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## Will the Ban on In-Flight Cell Phone Use Be up in the Air Much Longer

Sarah Lopano

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**WILL THE BAN ON IN-FLIGHT CELL PHONE USE BE  
“UP IN THE AIR” MUCH LONGER?**

SARAH LOPANO\*

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## I. INTRODUCTION

**E**VERYONE CAN REMEMBER a time when they have overheard a halfalogue—“[a]n overheard one-sided cellphone conversation.”<sup>1</sup> No one will blame you for eavesdropping, since these half conversations are so hard to turn away from—it is like a moth to a flame. There are many blogs and websites that chronicle the hilarity of halfalogues.<sup>2</sup> A few of my favorites are:

Someone looking for a break: “I’ve decided I don’t want you to call me anymore. . . [.] No, I don’t want you to come over so we can talk. . . [.] No! No! No! Don’t call me. . . [.] Yeah, lose my number. . . [.]”<sup>3</sup>

A man losing his connection: “I’m seeing ‘Ivanov’ so I’ll be a little bit late. . . . I’m seeing ‘Ivanov’. . . . SEEING ‘IVANOV’! . . . . That’s right, I’m reaching nirvana. So I’ll be a little bit late.”<sup>4</sup>

A woman expecting a house guest: “Yeah, so I can’t take off work so I’ll leave the key under the flower pot on the left side of the door. You remember the address, right? [555 Main St., Anywhere, USA] . . . There’s food in the cabinet and lots of dvds, and the Playstation or you can use the computer, too. So you’ll get in around 2:00? Ok, just remember the key is under the yellow flower pot to the left of the door.”<sup>5</sup>

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<sup>1</sup> Ben Schott, *Halfalogue*, SCHOTT’S VOCAB: A MISCELLANY OF MODERN WORDS & PHRASES (June 8, 2010, 3:00 PM), <http://schott.blogs.nytimes.com/2010/06/08/halfalogue/>.

<sup>2</sup> See, e.g., Jeff Bailey, *Best Cell Phone Conversation You’ve Overheard*, WTNH WEB TEAM BLOG (July 3, 2007, 7:48 AM), [http://wtnh.tv/blogs/index.php/wtnhweb/2007/07/03/best\\_cell\\_phone\\_conversation\\_you\\_ve\\_over](http://wtnh.tv/blogs/index.php/wtnhweb/2007/07/03/best_cell_phone_conversation_you_ve_over); Andrew Huff, *What’s the Best Cell Phone Conversation You’ve Overheard?*, GAPERS BLOCK (Jan. 26, 2005), [http://www.gapersblock.com/fuel/archives/cell\\_phone\\_conversations/](http://www.gapersblock.com/fuel/archives/cell_phone_conversations/).

<sup>3</sup> Huff, *supra* note 2.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

Today, people on trains, buses, grocery store lines, and anywhere a phone can receive a signal are more and more inclined to say the strangest things in cell phone conversations. People say their social security number, shout their credit card number, discuss intimate details about a date, share medical problems, and get into intense arguments. I know you have experienced this, too. So, with that in mind, are you ready for cell phones on airplanes? Imagine being at 30,000 feet with a sixteen-year-old girl chatting away about her new celebrity crush. Even work-related topics, like when and where a meeting is and what the meeting is about, are still annoying when you are sitting only six inches away from the person in 10B. Or imagine a person saying goodbye to a loved one whom she could not make it in time to see—talk about uncomfortable. When there are already so many discomforts associated with flying, is cell phone chatter by air passengers another annoyance that we want to add?

In the United States, both the Federal Communications Commission (FCC) and the Federal Aviation Administration (FAA) prohibit the use of cell phones in flight.<sup>6</sup> Most air passengers are aware of this rule in spite of ignoring the safety announcements at the beginning of every flight. We know the drill well—seatbacks and tray tables in the upright position, carry-on luggage stowed, seatbelt fastened, and all personal electronic devices (PEDs) must be turned off until you are notified that it is safe to turn on approved electronic devices. Nevertheless, passengers leave cell phones on, and even use cell phones in flight. One study showed that between one and four calls are made per flight.<sup>7</sup> Today, those callers would face penalties for using their cell phone,<sup>8</sup> but in the future these calls could become a regular part of air travel. Even with the European Union's (EU) lift of its cell phone ban in 2008,<sup>9</sup> the United States, however, refuses to follow suit.

