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**Seventh Meeting of the North American, Central American and Caribbean Directors of Civil Aviation  
(NACC/DCA/07)**

Washington, D. C., United States, 19 – 21 September 2017

**Agenda Item 7: Air Transport Matters**

**ICAO'S WORK FOR ECONOMIC DEVELOPMENT OF AIR TRANSPORT**

(Presented by the Secretariat)

**EXECUTIVE SUMMARY**

This paper reports on ICAO's priority work under the Strategic Objective – Economic Development of Air Transport, which aims at enhancing capabilities of States to:

- a) improve air connectivity, create more competitive business opportunities, increase consumer's benefits and choices, and reduce financial burden and costs in performing regulatory oversight functions; and
- b) enable aviation to serve as an effective means to achieve economic development, in particular, increase accessibility to funding for aviation infrastructure development and investment in air connectivity.

The paper summarizes the Organization's work related to air transport policy and regulation, as well as infrastructure management and funding/financing. It also presents ICAO's work related to the aviation data and analyses, which focuses on big data, business analysis tools and air traffic forecasts, with the establishment of a joint venture model, at the specific project level, in collaboration with partners. The Meeting is invited, inter alia, to proactively support ICAO's work for economic development of air transport and to encourage contributions to the Air Transport Fund for the implementation of various air transport projects.

<b>Action:</b>	Paragraph 4
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"><li>• Economic Development of Air Transport</li></ul>

**1. Introduction**

1.1 The Chicago Convention states: "[...]THEREFORE, the undersigned governments having agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically".

1.2 Based on the Preamble, the Economic Development of Air Transport is one of the five Strategic Objectives established by ICAO. A sound and economically-viable civil aviation system provides the freedom to travel affordably, enhances its economic efficiency and transparency while facilitating access to funding for aviation infrastructure and other investment needs, technology transfer and capacity building to support the growth of air transport and for the benefit of all stakeholders. To maximize aviation's contribution to economies, uniting efforts among States and the international communities is required beyond the civil aviation sector.

1.3 As described in the ICAO Business Plan for 2017-2018-2019, removing impediments to economic sustainability of air transport and elevating the priority given to aviation in financing are the ultimate goals of this Strategic Objective. States can use aviation as an effective development tool by placing it at the center of the national/regional development framework and international financing for development flows, resulting in: a) improving air connectivity; b) creating more competitive business opportunities; c) increasing consumer's benefits and choices; and, at the same time, d) reducing financial burden and costs in performing their regulatory oversight functions. The delivery of the results with respect to this Strategic Objective will contribute to the growth of civil aviation activities and the efficiency of air transport and hence to the global economy, and the expansion of trade and tourism.

## **2. STATE OF AIR TRANSPORT OF THE NORTH AMERICA, CENTRAL AMERICA AND CARIBBEAN (NACC) STATES**

2.1 Air carriers of the NACC States (21 States to which the ICAO NACC Regional Office is accredited) represented 25 per cent of the world passenger traffic measured in revenue passenger-kilometres (RPKs), and recorded an annual +4.6 per cent growth of in 2016. Airlines in the region carried 973 million passengers in 2016 (+3.9%, compared with 2015).

2.2 With 1 502 billion RPKs performed in 2016, airlines of the United States accounted for 84 per cent of total passenger traffic performed by airlines in the NACC States. Airlines in Canada and Mexico accounted for 11 per cent and 4 per cent, respectively. These three States in the region recorded a growth of +3.5 per cent, +10.7 per cent, and +15.9 per cent in RPK in 2016, respectively. Several carriers in the region demonstrated double-digit growth in RPKs and contributed to the passenger traffic growth in the NACC States such as Air Canada (+13.1%), Spirit Airlines (+19.7%), and Volaris (+23.8%).

2.3 Around 35 per cent of the passenger traffic performed by airlines in the NACC States is international. International traffic of the region increased by +4.0 per cent in 2016. This growth was supported by the double-digit growth of Canada (+13.7 per cent) and Mexico (+15.7 per cent). United States is the largest domestic market in the world with 40 per cent share of the world domestic traffic, and recorded an annual growth of +4.6% in 2016.

