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**The Time Has Come, the Walrus Said, to Talk of Many Things:  
Wheelchair Securement Spaces on Commercial Airlines**

**« C'est le moment de parler de diverses choses... », dit le Morse. Espaces de sécurisation  
des fauteuils roulants sur les avions commerciaux**

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**Abstract**

Air travel poses special problems for people who use wheelchairs either periodically or consistently (wheelchair users). The wheelchair is, to some extent, an extension of the wheelchair user's bodily autonomy. Personal dignity would be enhanced, and injury and discomfort would be reduced, if a traveling wheelchair user were allowed to remain in his or her own wheelchair for the duration of the flight. Although no law or regulation currently requires that option, groundwork has been laid in both case law and statutes that could lead to such a result. To be sure, safety and cost are paramount issues and must be adequately addressed. Some technological concerns have already been resolved and others are the subject of promising developments. Lobbyist groups are actively campaigning and, as a result, some airlines have shown interest in the proposal. The goal of in-cabin use of personal wheelchairs is achievable, but the process is likely to be incremental. During this period of COVID-19 pandemic-related disruption in the airline industry, both mainline and regional carriers should benefit from the Schumpeterian notion of creative destruction resulting in technical and business innovations. The catalyst needed to move the research and development process along at a faster pace might be a contest with some sort of reward such as has been used to foster other aeronautical innovations.

Les voyages en avion posent des problèmes particuliers aux personnes qui utilisent un fauteuil roulant de façon périodique ou régulière (utilisateurs de fauteuil roulant). Le fauteuil roulant est, dans une certaine mesure, une extension de l'autonomie corporelle de son utilisateur. La dignité de la personne serait renforcée et les blessures et l'inconfort seraient réduits si un utilisateur de fauteuil roulant en voyage était autorisé à rester dans son propre fauteuil roulant pendant la durée du vol. Bien qu'aucune loi ou réglementation n'exige actuellement cette option, des travaux préparatoires ont été faits tant dans la jurisprudence que dans les lois qui pourraient conduire à un tel résultat. Certes, la sécurité et le coût sont des problèmes de première importance et doivent être traités de manière adéquate. Certaines préoccupations technologiques ont déjà été résolues et d'autres font l'objet de développements prometteurs. Les groupes de pression font activement

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campagne et, par conséquent, certaines compagnies aériennes ont manifesté leur intérêt pour la proposition. L'objectif de l'utilisation de fauteuils roulants personnels en cabine est réalisable, mais le processus est susceptible d'être progressif. Pendant la période de perturbation liée à la pandémie de COVID-19 dans l'industrie du transport aérien, les transporteurs aériens principaux et régionaux devraient bénéficier de la notion schumpétérienne de destruction créative entraînant des innovations techniques et commerciales. Le catalyseur nécessaire pour accélérer le processus de recherche et de développement pourrait être un concours offrant une récompense, comme cela a été utilisé pour favoriser d'autres innovations aéronautiques.

**Keywords**

Aisle Chair; Commercial Aircraft; Dignity; One-Passenger/One-Fare; Orteig Prize; Restraint System; S-1 Airline Seat; Wheelchair

## Introduction

The horror stories abound. A man was denied boarding on an Air Canada regional jet flight because his wheelchair was about 13 centimeters too tall for the plane's cargo door.<sup>2</sup> Air Canada forgot to bring a wheelchair to disembark an elderly passenger, leaving her alone in the empty aircraft for more than an hour until discovered by a maintenance employee.<sup>3</sup> After the airline left his custom built self-propelled wheelchair behind, a paraplegic fitness trainer decided that it would be degrading and uncomfortable to be strapped into a high-backed airport wheelchair and instead dragged himself through the terminal in full view of his remarkably disinterested fellow travelers.<sup>4</sup> Traveling by air as a person who periodically or consistently uses a wheelchair (wheelchair user<sup>5</sup>) is not easy, and it is especially difficult if the person is entirely wheelchair-dependent. This paper will examine a partial solution to the problem that has gained traction in Canada, the United States and many other countries – that is, wheelchair securement spaces on commercial airlines whereby the wheelchair user embarks and disembarks the aircraft in his or her own wheelchair and remains in that chair for the duration of the flight. Novel? No doubt. Impossible? Not at all.

