

Attila Sipos

# International Aviation Law

Regulations in Three Dimensions

 Springer

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# Foreword to Part I

Part I of this book, ‘International Aviation Law’, covers the key topics within Public Aviation Law in four chapters. Public Aviation Law concerns the relations, on the one hand, between States and, on the other hand, between States and non-State actors in all aspects relating to civil aviation.

Public Aviation Law traces its origins to the Paris Peace Conference (1919–1920), where State representatives codified the first-ever international aviation convention, the Convention Relating to the Regulation of Aerial Navigation (Paris Convention) 1919. Chapter 1 of this book tells the story of its successor, the Convention on International Civil Aviation (Chicago Convention) 1944, with reference to State sovereignty, the concept of airspace, and the external aviation relations of States within the Chicago System—all while keeping a close eye on the key events and developments in aviation that have impacted industrial actors, as well as the few, but all the same important, amendments to the Convention.

The book moves in Chap. 2 to discuss the construction and activities of the United Nations specialised agency—and thus the forum for civil aviation—the International Civil Aviation Organization (ICAO), headquartered in Montreal, Canada. As safe and sustainable global civil aviation operations depend significantly on the harmonisation and unification of rules and procedures, Chap. 3 appropriately discusses the concept of international standards and recommended practices (SARPs), as set out in the 19 Annexes to the Chicago Convention, which are largely implemented by ICAO Member States. Chapter 4 traces the evolution of aviation security, as traditionally separate from though increasingly connected to aviation safety, and the relevant treaties and other legal authorities that make up Criminal Aviation Law.

Part I is a compact yet comprehensive review of Public Aviation Law and the workings of ICAO, all within the Chicago System. It is clearly written and contains references to a wide range of academic literature. It is also filled with helpful examples and useful pictures to assist the reader in grasping the subject matter.

I am proud of Dr. Sipos, an Air and Space Law alumnus of Leiden University, for taking on the challenge of writing 'International Aviation Law'. I hope that you will enjoy the journey as much as I have!

International Institute of Air and Space Law  
Leiden University, Leiden  
The Netherlands

Steven Truxal

# Foreword to Part II

Part II of this book, ‘International Aviation Law’, deals with International Private Aviation Law—i.e., legal issues arising from relations between persons and other non-State entities that have an international element, particularly conflicts of law issues.

That such issues were likely to arise frequently in such an international activity as air transport was recognised at a very early stage in its development, and as a result, the Convention for the Unification of Certain Rules Relating to International Carriage by Air was signed at Warsaw on 12 October 1929. Subsequently, most States involved in aviation ratified or adhered to it, and for many years, the Convention (supplemented and modified by various further international treaties) provided a valuable set of common rules that helped clarify the liability position in international carriage by air and resolve difficult conflicts of law issues.

Over time, however, the financial limit that the Convention imposed on air carriers’ as liability in respect of passenger death and injury became increasingly controversial and difficult to justify, and so in 1999, a further Convention for the Unification of Certain Rules for International Carriage by Air was adopted at Montreal modernising and consolidating the Convention and related instruments, in particular as regards the issue of limited liability.

This complex history is explained by way of introduction in Part II of the book, before the author then discusses each of the main substantive features of the Convention system – its scope, types of liability of the carrier, exoneration, limited liability, and compensation, with due attention to particular issues, such as passengers with special needs, infectious and disruptive passengers, bodily injury (accident), embarking/disembarking and exclusivity, and reference to the most important jurisprudence from a variety of courts worldwide. The author also discusses the issues of liability for surface damage and of those with interests in mobile equipment (such as aircraft), which are dealt with not by the Warsaw or Montreal Conventions but by other international treaties.

All this the author does in a very clear, concise (yet sufficiently comprehensive), and, most importantly, readable manner, drawing on his extensive practical and

academic experience so as to provide an account that will engage the interest of and inform both students of aviation law and those who require knowledge of it for their work in or with the aviation industry.