This Comment begins with a look into the two regulatory agencies that prohibit in-flight cell phone use—the FAA and the FCC—as well as these agencies' issues with allowing in-flight cell phone use and whether those fears are justified. Part III dis-

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<sup>6</sup> 14 C.F.R. § 91.21 (2010); 47 C.F.R. § 22.925 (2010).

<sup>7</sup> Bill Strauss et al., *Unsafe at Any Airspeed? Cellphones and Other Electronics Are More of a Risk Than You Think*, IEEE SPECTRUM (March 2006), <http://spectrum.ieee.org/aerospace/aviation/unsafe-at-any-airspeed/0>.

<sup>8</sup> 47 C.F.R. § 22.925.

<sup>9</sup> *EU to Allow Cell-Phone Use on Airplanes*, FOXNEWS.COM (Apr. 7, 2008), [http://www.foxnews.com/printer\\_friendly\\_story/0,3566,347508,00.html](http://www.foxnews.com/printer_friendly_story/0,3566,347508,00.html).

cusses a possible solution, which will allow for safe and effective in-flight cell phone use, and how this new technology spurred the European Commission to lift its ban. Part III also discusses current service providers. Part IV examines the United States' feedback and reactions from industry leaders and passengers to proposed changes in the regulations. Lastly, this Comment will attempt to predict where the law is headed in this area, including recommendations for effective regulation of in-flight cell phone use.

## II. THE FAA'S AND THE FCC'S BAN ON IN-FLIGHT CELL PHONE USE

The FAA and the FCC together oversee the use of cell phones on airplanes.<sup>10</sup> Although their purposes for regulating cell phone use are different, their jurisdiction over the area "intersects."<sup>11</sup> While failure of the two agencies to work together could lead to contradicting regulatory schemes, today the two agencies work in sync to regulate cell phone use onboard aircraft.

### A. THE FAA, ITS BAN, AND ITS RATIONALE

One of the agencies that regulates cell phone use on airplanes is the FAA. In August 1958, a series of midair collisions and the upcoming introduction of jet airliners led to the passage of the Federal Aviation Act, which created two independent agencies: the Federal Aviation Agency (Agency) and the Civil Aeronautics Board.<sup>12</sup> The Agency's first initiative was to improve safety standards.<sup>13</sup> In addition to the Agency's campaign for improved safety, it implemented new air traffic and radar technology, advanced "airline pilot proficiency," and addressed environmental concerns regarding noise.<sup>14</sup> Although the Agency continued to make improvements in all areas of aviation, safety remained its primary goal, especially as air travel became more common and fares decreased.<sup>15</sup> In response to air travel's rapid growth, for-

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<sup>10</sup> 14 C.F.R. § 91.21; 47 C.F.R. § 22.925.

<sup>11</sup> Heather J. Panko, Comment, *Cellular Phones on Airplanes—An Idea Not Ready for Take-Off*, 70 J. AIR L. & COM. 533, 563 (2005).

<sup>12</sup> THERESA L. KRAUS, THE FEDERAL AVIATION ADMINISTRATION: A HISTORICAL PERSPECTIVE, 1903–2008, at 9 (2008), available at [www.faa.gov/about/history/historical\\_perspective](http://www.faa.gov/about/history/historical_perspective).

<sup>13</sup> *Id.* at 10.

<sup>14</sup> *Id.* at 10–12.

<sup>15</sup> See generally *id.* at 17, 19.

mer President Johnson, hoping to create “overarching transportation policy,” signed the Department of Transportation Act in 1966, bringing the Agency under the Department of Transportation’s (DOT) wings.<sup>16</sup> With this Act, the Agency became the FAA; but, its goals remained the same: safer skies and greater accessibility.<sup>17</sup>

### 1. *The FAA’s Rules for Cell Phone Use*

Beginning in the 1950s, the FAA became concerned about the potential effects that PEDs might have on aircraft electrical systems;<sup>18</sup> specifically, it feared that PEDs would “interfere with aircraft communications and navigation equipment.”<sup>19</sup> To address this growing concern, the FAA relied on recommendations made by the Radio Technical Commission for Aeronautics (RTCA), which “is a private, not-for-profit corporation.”<sup>20</sup> The RTCA, through its special committees, helped the FAA realize some of the safety concerns posed by PEDs in flight.<sup>21</sup> In response to the RTCA’s findings, the FAA enacted in 1961 what is now 14 C.F.R. § 91.21.<sup>22</sup> This Section provides that “no person may operate . . . any portable electronic device on any . . . U.S.-registered civil aircraft” operating under instrument flight rules (IFR).<sup>23</sup> Although the statute initially addressed only FM radios, today it incorporates iPods, laptop computers, PDAs, hand-held gaming devices, cell phones, and other PEDs.<sup>24</sup> However, PEDs that an airline “has determined will not cause interference with the navigation or communication system of the aircraft” are per-

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<sup>16</sup> *Id.* at 19–20.