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<sup>2</sup> Thompson 2016: 1.

<sup>3</sup> Baker 2019: 1.

<sup>4</sup> Coleman 2018: 1.

<sup>5</sup> Language surrounding disabilities is complicated. The reader will note that I have elected to use an identity-first nomenclature (*i.e.*, wheelchair users) rather than a person-first approach (*e.g.*, persons who use wheelchairs or persons with disabilities). I acknowledge that there is a debate as to what language is most appropriate. To say that both sides of the argument make sense to me and that both seem respectful is not to belittle the issue. Language is tremendously important – especially when it is used to define someone. In this paper, I elected to use the condition as the descriptor because of its importance to the argument I am making. Some opponents of people-first language argue that neglecting to focus on the particular disability in question casts that disability in a negative light. (See Liebowitz 2015). This paper does not need to reach that question. In my argument, there is no way to see the person without the disability. Wheelchair use, specifically when traveling on commercial aircraft, is central to the cause I am advancing. But please understand that by using identity-first descriptors, I am not purporting to speak for the wheelchair-using community at large. It is merely an attempt to focus the reader's attention on one specific issue that is central to my reasoning in the case being presented.

### **The Wheelchair User's Relationship to the Chair**

The conception of a wheelchair is probably a lot different for the person using it than it is for the able-bodied public. I do not use a wheelchair. My instinctive reaction aligns with the medical model of disability<sup>6</sup> in that I tend to regard a wheelchair as I might a bicycle or a car – it's a mode of transportation, albeit highly necessary for its user. This attitude is not a reflection of a cold, dispassionate nature. Rather, it stems from everyday observation – we see wheelchairs being used on a temporary basis as an expedient solution for moving an injured person or discharging a new mother from a hospital, much like we might see the use of canes or crutches. The obvious conclusion is that the wheelchair is a tool and nothing more.<sup>7</sup>

But from the perspective of the wheelchair user, where the social or relational model of disability<sup>8</sup> is perhaps a more accurate reflection of that person's view, things seem much different. Anecdotal accounts from those who use and rely for personal mobility on wheelchairs indicate that they view the wheelchair as a very personal extension of their bodily autonomy. Moving the wheelchair without a specific request, touching the wheelchair without prior permission or even talking about it to a great extent (unless the questioner is interested in purchasing a wheelchair) are generally considered taboo.<sup>9</sup> There is also clinical data that lends credence to the notion that a wheelchair expands the sense of personal space to include the chair itself.<sup>10</sup> And in a recent study done by the Muscular Dystrophy Association, 80% of those surveyed said they would prefer to stay in their own wheelchair while flying.<sup>11</sup> Accordingly, violating the wheelchair user/wheelchair relationship through unsolicited touching -- or, in the

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<sup>6</sup> Jackson 2018: 10.

<sup>7</sup> "The things that you're liable, To read in the Bible, It ain't necessarily so" (Gershwin 1935).

<sup>8</sup> *supra* note 6.

<sup>9</sup> Peters 2019: 1.

<sup>10</sup> Galli et al. 2018: 639.

<sup>11</sup> Erwin 2018: 1.

case of airlines, requiring that the wheelchair user give up the device -- can reasonably be seen as tantamount to touching a person's artificial limb or requiring them to take it off for the duration of an airline flight.

### **Airline Policy**

The tsunami of consumer protection activism and legislation that has arisen over the last few years<sup>12</sup> has caught the airlines on the back foot (to use a sporting analogy). The ferocity and speed with which it captured the public consciousness and the attention of the courts, especially in Canada, has been surprising.<sup>13</sup> In that vein, I question whether the airline industry will voluntarily rise to the wheelchair-accessibility challenge before public pressure and legislative regulation demand it. Economics and social conscience would arguably dictate that they do so, but we will have to wait and see what happens.

