

ACI Supports its Members Adapt to Climate Change and Become More Resilient

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More frequent storms and other adverse weather events have put airports around the world into the spotlight. They have mobilized the aviation community into action to improve the sector's resilience and adaptation to a rapidly changing climate. In October 2018, Kansai Airport was hit by the strongest typhoon in Japan for 25 years. This had severe economic impacts (more than half a billion USD) both to the airport, and also to the local economy.

The impact on one airport can be easily seen, but there are knock on effects on other airports and stakeholders, as delays, cancellations and congestion occur. No one is

immune from the impacts of climate change and airports are no exception. This does not mean all airports need to adapt their infrastructure and/or operations, but ACI encourages them to conduct risk assessments and consider including the results of these assessments in their Master Plans.

When a petroleum tanker crashed into the only bridge connecting Kansai International Airport with the mainland, it was not just the 8,000 passengers and staff that suffered. It was the region's overall economy – an economic powerhouse that just ranks below the GDP of

Kansai International Airport hit by Typhoon Jebi on 4 September 2018 Source: Mainichi Shimbun



the Netherlands¹ - that suffered. It took 17 days to fully restore the operation back to normal.

ACI RESOLUTION ON RESILIENCE AND ADAPTATION TO A CHANGING CLIMATE

Recognizing the potential impact of climate change on airport infrastructure and operations as an ever-evolving threat that could become impediments to the industry, Airports Council International (ACI) adopted a resolution on resilience and adaptation to climate change at its World Annual General Assembly in Brussels in June 2018². Members unanimously called for specific actions to address the potential impact of climate change at every level of airport planning and operation: from airport master planning to business continuity planning and disaster risk reduction.

As seen at Kansai International Airport in the aftermath of the typhoon Jebi, the impact to the airport and its surroundings may have significant knock-on effects to the overall resilience of an economy. Furthermore, the global air transport network can be affected, resulting in disruption throughout the network.

ACI agreed to:

- Continue reducing greenhouse gas emissions through the Airport Carbon Accreditation programme and other measures;
- Support international efforts in assessing the potential impacts of climate change;
- Consider the potential impact of climate change in Airport Master Plans;
- Conduct risk assessments on operation and infrastructure;
- Implement follow-up actions in line with overall business continuity management and emergency planning; and
- Collaborate with internal/external stakeholders.

ACI GLOBAL SURVEY ON RESILIENCE AND ADAPTATION

In order to better support members' call for action, the ACI World Governing Board decided to conduct a survey on the status of airports actual and potential future impacts and their related adaptation measures. It is the first global assessment focused on airports, exemplifying the airport industry's determination to make well-informed decisions and to tackle this complex challenge. The survey aims to collect quantitative and qualitative data on:

- Current and prospective exposure and potential impacts from changing climate;
- Level of preparedness and efforts put in place by the industry, including risk assessments and adaptation plans; and
- Financial past and potential impacts, including changes to insurance premiums and financial risks disclosure requirements.

The survey is expected to draw inputs from various departments within an airport, including expertise from areas such as environment, operation, planning, strategy, finance, safety, and others. It aims to also collect members' views on current and potential financial impact from climate change and recent evolution from financial systems including the recommendations from Task Force on Climate-related Financial Disclosures (TCFD).

Considering the multidisciplinary nature of the problem, and the need for a coordinated approach from various departments in airports, ACI's World Environment Standing Committee has been leading the development of the survey with support from other ACI Committees. Once finalized, the survey is expected to inform and guide the airport industry and other aviation stakeholders; and to shed light on the analysis of adaptation efforts from other critical infrastructure and transport systems.

1 <https://www.ft.com/content/0df7c4d6-5dea-11e8-ab47-8fd33f423c09>

2 <https://aci.aero/news/2018/06/22/28th-aci-world-annual-general-assembly-passes-six-resolutions-to-support-world-airports-priorities-and-interests/> (accessed on 28 May 2019)

PUBLICATIONS TO SUPPORT MEMBERS

Policy Brief on Airports' Resilience and Adaptation to a Changing Climate

ACI has published a Policy Brief on Airports' Resilience and Adaptation to a Changing Climate. It provides a high-level summary of potential impacts on airport operation and infrastructure from extreme and slow-onset climate stressors. It encourages airport operators to conduct risk assessment for robust adaptation planning. In particular, it focuses on identifying infrastructure and operational characteristics of airports and their corresponding vulnerability to climate and weather events. This approach was taken to make it easier for the industry to familiarize itself with the issue and start adaptation planning as early as possible.

The policy brief includes a list of airports that have already started work on resilience and adaptation and provides a high-level snapshot of 36 airports and their initiatives in Asia Pacific, Europe, and North America. This will be expanded with the results from the industry-wide survey.

Finally, selected airports' best practice case studies were included to show how adaptation planning can vary between airports. These range from revised design standards to effective coordination and communication from stakeholders. The case study from Changi airport, for example, illustrates how long-term climate scenario analysis informed the government and airport operator to coordinate and integrate additional provisions from the beginning of mega infrastructure projects.

Schiphol's case presents a successful partnership with national research programme to better analyze and develop adaptation strategy and flood-proof the airport: it is already located well below sea level.

Early moves to assess risk and update design requirements and standards in a cost-efficient and effective manner was highlighted in the Avinor and Brisbane Airports cases. The newly opened Istanbul

Airport's case study shows how climate adaptation can be incorporated from the very beginning of airport planning.

Last but not least, Hong Kong Airport's experience provides that climate adaptation and resilience does not only mean the change in infrastructure but also requires effective operational planning. This includes rapid response and recovery in the face of natural disasters for better business continuity management.

Handbook on Airport Business Continuity Management

The publication of ACI's Handbook on Airport Business Continuity Management will guide its members in developing enhanced business continuity management. With inputs from industry experts on airport facilitation, environment, safety and security, this handbook covers many situations and unplanned incidents that go beyond natural disasters expected to become more frequent by the changing climate.

With adverse weather conditions and more frequent natural disasters expected in the future, the potential for disruption on "normal business operations" at airports creates the need for more robust business continuity management plans. The handbook will help airports to reflect on their organizational capability for fast recovery and how they can maintain the flow of passengers and goods, enable the delivery of services to customers, sustain commercial revenue streams and protect their infrastructure.



WAY FORWARD TO A MORE RESILIENT FUTURE

During a pre-conference session on Climate Adaptation and Resilience at the ACI World Annual Conference and Assembly in April 2019, Kansai International Airport reflected on their experience from the typhoon as a valuable learning experience. Kansai Airport is one of the world's leading airports with the first 'resilience certification' from its government and design standards that have catered for the potential impact from climate change. Yet, disruption from one of the biggest typhoons in history was significant to introduce new unforeseen impacts and encourage the airport to start considering how to address these if they ever happen again in the future.

The lesson is clear for the airport community.

Handling risks from climate change should involve actions that go beyond improving infrastructure design standards or making adjustments to operational planning. It must also include close coordination with local authorities and organizations because, at the end of the day, communities rely on airports for their connectivity and as an engine for economic development. ACI welcomes the current work of ICAO CAEP on adaptation, such as the Climate Change Adaptation Synthesis and the future CAEP/12 work, particularly regarding risk assessments. Capacity building will be essential to support airports, and all aviation stakeholders, affected by more adverse weather in the near future.

ACI will continue to help and guide members on their journey to a more resilient future.

