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# "Mobility and Movement Are 'Our' Fundamental Rights" . . . Safety & Security – Risk, Choice & Conflict!

by Sarah Jane Fox*

"*Mobility is vital for the . . . quality of life of citizens as they enjoy their freedom to travel*"[1]

"*Man is born free, but everywhere he is in chains*"[2]

## 1. Introduction

The movement of people, goods, and services is the lifeline of civilization. Man has an undeniable quest and thirst to travel, and it is argued that, as humans, this is not only linked to our physiology but also to our psychological needs for mobility.[3] As United Nations (UN) Secretary-General Ban Ki-moon acknowledged, "[*t*]*ransport is vital for everyone*."[4] Transport is an enabler of economic, social, and cultural survival.

In today's modern society, transport must be safe, secure, efficient, and ultimately sustainable. While our ancestors utilized less sophisticated methods and modes, modern man demands not only the access and ability to transport, and hence the right to travel, but high standards in terms of comfort, even luxury, and, of course, ultimately protection when traveling. In essence, there is a need to ensure the consistent well-being of the traveler, *us*, in every sense and at every stage of the journey. However, like most aspects of life, traveling carries risks, many of which may compromise *our* safety, and at times, *our* security. Although there are recognized differences in the meaning of safety and security in the English language, this is not necessarily the case across the globe; and, while there may be a fine line between defining safety and security, nonetheless there consistently remains the need for "*ensuring the absence of danger that would compromise human life*."[5] Inevitably, the actual or perceived hazardous "risk" also stands to influence the confidence of passengers and users in utilizing the various modes. Therefore, there is a need to legislate and take measures to prevent and to mitigate such risks and the identified negative consequences thereof – so as to ensure that the freedom of travel is maintained. That said, this is not always an easy process to undertake, given the conflicts that often arise in terms of achieving

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[1] *White Paper: Roadmap to a Single European Transport Area – Towards a Competitive and Resource Efficient Transport System*, at 3, COM (2011) 144 final (Mar. 28, 2011).

[2] Jean Jacques Rousseau (1762). *See infra* Section 6.

[3] Clifford R. Bragdon, *Transportation Security and Its Impact*, *in* Transp. Security 3, 4 (Clifford R. Bragdon ed., 2008).

[4] Press Release, United Nations, New UN Group Seeks Solutions for Harnessing Rising Investments in Transport While Reducing Harmful Pollutants for Sustainable Future (Nov. 18, 2014).

[5] Within the Spanish language, the word "seguridad" is used in terms of safety and security. *See* Sarah Jane Fox, *The Rise of the Drones: Framework and Governance – Why Risk It!*, 82 Journal of Air Law and Commerce_(forthcoming 2017).

a balance – particularly equilibrium between fundamental human rights and the goals of maximizing or achieving a higher level of safety and security.

The focus of this paper is thus to first consider risk elements, from a safety and security perspective, that exist within transport. In doing so, aviation serves as the primary focal point and acts as a comparator with other transport modes. The research identifies and discusses inconsistencies across the globe in terms of exposure to identified hazards and also travelers' rights and equalities.

## 2. *Transport & Risk*

Hopkins makes reference to the fact that "risks arise from personal activities and range from those associated with travel through to the ones associated with personal financial decisions."[6] In this respect it is interesting to note that travel has been specifically identified (along with financial choices) as one of the common risks man faces on a daily basis. In other words, the importance and reliance on transport is identified as an essential part of our lives and our existence, although its use carries with it a recognized level of risk. If we chose not to travel anywhere – the simple truth is we would struggle to survive without necessities and commodities being brought to us by transport, such as food, clothes, medical supplies, etc. Even electricity and water are delivered or transported by a physical delivery system or a network of pipes, cables, and supporting infrastructure. The reality is, in a modern society, we are brought home following our birth and eventually carried to our final resting place by a mode of transport.

### 2.1. *Understanding Risk*

In understanding and identifying risks in transport it is first important to understand what "risk" or "risks" actually are. There are various definitions of "a risk." For example, Hopkins refers to the fact that it is "a chance or possibility of danger, loss, injury or other adverse consequences," and that the definition of being "at risk" is that you are "exposed to danger."[7] The definition set out in *ISO Guide 73* is that risk is the "effect of uncertainty on objectives."[8]

Therefore a "risk" is understood to have two primary elements: exposure, or the probability of exposure, coupled with uncertainty – including as to the possible consequences. In an earlier version of *Guide 73* (2002), it was identified that an effect may be positive, negative, or a deviation from the expected. These three types of events can be related to risks as – opportunity, hazard, or uncertainty. The 2002 *Guide 73* adds the following definition for the three risk categories as follows:

- hazard (or pure) risks;
- control (or uncertainty) risks;
- opportunity (or speculative) risks.

Hence, in the true sense, "risk" can actually be positive or negative, particularly in relation to the end result.[9] The two ends of the spectrum can be extreme, so from a negative stance, it may

[6] Paul Hopkins, Fundamentals of Risk Management. Understanding, Evaluating and Implementing Effective Risk Management (2014).
[7] *Id.* (referring to the Oxford English Dictionary definition).
[8] ISO Guide 73:2009 (2009); ISO/IEC Guide 73:2002 (2002).
[9] *ISO Guide 73* states that an effect may be positive, negative, or a deviation from the expected, and that risk is often described by an event, a change in circumstances, or a consequence.

range from inconvenience – missing a connection, incurring a delay, losing luggage, or travel tickets, breaking down, etc. – right through to the most severe consequence, and the possibility that a human life may be lost as the result of an incident involving a transport mode or system that is being used. At the other end, from a positive perspective – transport may also save lives and/or bring opportunities and other enhancements, for example in business and employment, or as part of a pleasurable pastime or leisure pursuit. Consequently, these risks are "variable" and may be dependent upon many factors, intrinsic and extrinsic, ranging from the geographical location of the user, the abilities, skills, and aptitude[10] of the driver, rider, pilot etc., who is in charge of the mode or has jurisdiction of the supporting infrastructure, and hence bears an element of responsibility for the passengers' (users') safety.

Determining risks (be it positive or negative) involves assessment. This means revisiting old and existing data, or factoring in new data and changing parameters, e.g. due to advancements or new exposures:

> Social acceptability of risk is a difficult factor to determine, albeit accepted that risk is part of living, the degree of risk, which is individually tolerated, is known to vary depending upon many factors, such as age, experience, life exposure etc. Air travellers accept a degree of voluntary risk, whether or not they envisage the full potential, such as death [or] injury, is very much a case of objective and subjective interpretation as to the likelihood of this occurring.[11]

That said, societal acceptance of risk has been classified into four main types:

(i) Individual, 'real' risk, as determined on the basis of the circumstances and as considered after their full development;
(ii) Statistical risk, which is determined by available data relating to incidents and accidents concerning the issue being analyzed;
(iii) Predicted risk, which may be based upon relevant historical studies and analytical modeling;
(iv) Perceived risk, which is the perception of a risk to an individual whether said to be intuitive or otherwise. [12]

It remains a fact that the safety and security of the passenger (and/or user) cannot be guaranteed when traveling by transport, but mitigating action – such as policy, procedures, legal practices, mechanisms, or other intervention, in most instances, will be in place to reduce any negative associated risks or to offer some type of assurance and compensation system (such as insurance) in *any unlikely event* – be it an accident (collision or other hazardous occurrence), including a purposeful event – which has a negative result.

### 2.2. *Safety and Accidents*

[10] Or even outside "negative" influences, such as intoxicants (alcohol), drugs, etc.
[11] Sarah Jane Fox, Safety and Security: The Influence of 9/11 to the EU Framework for Air Carriers and Aircraft Operators, 45 Res. Transp. Econ. 24, 24–25 (2014). See also Milan Janic, An Assessment of Risk and Safety in Civil Aviation, 6 J. Air Transp. Mgmt. 43 (2000); Fedja Netjasov & Milan Janic, A Review of Research on Risk and Safety Modelling in Civil Aviation, 14 J. Air Transp. Mgmt. 213 (2008).
[12] Fox, Safety and Security, supra note 11, at 25 (quoting Andrew P. Sage & Elbert B. White, Methodologies for Risk and Hazard Assessment: A Survey and Status Report, 10 IEEE Transactions on Systems, Man and Cybernetics 425 (1980)).

To define an "accident" in most instances tends to imply an unintended consequence of an action, which results in damage (to the mode of transport or some outside infrastructure) and/or, injury or death to a person, external or within the actual transport mode.

In aviation, an *accident*[13] is defined as:

> An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:
>
> a) a person is fatally or seriously injured[14] as a result of:
>
> - being in the aircraft, or
> - direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
> - direct exposure to jet blast,
>
> except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or
>
> b) the aircraft sustains damage or structural failure which:
>
> - adversely affects the structural strength, performance or flight characteristics of the aircraft, and
> - would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or
>
> c) the aircraft is missing or is completely inaccessible.[15]

An *incident*[16] is defined as "an occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation."[17]

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[13] Note 1.– For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified as a fatal injury by ICAO. Note 2.– An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located. ICAO, Annex 13 to the Convention on International Civil Aviation – Aircraft Accident and Incident Investigation (11th ed. 2016) [hereinafter Annex 13].