Airline deregulation began in the United States with the Airline Deregulation Act of 1978<sup>14</sup> and evolved over time in Canada<sup>15</sup> and other countries. There were, in the United States and Canada, two areas that were not left to the exigencies of market forces – safety and accessibility for wheelchair users.<sup>16</sup> Airline policies concerning the carriage of people who rely on wheelchairs for mobility differ in detail but not in substance. In the case of Air Canada, 48 hours prior notice (72 hours for certain destinations) is required<sup>17</sup> to insure proper handling of the wheelchair user's personal wheelchair. In the normal course, at some point in the boarding

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<sup>12</sup> Horst 2018: 1.

<sup>13</sup> Lynch 2018: 1.

<sup>14</sup> as per the Airline Deregulation Act of 1978.

<sup>15</sup> Tae Hoon Oum et al. 1991: 4-22, 7.

<sup>16</sup> Baker 1998: 1.

<sup>17</sup> The 48 hour prior notice policy is only recommended in the case of flights to the United States on aircraft having fewer than 60 seats. See Air Canada – Wheelchair and Mobility Aids (n.d.) policy page.

process, the wheelchair user is transferred from his or her own wheelchair to an “aisle chair” – a small, straight backed wheelchair into which the wheelchair user is strapped for embarkation and disembarkation.<sup>18</sup>

Once onboard, the wheelchair user is transferred to a normal airline seat. At one point, Canadian airlines were assigning wheelchair users only to seats with removable arm rests. The problem is that these seats are the least desirable in terms of legroom, lavatory proximity and emergency exit rows. That situation was largely remedied in a 1997 decision by the Canadian Transportation Agency.<sup>19</sup> However, the problem of injury for those who cannot self-transfer<sup>20</sup> from the aisle chair to the regular airline seat still exists and is somewhat underappreciated by airlines.<sup>21</sup> Allowing a wheelchair user to remain in his or her own wheelchair during airline travel would eliminate virtually all of the injury-related problems.<sup>22</sup>

## **Applicable Law**

It is important to acknowledge at the outset of this section that there is no statutory, regulatory or case law authority directly on point with respect to my thesis. The discussion in this section is more about the groundwork that exists should there ever be litigation concerning a wheelchair-

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<sup>18</sup> Morris n.d.: 1.

<sup>19</sup> *Lucie Lemieux-Brassard v. Air Canada*, Decision No, 512-A-1997 (19 August 1997)

<sup>20</sup> “Self-transfer” means that the PWD can transfer his or her own body weight from a wheelchair to an aircraft seat. When booking a ticket with Air Canada, a wheelchair passenger is asked whether they can self-transfer. Like all of us, wheelchair passengers have good days and bad days, so the answer may be hard to predict. See Spinal Cord Injury BC, “From Wheelchair to Aircraft: How Your Airline Can Help You Get On Board” (7 June 2018)

<sup>21</sup> Davies and Christie 2017: 89-93.

<sup>22</sup> One other discriminatory problem it might ameliorate is the view of some airline staff that some passengers are faking disabilities in order to speed through security screening or customs inspections. I have been around long enough to know that if I can think of it, someone is doing it, but with the additional burden placed on wheelchair passengers (required to be early arrivals at the terminal and the last to disembark), I really cannot imagine that this is too much of a problem. Whether airline staff believe it to be an issue is, however, another matter. Snide remarks about “miracle flights” (where wheelchair passengers begin walking normally after passing the terminal’s bottlenecks) would be a thing of the past if wheelchair passengers were allowed to use their own wheelchairs. See Buckley, “Why ‘Airport Wheelchair Imposters’ Don’t Exist” (26 October 2017).

dependent person's right to use his or her own wheelchair on a commercial aircraft in Canada. Due to space limitations in this short paper, the applicable law section deals exclusively with Canadian law.