2.4 Airlines in the NACC States expanded their capacity in available seat-kilometres (ASKs) by +5.1 per cent in 2016. The capacity in ASK increased by +4.5 per cent for international services and by +5.4 per cent for domestic services.

2.5 The passenger load factor decreased slightly from 83.4 per cent in 2015 to 83.1 per cent in 2016. NACC States has the highest passenger average load factor among all regions. The passenger load factor reached 81.2% for international services and 84.2% for domestic services.

2.6 Cargo traffic performed by carriers of NACC accounted for 20 per cent of the world freight traffic measured in Freight Tonne-Kilometres (FTKs), and recorded an annual growth of +2.2 per cent in 2016, an improvement from the -2.2 per cent decline in 2015. Over 59 per cent of the air freight traffic performed by NACC carriers is international. Carriers of United States represented 92 per cent of the total freight traffic of the region, and registered a growth of +1.8 per cent.

2.7 International Revenue Tonnes-Kilometres (RTK) performed by airlines in the NACC States represented 24 per cent of the world total RTK, and grew +4.1 per cent in 2016. International RTK of the region grew by 3.2 per cent in 2016. Information on the ranking of States' RTKs for international scheduled air services can be found in the **Appendix** to this paper.

2.8 Aviation is not only a major engine of economic growth for States, by increasing their tourism and facilitating world trade. Air connectivity is indispensable for tourism in many States, especially Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs) and Small Island Developing States (SIDS). More than half of international tourist arrivals and nearly a third of global trade in terms of value, occur thanks to air transport. In 2015, aviation's global economic impact (direct, indirect, induced and tourism catalytic) is estimated at USD 2.7 trillion, the equivalent of 3.5 per cent of world gross domestic product (GDP). The air transport industry generates a total of 67.3 million jobs globally.

### 3. **DISCUSSION**

#### 3.1 **Air Transport Policy and Regulation**

3.1.1 The progress of the follow-up work to the Sixth Worldwide Air Transport Conference (ATConf/6, 18-22 March 2013) was reported to the 39th Session of the Assembly held from 27 September to 7 October 2016, which noted the achievements, including the main ones highlighted below, and endorsed the continuing work programme. The follow-up work has been conducted by the Air Transport Regulation Panel (ATRP), which held its fourteenth meeting (ATRP/14) in Montréal from 5 to 7 July 2017.

3.1.2 **ICAO's long-term vision for air transport liberalization.** The Council adopted the long-term vision in June 2015, which has been disseminated to Member States (State letter 2015/54), as an inspirational guide for the pursuit of their liberalization goals. States are encouraged to give regard to, and apply the vision in their policy making and regulatory practices.

3.1.3 **Market access, air cargo and air carrier ownership and control.** The ATRP will continue to develop a multilateral agreement for the liberalization of market access and to work on safeguards. It will develop a specific protocol to facilitate further liberalization of air cargo services (up to 7th Freedom) and a standalone multilateral agreement on foreign investment in airlines.

3.1.4 **Fair competition.** ICAO's efforts focused on developing tools to enhance the transparency of States' competition rules, and to foster cooperation, dialogue and regulatory compatibility. In this respect, the compendium of competition policies and practices in force nationally or regionally was enhanced by the Secretariat, the database now covering 129 States, or 68 per cent of the ICAO membership. The compendium is available at <http://www.icao.int/sustainability/compendium/Pages/default.aspx> and additional information on this tool is available in ATRP/14-IP/1. An exchange forum on competition issues was also provided for the aviation community through various meetings, including the third ICAO Air Transport Symposium (IATS, March 2016, Montréal). The summary report of the IATS is available at <http://www.icao.int/Meetings/iats2016/Pages/default.aspx>.