[14] "*Serious injury.* An injury which is sustained by a person in an accident and which:
a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received: or
b) results in a fracture of any bone (except simple fractures of fingers. toes, or nose): or
c) involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage: or
d) involves injury to any internal organ: or
e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface: or
f) involves verified exposure to infectious substances or injurious radiation." *Id.*

[15] Annex 13, *supra* note 13, ch. 1.

[16] *Id.* Note that a definition is also provided for, a *serious incident*, namely, "*an incident involving circumstances indicating that an accident nearly occurred*."

[17] *Id.*

It is perhaps interesting to know that, in the United Kingdom, when defining a vehicular (automobile) "crash," the term "accident" is less frequently used by the police and other investigating agencies than it was in the past. The term "accident" has now been replaced by the word "collision" in everyday reference to such circumstances, although the related legislation remains unchanged.[18] This potentially implies an increased tendency towards the creeping in of the liability and respective "blame culture" element, such that, while the accident may have been unintentional, it was nevertheless as a result of a mistake or other error by "a" driver (and/or other persons who bear some degree of responsibility – such as a mechanic or manufacturer, etc.). In other words, there is culpability and accountability to factor in and to at least investigate and consider.

There can be no denying that safety has always been a high priority for civil aviation, particularly from the start of its commercial use. A specialized agency of the United Nations, the International Civil Aviation Organization (ICAO) was created to promote the safe and orderly development of international civil aviation throughout the world. And, hence, safety continues to remain at the core of ICAO's fundamental objectives.

Annex 13 of the Chicago Convention of 1944[19] states that the sole purpose of an air accident investigation is to prevent future accidents, not to apportion blame or liability.[20] This is echoed in EU Regulation 996/2010,[21] which was adopted to provide a framework for air accident investigation within the European Union. However, it is argued that from an international aviation perspective (and hence through the means of international law), this approach has created a lacunae, in terms of addressing wider societal needs, which demands not only future preventative measures, but answers as to the cause and circumstances, and the means to seek some form of redress for any wrongdoing and/or culpable/negligent actions identified. This has led, in more recent times, to increased usage of national systems undertaking a judicial review regarding air accidents which follows either the criminal or civil pathway.[22] Inevitably, it is contended that this national form of investigation and redress stands to create injustice across the globe, which invariably impedes upon the concept of equality and fairness for all parties – that is, the injured parties and respective families – and the aviation professionals involved.

## 3. *Fundamental Human Rights – A Brief Introduction*

The Universal Declaration of Human Rights (UDHR)[23] remains a milestone document in the history of human rights, setting out, for the first time, fundamental human rights which continue to be universally protected as a common standard of achievement for all nations and all people of the world. It was drafted by representatives from different legal and cultural backgrounds from all areas of the world. The Declaration was proclaimed by the United Nations General Assembly

[18] The Road Traffic Act, 1988, c.52 § 170 (UK).
[19] Convention on International Civil Aviation, *opened for signature* Dec. 7, 1944, 61 Stat. 1180, 15 U.N.T.S. 295 (entered into force Apr. 4, 1947) [hereinafter Chicago Convention].
[20] Annex 13, *supra* note 13, ch. 3 ("3.1 The sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability.").
[21] Council Regulation 996/2010, Investigation and Prevention of Accidents and Incidents in Civil Aviation and Repealing Directive 94/56/EC, 2010 O.J. (L 295) 35, 35.
[22] *See* Sofia Michaelides-Mateou & Andreas Mateou, Flying in the Face of Criminalization (2011) (discussing the safety implications of prosecuting aviation professional after accidents).
[23] Universal Declaration of Human Rights, G.A. Res. 217A (III), U.N. Doc. A/810 at 71 (1948), http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/217(III) [hereinafter UDHR].

in Paris on December 10, 1948,[24] and, is acknowledged to be as a direct consequence of the Second World War – which had seen a divided world with nations in bitter conflict with their neighbors. Ironically, it was a war that was facilitated by the use of transport and, ultimately, which served as a key mechanism for the development of aircraft.[25]

The first line of the UDHR Preamble reinforces the concept of equality throughout all societies, stating the importance of the "inherent dignity and of the equal and inalienable rights of all members of the human family." Ultimately, this is "the foundation of freedom, justice and peace in the world . . . ."[26]

The Preamble refers to the fact that there is the need to "promote social progress and better standards of life in larger freedom." While making no direct reference to transport, it is clear that there is a role to be played in terms of ensuring this and *achieving larger freedoms* – through the facilitation of equal access, equal opportunity, and the drive to achieve the social progression and improvement of standards across the globe. Movement has invariably been key to identifying breaches and inequalities on an international scale – it enables more extensive freedoms to be realized. Transport therefore also serves as a means for facilitating the "observance of human rights and fundamental freedoms" which are specifically set out in the UDHR.

Thus, the underlying focus of the UDHR relates to the rights of dignity, equality, and fairness. There are 30 Articles that express the obligations of the contracting member States, and through which a range of rights and freedoms are specifically set down as being applicable to everyone in the world.[27] While it is not the intention of the author to consider all of the Articles, reference is made within this paper to where potential respective conflicts exist, or may exist, in terms of the safety and security aspects discussed, relating to transport.

In this regard it should be recalled that Article 1 emphasizes that "[a]ll human beings are born free and equal in dignity and rights," while Article 7 refers to equality of the law, which is reinforced within Articles 10 and 11.

These Articles refer, respectively, to the aspect of "full equality to a fair and public hearing by an independent and impartial tribunal, in the determination of [a person's] rights and obligations and of any criminal charge against him," and that:

> (1) Everyone charged with a penal offence has the right to be presumed innocent until proved guilty according to law in a public trial at which he has had all the guarantees necessary for his defence.
>
> (2) No one shall be held guilty of any penal offence on account of any act or omission which did not constitute a penal offence, under national or international law, at the time when it was committed. Nor shall a heavier

[24] *Id.*
[25] Sarah Jane Fox, *The Evolution of Aviation: In Times of War and Peace – Blood, Tears and Salvation!*, 31 Int'l J. World Peace 49 (2014); Sarah Jane Fox, *'CONTEST'ing Chicago – Origins and Reflections: Lest We Forget!*, 8 Int'l J. Priv. L. 73 (2015).
[26] UDHR, *supra* note 23, pmbl.
[27] An abbreviated version of these 30 Articles can be viewed at http://hrlibrary.umn.edu/edumat/hreduseries/hereandnow/Part-5/8_udhr-abbr.htm.

> penalty be imposed than the one that was applicable at the time the penal offence was committed.[28]

However, from an aviation perspective, although there remains general consistency and direction in the technical investigation of an accident, in accordance with Annex 13 of the Chicago Convention, the resort to domestic law creates inconsistencies and inequalities particularly for international flights in determining liability of the human nature – be it through civil or criminal redress. As Mateou and Michaelides-Mateou identified, in many instances the aviation accident investigation report has been used in subsequent litigation but this has been undertaken in an inconsistent manner, for "not only do different jurisdictions have different legal systems, the courts have different approaches to adopting the accident report or parts of it in criminal litigation against pilots, ATCO's, engineers and other aviation professionals."[29] This variation and contradictory approach has been interpreted as leading to a "perilous situation where pilots, for example, first may be faced with criminal charges in one country but not in another," and furthermore will be unaware if the technical investigation and final investigation report will be used against them in proceedings.[30] Likewise, this translates through to inadequacies for the injured parties (and respective families), which remain dependent upon the jurisdiction in which any court case may be heard.

### 4. *Passenger Choice? – Safety & Statistics!*

It is acknowledged that "mobility is vital to the . . . quality of life of citizens as they enjoy *their freedom* to travel. . . ."[31]

This statement emphasizes the necessity of transport and, arguably, the fact that humans have other certain entitlements, closely linked to the principles set out in the UDHR – namely, that it remains a fundamental freedom to travel.

> Article 13 of the UDHR specifically refers to freedom of movement and states:
>
> (1) Everyone has the right to freedom of movement and residence within the borders of each state.
>
> (2) Everyone has the right to leave any country, including his own, and to return to his country.

It is therefore contended that this should be applied and extended further, and should therefore be viewed as including an ability or right to make choices and decisions; so, in theory (although, perhaps not in reality), a traveler therefore has the option and choice, namely, (i) to choose to travel in the first instance, and (ii) to decide which mode of transport to use (of course this is subject to availability and other constraints). And, that said, part of this decision-making process may be based upon the actual, or "the individual's" *perceived risk*[32] of using a particular mode, be it related to safety or security. But defining the safest versus the most dangerous mode in

[28] UDHR, *supra* note 23, arts. 10, 11.
[29] Michaelides-Mateou & Mateou, *supra* note 22.
[30] *Id.*
[31] Emphasis added. *Roadmap to a Single European Transport Area – Towards a Competitive and Resource Efficient Transport System*, COM (2011) 144 final (Mar. 28, 2011).
[32] *See supra* text accompanying note 12.

many instances depends upon the matrix applied.[33] For example, different parameters will invariably result in a degree of fluctuation, i.e. based upon (1) deaths per journey traveled; (2) deaths per hour spent traveling (and/or using a particular mode); or (3) deaths per kilometer traveled (and/or using a particular mode).