<sup>17</sup> *Id.* at 20–22.

<sup>18</sup> Service Letter from R.D. Vannoy, Boeing Commercial Aviation Servs. 2 (Mar. 9, 2001) [hereinafter Service Letter], available at <http://gpsinformation.net/airgps/boeingsvcltr.pdf>.

<sup>19</sup> FED. AVIATION ADMIN., ADVISORY CIRCULAR: USE OF PORTABLE ELECTRONIC DEVICES ABOARD AIRCRAFT ¶ 1 (2006) [hereinafter ADVISORY CIRCULAR: USE OF PEDS ABOARD AIRCRAFT], available at <http://www.dac.public.lu/documentation/nav/AC91211B.pdf>.

<sup>20</sup> RTCA, Inc., RTCA, <http://www.rtca.org/aboutrtca.asp> (last visited Apr. 9, 2011). For more information on the RTCA, see *infra* Part II.A.3.a.iii.

<sup>21</sup> RTCA, Inc., *supra* note 20.

<sup>22</sup> ADVISORY CIRCULAR: USE OF PEDS ABOARD AIRCRAFT, *supra* note 19, ¶ 4.

<sup>23</sup> 14 C.F.R. § 91.21(a) (2010); see also 14 C.F.R. § 125.204 (2010); 14 C.F.R. § 121.306 (citing same language).

<sup>24</sup> Panko, *supra* note 11, at 542–43. The statute does not apply to portable voice recorders, hearing aids, heart pacemakers, and electric shavers. 14 C.F.R. § 91.21(b).

missible.<sup>25</sup> In other words, the permissibility of a PED onboard an aircraft lies solely in the hands of the airline, which means an airline must perform its own testing and analysis of potential hazards.<sup>26</sup> Although many people believe there is an outright ban on cell phones, there is not one under the FAA's rules;<sup>27</sup> this contrasts with the FCC regulations, which will be discussed in Part II.B. Under the FAA, if an air carrier is able to prove cell phones do not interfere with avionics, the phone's use is permissible under the FAA,<sup>28</sup> however, since no airline has met the FAA requirements, cell phone use is essentially prohibited. To aid operators in establishing procedures for in-flight use of PEDs, the FAA, through Advisory Circulars, has made a number of recommendations, such as suggesting methods of informing passengers when a PED is allowed and methods of terminating operation of PEDs if they are interfering with the aircraft.<sup>29</sup> Although in-flight use is left to air carriers, the FAA allows cell phone use while the plane is at the gate and strictly prohibits use during taxi, takeoff, and landing.<sup>30</sup>

So, what is the FAA's opinion of cell phone use on airborne planes? In a recent Advisory Circular, the FAA specifically addressed cell phone use and stated its support for the FCC's ban on in-flight use.<sup>31</sup> In the FAA Reauthorization Act of 2007, the Committee on Transportation and Infrastructure briefly mentioned that it "strongly supports the current ban on cellular phones and other wireless devices on airborne aircraft," and believed no changes to the current regulations should be made.<sup>32</sup> In sum, the FAA's stance is concrete—once the plane leaves the ground, passengers should not use their cell phones.

In 2008, Representative Peter A. DeFazio recommended to the Committee on Transportation and Infrastructure an act called the Halting Airplane Noise to Give Us Peace Act of 2008 (Hang Up Act) to amend the FAA Act.<sup>33</sup> The proposed amendment would prohibit "voice communications using a mobile communications device in an aircraft during a flight," but would

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<sup>25</sup> 14 C.F.R. § 91.21.

<sup>26</sup> ADVISORY CIRCULAR: USE OF PEDS ABOARD AIRCRAFT, *supra* note 19, ¶ 6(e).

<sup>27</sup> See 14 C.F.R. § 91.21.

<sup>28</sup> *Id.*

<sup>29</sup> ADVISORY CIRCULAR: USE OF PEDS ABOARD AIRCRAFT, *supra* note 19, ¶ 6.

<sup>30</sup> *Id.* ¶ 7(b).

<sup>31</sup> *Id.* ¶ 7.

<sup>32</sup> H.R. REP. NO. 110-331, at 101 (2007).

