loaded onto aircraft engaged in passenger commercial air transport operations.

7.10.2 Cargo and mail that is to be carried on a passenger commercial aircraft requires protection from unauthorized interference from the point security controls are applied until the departure of the aircraft.

7.10.3 Where the security controls involve a process of regulated agents, such agents should be approved and subjected to appropriate oversight by the aviation security regulatory authority.

7.10.4 Catering stores and supplies intended for carriage on passenger commercial flights need to be subjected to appropriate security controls and thereafter protected until loaded onto the aircraft. This responsibility should normally rest with the commercial air transport operator.

ACI RECOMMENDED PRACTICE / COMMENT

Guidance is provided in the ICAO Security Manual for Safeguarding Civil Aviation Against Acts of Unlawful Interference, Doc. 8973.

States should combine resources in a co-operative manner to share information and research and develop harmonized measures to ensure the safe and secure carriage of cargo, courier, express parcels and mail worldwide without impeding the flow of traffic.

This is normally the responsibility of the commercial air transport operator or its agents.

7.10.4a These measures should apply equally to all suppliers to minimize the risk of items intended for acts of unlawful interference being delivered clandestinely on board aircraft.

7.10.4b Random screening should be conducted at access points to and throughout restricted areas while minimizing deleterious operational impact.

7.10.4c The transfer of goods should be adequately supervised.

7.10.4d Random searches of goods carried by any person, including crew, should be implemented.

7.10.4e There should be pre-flight checks to ensure that no weapons or other dangerous devices have been placed on board.

Particular attention should be paid to aircraft that have been left unattended for a prolonged period or overnight or are undergoing maintenance, which should be secured or otherwise protected to prevent unauthorized access.

7.11

Measures relating to special categories of passengers

ACI POLICY

7.11.1 It is the responsibility of governments to ensure that legislation is in place to enable the arrest and prosecution of unruly passengers.

7.11.2 Persons travelling under judicial and administrative control may present a higher risk than normal passengers. It is the responsibility of governments to ensure that procedures at the airport are formalized with the airport operators and the commercial air transport operators. Governments should also ensure that their agencies strictly implement these procedures.

7.11.3 It is the responsibility of governments to establish and enforce a policy in respect of the carriage of weapons at the airport and on board aircraft by law enforcement officers and other authorized persons. Where this is permitted, procedures need to be established to ensure that these weapons are under proper control, while the aircraft is on the ground or such officers are undergoing arrival or departure processing.

ACI RECOMMENDED PRACTICE / COMMENT

The problem of unruly passengers is serious. While the main risk is faced in-flight where such persons may endanger the safety of the flight, there is also a risk to persons in the terminal when passengers become unruly (typically because they are drunk).

7.11.1a Airports should ensure that procedures are established for such incidents (usually requiring the Police intervention), that staff are trained appropriately and that these procedures are practised.

7.11.1b Unruly passengers often display erratic behaviour prior to boarding the aircraft, and this behaviour may come to the attention of ground personnel anywhere between the car park and the boarding area.

7.11.1c Airport employees have an obligation to notify airline and law enforcement personnel when they observe a passenger who appears to be disruptive, inebriated or agitated. The ultimate responsibility for determining the passenger's fitness to board rests with the airline.

Persons who are under judicial or administrative control (e.g., deportees, prisoners, etc.) present a higher risk than normal passengers. Governments need to work with airports and commercial air transport operators to establish procedures covering advance notification of travel, access arrangements to the security restricted area, additional screening requirements, guard or escort requirements and coordination. Governments should also ensure that their control authorities strictly implement these procedures.

Sky marshals, armed crew members and bodyguards can create a risk to airport security and can cause disruption if they arrive at the airport without prior arrangement with the appropriate law enforcement and airport security. For example, there have been cases of armed cockpit crew disembarking from an aircraft during a turn-around operation and then having to go through screening, where the weapons are then discovered.

Where there is screening of persons entering a security restricted area, the aviation security regulatory authority should establish a policy and procedure covering the screening of armed law enforcement personnel.