Taken from a safety standpoint, air transport is viewed as a particularly complicated system for assessing risks, with numerous interlinked factors involving human operation and the interaction of procedural and technical systems.[34] Therefore, unlike other transport modes, aircraft accidents involve added assessment complexities, due to the fact that flying takes place over long distances, is global, and therefore often involves the crossing into/over various other countries and continents. The associated risk of being involved in an accident when the aircraft is in flight to the most part remains limited to the passengers and crew.[35] Taken from this perspective, air transport could first be perceived as having a high risk (due to its complex nature).

Following the Amtrak Northeast Regional train crash on May 12, 2015 in Philadelphia,[36] CNN investigated the safest mode of transport in one country – the United States. The parameters were based upon how many people are killed for every one billion passenger miles traveled – so a "500-mile trip on a plane carrying 100 people would be equivalent in passenger miles to someone driving a 500 mile car trip (alone) 100 times."[37]

The results showed that on the roads, the motorcycle was the most dangerous form of transportation, with 23,000 people killed by them over the identified five-year period, equating to 217 deaths per billion miles. Cars and trucks led to more than 113,000 people being killed, which was stated to be "a much higher absolute number than any other form of transportation . . . because people most often travel in cars and trucks."[38] This equated to 5.75 deaths per billion miles. Buses on the other hand (particularly school buses) were found to be even safer with 0.14 deaths per billion miles.

Amtrak and commuter railroads were found to be a "relatively safe mode of travel" – equating to 0.47 deaths per billion miles,[39] which was no doubt viewed as a positive finding for Amtrak and went some way to reassure the traveling public of the moderate safety of using the commuter railway system.

In respect to the use of U.S. commercial aircraft, the CNN study concluded that, in the United States, this mode had the safest record of all, at 0.06 deaths per billion miles.[40]

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[33] Other factors (whether specific or generic), e.g. in relation to geographic positioning, age, experience, vehicle/mode (age & maintenance) etc., may also distort findings. *See also supra* Section 2.1.
[34] Netjasov & Janic, *supra* note 11.
[35] There is also a "probable risk, albeit lower, to individuals, and property on the ground." Fox, *supra* note 11, at 26.
[36] The Northeast Regional train 188 was traveling to New York from Washington on May 12, 2015 when it derailed in the Port Richmond neighborhood of Philadelphia. There were 238 passengers and 5 crew on board – and there were 8 fatalities and 200 injuries (11 critical).
[37] Chris Isidore, *What's the Safest Way to Travel*, CNN.com (May 13, 2015, 4:29 PM), http://money.cnn.com/2015/05/13/news/economy/train-plane-car-deaths/index.html.
[38] *Id.*
[39] *Id.*
[40] *Id.* Small planes (known as air taxis) that carry passengers to very rural destinations are responsible for most of the deaths in this category. Private planes cause far more deaths than commercial airliners, but they were not included in these figures.

In relation to the particular Amtrak crash in Pennsylvania which prompted the survey, it should be noted that on May 12, 2017 (two years from the exact date of the accident), private charges were filed for involuntary manslaughter against the engineer who was driving the train, after local officials declined to pursue a criminal case, leading to the victims' families taking advantage of an unusual Pennsylvania state law that forced officials to act.[41] Once again, this reinforces (outside the scope of aviation) not only the principle of culpability and taking responsibility when deaths or injury are sustained due to the use of the transport mode,[42] but the lack of consistency of the law (even within one country), in this instance when related to a national accident, albeit in this case, a train. Arguably, this reinforces the concept of a postcode lottery[43] to determine liability for safety-related incidents in transport.

Of course, these findings are limited to the United States, and other geographical localities will no doubt see a degree of variance. However, it is recognized that approximately 1.3 million people die each year on the world's roads, and between 20 and 50 million sustain non-fatal injuries, which makes deaths attributed to the roads a world epidemic. Deaths due to road usage are certainly regarded as an important public health problem, particularly for low-income and middle-income countries.[44] Once again, this emphasizes the disparity in terms of equality, of not only transport modes and geographical location, but particularly of the wealth-to-safety ratio.

That said, it should be noted that the United States was listed within a UN report as one of the countries which accounted for a high number of road deaths.[45] The report stated that "[a]pproximately 62% of reported road traffic deaths occur in ten countries – which in order of magnitude are India, China, the United States, the Russian Federation, Brazil, Iran, Mexico, Indonesia, South Africa, and Egypt – and account for 56% of the world's population."[46]

In this respect, it is no doubt (particularly in terms of the USA's total number of deaths) linked to the population and level of automobile use within a country and therefore does not necessarily give an accurate assessment of associated risks (and the casualties as determined per wealth bracket). Albeit the report also referred to modeled numbers, identifying that the ten countries with the highest number of deaths remained: China, India, Nigeria, Pakistan, Indonesia, the

[41] He was also charged with causing or risking a catastrophe, and reckless endangerment. Matthew Haag & Daniel Victor, *Engineer in Philadelphia Amtrak Crash Is Charged with Involuntary Manslaughter*, NYTimes.com (May 12, 2007), https://www.nytimes.com/2017/05/12/us/amtrak-derailment-crash-philadelphia.html. Ultimately, the charges were dismissed. Ashley Halsey III, *Philadelphia Judge Throws Out Charges Against Amtrak Engineer in Deadly 2015 Wreck*, WASH. POST (Sept. 12, 2017), https://www.washingtonpost.com/local/trafficandcommuting/philadelphia-judge-throws-out-charges-against-amtrak-engineer-in-deadly-2015-wreck/2017/09/12/2d46718a-97f1-11e7-82e4-f1076f6d6152_story.html?utm_term=.6bfa44a97209.

[42] "Amtrak has agreed to pay up to $265 million to more than 100 victims and their families in a settlement." *Id.*

[43] A U.K. idiom meaning an unfair or unequal advantage/disadvantage in the provision or distribution of services.

[44] *See* World Health Org., Global Status Report on Road Safety 12 (2009), http://apps.who.int/iris/bitstream/10665/44122/1/9789241563840_eng.pdf. The *Global Status Report on Road Safety* provides a broad assessment of the road safety situation in 178 countries, using data drawn from a standardized survey.

[45] *Id.* at 12, 246–47.

[46] *Id.* at 12.

Russian Federation, Brazil, Egypt, and Ethiopia – with the tenth country being the United States.[47]

The UN, in response to the high number of road deaths, has set global targets for road safety improvements and a respective service delivery mechanism, as part of the "Global Plan for the Decade of Action for Road Safety 2011–2020" to tackle this problem.[48] Part of this approach also recognizes the need for legislative intervention to reduce the high number of global deaths on the road.

In stark contrast perhaps is the aircraft, and civil aviation's impressive world safety record, which has an ever-evolving framework and platform from which to launch initiatives and monitor performance. The international and coordinating government-level agency, the UN's ICAO, constantly strives, in close collaboration with the entire air transport sector, to further improve aviation's successful safety performance, which links into also maintaining a high level of capacity and efficiency.

> This is achieved through:
>
> (i) The development of global strategies contained in the Global Aviation Safety Plan and the Global Air Navigation Plan;
>
> (ii) The development and maintenance of Standards, Recommended Practices and Procedures applicable to international civil aviation (this relates to activities which are contained in 16 Annexes and 4 PANS (Procedures for Air Navigation Services). . . .[49]
>
> (iii) The monitoring of safety trends and indicators. . . .[50] [This utilizes] sophisticated tools to collect[ ] and analyse a vast array of safety data which allows [for the identification of] existing and emerging risks;
>
> (iv) The implementation of targeted safety programmes to address safety and infrastructure deficiencies; and
>
> (v) An effective response to disruption of the aviation system created by natural disasters, conflicts or other causes.[51]

The method adopted for aviation safety is based upon a "coordinated, risk-based approach to improving *global* aviation safety."[52] That said, however, there is still inconsistency among

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[47] *Id.* The listing does not refer to any particularly order of grading.

[48] The United Nations General Assembly declared a Decade of Action for Road Safety (2011–2020). This recognized the obstacle that road traffic injuries present to development efforts. Member States also included a specific target on road safety in the *2030 Agenda for Sustainable Development*. *See* G.A. Res. 70/1, ¶ 3.6, Transforming Our World: The 2030 Agenda for Sustainable Development (Sept. 25, 2015).

[49] These standards are complemented by more than 50 Manuals and Circulars that provide guidance on their implementation.