Indeed, *ne frustra scripsisse videtur!*

Solicitor, Former Partner of Clyde & Co LLP  
London, UK

John Balfour



# Preface

By writing this book, my primary objectives were to familiarise the readers interested in aviation with one of the most recent areas of international law and, furthermore, to support the everyday work of specialists in the area of aviation, as well as to enrich the knowledge of candidates for a career in law and contribute to the broadening of their horizons. Simultaneously, the book is an homage to practical experts of transportation and aviation, who, owing to their persistence and devotional work by providing the utmost of their expertise and occasionally sacrificing their lives, have facilitated the conquest of the air.

In this work, I deal with the two most important conventions of international aviation law. With respect to the fact that the Chicago Convention (1944) and the Montreal Convention (1999) have barely been amended, the interrelations and legal solutions revealed in this book will foreseeably serve the reading public for a long time. With a view to completeness, I am going to deal with all significant international aviation law treaties.

My first aviation law book was published by the Wolters Kluwer Publisher in 2015, then after a revision, it was issued under the editorship of ELTE Eötvös Publisher in Hungarian language. Currently, the reader is holding in hand the first edition of the wholly revised book in English. The most important impetus for renascence of the book was the expedient feedback from university students since they have cast light on the defects, occasionally too complicated phrasing, which aggravated comprehension and thereby dimmed the value of the volume. I am confident that I have managed to incorporate their comments as well as to rewrite and extend the norm text by reworking through the linkages. The process of reworking was significantly influenced by the COVID-19 pandemic, which has reformulated our everyday life in its foundations. However, the guiding principle did not change; it remained the same: the extension of the reader's legal knowledge related to aviation and the enrichment thereof with universal values.

I owe thanks for the support of the Eötvös Loránd University (ELTE), Faculty of Law, Department of International Law. Most of all, I am greatly indebted to Prof. Gábor Kardos, who, as a reader of the book, presented a constant source of

inspiration for my work, and to Ms. Georgina Borsody, for the excellent work of editing and proofreading, as a result of which an engaging and updated work is placed into the reader's hands. I am very grateful to Prof. Steven Truxal (Leiden) and John Balfour (London) for the forewords to the book and to Dr. P. Nikolai Ehlers (Munich) who also takes the credit for the publication of the book. Likewise, I am thankful to the ELTE Eötvös Publisher for providing me the copyright and also to Springer Nature Publisher for its continued support.

Professor Kardos, the reader of the book, has emphasised that international treaties are not only imprints of the times, documents reflecting the quality of international relations, but also, like drops in the ocean, faithful reflections of the problems of life in the international community and of international law as a whole, and this book is a good proof thereof. I hope he is right. The book encourages the reader to think through the dilemmas with the author and to formulate his or her own views, not only on the fundamental issues that always keep coming to light but also on practical problems, as he added.

While writing this book, I was motivated by the advice of my best friend Annamária, according to which 'in life we should not strive to be the last but the first of the Mohicans'.

*Ne frustra vixisse videar!*

Aviation is a lifestyle. For many of us, first it is a dream, then it is our love and life, and for some of us, it remains a memory. The moments of air transport testing decency, its busy everyday life, and its history fraught with sacrifices need to remind us: strenuous life cannot be futile.

Budapest, Hungary  
May 2024

Attila Sipos

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## About the Author

**Attila Sipos**, PhD. (ELTE), Adv. LL.M. (Leiden), has been an Honorary Professor at Eötvös Loránd University (ELTE), Faculty of Law since 2011 and has been teaching International Air and Space Law since 2008. He was a Faculty Member of the Master’s Program in Air and Space Law at the University of Sharjah (UOS) in the United Arab Emirates (2021–2024). He worked for Malév Hungarian Airlines in various positions, such as flight operation and navigation officer, commercial and industry affairs advisor, chief advisor to the CEO, and legal director (1989–2004). Subsequently, he became the permanent representative of Hungary on the Council of ICAO (2004–2007) and the Vice-President of the Council of ICAO (2006–2007). He was employed by the Hungarian Air Navigation Service Provider (HungaroControl) as legal and alliance director, later as legal advisor to the CEO (2008–2014). He worked as a bar association adviser at the Aviation Division of the Ministry of Defence Electronics, Logistics and Property Management, HM EI Plc (2018–2021). Attila Sipos has been a committee member of the European Air Law Association (EALA) since 2004.