7.12 Public awareness of security

ACI POLICY

7.12.1 The understanding and cooperation of the travelling public is a prerequisite for effective aviation security.

ACI RECOMMENDED PRACTICE / COMMENT

Increasingly strict aviation security measures may cause congestion in airport terminals and add to the possibility of flight delays. Passengers can advance their own interests and those of the civil aviation industry if they understand the general approach adopted by governments to prevent acts of unlawful interference. It is also of vital importance that they be made aware that they may become unwitting accomplices to the introduction of explosive devices onto an aircraft or into terminal facilities.

7.12.1a Public awareness programmes by States and the air transport industry are needed to induce passengers to comply with aviation security requirements. Passengers should be advised:

- to pack their own bags;
- to be familiar with their contents;
- to utilize baggage resistant to surreptitious placement of weapons or explosive devices;
- not to carry any item for any other person without its contents having been examined; and
- not to leave their baggage unattended.

7.12.1b Employee awareness programmes are similarly indispensable to the secure operation of the airport. Airport operators should ensure that ground personnel and other airport employees who work both landside and airside are well briefed on security procedures and that they report suspicious behaviour immediately to security personnel or law enforcement authorities.

7.13

Code-sharing and other collaborative arrangements

ACI POLICY

7.13.1 Code-sharing and other collaborative arrangements by airlines can confuse the lines of authority and responsibility when they involve States having differing levels of security measures. States and airports need to be clearly informed by the airlines involved about such arrangements so that they can take appropriate measures to counter the threat.

ACI RECOMMENDED PRACTICE / COMMENT

Code-sharing and other collaborative arrangements between airlines are commonplace in today's aviation marketplace. When such arrangements involve carriers from two or more States, the possibility of "threat transfer" can occur. Threat transference means that an air carrier or airport with a high threat level and/or poor security measures can endanger an otherwise secure airport by introducing flights which have not be subjected to effective and thorough security measures.

ACI believes that Annex 17 already contains adequate provisions for a uniform approach to responsibilities and accountabilities for code-sharing and collaborative arrangements between operators. Annex 17 assigns those responsibilities to the State from which the aircraft departs. However, a lack of full compliance with Annex 17 standards and recommended practices in some States creates the "threat transfer" possibility.

7.13.1a To ensure optimal security for flights involving code-sharing or other collaborative arrangements, the following principles should be applied:

- Airlines should notify the affected States in a timely fashion of planned code-sharing or other collaborative arrangements. Since it is the unequivocal responsibility of States to safeguard civil aviation against acts of unlawful interference, there should be adequate time for law enforcement and intelligence agencies to evaluate the security implications of the code-sharing or collaborative arrangements.
- Airlines should fully and promptly brief airport operators on code-sharing and collaborative arrangements on both security and logistical grounds. Because some code-shares may have both domestic and international flight segments and/or change of equipment and/or change of terminals, the airport operator may need to employ special procedures to ensure that passengers and cargo are fully screened and that the threat assessment takes into account the point of origin of the flight, the ultimate destination and the carriers involved in the code-share.

7.14 One-stop security

ACI POLICY

7.14.1 ACI supports one-stop security which, by eliminating the need for redundant security checks at transit stops, could speed the flow of transit passengers and baggage to their ultimate destinations. States need to develop, either bilaterally or multilaterally, the criteria for the mutual recognition of screening procedures vis-à-vis other States.

ACI RECOMMENDED PRACTICE / COMMENT

One-stop security - the concept that a passenger and his baggage undergo only one initial security check even on a journey involving multiple airport transfers - has a number of potential benefits for airport operators.

ACI recognizes that the financial and logistical benefits of one-stop security, as well as improved customer service, multiply exponentially with each State that implements one-stop security.

Harmonization of security standards, while often cited as a strategic objective, may not be consistent with a risk managed based approach to aviation security. The concept of a risk based approach advocates that measures will vary from State to State depending on the risk. However, the level of protection should still be commensurate to the risk. States should not therefore seek identical measures as a pre-requisite for mutual recognition but rather equivalency of measures, in the context of the assessed risk.