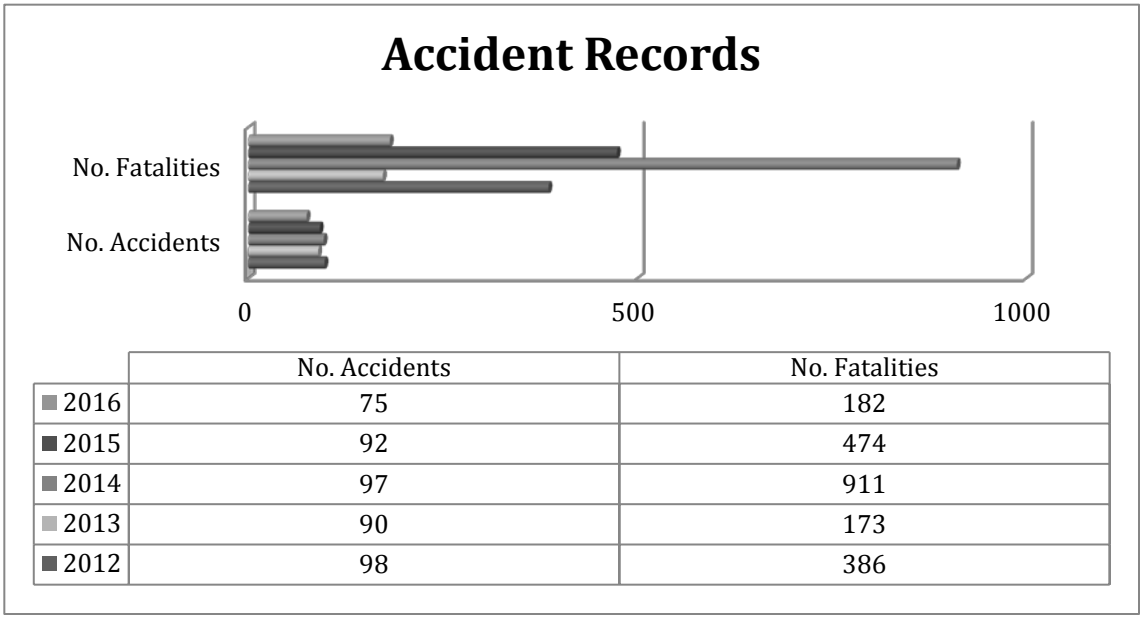
[50] ICAO audits the implementation of its Standards and Recommended Practices (SARPs) through its Universal Safety Oversight Audit Program.

[51] *Safety*, Int'l Civil Aviation Org., https://www.icao.int/safety/Pages/default.aspx.

[52] Int'l Civil Aviation Org., Safety Report 2 (2017), https://www.icao.int/safety/Documents/ICAO_SR_2017_18072017.pdf [hereinafter ICAO Safety Report] (emphasis added).

countries in terms of even air safety standards.[53] ICAO recognizes this to be a problem for aviation – the "No Country Left Behind" (NCLB) initiative highlights ICAO's efforts to assist States in implementing ICAO Standards and Recommended Practices (SARPs) consistently across the globe. The main goal of this campaign is to help ensure that "SARP implementation is better harmonized globally so that all States have access to the significant socio-economic benefits of safe and reliable air transport."[54]

The 2017 *ICAO Safety Report* provides information on safety indicators, including on accidents that occurred in 2016 (together with related risk factors). It also shows analysis and data from the period 2012 to 2016, to use as benchmarks for comparison purposes.[55]




| | No. Accidents | No. Fatalities |
|---|---|---|
| 2016 | 75 | 182 |
| 2015 | 92 | 474 |
| 2014 | 97 | 911 |
| 2013 | 90 | 173 |
| 2012 | 98 | 386 |

**Accident Records – 2012-2016 for Scheduled Commercial Flights**[56]

The year 2016 – for aviation safety, namely for commercial air flights – shows a downward trend, and hence improvement, with 75 accidents reported by States, representing an 18 per cent decrease from 2015. This resulted in some 182 fatalities being recorded.

If all the deaths attributed to commercial air accidents in this five-year period were added together, the actual number would still remain minimal compared with road-related fatalities sustained in one year (even just from a commercial road fatality perspective). This helps substantiate the fact that commercial travel by plane remains consistently the safest mode of travel.[57] Nevertheless, it should also be factored in that there is higher risk associated with the

[53] Sarah Jane Fox, *'A Risky Business' – Aviation Safety*, *in* Legal Risk Management, Governance & Compliance – Interdisciplinary Case Studies from Leading Experts 135 (Stuart Weinstein & Charles Wild eds., 2016).
[54] *See No Country Left Behind*, Int'l Civil Aviation Org., https://www.icao.int/about-icao/NCLB/Pages/default.aspx.
[55] There is a note that the data presented in this report may not exactly match that of the earlier reports due to the data having been updated in the intervening period.
[56] ICAO Safety Report, *supra* note 52, at 21.
[57] Fox, *supra* note 11, at 24 (citing data from the FAA (http://www.faa.gov/data_research/safety), the National Transportation Safety Board (http://www.ntsb.gov), and the International Civil Aviation Organization (http://www.icao.int/safety/Pages/default.aspx), among others). *See also Safety Analysis*, Eur. Aviation Safety

mode utilized to travel to and from the airport in the first instance and, hence, it should not be forgotten that aviation depends on other modes to actually function, having a high interdependency on its transport partners. So, cumulatively, certainly from an aviation perspective, when assessing travel safety risks, associated and related factors should also be borne in mind.

Braithwaite, Caves, and Faulkner identify that in order to achieve safety and reduce the accident rate, risk must be quantified and balanced with appropriate safety measures.[58] Aviation safety is constantly viewed as a risky business, whereby there is a need to balance the risk against, on the one hand, the affordability for the traveling passenger, and on the other hand, for the airlines, to successfully operate at a profit.[59] There is no doubt that aviation safety comes at a price to the industry, which is inevitably passed on to the paying passenger. One opinion that has been expressed is that, in the future, travel by air could be restricted to a pursuit "for the rich only," due, no doubt, to the demands placed on the industry – including those from a safety and security perspective.[60] Should this become a reality, it would reinforce the rationale that safety in particular, is increasingly becoming linked to wealth.

The year 2014 shows a high peak in the number of fatalities, but again depending upon the parameters applied, the picture can appear differently. "The 2014 global jet accident rate (measured in hull losses per 1 million flights) was 0.23, which was the lowest rate in history and the equivalent of one accident for every 4.4 million flights."[61]

However, 2014 is particularly remembered for the two Malaysian aircraft disasters – MH370 and MH17.[62] Arguably, "both tragedies, together with others in the year, undoubtedly, cast a shadow on flying and the associated safety risks,"[63] and certainly no doubt this is particularly true in terms of customer confidence in the airline, which lay at the center of both tragedies. The first plane, flight MH370, disappeared on March 8, 2014, having departed from Kuala Lumpur International Airport bound for Beijing Capital International Airport in China. It was missing for over a year until July 2015, when some of the wreckage washed up in and around the islands of Réunion. The second Malaysian aircraft, MH17, was en route from Amsterdam to Kuala Lumpur when it was shot down over Ukraine on July 17, 2014. The circumstances that led to the

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Agency, easa.europa.eu/safety-and-research/safety-analysis-and-research.php; Clinton V. Oster Jr., John S. Strong & C. Kurt Zorn, *Analyzing Aviation Safety: Problems, Challenges, Opportunities*, 43 Res. Transp. Econ. 148–64 (2013).

[58] Graham R. Braithwaite, R.E. Caves & J.P.E. Faulkner, *Australia Aviation Safety – Observations from the 'Lucky' Country*, 4 J. AIR TRANSP. MGMT. 55 (1998).

[59] Fox, *supra* note 53.

[60] Rick Seaney, *Is Air Travel Becoming "For Rich People" Only?*, ABC NEWS (June 1, 2014), http://abcnews.go.com/Travel/air-travel-rich-people/story?id=23927464.

[61] Press Release, Int'l Air Transp. Ass'n, IATA Releases 2014 Safety Performance (Mar. 9, 2015), http://www.iata.org/pressroom/pr/Pages/2015-03-09-01.aspx (emphasis added). The Aviation Safety Network recorded a total of 21 fatal airliner accidents, resulting in 990 fatalities, stating that this made 2014 "the safest year ever by number of fatal accidents and the 24th safest year ever in terms of fatalities." Press Release, Aviation Safety Network, Despite High Profile Accidents, 2014 Was the Safest Year Ever According to ASN Data (Jan. 1, 2015), https://news.aviation-safety.net/2015/01/01/despite-high-profile-accidents-2014-was-the-safest-year-ever-according-to-asn-data/.

[62] Fox, *supra* note 53.

[63] *Id.* (referring to the fact that, in total, there were 12 fatal (commercial) accidents in 2014). *See* Press Release, Int'l Air Transp. Ass'n, *supra* note 61.

demise of the first plane, to this day, remain speculative and shrouded in notions and conspiracy theories (including as to a cover-up of the known events). Whether it was downed due to a safety or security incident is therefore unknown, but it was nonetheless classified as a fatal accident (in accordance with specified measures).[64] On the other hand, there is no denying the intervention of man in relation to the purposeful action in the shooting down of MH17 – which made this a security concern, and therefore this incident is not included as an accident under the globally-recognized accident classification criteria, much in the same way that the four aircraft involved in the events of 9/11 were also treated in this manner. Consequently, this distinction draws an obvious division between a safety and security incident/event (despite the lack of definition within certain languages).