3.1.5 **Consumer protection.** A set of core principles on consumer protection was endorsed by the Council in June 2015 (State letter 2015/60). These core principles aim at providing high-level guidance to States and concerned stakeholders to ensure that air passengers are duly protected in the three phases of their travel. States and concerned stakeholders are encouraged to provide feedback to ICAO of their experiences in applying the guidance.

3.1.6 **ICAN event.** The Ninth [ICAO Air Services Negotiation Event \(ICAN2016\)](#) was held in Nassau, Bahamas, from 5 to 9 December 2016. The event was attended by delegates from 67 States/territories; 430 formal and informal bilateral meetings were conducted, which led to the signing or initialling of some 400 agreements (including many open skies agreements), and arrangements (such as Memoranda of Understanding, Records of Meeting or Agreed Minutes). By the end of 2016, a total of 141 States<sup>1</sup> (representing 74 per cent of ICAO membership) have utilized this facility at least once. This year, ICAN2017 will take place in Colombo, Sri Lanka, from 4 to 8 December 2017, and will be hosted by the Civil Aviation Authority of Sri Lanka, 46 States and Territories have pre-registered as of 3 August 2017.

## 3.2 **Infrastructure Management**

3.2.1 The rapid growth of air traffic will place an increased pressure on existing aviation infrastructure. Without an appropriate level of investment in a timely manner and the collaboration of multiple States to modernize and expand aviation infrastructure, the use of aviation as an economic development driver will be severely constrained. For LLDCs and SIDS especially, aviation represents an essential lifeline to enhance connectivity. However, in spite of its economic benefits, aviation so far has received limited attention regarding official development assistance (ODA).

3.2.2 As an outcome of the ICAO World Aviation Forum (IWAF), held on 26 September 2016, financial institutions were urged to alleviate constraints on financing development for the aviation sector, including quality infrastructure investment, and to examine the feasibility of creating investment pools and a financial marketplace in which aviation related projects can be consolidated and promoted.

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<sup>1</sup> excluding participating territories, such as Aruba, Curacao, Sint Maarten and Cayman Island

3.2.3 ICAO continued its work on developing and updating its policies in the area of airport and air navigation services economics, financing and management, including through the Airport Economics Panel (AEP) and the Air Navigation Services Economics Panel (ANSEP). The two panels held their Sixth Joint Meeting (AEP-ANSEP/6) from 23 to 25 May 2017. The meeting's major outcomes are summarized below.

3.2.4 ***Development of guidance on cost-benefit analysis, business case studies and economic impact analysis.*** In response to the call by the aviation stakeholders and the ICAO Assembly, AEP-ANSEP will further review the related ICAO guidance in these areas with a view to finalizing such guidance by 2018.

3.2.5 ***Continuous updating of ICAO's policies and guidance on airport economics and management.*** AEP-ANSEP will also carry out a comprehensive review of Doc 9562, *Airport Economics Manual*. This work will aim at clarifying text of Doc 9562 which may be irrelevant, unclear and/or contradictory, at enhancing definitions of “differential” and “modulated” charges, as well as “aeronautical” and “non-aeronautical” activities. The panels will consider the revised draft in 2019.

3.2.6 ***Challenges linked to the implementation of the Aviation System Block Upgrades (MDWG-ASBUs).*** AEP-ANSEP/6 considered and adopted a framework for addressing operational incentives, which will be incorporated where appropriate as a cross-reference in the 2019 edition of the Global Air Navigation Plan (GANP).

3.2.7 ***Airport networks.*** The AEP-ANSEP will continue to develop guidance to address issues related to non-economically viable airports which are necessary as part of integrated air transport networks for safety or socio-economic reasons. The outcome of this work will be submitted for consideration by the panel meeting in 2019.

3.2.8 ***Unmanned aircraft systems (UAS).*** In recent years, considerable growth has been observed in the use of UAS for recreational and commercial purposes. To keep pace with this trend, UAS will need to be managed safely and without unduly burdening existing airspace users with costs not properly allocable to them. In this context, AEP-ANSEP will monitor developments and serve as an information-sharing platform.