# Abbreviations

ACAC	Arab Civil Aviation Commission
ACC	Area Control Centre
ACD	Airline Coding Directory
ACI	Airports Council International
ACMI	Aircraft, Crew, Maintenance, and Insurance
ADB	Bureau of Administration and Services (ICAO)
ADIZ	Air Defence Identification Zone
ADREP	Accident/Incident Data Reporting
AFCAC	African Civil Aviation Commission
AEA	Association of European Airlines
AED	Automate External Defibrillator
AIP	Aeronautical Information Publication
AHCCC	Ad-Hoc Cybersecurity Coordination Committee (ICAO)
ALADA	Asociación Latino Americana de Derecho Aeronáutico
ANSP	Air Navigation Service Provider
ANB	Air Navigation Bureau (ICAO)
ANC	Air Navigation Commission (ICAO)
AOC	Air Operator Certificate
APEC	Asia-Pacific Economic Cooperation
APU	Auxiliary Power Unit
ARSIWA	Responsibility of States for Internationally Wrongful Acts
ASA	Air Services Agreement
ASC	Aviation Security Committee (ICAO)
ATA	International Air Transport Agreement
ATB	Air Transport Bureau (ICAO)
ATC	Air Transport Committee (ICAO)
ATC	Air Traffic Control
ATS	Air Traffic Services
AVSECP	Aviation Security Panel
AWG	Aviation Working Group

BCN	Bacteriological, Chemical, and Nuclear
CAEP	Committee on Aviation Environmental Protection (ICAO)
CART	Council Aviation Recovery Task Force (ICAO)
CANSO	Civil Air Navigation Services Organization
CAPSCA	Cooperative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation
CE	Critical Elements
CEC	Climate and Environment Committee (ICAO)
CERG	Central European Rotation Group
CIR	Commission Implementing Regulations
CITEJA	Comité International Technique d'Experts Juridiques Aériens
CJEU	Court of Justice of the European Union
CMA	Continuous Monitoring Approach
CMP	Continuous Monitoring Programme
CRCO	Central Route Charges Office
CSA	Comprehensive System Approach
COG	Committee on Governance (ICAO)
CVR	Cockpit Voice Recorder
CYSECP	Cybersecurity Panel (ICAO)
DGCA	Director General of Civil Aviation
DoT	Department of Transportation (USA)
DVT	Deep Vein Thrombosis
EALA	European Air Law Association
EASA	European Aviation Safety Agency
ECAC	European Civil Aviation Conference
EFOD	Electronic Filing of Differences
EI	Effective Implementation
ER	Extended Range
ERA	European Regions Airline Association
ETOPS	Extended-Range Twin-Engine Operational Performance Standards
EU	European Union
EUR	Euro
EUROCONTROL	European Organisation for the Safety of Air Navigation
EWAC	Edward Warner Award Committee (ICAO)
FAA	Federal Aviation Administration (USA)
FAI	Fédération Aéronautique Internationale
FAO	Food and Agriculture Organization
FDR	Flight Data Recorder
FIC	Finance Committee (ICAO)
FLP	Flight Plan
FO	First Officer
FOC	Flags of Convenience
FSIX	Flight Safety Information Exchange (ICAO)