<sup>33</sup> See generally H. R. REP. NO. 110-900 (2008).

exempt federal law enforcement acting within their official capacity and members of the flight crew.<sup>34</sup> This amendment would prohibit conventional communication devices, like cell phones, and Voice over the Internet Protocol (VoIP).<sup>35</sup> Furthermore, this amendment would require “all . . . foreign air carriers to adopt the prohibition,” and if a foreign nation objects “on the basis that . . . [the requirement] provides for an extraterritorial application of the laws of the United States, the Secretary may waive the application” until the nations reach a bilateral negotiation.<sup>36</sup> The Committee on Transportation and Infrastructure adopted the amendment in July 2008, and it reported the Act favorably to the House; however, no further action was taken.<sup>37</sup>

## 2. *The FAA Reauthorization Act*

In February 2009, the FAA Reauthorization Act of 2009 (Reauthorization Act) was introduced to the House of Representatives.<sup>38</sup> The bill contains proposals on air traffic control modernization, FAA funding, and the highly controversial passenger facility charges (PFCs).<sup>39</sup> The House’s version of the bill, which was passed in 2009 by a sixty-three percent majority vote, includes a proposal to ban all voice communication with the ground on U.S. commercial planes.<sup>40</sup> The proposed section contains the same language as the Hang Up Act—it would prohibit any passenger from voice communications on a wireless device during flight; it does not apply to flight-crew members or federal law enforcement officers acting in their official capacity;

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<sup>34</sup> *Id.* at 1.

<sup>35</sup> *Id.* at 2.

<sup>36</sup> *Id.*

<sup>37</sup> *Id.* at 3.

<sup>38</sup> *Ban Proposed for Cell Phone Use on Planes over United States*, PITTSBURGH TRIB. REV. (Aug. 18, 2010), [http://www.pittsburghlive.com/x/pittsburghtrib/business/s\\_695291.html](http://www.pittsburghlive.com/x/pittsburghtrib/business/s_695291.html); *H.R. 915-FAA Reauthorization Act of 2009*, OPEN CONGRESS, <http://www.opencongress.org/bill/111-h915/show> (last visited Apr. 9, 2011) [hereinafter OPEN CONGRESS].

<sup>39</sup> Press Release, Air Transp. Ass’n, ATA Testifies That FAA Reauthorization Must Include Acceleration of System Modernization Through “NowGen” (May 13, 2009), available at [http://www.airlines.org/News/Releases/Pages/news\\_5-13-09.aspx](http://www.airlines.org/News/Releases/Pages/news_5-13-09.aspx).

<sup>40</sup> *FlyersRights.org Executive Launches New Application*, TECHZONE 360 (May 3, 2010), <http://www.techzone360.com/news/2010/05/02/4763463.htm> [hereinafter *FlyersRights.org*]; OPEN CONGRESS, *supra* note 38.



and, it has the same foreign air carrier requirements.<sup>41</sup> This proposal, which is an outright ban on in-flight use, is in sharp contrast to the FAA's current regulation, which allows cell phone use if the airline proves interference is not a risk to safety.<sup>42</sup> As of January 2011, the bill was pending in the Senate.<sup>43</sup> The Senate's version, however, does not include this ban.<sup>44</sup> Public reaction to the bill was strong, and many groups are asking Congress to "hold off on a ban" because more research is needed before action should be taken.<sup>45</sup> Criticism has also developed within Congress; Representative John Mica said that the ban is an attempt to "legislate courtesy," which just does not work.<sup>46</sup> Many commentators agree—the FAA's role is only to develop the legal framework for safe air travel, not to develop the social framework. Although the Reauthorization Act might change the face of FAA regulations with regard to in-flight cell phone use, today the FAA is steadfast in its opinion: no cell phones unless proven harmless. But why?

### 3. *The FAA's Rationale for Prohibiting Cell Phone Use*

Because most passengers are probably not aware of the extensive research consulted by the FAA, passengers often break the FAA's rules, discounting its fear that PED use could lead to interference with critical avionics or possibly a plane crash. Everyone can recall a time when they ignored the safety instructions and kept a laptop on during takeoff or forgot to turn a cell phone off. And, if you have not committed the crime yourself, you have probably caught others in the act. The reasons for passenger disobedience may not be that they are deliberately endangering flight safety or enjoy flirting with danger; the fact is many passengers are unaware of the reasons for current PED policies.<sup>47</sup> This rationale is completely understandable—even the FAA is unsure about the actual risks posed by in-flight cell

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<sup>41</sup> *House FAA Bill Would Ban In-Flight Calls*, COMMC'NS DAILY, Apr. 17, 2009 [hereinafter COMMC'NS DAILY], available at 2009 WLNR 7491166.