3.2.9 ***Joint ICAO-ACI Airport User Charges Course.*** The Joint ICAO-ACI Airport User Charges Course has become a well-established training activity. Its target audience includes regulators, airport financial directors, airport directors and business development managers. One such course is planned for September 2017 in Montréal, Canada.

### 3.3 Aviation Data and Analysis

3.3.1 The ICAO Statistics Programme has been modernized as part of the Enterprise Data Management (EDM) initiative, which aims to harmonize different sources of data at the organizational level, using standard reference tables and taxonomies by creating a holistic repository of cross functional data.

3.3.2 At the same time, ICAO has established a joint venture, at the specific project level, in partnership with United Nations (UN) agencies, international organizations and academia, rather than conducting the project on its own. For example, a joint project with the Universal Postal Union (UPU), the UN Conference on Trade and Development (UNCTAD) and the International Transport Forum (ITF) at the Organization for Economic Co-operation and Development (OECD) was initiated to evaluate linkages of e-commerce, liner shipping and air cargo, and to identify regulatory and other constraints that contribute to a low share of air cargo in the rapidly growing e-commerce market.

3.3.3 **Big data.** In recent years, data sets are becoming increasingly large and complex, making them unmanageable for traditional data processing applications. For example, aircraft movements data captured in real time using Automatic Dependent Surveillance – Broadcast (ADS-B) System or global traffic flows data coming from Market Intelligence Data Transfer (MIDT) cannot be processed under the existing applications. ICAO is a member of the UN Statistical Commission global working group, which is tasked to establish standards on the technical and policy aspects of big data.

3.3.4 **Business analysis tools.** Since mid-2014, various business analysis tools have been developed to analyze and visualize ICAO data thereby assisting in the decision-making process (<https://www4.icao.int/etools/>). The following are examples of the tools: air service agreement maps, aeronautical treaty maps, traffic and financial trends, air traffic mapping, airports and air navigation services tariffs evaluation. The latest available business tool measures the expected economic benefits of implementing safety-related Standards and Recommended Practices (SARPs). Progress has also been made regarding the use of modern analytical and forecasting tools to reduce time and improve the efficiencies of the analytical process.

3.3.5 **ICAO single set of long-term traffic forecasts.** The multi-disciplinary group, including States, international organizations and the Committee of Aviation Environmental Protection (CAEP) working groups, developed the new forecasting models and methodologies. The estimated results indicate that global passenger traffic will grow at +4.6 per cent annually to 2032. Fourteen route groups outpace the global growth, including all route groups involving Central Southwest Asia. The fastest growing route group is Domestic Central Southwest Asia, which is estimated to grow at around +10 per cent annually. Global freight traffic is expected to grow at +4.4 per cent annually over the same time period as passenger forecasts. The Middle East has the highest forecast of annual growth outpacing the global estimate by about +2.8 percentage points. The growth rate of Asia Pacific is close to the global estimate, at +4.7 per cent.

3.3.6 **Aviation satellite account.** ICAO is currently preparing the draft methodological framework document on the Aviation Satellite Account (ASA) to measure the size of aviation-related direct gross domestic product (GDP). The first draft was discussed at the ICAO's Aviation Data and Analysis Panel (ADAP) held in March 2017. Under the guidance of the UN Statistics Division, the Expert

Review Group will be established with representatives from the National Statistics Office (NSO) and Member States and observers of ADAP to review the methodological framework document by the end of 2017 to see if it conforms to the System of National Accounts (SNA) principles, and any deviation from SNA principles will be accepted due to peculiarities of the aviation sector.

3.3.7 **Airport reporting form.** ICAO, with the Airport Council International (ACI), jointly collects airport traffic data starting from January 2016 by replacing the ICAO Air Transport Reporting Form I, and is developing an online analytical tool of airport charges contained in *Tariffs for Airports and Air Navigation Services* (Doc 7100).

3.3.8 **Global Indicator for UN Sustainable Development Goals (SDGs).** In order to measure the progress of the SDGs, the 47th Session of the UN Statistical Commission held in March 2016 endorsed the initial global indicator framework submitted for approval by the UN General Assembly. ICAO supports the agreed global indicator of SDG Target 9.1<sup>2</sup> – *passenger and freight volumes by mode of transport* – by serving as the custodial agency responsible for collecting air traffic data and sharing the information with the UN.