FUA	Flexible Use of the Airspace
GAT	General Air Traffic
GMBM	Global Market-Based Measure
GMs	Guidance Materials
GPS	Global Positioning System
HRC	Human Resources Committee (ICAO)
IAMSAR	International Aeronautical and Maritime Search and Rescue Manual
IAOPA	International Council of Aircraft Owner and Pilot Associations
IASTA	International Air Services Transit Agreement
IATA	International Air Transport Association
IBAC	International Business Aviation Council
ICAO	International Civil Aviation Organization
ICCAIA	International Coordinating Council of Aerospace Industries Associations
ICERD	International Convention on the Elimination of All Forms of Racial Discrimination
ICJ	International Court of Justice
ICCPR	The International Covenant on Civil and Political Rights
IFALPA	International Federation of Air Line Pilots' Associations
IFATCA	International Federation of Air Traffic Controllers' Association
IFR	Instrument Flight Rules
IFSO	Inflight Security Officer
IGA	Intergovernmental Agreements
IGO	Intergovernmental Organization
IIA	Intercarrier Agreement on Passenger Liability
ILA	International Law Association
ILO	International Labour Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
ISTA	Interline Staff Travel Agreement
ITU	International Telecommunication Union
IVP	International Visitor Program
JSC	Joint Support Committee (ICAO)
KLM	Koninklijke Luchtvaart Maatschappij
LACAC	Latin American Civil Aviation Commission
LAGs	Liquids, Aerosols, and Gels
LEB	Legal Affairs and External Relations Bureau (ICAO)
LC	Legal Committee (ICAO)
LLM	Master of Laws
MALÉV	Hungarian Airlines
MANPADS	Man Portable Air Defence Systems
MBM	Market-Based Measure

MDR-TB	Multidrug-resistant Tuberculosis
MEDIF	Medical Information Form
MEL	Minimum Equipment List
MHz	Megahertz
MIA	Agreement on Measures to Implement the IATA Intercarrier Agreement
MRO	Maintenance Repair and Overhaul
MRTD	Machine Readable Travel Documents
NASA	National Aeronautics and Space Administration (USA)
NATO	North Atlantic Treaty Organization
NGO	Non-governmental
NLD	The Netherlands
NOTAM	Notices to Airmen
NTSB	National Transportation Safety Board
OAT	Operational Air Traffic
OJ	Official Journal (EU)
OS	Open Skies
OSCE	Organization for Security and Co-operation in Europe
PANS	Procedures for Air Navigation Services (ICAO)
PFLP	Popular Front for the Liberation of Palestine
PICAO	Provisional International Civil Aviation Organization
PIC	Pilot-in-Command
PSCRM	Passenger Services Conference Resolutions Manual
PTSD	Post-traumatic Stress Disorder
RAF	Royal Air Force
REIOs	Regional Economic Integration Organizations
RHCC	Committee on Relations with the Host Country (ICAO)
RPAS	Remotely Piloted Aircraft Systems
RPKs	Revenue Passenger Kilometres
SARPs	Standards and Recommended Practices (ICAO)
SARS	Severe Acute Respiratory Syndrome
SC	Security Council (UN)
SDR (XDR)	Special Drawing Rights
SEAL	Sea, Air, and Land
SES	Single European Sky
SG	Secretary General
SITA	Société Internationale de Télécommunications Aéronautiques
SSC	Significant Safety Concern
SUPPs	Regional Supplementary Procedures (ICAO)
TCB	Technical Cooperation Bureau (ICAO)
TCC	Technical Cooperation and Implementation Support Committee (ICAO)
TSP	Trusted Systems Panel (ICAO)
UAV	Unmanned Aerial Vehicle

UAS	Unmanned Aircraft Systems
UIC	Committee on Unlawful Interference (ICAO)
UPU	Universal Postal Union
USA	United States of America
USAF	United States Air Force
USAP	Universal Security Audit Programme (ICAO)
USD	United States Dollar
USOAP	Universal Safety Oversight Audit Programme (ICAO)
UN	United Nations
UNCITRAL	United Nations Commission on International Trade Law
UNCLOS	United Nations Convention on the Law of the Sea
UNCOPUOS	The United Nations Committee on the Peaceful Uses of Outer Space
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UNIDROIT	International Institute for the Unification of Private Law
VFR	Visual Flight Rules
VSM	Vertical Separation Minima
WASG	Worldwide Airport Slot Guidelines (IATA)
WHO	World Health Organization
WIPO	World Intellectual Property Organization