There can also be no repudiating that security breaches stand to affect the safety of air passengers and the 2017 *ICAO Safety Report* stated in the Executive Summary that the years 2014 and 2015 "had seen a spike in fatalities due to a number of acts of unlawful interference that resulted in a large number of casualties."[65]

While unlawful interference has become a clear problem for airlines, one which has been particularly highlighted since the events of 9/11, there has been a degree of apathy in applying consistent mechanisms and approaches across all transport modes. There remains little doubt that aviation has certainly been highlighted in terms of the vulnerability faced by the airlines and supporting infrastructure, and at the 39th Session of the ICAO Assembly in October 2016, the ICAO Council adopted a number of resolutions related to acts of unlawful interference. This included promulgating ICAO policies related to the safeguarding of international civil aviation against acts of unlawful interference, and urging States to support the Beijing Convention of 2010[66] and the Beijing Protocol of 2010.[67]

### 5. *Transport Security*

In essence, there are numerous ways of considering and defining security and related "security" offenses, crimes, or other type of breaches that compromise transport. This may range from the unintentional act of failing to remove a match or lighter from a pocket when passing through security at an airport, to smuggling elicit goods and materials using transport, through to an act of purposeful terrorism aimed at mass destruction and loss of lives. Security affecting transport (and related violations) is not a new concept or phenomenon. All transport modes and systems have been subject to unwanted crimes, interference, and other types of attacks against users and providers (and of late, innocent bystanders). In terms of aviation, such atrocities have spanned a relatively short period of time, since the 1930s. This has subsequently led to numerous international conventions, playing catch-up, as a means to plug such vulnerabilities.[68]

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[64] Press Release, Int'l Air Transp. Ass'n, *supra* note 61.
[65] ICAO Safety Report, *supra* note 52.
[66] Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation, *opened for signature* Sept. 10, 2010, ICAO Doc. 9960 [Beijing Convention].
[67] Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft, *opened for signature* Sept. 10, 2010, ICAO Doc. 9959 [Beijing Protocol].
[68] *See, e.g.*, Convention on Offences and Certain Other Acts Committed on Board Aircraft, *opened for signature* Sept. 14, 1963, 704 U.N.T.S. 220, ICAO Doc. 8364 (entered into force Dec. 4, 1969) [Tokyo Convention], Convention for the Suppression of Unlawful Seizure of Aircraft, *opened for signature* Dec. 16, 1970, 22 U.S.T. 1641, 860 U.N.T.S. 105, reprinted in 10 I.L.M. 133 [The Hague Convention]; Convention for the Suppression of

Attacks against transport modes and systems date back to early transport use and methods. For example, "highway robbery" (which led to the term "highwaymen" being used to define the perpetrators) was a concept in England from the Elizabethan era until the early 19th century. This was an offense whereby the thief, usually traveling by horse, attacked and stole from other travelers (normally those using horse-drawn stagecoaches). Thefts from depots, ports, airports, and railway sidings have always been a relatively common occurrence, including in more modern times. Maritime travel in particular has been plagued by attacks at sea – leading to the terms "pirates and "piracy" being coined (for the offenders) for raids (normally robberies) and assaults against shipping, including personnel and passengers using it. Whereas the more well-known reported and documented 17th and 18th century attacks in the Caribbean Sea have featured heavily in films and books, the origins of piracy date back to early maritime trading, hence showing a propensity of attacks against transport dating back to piracy in the Straits of Hormuz recorded at least as early as 694 B.C.[69]

### 5.1. *Aviation Security*

While aviation has close links to maritime transport – particularly in terms of international reach, but also from the stance of sovereignty and the origins and influence for overflights, as originally applied to the seas[70] – it would be accurate to state that aviation did not learn from the early attacks levied against shipping and foresee their potential, including the escalation in scale against air transport.

It should be noted in this respect that the United Nations Convention on the Law of the Sea (UNCLOS)[71] makes reference to aircraft several times. In Part VII, reference is made to the high seas and to criminal acts including the detention of offenders, whereby one reference relates to an act of "piracy" and the other to "hot pursuit."

Articles 100 through 107 specifically relate to offenses and acts of *piracy*, which according to Article 101 is classified as an activity involving:

> a) any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew or the passengers of a private ship or a private aircraft, and directed:
>
> (i) on the high seas, against another ship or aircraft, or against persons or property on board such ship or aircraft;
>
> (ii) against a ship, aircraft, persons or property in a place outside the jurisdiction of any State . . . .[72]

The 1944 Chicago Convention on International Civil Aviation, however, replicates its

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Unlawful Acts against the Safety of Civil Aviation, *opened for signature* Sept. 23, 1971, 24 U.S.T. 564, 974 U.N.T.S. 177, reprinted in 10 I.L.M. 115 [Montreal Convention]. *See also* Fox, *'CONTEST'ing Chicago*, *supra* note 25 (discussing conventions that occurred before Annex 17 was added to the Chicago Convention).

[69] Nigel Cawthorne, A History of Pirates: Blood and Thunder on the High Seas (2002).

[70] Based upon Hugo Grotius' 1609 principle, *Mare Liberum* – Freedom of the Seas.

[71] United Nations Convention on the Law of the Sea, *opened for signature* Dec. 10, 1982, 1833 U.N.T.S. 397 (entered into force Nov. 16, 1994).

[72] *Id*. art. 101.

predecessor, the 1919 Paris Convention,[73] in terms of not mentioning security from the perspective of protection against criminal acts perpetrated by individuals (or groups). That said, within the Preamble of the Chicago Convention, reference is made to *general security* – wherein, it is stated, "WHEREAS the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the *general security*."[74]

Hence, this reference to security is recognized to be related to the principle of international peace and not to the more modern day atrocities that have plighted the industry, such as terrorist attacks and other incidents of unlawful interference.

Article 44 cites the aims and objectives of ICAO,[75] making reference to "safety" several times. Although this may be implied to include security, it is not stated specifically; instead, reference is made in terms of transport that "meet[s] the needs of the people of the world for safe, regular, efficient and economical air transport."

This absence was "an early failing of the international community to recognize and take collective measures to ideally prevent, or at least react to the targeting of aviation."[76] In this regard, there was a breakdown in anticipating the security risk and related threats to air transport and the supporting infrastructure. After all, there had been a clear direction and indication of the potential for such escalation of attacks to shipping, and therefore it should have been predicted that this would continue in respect to newer modes, i.e. aircraft.

Adding further substance and supporting evidence to this claim:

(i) there had also been numerous occurrences of hijackings and other unlawful interference against aircraft between World War I and World War II – which predated the Chicago Convention;[77] and

(ii) "national security and personal protection of [both] the country and their subjects" had remained a contentious issue at earlier discussions and conferences relating to regulating civil aviation, whereby States recognized the vulnerability of airspace above a national territory and clearly cited this as a reason for an international convention.[78]

Yet it was notably some 30 years before security was to be annexed to the Chicago Convention as a specific standalone chapter following the intensification in violent crimes on civil aviation aircraft in the late 1960s. This followed the international multilateral conventions earlier in the 1970s, which related to the suppression of offenses, criminal prosecution, and penalties.[79] It was instigated following UN Assembly Resolutions A17-10 and A18-10, plus further extensive

[73] Convention Relating to the Regulation of Aerial Navigation, *opened for signature* Oct. 13, 1919, 11 L.N.T.S. 173, *reprinted in* 30 Annals Air & Space L. 5 (2005).
[74] Chicago Convention, *supra* note 19, pmbl. (emphasis added).
[75] An organization identified within Article 43 of the Chicago Convention. *See supra* Section 2.2.
[76] Sarah Jane Fox, *Future Trends: Preventative Security for International Air Transport? in* Research Handbook on International Aviation Law (Brian F. Havel & Jeremias Prassl eds., forthcoming 2018).
[77] *See id.* (referring to such events).
[78] *Id.*
[79] *See supra* note 68; *see infra* note 95. *See also International Legal Instruments*, UNITED NATIONS, http://www.un.org/en/counterterrorism/legal-instruments.shtml.

studies through the ICAO Council, Air Transport Committee, Air Navigation Commission and the Unlawful Interference Committee, and led to a new set of Standards and Recommended Practices in relation to security. These were adopted on March 22, 1974 as Annex 17 – Security. This also resulted in sections of other Annexes being amended to include aspects of aviation security.

The earlier versions of Annex 17 were far more focused on issues relating to hijacking, but later amendments have seen an extension in the area and remit of security, which now also consolidates some of the information that was previously found in the other Annexes. Today, the basis of the Annex remains directed towards preventative measures, and ICAO provides guidance for member States through the accompanying Annex 17 Security Manual, *Safeguarding Against Acts of Unlawful Interference*.[80]

Since the 1970s, the importance of transport security and the respective investment therein has been a continuously expanding area, rising in prominence following high-profile incidents, particularly terrorist attacks directed at aviation, and, arguably, none more so than the attacks on 9/11.[81] It was the events of September 11, 2001 that were ultimately proclaimed as "the day that changed the world,"[82] not least because of the number of people who lost their lives and the ensuing effects to the economy, but also the realization of vulnerability on such a huge scale, to people, to the infrastructure, and ultimately to civilization. There was disbelief that people could do this to fellow humans by launching such an unprovoked attack on innocent civilians going about their everyday lives. It was, after all, an action that runs contrary to the first Article of the UDHR, that "we," as humans, "are endowed with reason and conscience and should act towards one another in a spirit of brotherhood."[83]

The actions, results, and consequences of September 11, 2001 resounded in an intense shockwave across all continents. Not only was the world shocked by the events, but there was genuine fear – the risk of using transport (alongside the risk to other infrastructures) suddenly became elevated in people's minds as a real, modern-day *reality*.