### 3.4 **AIR TRANSPORT FUND**

3.4.1 The Air Transport Fund, established in 2014 by ICAO (State letter 2014/32 refers), serves as a mechanism for the collection and use of voluntary contributions from States and other donors to support ICAO's activities in the air transport field (<http://www.icao.int/sustainability/Pages/TRAF.aspx>).

3.4.2 Previously developed projects to be possibly undertaken by ICAO under the voluntary contributions of the Air Transport Fund include the “Air Transport Eliminating Poverty: ICAO's Essential Services and Connectivity Improvement (ESCI) Scheme”, “iPLAN: Planning for Travel Disruptions”, “Business Aviation: A Productive Booster”, “Air Freight Indices”, and “Targeting Cargo Theft and Delay”.

3.4.3 Several new ones have been added which may be supported by the Fund, such as “The Air Transport Gender Equality Initiative”. This project would include the establishment of air transport gender indicators through the collection of workforce statistics as provided on a voluntary basis from States. Collaboration and ongoing discussion between ICAO with the International Labour Organization (ILO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) will allow cross-organizational exchange of information on best practices in collecting gender related data with the aim of incorporating the information in the *Global and Regional 20-Year Forecasts for Pilots, Maintenance Personnel, Air Traffic Controllers* (Doc 9956) and the creation of an online platform for sharing data on workforce statistics.

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<sup>2</sup> SDG Target 9.1 refers to “Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all.”

3.4.4 Also, the Air Transport Fund can support the provision of technical assistance activities as part of ICAO's *No Country Left Behind* (NCLB) initiative.

4. **Action by the Meeting**

4.1 The Meeting is invited to:

- a) support ICAO's work for Economic Development of Air Transport;
- b) encourage States to apply and follow ICAO's policies and guidance in the air transport field in their regulatory practices, including the long-term vision for liberalization and core principles on consumer protection;
- c) coordinate with ICAO in meeting States' needs of data, analysis and tools to promote air transport development in the region; and
- d) encourage contributions to the voluntary Air Transport Fund.

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**Table 5. Revenue tonne-kilometres and passenger-kilometres on scheduled services<sup>1,2</sup>**  
 (countries and groups of countries whose airlines performed more than 100 million total tonne-kilometres in 2016<sup>3</sup>)