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# Chapter 1

## Introduction



### 1.1 The Civil Aviation Industry

Aviation is the youngest generation of the transport of humankind. It is a world driven by passion and thrill, via which humankind fulfilled its greatest dream and conquered the third dimension, that is, height. Although aviation does not in the least trace back traditions such as maritime or railway transportation, among the sub-branches of transport it is primarily aviation that is designed to carry passengers, cargo and mail quickly and safely to any point in the world, to span great distances, and thereby, considerably affect the economic, social, cultural and environmental development of continents, regions and countries.

Aviation has become a reality accessible for all at the expense of extremely large efforts and sacrifices. In this reality, aviation is no longer the privilege of a narrow stratum, but it is part and parcel of the lives and weekdays of all of us. Air transport functions as public transport! Worldwide, in 2019 more than 4.5 billion people chose air transport and cleaved the 'Aerial Ocean'. The transport of the large and increasing number of passengers was carried out by nearly 1500 airlines on 33,000 airplanes. The air carriers made use of one of the 162 air navigation service providers and 3780 international airports of the world to transport the passengers and cargo to their destinations. The key performers of the air transport industry produced 4.1% of the GDP of the world, which accounted for an estimated global economic impact of 3500 billion dollars annually. Thus, it was no longer disputable that the role of civil

aviation in the global world is of outstanding significance.<sup>1</sup> This unequalled development was stopped by the COVID-19 pandemic, which as early as in the first months of 2020 took its drastic effect, and consequently, the revenue of air transport fell by 90% worldwide. This situation is well-illustrated by the fact that the number of passengers decreased to 1.8 billion in 2020 in the largest crisis of the aviation industry since World War II.<sup>2</sup> Millions have lost their jobs. Aircraft manufacturers downsized their capacities in succession, airports and navigation service providers registered severe losses. The greatest losers of the pandemic on an industry level were the airlines themselves, which represent essentially the financial driving force of this commercial activity (aircraft are manufactured for them, they carry out the transport of persons and cargo, while the ground and aerial infrastructure depend on them intensively). The majority of airlines requested and received large amounts of State subsidies;<sup>3</sup> nevertheless, the recovery from the crisis may extend over years with regard to the losses of the industry.<sup>4</sup>

Accordingly, the States support civil aviation in manifold ways, thereby promoting not only the development of the national economy and the increase of national and regional productivity, but also the enhancement of international trade. In air transport the enforcement of political interests and the protection of the national economy have crucial roles. The protectionist endeavour of the States targeting the protection of their markets has been considerably curtailed—primarily due to the liberalising efforts of recent decades—in parallel with the reinforcement of the commercial and market opportunities of air transport. Nevertheless, this does not imply the complete secession of the State from the sector, since the States still strongly influence the processes of the industry via systems of regulations, competition and aviation authorities. Aviation has become a modern battlefield of power, on which the system of relations between commercial and political interests basically determines the future of air transport.

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<sup>1</sup>In 2019, 4.5 billion people travelled by airplane, while in 2018 there had been more than 4 billion air passengers. Apart from the 3780 airports used for scheduled flights, further 41,764 airports are at the disposal of civil, military (state) and commercial transport. Aviation Benefits Beyond Borders. Executive Summary. *ATAG Report*, September 2020, pp. 10–11 ([aviationbenefits.org](http://aviationbenefits.org)).

<sup>2</sup>IATA Annual Review. 11. 2020, pp. 11, 18 ([www.iata.org/iata-annual-review-2020](http://www.iata.org/iata-annual-review-2020)).

<sup>3</sup>Several large air carriers received State subsidies, but not all, for example, Indian airlines did not receive any financial support from the Government of India. Sandeepa (2020).