The relationship between a Canadian airline and its wheelchair using passengers is in a general sense governed by Section 15 of the Canadian Charter of Rights and Freedoms (Charter).<sup>23</sup> More specifically, however, it is codified in the Canadian Transportation Agency's<sup>24</sup> Accessible Transportation for Persons with Disabilities Regulations (New Regulations) promulgated in 2019.<sup>25</sup> These regulations consolidate rules that previously existed in a number of CTA decisions, regulations and other pronouncements. In addition, they provide some modifications to existing regulations and such changes are not without controversy.<sup>26</sup> I mention the Charter and the New Regulations as background information, but they are not central to my analysis in this paper. Certain case law and regulatory decisions do serve my broader argument and it is to them that I now turn.

The VIA Rail case<sup>27</sup> was significant in a number of respects, but from the perspective of wheelchair users the most important aspect was the explicit recognition by the Supreme Court of Canada of the importance to a wheelchair user of his or her own wheelchair (as opposed, in that case, to a railway supplied chair that could be maneuvered within the confines of a normal

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<sup>23</sup> *Canadian Charter of Rights and Freedoms*, s 15, Part 1 of the Constitution Act, 1982, being Schedule B to the Canada Act 1982 (UK), 1982, c 11. Canada was one of the first countries in the world to incorporate disability rights directly into its constitution. See Malhotra 2012: 253.

<sup>24</sup> The Canadian Transportation Agency (CTA) is a quasi-judicial tribunal and regulator whose duties include, among other things, protecting the right of PWDs to access Canada's transportation network.

<sup>25</sup> Accessible Transportation for Persons with Disabilities Regulations, SOR/2019-244 (25 June 2019)

<sup>26</sup> Staff Reporter 2019: 1.

<sup>27</sup> *Council of Canadians with Disabilities v. VIA Rail Canada Inc.* [2007] 1 SCR 650 [VIA Rail].



railway car).<sup>28</sup> This has obvious implications for a campaign to allow personal wheelchairs to be used aboard commercial aircraft, but it is not sufficient to carry the day.

A second decision that is important for my argument is the CTA's 2008 decision concerning one-passenger/one-fare.<sup>29</sup> The 1P1F Decision was certainly significant for what it achieved for passengers suffering from obesity and those who required an attendant in order to travel, but again, another aspect of the decision is more central for the in-cabin personal wheelchair argument. The CTA made clear in the 1P1F Decision that the fact that the airline would lose some amount of money on a particular flight or a particular group of flights did not constitute a sufficiently undue burden so as to relieve it of the obligation to accommodate the subject passengers.<sup>30</sup> That issue is hugely important for personal wheelchair advocates in Canada and, should litigation on the issue of personal wheelchairs on aircraft ever occur, we can expect the airlines to claim undue financial burden and the wheelchair advocates to rely on the 1P1F Decision.

The final case I want to introduce to support my thesis is in its infancy.<sup>31</sup> The PA Class Action case, decided by the Superior Court of Quebec in favor of the class seeking damages for having been wrongfully charged by Air Canada for an extra seat during the three years prior to the 1P1F Decision, is helpful to the personal wheelchair advocates because it certified a province-wide class action and it potentially creates reputational risk and expenses for the airline if it is repeated in other provinces (as it almost certainly will be). The case has been certified for appeal to the Quebec Court of Appeals and could well end up in the Supreme Court of Canada. It

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<sup>28</sup> The decision was based in part on the Rail Car Accessibility and Terms and Conditions of Carriage agreement that was voluntarily agreed to by the railroad and which, of course, would not be directly applicable to Canadian airlines. VIA Rail p.146-147.

<sup>29</sup> Canadian Transportation Agency Ruling Decision No. 6-AT-A-2008 (10 January 2008).

<sup>30</sup> 1P1F Decision para. 15-19.

<sup>31</sup> *P.A. c. Air Canada*, [2019] QCCS 606 [PA Class Action].

is unclear what the final outcome will be, but if the plaintiff class prevails, the case could serve as another arrow in the quiver of wheelchair advocates.