Country or group of countries	REVENUE TONNE-KILOMETRES (millions) (passengers, freight and mail)								REVENUE PASSENGER-KILOMETRES (millions)							
	Total services (international and domestic)				International services				Total services (international and domestic)				International services			
	Rank number in 2016	2016	2015	Increase or decrease (%)	Rank number in 2016	2016	2015	Increase or decrease (%)	Rank number in 2016	2016	2015	Increase or decrease (%)	Rank number in 2016	2016	2015	Increase or decrease (%)
United States	1	175 715	170 587	3	1	62 335	61 945	1	1	1 502 250	1 452 002	3	1	440 141	437 059	1
China <sup>a</sup>	2	96 065	84 872	13	3	33 889	29 028	17	2	836 516	725 901	15	5	214 893	169 981	26
Hong Kong SAR <sup>b</sup>		25 346	24 714	3		25 346	24 714	3		140 718	136 156	3		140 718	136 156	3
Macao SAR <sup>c</sup>		497	403	23		497	403	23		4 680	3 779	24		4 680	3 779	24
United Arab Emirates	3	55 157	52 019	6	2	55 157	52 019	6	3	385 740	357 287	8	2	385 740	357 287	8
United Kingdom	4	34 365	31 833	8	4	33 583	31 066	8	4	307 971	283 196	9	3	299 228	274 535	9
Germany	5	32 868	31 919	3	5	31 834	30 924	3	5	259 207	249 091	4	4	248 757	239 011	4
Japan	6	24 718	23 115	7	11	16 990	15 495	10	8	179 932	170 019	6	15	90 346	82 105	10
Republic of Korea	7	23 611	22 558	5	6	22 756	21 803	4	15	131 890	119 739	10	12	123 284	112 357	10
France	8	22 927	22 974	0	9	18 128	18 295	-1	7	183 571	184 146	0	8	141 687	143 494	-1
Russian Federation	9	21 909	21 061	4	15	12 202	11 635	5	9	176 622	179 680	-2	17	77 199	82 983	-7
Qatar	10	21 672	17 360	25	7	21 672	17 360	25	14	137 602	108 311	27	9	137 602	108 311	27
Turkey	11	20 571	18 719	10	10	17 181	15 619	10	10	169 642	157 419	8	10	135 963	126 684	7
Canada	12	20 121	18 217	10	13	14 757	13 040	13	6	196 583	177 507	11	7	141 832	124 742	14
Singapore	13	19 218	18 647	3	8	19 218	18 647	3	16	126 618	123 645	2	11	126 618	123 645	2
India	14	16 463	14 344	15	21	7 566	6 994	8	11	163 967	140 474	17	21	69 528	63 928	9
Australia	15	16 287	15 846	3	18	9 684	9 376	3	13	149 410	144 659	3	16	80 849	77 640	4
Netherlands	16	15 899	15 809	1	12	15 794	15 733	0	19	109 959	103 516	6	13	108 904	102 757	6
Ireland	17	14 428	13 238	9	14	14 428	13 238	9	12	163 502	144 328	13	6	163 502	144 328	13
Brazil	18	12 067	12 609	-4	28	4 101	4 105	0	17	117 135	122 868	-5	27	31 757	32 032	-1
Thailand	19	11 931	11 283	6	17	9 697	9 264	5	22	96 241	90 176	7	19	75 007	70 853	6
Spain	20	11 793	10 951	8	16	9 864	9 146	8	18	110 962	102 685	8	14	92 207	85 157	8
Malaysia	21	10 482	10 942	-4	19	8 280	8 984	-8	21	96 741	93 383	4	20	74 321	73 565	1
Indonesia	22	9 342	8 664	8	34	3 110	2 802	11	20	98 562	91 531	8	33	28 056	25 952	8
Scandinavia <sup>d</sup>	23	9 264	7 958	16	20	8 189	6 876	19	23	87 935	75 054	17	18	76 846	63 925	20
Mexico	24	8 459	7 355	15	29	3 993	3 493	14	24	76 948	66 388	16	26	33 441	28 897	16
Luxembourg	25	7 097	6 520	9	22	7 097	6 520	9	84	2 195	2 100	4	82	2 195	2 100	4
Switzerland	26	6 717	6 461	4	23	6 700	6 444	4	27	50 574	49 478	2	22	50 415	49 315	2