<sup>4</sup>In 2014, the following was written as a consequence of the influenza pandemic: ‘Another factor that would affect the global economy is the psychological factor. Regionally, a virulent global pandemic could have serious results on the confidence of Europe, North America and Asia which have built their economies on their growth potential. There will be a significant loss to business. A direct corollary to this trend would be the closure of many businesses, lowering future investment and employment’. Abeyratne (2014), p. 222.

Transport has a crucial role in the financial prosperity of a State or region. This is instantiated by the air transport industry, which has become one of the most important impetuses to and simultaneously a symbol of the development of world economy and international commerce in a very short period of time.

An excellent example for this is the cargo business. Of the total transport of cargo in world trade, the air transport sector ships nearly 61 million tons of products annually. By weight, this quantity of products accounts for barely 1% of the total shipment of cargo in the world. However, considering its financial value the quantity of products shipped by air accounts for 35% of the total value of goods shipped in the world. These figures suggest that goods of higher value, of smaller volume as well as time-critical goods are the most worthwhile shipping by air.<sup>5</sup> It is also worth mentioning that during the COVID-19 pandemic the air cargo business generated a healthy economic profit (4–9%) in the year 2020, which is also an evidence of the potential of this part of the industry. In fact, there were only five airlines that reaped profits in 2020—AirBridgeCargo, Atlas Air, Cargojet, Cargolux and Kalitta—and they were all cargo carriers.<sup>6</sup> Cargo shipment is performed not only by cargo operators (cargo airlines and freight forwarders) but also by traditional airlines (e.g., the Boeing 747 Jumbo aircraft has 170 cubic metres of cargo space in addition to four hundred seats on the main deck).

In the aviation industry, the labour and energy invested in the service of shipment are integrated into the price of the shipped products, therefore, the consumer price of each product includes the cost of shipment, which entails a financial surplus of 30–40% on average. In addition to the transport of goods, the role of civil aviation in tourism is equally prominent. More than half of the constantly increasing number of tourists in the world opt for air transport.<sup>7</sup> Tourism is a global business, which was one of the most severely stricken sectors of the coronavirus pandemic; nevertheless, it is one of the largest segments of international trade.

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<sup>5</sup> *Aviation Benefits Beyond Borders. Executive Summary*. ATAG Report, September 2020, p. 12.

<sup>6</sup> Bouwer et al. (2022).

<sup>7</sup> This proportion in 2019 was 58%, which changed drastically as a consequence of the COVID-19 pandemics. *IATA Annual Review. 2020*, pp. 12, 34.



**Fig. 1.1** Flown kilometres by revenue passengers in the international scheduled service  
Source: From the data of the International Civil Aviation Organization and the International Air Transport Association (Facts and Figures)

The graph is vividly illustrative of the steady growth of the flown kilometres of revenue passengers (RPK)<sup>8</sup> in scheduled international civil aviation despite all international conflicts and world crises. However, the air transport industry has not recovered rapidly from the setback brought about by the COVID-19 pandemic, which will leave its everlasting mark. The driving force of escape from the recent situation has been the fact that, according to forecasts, the population of the Earth is going to grow from the current 8 billion people to approx. 9.7 billion by 2050,<sup>9</sup> which implies an increase in the number of potential passengers as well (Fig. 1.1).<sup>10</sup>

Via the production and utilisation of modern technology, aviation shapes the future, while via commercial and market expansion it conquers the whole world. Competition in the global world without the exploitation of the benefits and

<sup>8</sup>Revenue Passenger Kilometres (RPK) is the most accurate airline industry metric system that shows the number of kilometres travelled by paying passengers. It is calculated as the number of revenue passengers is multiplied by the total distance travelled. Since it measures the actual demand for air transport, it is often referred to as airline 'traffic'. For example, one air carrier operates an Airbus A321 aircraft with a capacity of 230 passengers between Abu Dhabi (AUH) and London (LHR). The revenue passengers for the route equal 230 passengers per leg. The distance between the two airports is 5470 km, which means that the RPK per leg flown is 230 (the passenger demand) multiplied by 5470 (the distance travelled by the passengers): 1,258,100 RPK/flight leg (on a fully booked flight).