### **Regulatory and Technological Concerns**

Safety and cost<sup>32</sup> are the two primary concerns in the aviation business. Commercial aircraft and their component parts are extensively tested.<sup>33</sup> There is no way that an airline can - or should - compromise on that point. And, as anyone who regularly flies (or prior to the pandemic, regularly flew) economy class can attest that airlines make money by using their existing equipment to fly more and more people.<sup>34</sup> Sometimes, due to fuel prices and other fixed costs, a passenger load factor of 100% still produces a loss for the airline.<sup>35</sup> So it is unreasonable to think that any airline would be willing to reserve empty space on its airliners for wheelchair securements that may or may not be used on any particular flight.<sup>36</sup>

Technical innovations providing wheelchair securement space on airliners that address the cost issue have been presented, and in at least one such case the design has satisfied the regulatory certification concern as well. Molon Labe Seating has developed the S-1 airline seat that, in the three-seat configuration, places the middle seat lower, somewhat wider and a bit

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<sup>32</sup> The classic example of the lengths to which airlines will go in order to reduce costs is that of American Airlines which, in 1987, removed one olive from each of the salads it served to its first-class customers for a net savings of \$40,000 per year. See Vetter 2015: 1.

<sup>33</sup> Boeing, "Aviation Safety" (n.d.). The current international concern over the lack of testing of the Maneuvering Characteristics Augmentation System (MCAS) on the Boeing 737-MAX highlights the expectation that the flying public has concerning safety in the production and operation of commercial aircraft.

<sup>34</sup> In aviation, this is referred to as the "passenger load factor"; it is the ratio of the number of passengers to the maximum number of passengers the aircraft will accommodate. See AirlineGeeks.com Staff 2016: "Airline Metrics: Passenger Load Factor".

<sup>35</sup> Bureau of Transportation Statistics 2017: 1.

<sup>36</sup> To drive home this point, in 2010 Michael O'Leary, the chief executive of Ryanair, proposed "standing seats" and the international news media treated the proposal as a joke. At the Aircraft Interiors Expo 2019 in Hamburg, however, standup passenger seats (more of a perch, really) manufactured by the Italian company Aviointeriors S.P.A. were on display. See Street 2019: 1.

farther back than the contiguous window and aisle seats.<sup>37</sup> The significance of the S-1 seat for wheelchair accessibility is that the aisle seat can easily slide over the middle seat and lock in place – leaving two conventional seats and an open area for wheelchair securement. This seating arrangement has passed all of the crash tests required by the United States Federal Aviation Administration (FAA)<sup>38</sup> and, after an 11 year process, has been certified for use on commercial airliners. The company has recently contracted with an unnamed launch customer to retrofit about 50 airliners.<sup>39</sup> It would be too bold a statement to say that the space problem for personal wheelchair use aboard commercial aircraft has been solved,<sup>40</sup> but the S-1 seat constitutes a significant step in the right direction.

Wheelchairs would, of course, have to be restrained in some manner just as they are in wheelchair-accessible vans and busses. The problem is not that the restraints do not exist – they certainly do and have been crash tested beyond the limits required by the FAA for aircraft passenger seats.<sup>41</sup> The issue is that the FAA has no specific testing standards for wheelchair restraints. But this will change soon: a lobbying organization, All Wheels Up<sup>42</sup>, was successful in having a provision inserted in the 2018 FAA funding legislation that requires the FAA to conduct a study within two years on the feasibility of in-cabin wheelchair restraint systems.<sup>43</sup> The FAA has not yet reported back to the United States Congress on progression but that report should be forthcoming in due course.

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<sup>37</sup> Videos showing the full range of the S-1 seat can be found at <https://www.airlineseats.biz>.

<sup>38</sup> I elected to use the FAA as a benchmark for aviation certification standards. Many countries have their own certification agencies, but FAA standards and practice are, in my view, generally indicative of other national certification agency rules and regulations.