Philippines	27	6 637	6 063	9	26	4 722	4 218	12	25	61 176	55 345	11	24	42 976	37 932	13
Saudi Arabia	28	6 315	5 905	7	24	4 895	4 433	10	26	59 999	55 541	8	23	45 025	40 134	12
Italy	29	5 508	5 108	8	25	4 769	4 382	9	29	44 915	42 263	6	25	37 417	34 876	7
Viet Nam	30	4 741	4 014	18	42	2 465	2 194	12	28	47 565	39 402	21	35	24 408	21 783	12
Chile	31	4 446	3 993	11	33	3 275	2 955	11	32	33 175	28 734	15	40	20 846	17 740	18
Colombia	32	4 269	4 209	1	35	3 024	3 021	0	33	31 454	29 101	8	42	19 491	17 785	10
Ethiopia	33	4 255	3 500	22	27	4 203	3 454	22	37	29 000	25 118	15	30	28 450	24 638	15
New Zealand	34	4 228	3 906	8	31	3 754	3 467	8	31	33 277	30 543	9	32	28 250	25 870	9
South Africa	35	3 820	3 845	-1	43	2 395	2 527	-5	30	33 341	32 244	3	43	18 900	18 912	0
Belgium	36	3 818	3 679	4	30	3 818	3 679	4	41	23 484	21 929	7	37	23 483	21 928	7
Finland	37	3 424	3 272	5	32	3 275	3 140	4	36	29 238	28 039	4	34	27 594	26 593	4
Portugal	38	3 141	3 186	-1	38	2 924	2 992	-2	34	30 862	31 325	-1	29	28 676	29 397	-2
Panama	39	2 991	2 757	8	36	2 966	2 736	8	38	28 646	26 355	9	31	28 402	26 142	9
Israel	40	2 966	2 801	6	37	2 931	2 764	6	45	21 657	20 290	7	39	21 278	19 882	7
Hungary	41	2 915	2 664	9	39	2 914	2 664	9	35	30 013	29 603	1	28	29 998	29 603	1
Egypt	42	2 793	2 560	9	40	2 724	2 487	10	40	24 371	21 990	11	36	23 686	21 227	12
Argentina	43	2 757	2 619	5	50	1 577	1 492	6	39	27 772	26 354	5	48	14 866	14 054	6
Austria	44	2 664	2 613	2	41	2 651	2 600	2	43	22 652	22 527	1	38	22 524	22 394	1
Peru	45	2 423	2 365	2	46	1 705	1 711	0	44	22 645	21 364	6	45	15 503	14 865	4
Pakistan	46	2 379	2 004	19	44	2 071	1 711	21	42	23 359	19 263	21	41	20 240	16 392	23
Oman	47	2 100	1 946	8	45	2 038	1 889	8	47	18 211	14 709	24	44	17 536	14 151	24
Iran (Islamic Republic of)	48	1 961	1 784	10	59	869	709	23	46	19 244	18 197	6	57	8 235	7 304	13
Sri Lanka	49	1 705	1 664	2	47	1 705	1 664	2	50	14 546	14 104	3	49	14 546	14 104	3
Morocco	50	1 635	1 561	5	49	1 588	1 516	5	48	15 809	15 082	5	47	15 342	14 637	5
Iceland	51	1 628	1 185	37	48	1 619	1 177	38	49	15 484	11 083	40	46	15 393	11 004	40
Greece	52	1 275	1 093	17	52	1 088	917	19	51	13 054	11 204	17	50	11 112	9 379	18
Kenya	53	1 269	1 213	5	51	1 229	1 177	4	52	10 728	10 048	7	51	10 199	9 674	5
Azerbaijan	54	1 053	989	6	54	1 020	957	7	73	3 512	3 318	6	72	3 148	2 967	6
Kuwait	55	1 024	1 020	0	53	1 024	1 020	0	57	9 099	9 075	0	55	9 099	9 075	0
Ukraine	56	1 000	770	30	56	965	742	30	53	10 533	8 026	31	52	10 171	7 742	31
Bahrain	57	999	962	4	55	999	962	4	56	9 105	8 908	2	54	9 105	8 908	2
Poland	58	996	758	31	57	962	728	32	58	8 643	6 663	30	56	8 263	6 323	31
Kazakhstan	59	947	935	1	66	556	532	5	54	9 791	9 692	1	63	5 695	5 427	5
Czechia	60	927	783	18	58	924	781	18	55	9 582	8 077	19	53	9 557	8 054	19
Jordan	61	856	887	-4	60	855	886	-4	59	7 856	7 322	7	58	7 840	7 308	7
Bangladesh	62	829	877	-5	62	759	819	-7	60	7 773	8 210	-5	59	7 171	7 715	-7
Mauritius	63	796	760	5	61	787	751	5	62	7 059	6 497	9	60	6 951	6 403	9
Uzbekistan	64	694	703	-1	63	665	668	0	63	6 401	6 464	-1	61	6 087	6 095	0
Algeria	65	679	614	11	65	565	515	10	61	7 277	6 5					