<sup>9</sup>United Nations (2022).

<sup>10</sup>According to ATAG, the aviation industry will be able to meet the needs of over 10 billion passengers in 2050, connecting the world safely, securely and sustainably. ATAG Commitment to Fly Net Zero. 5 October 2021 ([aviationbenefits.org/media/167501/atag-net-zero-2050-declaration.pdf](https://aviationbenefits.org/media/167501/atag-net-zero-2050-declaration.pdf)).

opportunities of modern civil aviation is no longer practicable. The fact that air traffic is the fastest and safest form of transport in the world is prominent among the benefits. Undoubtedly, in the case of large distances aviation offers the shortest time of transport to any point of the Earth. That is why modern man takes advantage of the opportunity of air travel and does not any longer measure distance in kilometres or miles but in time.

In addition to velocity, a crucially important factor is the safety of air transport. Eventually, as pilots are instructed at the aviation academy: ‘flying implies landing safely’.<sup>11</sup> Depending on the type of the aircraft, the features of the operating company and the preparedness of the pilots, the risk of flying does not exceed the elementary risk value of  $10^{-6}$ . In practice, this means that the risk of a London-Warsaw flight is 20–40 times lower than driving from the city centre to the international airport depending on the traffic. In other words, a person would need to fly on a daily basis for 20 years to be exposed at all to a fatal flying accident to an extent of 1%. According to risk analyses, standing a fair chance of suffering a fatal accident would require travelling for 7 years by car and half a year by motorcycle. As early as at the end of the 1970s travelling by air was 25 times safer than in an automotive vehicle according to the Lloyd’s insurance company based in London.<sup>12</sup> These days, the number of deaths in accidents involving international civil flights is well below 1000 persons annually. In one of the safest years of the history of international civil aviation, that is, in 2015, altogether 136 people lost their lives.<sup>13</sup> (In comparison, in the territory of the European Union more than 22,700 people died and 1.2 million people were injured in road accidents solely in 2019 despite the improving statistical data.)<sup>14</sup> In 2017, air transport reached a further milestone in the area of safety: 44 passengers and 35 people staying on the surface met with fatal accidents (a total of 79), which is a novel exceptional achievement considering the volume of traffic.<sup>15</sup>

Modern aviation is one of the most efficient users of infrastructure and resources; furthermore, it is an environmentally friendly form of transport. We should think about the little spatial demand of runways (in fact, one runway is actually two runways with two different directions) and the infrastructure including taxiways as

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<sup>11</sup> Karlson (1938), p. 299.

<sup>12</sup> Varley (1978), p. 150.

<sup>13</sup> In these statistics, the International Air Transport Association (IATA) intentionally did not include the tragedy of Germanwings Flight 9525 (Airbus A320), when on 24 March 2015 the first officer of the airline crashed into a mountain with the intent of committing suicide, which caused the death of 150 people. Likewise, the IATA did not take into account the loss of the MetroJet Flight 9268 (Airbus A321) either, in which 224 persons died because the airplane was exploded by terrorists on 31 October 2015. *IATA Safety Report 2015*. 52nd edn., April 2016.

<sup>14</sup> In the European Union, 55,000 people died in road accidents in 2001, then in 2021 owing to the more rigorous rules 19,900 people lost their lives and more than 0.9 million people were injured. The European Commission has taken major steps to achieve close to zero fatalities and serious injuries on public roads by 2050. European Commission: *Road safety 2017*, p. 2.; European Commission: *European Road Safety Observatory, Annual statistical report on road safety in the EU 2022*. 13 March 2023, p. 1.

<sup>15</sup> Shepardson (2018).