### 5.2. *Terrorism and Transport*

There has always been a symbiotic relationship between terrorism and other gross atrocities and transport, which far precedes the events of 9/11 and attacks against aviation. These attacks have been aimed at both the mode and the respective infrastructure, with even the bicycle having been utilized by terrorists.[84] Transport has been used by terrorists to travel from location to location, to plan an attack, launch an attack from – or even against – a transport mode, and also to escape

[80] ICAO Doc. No. 8973 – Restricted (2006).
[81] The terrorist attacks on September 11, 2001 in the United States – whereby terrorists hijacked four airliners, intending to fly them deliberately into U.S. targets. Departure airports: Boston – American Airlines 11 and United Airlines 175; Washington/Dulles – American 77; Newark – United 93.
[82] *See* Sarah Jane Fox, *'To Practice Justice and Right' – International Aviation Liability: Have Lessons Been Learnt?*, 5 Int'l J. Pub. L. & Pol'y 162 (2015) (referring to Giovanni Bisignani, Shaking the Skies (2013).
[83] UDHR, *supra* note 23, art. 1.
[84] On August 25, 1939, the Irish Republican Army (IRA) detonated a bomb hidden on the handlebar basket of a bicycle, bringing death and destruction to Coventry in the United Kingdom. According to reports at the time, five died in the explosion and 70 more were injured. Mike Lockley, *How History Forgot IRA Bombing of Coventry on the Eve of World War II*, Coventry Telegraph (Jan. 25, 2016, 2:55 PM), http://www.coventrytelegraph.net/lifestyle/nostalgia/how-history-forgot-ira-bombing-10786106.

capture and flee the scenes of their crimes.

### 5.2.1. The Development of Terrorism and International Response

A derivative of the word terrorism is traceable back to 105 B.C. when "*terror cimbricus*" was a term for panic deriving from an attack by the Cimbri tribe, although the word "terrorism" is largely associated with the Reign of Terror instigated by Maximilien Robespierre in 1793, following the French Revolution and, somewhat ironically, was linked to actions imposed by government figures.[85] Characterization of terrorism as a State action diminished, with the idea of terrorism as an attack against an existing political order becoming more commonplace with Sergei Nechayev, a fanatical Russian revolutionary, describing himself as a terrorist.[86] He later went on to found the People's Retribution organization, in 1869.[87]

Today, terrorism is associated with activities carried out by persons or a group of people, whereby the intention is to take lives and/or cause disruption and chaos. Of late, this is aimed at States and governments, whereby high profile target areas are attacked for maximum affect and publicity – such as infrastructure, including transport and transport supporting infrastructure – or areas where there are large crowds.

The 1930s had initially seen terrorism being discussed at an international level by the League of Nations. Although a convention was drafted relating to prevention and punishment of terrorist attacks, the instrument never came into force.[88]

Terrorism was initially mostly confined to a more nationalist agenda, although it has occurred in virtually every part of the world. In the late 1960s, international terrorism began to become more extensively established and ultimately committed, largely due to transport links and opportunities presented by the various modes. Since 1963, the international community, predominately through the United Nations, has been actively involved in formulating universal legal instruments to prevent terrorist acts.[89] Many measures undertaken were geared toward specific targeted industries (such as the atomic sector) and therefore have led to development of specialist agencies, although movement, and hence transport, remain key features – for example the illegal trafficking of biological, chemical, and nuclear weapons (and related material).[90]

[85] Maximilien Robespierre was one of twelve heads of government and used the justification for his techniques and brutality as a necessary means to transform the State from a monarchy to a liberal democracy.
[86] *See* Sergei Nechayev, Catechism of a Revolutionary (1869).
[87] Martin Avery, Muskoka Terror G8: Activists and Terrorists from Huntsville to Algonquin Park 38 (2010). See also Sergei Nechayev, Encyclopedia.com, http://www.encyclopedia.com/article-1G2-3426400063/nechayev-sergei.html.
[88] Ben Saul, *The Legal Response of the League of Nations to Terrorism*, 4 J. INT'L CRIM. JUST. 78, 81–82 (2006) (discussing the League's 1937 Convention for the Prevention and Punishment of Terrorism).
[89] Aleeza Moseley, The Implementation of International Maritime Security Instruments in CARICOM States 20, (unpublished thesis, United Nations-Nippon Foundation), http://www.un.org/Depts/los/nippon/unnff_programme_home/fellows_pages/fellows_papers/moseley_0910_barbados.pdf.
[90] *See, e.g.*, Vladimir A. Orlov, *Illicit Nuclear Trafficking and the New Agenda*, IAEA Bull., June 2004, at 53, https://www.iaea.org/sites/default/files/publications/magazines/bulletin/bull46-1/46102595356.pdf (discussing the role played by the International Atomic Energy Agency (IAEA) – which is an autonomous international organization within the United Nations system).

On July 23, 1968 members of a terror organization, the Popular Front for the Liberation of Palestine (PFLP) hijacked El Al flight 426.[91] This attack was designed to obtain global attention through publicity and exposure, and no doubt was responsible for laying the foundation for semi-regular terrorist events, which have continued to plague transport and, in particular, aviation. This attack is largely considered to be the inaugural event for international terrorism.

In December 1972 the UN Sixth Committee referred to the need to take

> [m]easures to prevent *international terrorism* which endangers or takes innocent human lives or *jeopardizes fundamental freedoms*, and study [ ..] the underlying causes of those forms of terrorism and acts of violence which lie in misery frustration, grievance and despair and which cause some people to sacrifice human lives, including their own, in an attempt to effect radical changes.[92]

But, it was not until the 1980s that the UN Security Council actually began to refer more specifically to "terrorism." This also was to coincide with further direct targeting of transport, notably aviation (the Lockerbie bombing)[93] and maritime (the *Achille Lauro*).[94] As a consequence, numerous treaties were written and implemented to tackle the increasing threat of terrorism and the targeting of transport.[95]

The 1990s also saw an increased drive for international cooperation regarding computer-related crime and implications also being heightened on the global agenda.[96] Then, just after the world entered the new millennium, 9/11 occurred, in what was described as the "Crossing of the Rubicon."[97] Transport security measures – particularly in relation to aviation – were to dramatically change, and the price we paid was "intrusive, uncoordinated and lengthy security measures."[98] While the world appeared to be united in taking measures to combat the threat, some ten years later there was arguably apathy with regard to pushing forward with two new instruments – the Convention on the Suppression of Unlawful Acts Relating to International

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[91] Avery Plaw, Targeting Terrorists: A License to Kill? (2008).
[92] G.A. Res. 3034 (XXVII) (Dec. 18, 1972) (emphasis added).
[93] On December 21, 1988 Pan Am flight 103 exploded over the Scottish town of Lockerbie. The death toll was 243 passengers, 16 crewmembers, and 11 local people on the ground. It was determined that the cause of the explosion was a bomb hidden inside a radio-cassette player within a suitcase. *See* Fox, *'CONTEST'ing Chicago*, *supra* note 25; Fox, *supra* note 82; Sarah Jane Fox, *Flying Challenges for the Future: Aviation Preparedness – In the Face of Cyber-Terrorism*, 9 J. Transp. Security 191 (2016).
[94] "On October 7, 1985, four militants hijacked a ship called the 'Achille Lauro' off Egypt holding the passengers and crew hostage. The vessel was sailed towards Tartus, Syria, and demands were made for the release of 50 Palestinians then in Israeli prisons. Several days of negotiations followed, during which time one passenger was murdered." Fox, *'CONTEST'ing Chicago*, *supra* note 25.
[95] For example, continuing from the 1970s (the Tokyo, Hague, and Montreal Conventions, *supra* note 68), the 1980s led to other linked areas and preventative measures, e.g. the Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, supplementary to the Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation, *opened for signature* Feb. 24, 1988, 1990 U.N.T.S. 474. Maritime attacks: Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, *opened for signature* Mar. 10, 1988, 1992 U.N.T.S. 222 [SUA Convention]; Protocol for the Suppression of Unlawful Acts against the Safety of Fixed Platforms located on the Continental Shelf, *opened for signature* Mar. 10, 1988, 1992 U.N.T.S. 304.
[96] Fox, *Flying Challenges for the Future*, *supra* note 93.
[97] Offer Einav, *Understanding Aviation Terrorism Business and Technology*, Interavia, Mar./Apr. 2003, at 34.
[98] Giovanni Bisignani, Shaking the Skies (2013).

Civil Aviation[99] and the Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft[100] – a point raised by ICAO in its 2017 report in relation to aviation safety, discussed *supra*.[101] "The risks [to aviation] have not subsided but the political will to take coordinated action appears to have."[102] That said, there remains ongoing conflict with balancing security on the one hand with freedoms and fundamental rights on the other. For travelers and in transport this has always been particularly salient.