<sup>39</sup> Miller 2019: 1.

<sup>40</sup> There remain questions of aisle width and lavatory access, which are beyond the scope of this paper.

<sup>41</sup> Q'straint, the largest manufacturer of wheelchair securement restraints, has tested some of its products at 20 times the force of gravity (20Gs), far in excess of the 16G FAA requirement for aircraft passenger seats (see Erwin 2016)

<sup>42</sup> Chaulet 2017: 1.

<sup>43</sup> FAA Reauthorization Act of 2018 Public Law 115-254).

The as yet unaddressed issue is the development and testing of FAA-certifiable crash resistant wheelchairs. Frontal and lateral impact studies on wheelchairs are being done, albeit mostly in the motor vehicle arena.<sup>44</sup> All Wheels Up and other wheelchair access lobbying groups are actively encouraging both public and private interests to become involve in the appropriate aviation-related testing.<sup>45</sup> It remains to be seen where this effort will lead.

### **An Untapped Market for the Airlines**

The airlines could be missing a market opportunity by not accommodating wheelchair using passengers in their own wheelchairs. There are approximately 288,000 in-community wheelchair users aged 15 and older in Canada.<sup>46</sup> In the United States, based on the 2010 Census, there are approximately four million people aged 15 and older who use wheelchairs for mobility.<sup>47</sup> Wheelchair users travel, as studies have shown<sup>48</sup>, and airlines should have every reason to believe that they would travel more if it were more convenient and less stressful. Some airlines are beginning to pay attention to this issue<sup>49</sup> and I am optimistic that more will in the future.

### **Impact of the Pandemic**

It is no secret that the current pandemic has resulted in commercial airlines flying fewer routes with fewer aircraft and, accordingly, carrying fewer passengers.<sup>50</sup> When this will “end”, a fuzzy

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<sup>44</sup> Bertocci et al. 2019: 1.

<sup>45</sup> *Supra* note 11.

<sup>46</sup> Smith, et al. 2016: 1135-1142.

<sup>47</sup> *Supra* note 11.

<sup>48</sup> Van Horn 2007: 18-22.

<sup>49</sup> All Wheels Up, the wheelchair lobbying organization, was invited by Virgin Atlantic to present its in-cabin personal wheelchair use project to the airline in 2017 (see Erwin 2017).

<sup>50</sup> International passenger demand in 2020 was 75.6% below the 2019 level and domestic demand was 48.8% lower in 2020 than in 2019 (see International Air Transport Association “2020 Worst Year in History for Air Travel Demand” 2021).

concept for which no one will hazard a precise definition, is anybody's guess. Airlines for America does not expect a reasonable recovery for airlines until 2023<sup>51</sup> and that recovery could be unevenly weighted in favor of leisure travel, the least profitable segment for passenger airlines.<sup>52</sup> Many wealthier nations have offered considerable sector-specific aid to their airline industries, but it is noteworthy that Canada is the only G7 nation that has thus far failed to do so.<sup>53</sup> On a more positive note, Boeing's 737 MAX is back in service in most of the world<sup>54</sup>, Air Canada expects some relief on Canadian quarantine rules in time for the summer travel season<sup>55</sup>, on March 12<sup>th</sup> of this year U.S. airlines saw the highest daily number of passengers since the start of the pandemic<sup>56</sup> and COVID-19 vaccination programs seem to be on a roll in North America and parts of Europe.<sup>57</sup>

The bottom line is that "turning off" the air travel industry was relatively easy. Turing it back on, along with the related safety and security procedures, and regaining the trust and confidence of the traveling public will be much more difficult. It would be pretentious to claim to know what airline service will look like in the post-pandemic era, and in any event, anything said here today could be eclipsed by tomorrow's fast-developing news. What the future will bring is anyone's guess. However, focusing on what we do know arguably indicates that the pandemic, even with all its economic turmoil, did not diminish the campaign for personal wheelchair use on commercial aircraft. It is undeniably true that this has been a uniquely

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<sup>51</sup> Chokshi 2021: 1.