7.15 New technologies

ACI POLICY

7.15.1 States and industry need to jointly consider the role of technology to address the new security threats to civil aviation.

ACI RECOMMENDED PRACTICE / COMMENT

7.15.1a The development of equipment that is routinely capable of screening for 'home made' explosives should be accorded top priority.

7.15.1a Government should combine resources in a co-operative manner to share information, research and development costs for explosive detection technology and other technologies to enhance current systems of screening passengers and baggage.

7.15.1a Airports, commercial air transport operators and regulatory authorities should jointly develop measures that would improve the flow of passengers and their baggage through security checkpoints.

7.16 Contingency measures

ACI POLICY

7.16.1 States need to ensure that contingency plans are developed in conjunction with airports (and other stakeholders) and resources are made available to safeguard airports and civil aviation operations.

7.16.2 States need to ensure that authorized and suitably trained personnel are readily available for deployment at its airports to assist in dealing with suspected, or actual, cases of unlawful interference with civil aviation.

7.16.3 Airports should develop their own contingency plans to dove-tail with the State plans. Staff need to be trained in these plans and procedures and the effectiveness of these plans should be verified through regular tests and exercises involving all relevant stakeholders.

ACI RECOMMENDED PRACTICE / COMMENT

Airports should implement a business continuity management approach that comprises preventive measures, contingency measures and business recovery measures. Any incident, whether security related or not, has the potential to cause major disruption to normal airport operations. Airports need to plan to mitigate and manage such disruption.

8

Emergency medical services, hygiene and sanitation at airports

(cf. ICAO Annex 9, 12th Edition (2005), and WHO International Health Regulations (2005))

8.1

Emergency medical services at airports

ACI POLICY

8.1.1 Emergency medical services should be provided for passengers and other persons and arrangements should be made for supportive medical facilities, locally and regionally, in accordance with national regulations.

ACI RECOMMENDED PRACTICE / COMMENT

8.1.1a As regards medical services required for major airport emergencies, ACI advocates that the Aerodrome Emergency Plan should contain details of all these arrangements, and that regular training drills be carried out with the external agencies concerned, as well as a full-scale emergency exercise at intervals not exceeding two years (see also section 5.10 of the Policy Handbook on Aerodrome Emergency planning).

8.2

Hygiene and sanitation at airports

ACI POLICY

8.2.1 Although airport operators in many countries are not responsible for sanitation programmes at airports, ACI recognizes the need to maintain high standards of hygiene.

ACI RECOMMENDED PRACTICE / COMMENT

8.2.1a Health inspection at airports should be undertaken by the competent local health administration, in cooperation with airport operators and the airport tenants and users involved. Procedures for the procurement, preparation, handling, storage and delivery of food and water supplies intended for consumption, both at airports and on board aircraft, and for the removal and safe disposal of waste materials should not unnecessarily interfere with airport ground operations nor should they inconvenience passengers, for example by delaying their embarkation or disembarkation.

8.3

Public health and animal and plant quarantine measures

ACI POLICY

8.3.1 Governments require adequate space and facilities for the administration of public health and animal and plant quarantine measures to be made available at international airports in respect of aircraft, passengers, crew, baggage, cargo, mail and stores. The necessary space and facilities, as well as staffing, should be provided at government expense, not at the expense of the airport operator.

ACI RECOMMENDED PRACTICE / COMMENT

8.4 Communicable diseases

ACI POLICY

8.4.1 As regards provision for the management of any outbreak of communicable disease in which airports are involved, ACI and ICAO have prepared guidelines for airport operators, available from ACI. These are based on the principles set out in the World Health Organization's International Health Regulations.

ACI RECOMMENDED PRACTICE / COMMENT

8.4.1a In accordance with these guidelines, airport operators, in communication with all other parties involved, should prepare a section of their emergency plan to cover the management of outbreak of communicable disease involving the airport.