Country or group of countries	REVENUE TONNE-KILOMETRES (millions) (passengers, freight and mail)								REVENUE PASSENGER-KILOMETRES (millions)							
	Total services (international and domestic)				International services				Total services (international and domestic)				International services			
	Rank number in 2016	2016	2015	Increase or decrease (%)	Rank number in 2016	2016	2015	Increase or decrease (%)	Rank number in 2016	2016	2015	Increase or decrease (%)	Rank number in 2016	2016	2015	Increase or decrease (%)
Cuba	79	279	290	-4	79	246	256	-4	79	2 629	2 734	-4	79	2 291	2 392	-4
Latvia	80	274	250	10	76	274	250	10	76	2 947	2 677	10	74	2 947	2 677	10
Tajikistan	81	250	248	1	77	248	245	1	80	2 569	2 553	1	77	2 554	2 528	1
Belarus	82	241	201	20	80	241	201	20	81	2 378	1 974	20	78	2 378	1 974	20
Malta	83	230	245	-6	81	230	245	-6	83	2 265	2 410	-6	80	2 265	2 410	-6
Lithuania	84	223	268	-17	82	218	258	-15	85	2 048	2 465	-17	83	2 006	2 372	-15
Afghanistan	85	212	242	-12	92	132	163	-19	86	1 956	2 233	-12	92	1 194	1 485	-20
Turkmenistan	86	195	144	36	85	159	122	30	87	1 893	1 393	36	85	1 537	1 177	31
Costa Rica	87	191	198	-4	83	186	192	-3	82	2 275	2 273	0	81	2 211	2 198	1
Papua New Guinea	88	165	166	-1	98	94	95	-1	94	1 286	1 295	-1	106	607	614	-1
Libya	89	161	176	-8	87	146	157	-7	88	1 600	1 735	-8	88	1 451	1 549	-6
Seychelles	90	159	135	18	86	158	134	18	93	1 322	1 157	14	91	1 313	1 149	14
Namibia	91	148	145	2	88	145	142	2	90	1 572	1 402	12	87	1 528	1 355	13
Bulgaria	92	148	135	10	89	143	130	10	89	1 593	1 471	8	84	1 538	1 416	9
Republic of Moldova	93	139	126	10	91	139	126	10	91	1 409	1 448	-3	89	1 409	1 448	-3
Croatia	94	135	127	6	94	119	111	7	92	1 329	1 248	6	93	1 171	1 097	7
Suriname	95	127	137	-7	93	127	137	-7	97	1 149	1 146	0	94	1 149	1 146	0
Cambodia	96	124	132	-6	95	118	124	-5	96	1 193	1 260	-5	95	1 133	1 187	-5
Myanmar	97	117	105	11	116	46	42	9	95	1 207	1 089	11	115	432	404	7
Mongolia	98	107	106	0	97	96	96	0	98	1 074	1 077	0	96	975	977	0
Kyrgyzstan	99	101	99	2	99	92	89	3	99	1 024	1 007	2	98	934	909	3
Total for above countries (101) <sup>8</sup>		853 344	802 006	6		585 682	550 270	6		7 018 579	6 537 057	7		4 380 247	4 066 191	8
Rest of the World		19 018	18 361			18 545	17 842			105 771	97 949			101 046	92 767	
World total		872 361	820 368	6		604 227	568 111	6		7 124 350	6 635 006	7		4 481 293	4 158 958	8

1. The revenue tonne-kilometres (RTK) in all tables of this Appendix are based on the actual passenger weights reported and used by Member States.

2. Previous year traffic figures have been restated based on actual reporting from Member States.

3. Some 2016 data are estimates, thus the ranking and the rate of increase or decrease may change when final data become available.

4. For statistical purposes, the data for China excludes the traffic for the Hong Kong and Macao Special Administrative Regions (Hong Kong SAR and Macao SAR) of China.

5. Traffic for the Hong Kong Special Administrative Region (SAR) of China.

6. Traffic for the Macao Special Administrative Region (SAR) of China.

7. Three States – Denmark, Norway and Sweden.

8. Includes the States listed in note 7.

Source — ICAO Air Transport Reporting Form A and A-S plus ICAO estimates.