<sup>52</sup> Rosenbaum 2020: 1.

<sup>53</sup> Wolfsteller 2021: 1.

<sup>54</sup> German 2021: 1.

<sup>55</sup> Ranson 2021: 1.

<sup>56</sup> Singh 2021: 1.

<sup>57</sup> Jordans 2021: 1.

innovative time for airlines<sup>58</sup> – what one might consider to be a Schumpeterian<sup>59</sup> moment. At such times, entrepreneurs emerge with new and better ways of satisfying market needs. In light of these circumstances, it is not unrealistic to think that wheelchair securement spaces for personal wheelchairs could be one such change. It is exactly the kind of innovation being demanded by an increasingly vocal segment of the aviation market. And I will make a modest suggestion as to how to focus entrepreneurial efforts on the issue in the next section.

## **Conclusion**

The current in-flight experience for wheelchair users is largely one of exclusion and marginalization. It is both undignified and uncomfortable. Nevertheless, I am optimistic that things can be made better because of the following observations: (i) the goal of in-cabin use of personal wheelchairs is achievable, (ii) it will take time to come to fruition and (iii) there are proven techniques that might accelerate the process.

Personal wheelchair use onboard commercial aircraft is not an impossible goal. At the inaugural Wheelchair in the Cabin Symposium in 1997, a survey of attendees revealed that almost 70% of respondents who worked in the aviation industry believed that the problems of personal wheelchair use on airliners could be solved while only 35% of those outside the industry concurred.<sup>60</sup> Clearly the experts share my optimism.

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<sup>58</sup> Negroni 2020: 1.

<sup>59</sup> Joseph Schumpeter, an Austrian/American economist, developed the theory of “creative destruction”, a term he used to describe the process by which old technologies are displaced by newer ones in evolutionary and sometimes economically violent ways. The disruption contemplated by Schumpeter’s economic model gives rise to entrepreneurial innovation, in part because in tough economic times the “business as usual” advocates are not in a position to stifle innovation. See Ryder 2020: 1.

<sup>60</sup> Sillers 2020: 1.

I think it would be naive to think that the process of making commercial aircraft wheelchair accessible would be anything but incremental. After all, New York City busses could not accommodate wheelchairs until 1981<sup>61</sup> and the first buses in Montréal to allow wheelchair access did not appear until 1998<sup>62</sup>. Just as other airline innovations (such as Wi-Fi) have been rolled out over time, so too could wheelchair securement spaces. The airlines and government regulators must buy into the process for it to really gain traction, but there are indications presented in this paper that demonstrate some movement in that direction.

Finally, can the effort be jumpstarted? A creative way to accelerate the research and development process – and one that has succeeded<sup>63</sup> throughout the history of manned flight – would be to hold a contest. This would bring private capital and independent entrepreneurial innovative technique to bear on the problem. The prize would not have to be money – it could well be a procurement contract with an airline.<sup>64</sup> It has worked before and it can work again.

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<sup>61</sup> Evely 2018: 1.

<sup>62</sup> STM, “Bus History” (n.d.) via the *Société de transport de Montréal*.

<sup>63</sup> Alberto Santos-Dumont flew around the Eiffel Tower in 1901 to capture the French Aero Club Prize (see, Paul Hoffman, *Wings of Madness: Alberto Santos-Dumont and the Invention of Flight* (New York: Hyperion Press, 2003) p.115); Charles Lindbergh flew from New York to Paris in 1927 and won the Orteig Prize (see “Charles Lindbergh: An American Aviator” (n.d.)); and Burt Rutan built, and Mike Melvill and Brian Bennie flew, the first privately produced spaceship above the Karman Line into space in 2004 in response to the Ansari X Prize (see David 2004).

<sup>64</sup> The idea of a procurement contract as the prize was voiced at the aforementioned Wheelchair in the Cabin Symposium (see *supra* note 59).

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