### 6. *Contention: Sovereignty, Protection, Rights . . . and Equality*

Like aviation safety, security for all transport modes comes at a price – both in terms of the monetary cost and legislative intervention, such as reformed practices and procedures. In terms of the latter, there stands to be a conflict with the very concept of free movement and mobility, and with associated fundamental rights. No doubt, this argument is also present in terms of safety, but it is in relation to security where there is more controversy regarding such measures and systems, which are viewed as restrictive and, as mentioned *supra*, "intrusive."

There has always been a degree of contention in terms of transport of an international nature – particularly maritime and aviation, for although Hugo Grotius expressed the idea of a *mare liberum* and competitive access to trade through the granting of extensive freedoms and rights, Emmerich de Vattel offered an extensively different viewpoint, stating that security, and not commerce, should prevail.[103] De Vattel, in essence, believed that a State's sovereignty should be extended to the territorial sea.[104]

In more recent times, President Woodrow Wilson's "Peace without Victory" address to Congress[105] referred to several factors connected to the freedom of travel and equality. His speech, although concerning freedom of passage of the sea, spoke of liberalization and equality of access, which were, in essence, the same factors being discussed in terms of aviation and access to the skies – issues that were to remain controversial at the later 1944 discussions at Chicago.[106]

Article 3 of the UDHR states, "[e]veryone has the right to life, liberty and security of person" and, in many ways, there are inherently different interpretations and views regarding this statement – not least of which are balancing liberty and security or interpreting the relationship between these two areas.

Security intervention (predominantly when taken by a State) is often viewed as a restriction to an individual's liberty, particularly the freedom of travel and movement, and, invariably, the question arises as to the level of security intervention and the role a State should undertake.

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[99] *See supra* note 66.
[100] *See supra* note 67.
[101] *See supra* Section 4.
[102] Fox, *'CONTEST'ing Chicago*, *supra* note 25.
[103] Emmerich de Vattel, 1 The Law of Nations or the Principles of Natural Law § 94 (1758). See also Sarah Jane Fox, Green and Level Playing Fields: A Paradox of Virtues. DUMPING – Anti-Competitiveness, 5 Int. J. Pub. L. & Pol'y 333 (2016).
[104] DE VATTEL, *supra* note 103, §§ 287–289.
[105] President Woodrow Wilson, Address to the U.S. Senate: Peace without Victory, S. Doc. No. 685 (23d Sess. Jan. 22, 1917).
[106] Fox, *'CONTEST'ing Chicago*, *supra* note 25.

This argument is perhaps further extended in terms of balancing Article 3 of the Convention with Article 12, which states, "[n]o one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, nor to attacks upon his honour and reputation. Everyone has the right to the protection of the law against such interference or attacks."

In this sense, it is viewed that some of the measures taken in the name of aviation security have become intrusive to the extent of interfering beyond justification with the privacy and private data and information on or about an individual.[107]

Thus, there is the viewpoint that the relationship between security and human rights is competitive and contradictory, as expressed within Article 3 itself and when extended into other Articles, in particular Article 12. This is a stance that has arguably gained support in terms of violations of human rights by States and no doubt is a position that stands to increase in terms of justifying actions said to be necessary to prevent terrorism. Hence, there remains a need to balance preventative measures and systems that aim to keep citizens secure. And in this regard, here is where the secondary, converse, viewpoint stems from – that of security as being mutually supportive to the needs of the State and the State's duty to protect – i.e. so as to ensure liberty but particularly to ensure the "life" of citizens.

The "mutually supportive" theory is far from being a new concept, with Benjamin Franklin taking this perspective in 1795.[108] Arguably, the UDHR adopted this viewpoint in terms of declaring security as a right of the individual, a point also emphasized by Kofi Annan in his report, *Larger Freedom: Towards Development, Security and Human Rights for All.*[109]

In 2006, the UN adopted the Global Counter-Terrorism Strategy, which equally recognizes the potential conflict of security viewed from a human rights respective with pillar IV of the Strategy relating to "[m]easures to ensure respect for human rights for all and the rule of law as the fundamental basis for the fight against terrorism."[110] But, this said, there will no doubt remain a dilemma in terms of balance and acceptance.

Workman argues that, "the bedrock of governing a free society is the social contract, which simultaneously seeks to preserve individual freedom and yet maintain social order."[111] What Workman means is that the social contract actually underpins a democratic society through the willingness of the *populus* to be governed by a government of their choice, and hence to allow *a degree*, or *legitimacy*, of State authority and control. In doing so, there is consent to allow *measures* to be taken – "measures" which, it is reasoned, after all, ensure the security of the State

[107] For example, the gathering of data used in Passenger Name Records (PNR) and the related transmission of data across the globe. See discussions in Fox, *supra* note 76.
[108] Ralph Frasca, Benjamin Franklin's Printing Network: Disseminating Virtue in Early America (2006). *See also* Iztok Prezelj, *Relationship between Security and Human Rights in Counter-Terrorism: A Case of Introducing Body Scanners in Civil Aviation*, 17 Int'l Stud., Interdisc. Pol. & Cultural J., Dec. 2015, at 145.
[109] *See* Press Release, United Nations, Secretary-General Presents Report 'In Larger Freedom' to General Assembly, Outlining Ambitious Plan for United Nations Reform, GA/10334 (Mar. 21, 2005), https://www.un.org/press/en/2005/ga10334.doc.htm) (referring to U.N. Secretary-General, *In Larger Freedom: Towards Development, Security and Human Rights for All*, U.N. Doc. A/59/2005 (May 26, 2005), https://www.un.org/ruleoflaw/files/A.59.2005.Add.3[1].pdf).
[110] G.A. Res. 60/288, United Nations Global Counter-Terrorism Strategy (Sept. 8, 2006).
[111] Michael Workman, *Mobility Security and Human Behavior, in* TRANSP. SECURITY 71, 71 (Clifford Bragdon ed., 2008).

and the individuals within it. That said, while people want to be secure and ultimately safe, therein lies the danger of being kept in chains, and even growing accustomed to them and accepting them as the norm or the necessary. In this instance, so as to ensure safety and security, even when it extends the realms of being what is actually needed or what was consented to in the first place: a point identified by Jean Jacques Rousseau, who stated, "Man is born free, but everywhere he is in chains,"[112] with Dostoyevsky opining that, "Man is a pliant animal, a being who grows accustomed to anything."[113]

Therein ultimately lies the predicament – how much security is necessary and how much security – in the form of curtailment or control – are we willing to accept, or accept in order to keep us safe?

Like safety, transport security is also not consistent across the globe. This includes within the same mode and across transport modes.[114]

### 7. *Transport Security – Vulnerabilities and Exposure*

There has been more investment of time, money, technological development, and implementation of systems in aviation security than in any other transport mode – particularly since 9/11. But, whether or not this is truly reactive to the known or perceived risk remains debatable. The 9/11 Commission report also raised concerns with regards to other modes, stating, that, "[w]hile commercial aviation remains a possible target, terrorists may turn their attention to other modes. Opportunities to do harm are as great, or greater, in maritime and surface transportation. Initiatives to secure shipping containers have just begun."[115] And, it has therefore been emphasized that, "while commercial aviation remains vulnerable it appears that ports are an even greater risk."[116]

The investment at airports is said to be "the closest to comprehensively addressing terrorism"[117] within transport or a specific mode, but even then it has not eliminated it. In today's advancing technological society, threats come from everywhere, not just at airports, as the Malaysia Airlines MH17 incident only too clearly shows. Airports remain, in essence, just the entry and exit points – albeit, from this perspective, an identified and relatively controllable area to secure. Moving forward in time, it is increasingly likely that the old threats will remain,[118] but new ones – such as from cybersecurity/terrorism breaches, drones/UAVs, laser attacks, missile attacks, etc. – will also emerge and become increasingly commonplace.[119] These methods are, of course, not

[112] Jean Jacques Rousseau, The Social Contract (1762).
[113] Workman, *supra* note 111, at 71.
[114] For further discussions relating to aviation security, see Fox, *supra* note 76.
[115] The 9/11 Commission Report: Final Report of the National Commission on Terrorist Attacks Upon the United States 391 (2004). See also John F. Frittelli, Cong. Res. Serv., RL31733, Port and Maritime Security: Background and Issues for Congress (2005). For other CRS products on the subject of maritime security, see Jonathan Medalia, Cong. Res. Serv., RS21293, Terrorist Nuclear Attacks on Seaports: Threat and Response (2005); Ronald O'Rourke, Cong. Res. Serv., RS21125, Homeland Security: Coast Guard Operations – Background and Issues for Congress (2006); Ronald O'Rourke, Cong. Res. Serv., RS21230, Homeland Security: Navy Operations – Background and Issues for Congress (2005); Jonathan Medalia, Cong. Res. Serv., RS21997, Port and Maritime Security: Potential for Terrorist Nuclear Attack Using Oil Tankers (2006).
[116] Bragdon, *supra* note 3, at 6.
[117] *Id.*
[118] For example, insider threats – at airports and from airline staff, etc. *See* Fox, *supra* note 76.
[119] *Id. See also* Fox, *supra* note 5.

isolated to aviation and air transport, but extend into and across all modes. The entire transport system remains vulnerable to security attacks and terrorism, and it is therefore a shared problem faced, not only by transport users, but to all in society.

No mode is secure and free from risk, and each mode has been exploited by terrorists to achieve exposure, create impact, and strike fear in societies and nations. While 9/11 showed the full potential of an organized attack – in terms of the loss of life, the consequences to the economy, and destruction and devastation to infrastructure – it has, fortunately, not been replicated. Nevertheless, it also showed that aircraft, and indeed all transport modes, could themselves easily become weapons. In the last few years this has become a repeated trait, escalating in frequency[120] across other transport modes, predominantly, of late, by the use of cars and vans which have deliberately been used to target pedestrians.[121] In all cases the perpetrators have died or been captured, but not before causing injuries and loss of life to many. In this respect it is, of course, easier to bring to trial the offenders for what is, in the main, a domestic form and act of terrorism – although said to be for an international cause and undertaken in the "name" of an international terrorist organization. While sentences may vary, there is certainly a high degree of consistency across Europe in recognizing the offense committed as terrorism. This is in stark contrast to the difficulties encountered by aviation and attacks levied against civil aircraft when on an international flight, which have been subject to the complexities of international jurisdiction and prosecution.[122]

Although the recent spate of attacks using road transportation has not been of a complex nature, invariably, these incidents have, nevertheless, caused fear and anxiety to society in a manner similar to 9/11. It has shown the vulnerability of people going about their normal everyday lives and the risk they face, even when they do not choose to utilize transport but nevertheless become its victim when it is used as a weapon at the hands of terrorists. The difficulty is that this simple method and means to take lives and cause havoc to many is much more problematic to stop and, therefore, based upon this reality, the perception of such a risk can intensify beyond what it actually is. This, therefore, affects the quality of life of citizens and stands to impede upon the exercise of their freedom and movement.

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[120] Particularly within Europe. *See, e.g.*, *Brussels Attacks: Europe Confronts Transport Security Challenge*, Financial Times (Mar. 22, 2016), https://www.ft.com/content/092a305c-f040-11e5-9f20-c3a047354386. *See also* Luz Lazo, *Vehicles as Weapons of Terror: U.S. Cities on Alert as Attacks Hit the West*, Chicago Tribune (July 9, 2017, 11:39 PM), http://www.chicagotribune.com/news/nationworld/ct-vehicles-weapons-cities-alert-20170709-story.html. *See also infra* note 121.

[121] Spain: Van driven into Spanish pedestrian area (Barcelona – Aug. 18, 2017);
France: BMW driven into a group of soldiers (Paris – Aug. 9, 2017);
England: Van driven into a crowd outside a mosque (Finsbury Park, London – June 19, 2017);
England: Van driven into pedestrians on London Bridge (London, June 3, 2017);
Sweden: Lorry driven at people in a shopping area (Stockholm, Apr. 7, 2017);
England: Car rammed into pedestrians on Westminster Bridge (London, Mar. 22, 2017);
Germany: Truck ploughed into Christmas market shoppers (Breitscheipplatz, Berlin, Dec. 19, 2016);
France: Truck driven into crowds on the Promenade des Anglais on Bastille Day (Nice, July 14, 2016); van driven into Christmas shoppers (Nantes and Dijon, Dec. 2014).

[122] Fox, *supra* note 82. *See, e.g.*, Jon Sharman, *MH17 Plane Crash: Netherlands Announces Plans to Prosecute Suspects in Dutch Court*, The Independent (July 5, 2017, 9:15 AM), http://www.independent.co.uk/news/world/europe/mh17-plane-crash-netherlands-prosecute-suspects-dutch-court-ukraine-downing-russia-rebels-a7824151.html (discussing the pursuit of the Netherlands for justice after the shooting down of MH17).

### 7.1. *How Risk in Transport Is Viewed (2016 and Going Forward)*

Risk and fear are arguably linked – the 2016 *Transportation Risk Index*[123] identified and analyzed 50 risks faced by the sector and grouped these into five megatrends. One of the five risk areas identified related to "geopolitical instability and regulatory uncertainty"[124] – which concerned the aspect of the social and political landscape. In particular, terrorism, war, sanctions, protectionism, and fluctuating political allegiances, plus commercial alliances, were all seen to add risk and uncertainty, while the regulatory response to these threats was also viewed as being disruptive and equally challenging to the industry, and also to the users.

Concerns were also expressed regarding another risk grouping – namely "digital vulnerability and rapid technological advancement,"[125] an area that could potentially negatively (and, yet, also positively) affect both security and safety. Invariably, technological improvements have, and will continue to, advance safety but not without security-related risks also being factored in. Cybersecurity threats and data protection/privacy breaches were raised as a security and terrorism possibility, with airlines identifying in particular their concerns regarding the inability to keep pace with the rapid changes and the possible threats and consequences of IT failures to aircraft. From a sector/mode perspective, this risk was viewed higher within aviation than in other modes.

There is no doubt that aviation, along with all transport modes, will continue to face challenges and related risks going forward.

## 8. Conclusion

Inevitably, there is no such thing as zero risk: it is impossible to ensure the total absence of risk and therefore eliminate all danger. *We* value the opportunity to travel, *we* need transport; invariably, *we* need and rely on it in order to survive. Mobility and movement are our fundamental rights, and transport enhances the quality of our lives; but, unsurprisingly, the quality of our lives relies significantly on transport and transport modes being safe and secure.

While measures have been put in place in all transport modes to increase safety, it is far from consistent across the globe and across all modes. For the users of the various modes, there is inconsistency – which arguably translates to disparity. For example, there is a lack of opportunity to access modes, a lack of choice – increasingly influenced and dependent upon where you are in the world and the money available to you. And should an unforeseen "accident" occur, then the user and victims remain at the mercy of the legislators and legislation, and the systems in place to investigate the circumstances appertaining to that mode. Potentially, a postcode lottery[126] also exists as to whether civil and criminal redress through the courts are available options, even though as humans, we are said to have been born equal and have equal access to and before the law.

Transport is becoming safer – a combination of legislation and technology has enabled this, but again it is subject to jurisdiction, particularly in terms of geographic location and the investment

[123] Willis Towers Watson, Transportation Risk Index 2016: Navigating Risk in the Transportation Sector (2016), http://www.willis.com/documents/Transportation_Risk_Index-Flipbook/mobile/index.html.
[124] *Id.* at 10–12.
[125] *Id.* at 14–16.
[126] *See supra* note 43.

and availability of money. Road transport accidents count for more deaths than any other modes, and only too clearly show the wealth-to-safety divide.

Civil aviation remains limited in terms of accessibility on a global mass – it is the newer mode and it is also the safer mode. Arguably, it has had more investment in safety than any other during its short history. "Safety" was recognized as a primary objective for the mode early on in international talks, and through a system of safety practices and measures, it has been more consistent than road transport in achieving a high degree of equality across the globe in terms of safety standards and procedures relating to its use and the investigation of accidents and incidents, albeit – from the perspective of Annex 13 – to prevent future accidents. However, like other modes it continues to suffer in terms of access to the law and equity in respect to determining culpability and seeking justice for victims.

Although aviation was clear to identify the need to address safety from the outset, the same cannot be said in terms of security and security preventative measures – even though the mode has consistently been a high-profile target for attack. Like safety incidents, it has particularly suffered in terms of having available mechanisms in place to bring perpetrators of such atrocities to justice – largely due to the international perspective of the mode; and it has been in a constant position of having to play catch-up in terms of adopting reactive and responsive measures. There has, on occasions, also been apathy in applying and supporting preventative and proactive measures at an international level. But that said, as with safety, aviation has received a higher degree of investment than any other transport mode with regard to employing security measures – no doubt largely due to its high profile targeting and particularly as a consequence of 9/11.

There is no denying that 9/11 resulted in a changed world – one in which citizens became more aware of risks to them, of risks to transport, and ultimately of the consequences and devastation of terrorism – which was clearly viewed as now being on their doorstep. But to put safety and security risk into perspective – there may be increased fear of terrorism, including the risk presented by terrorists to transport; however, in reality, there is still a higher risk and probability of death and injury due to an unforeseen accident through transport use than a security breach aimed at transport or committed through its use. Therefore, from this perspective, there may be grounds for questioning the measures that are in place, or that were put in place, in the name of security, and their impact on civil liberties. That said, conversely, restrictions and measures put in place are very rarely queried in the name of "safety" – so, while there is little resistance to changing tires on a car – so as to ensure that the legal depth of tread is maintained, the same cannot always be said in terms of security protocols – which, arguably, equally have at their center our safety and well-being. Perhaps the difference ultimately remains the perception of the restrictions imposed, and how they impinge upon our integrity and therefore, equally our liberties.

The risk is that increasingly we will become ever bound in chains because of a changing and challenging society – which to a certain extent, also demands the protection of individuals and the preservation of life – from both a safety and a security perspective, including in transport – which we remain so heavily reliant upon. While we value the need and right of travel, we perhaps, more than ever, value being safe and secure while doing so. Achieving equilibrium in transport will no doubt therefore remain a careful act to balance.