<sup>42</sup> 14 C.F.R. § 135.144 (2010).

<sup>43</sup> OPEN CONGRESS, *supra* note 38.

<sup>44</sup> *FlyersRights.org*, *supra* note 40.

<sup>45</sup> COMMC'NS DAILY, *supra* note 41.

<sup>46</sup> Harriet Baskas, *In-Flight Cell Service Dealt a Setback*, MSNBC.COM (Aug. 7, 2008), [http://www.msnbc.msn.com/id/24355296/ns/travel-travel\\_tips/](http://www.msnbc.msn.com/id/24355296/ns/travel-travel_tips/) [hereinafter *Dealt a Setback*].

<sup>47</sup> Strauss, *supra* note 7.

phone use.<sup>48</sup> As a result of these unknowns, today the FAA's stance reflects a "better safe than sorry" approach.<sup>49</sup> Given what the FAA is dealing with—giant machines flying at high speeds and carrying hundreds of people—this approach is not unreasonable, in my opinion. Nonetheless, the question remains, are passengers actually putting their lives and others' lives in danger by making these last ditch efforts for connectivity?

For more than fifty years, the FAA has focused on passenger safety, and with regard to cell phones on airplanes, this remains their focus. As stated previously, the FAA's prohibition of cell phone use while an airplane is in flight is based on the possibility that cell phones can interfere with airplane systems, including critical avionics like GPS and communication systems between the ground and the plane.<sup>50</sup> Even in airplane mode, a cell phone can interfere with avionic systems.<sup>51</sup> This possibility does not exist for cell phones alone; other PEDs, such as laptops, iPods, and portable DVD players present these risks, which is why passengers must turn them off during takeoff and landing.<sup>52</sup> Although researchers and scientists worldwide continue working to determine whether in-flight cell phone use poses a risk to air safety, the results are inconclusive.<sup>53</sup> In fact, no one has been able to prove that a passenger's use of electronic devices caused any air accident.<sup>54</sup> The number of reports, however, displaying interference with avionics is growing, and some commentators believe interference is occurring on many airplane systems, including important cockpit instruments like

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<sup>48</sup> FED. AVIATION ADMIN., FACT SHEET—CELL PHONES, WI-FI AND PORTABLE ELECTRONICS ON AIRPLANES (2009), [http://www.faa.gov/news/fact\\_sheets/news\\_story.cfm?newsid=6275](http://www.faa.gov/news/fact_sheets/news_story.cfm?newsid=6275) [hereinafter FACT SHEET]. In fact, the FAA admits that "[t]here are still unknowns about the radio signals that portable electronic devices . . . give off." *Id.*

<sup>49</sup> Panko, *supra* note 11, at 549.

<sup>50</sup> Lynn Sherr & Chris Kilmer, *Cell Phones Are Dangerous in Flight: Myth, or Fact?*, ABC NEWS (Dec. 7, 2007), <http://abcnews.go.com/2020/story?id=3964895&page=1>.

<sup>51</sup> Burhanuddin Abe, *Airborne Cell Phone Communication No Longer a Dream*, JAKARTA POST, Aug. 19, 2009, available at 2009 WLNR 16114187.

<sup>52</sup> Bruce Donham, *Interference from Electronic Devices*, BOEING COMMERCIAL AIRPLANES GRP., [http://www.boeing.com/commercial/aeromagazine/aero\\_10/interfere\\_textonly.html](http://www.boeing.com/commercial/aeromagazine/aero_10/interfere_textonly.html) (last visited Apr. 10, 2011).

<sup>53</sup> Ki Mae Heussner, *Why Can't We Use Cell Phones on Planes?*, ABC NEWS (Feb. 9, 2009), <http://abcnews.go.com/Technology/aheadofthecurve/story?id=6833039&page=1>.

<sup>54</sup> Strauss, *supra* note 7.

GPS receivers.<sup>55</sup> Despite these reports, other engineers and researchers, including David Carson, an engineer for Boeing and co-chair of an RTCA special committee, believe that although the threat of interference is real, it does not affect any critical systems.<sup>56</sup> Clearly, there are differing opinions for PED interference ramifications.

When PEDs, including cell phones, PDAs, laptops, portable DVD players and gaming devices, are turned on they emit radiation, called radio frequency (RF) waves.<sup>57</sup> There are two types of transmitters of RF waves: intentional transmitters and unintentional transmitters.<sup>58</sup> A cell phone is an intentional transmitter; unintentional transmitters include laptops, iPods, and gaming devices—the types of devices allowed when a plane reaches cruising altitude.<sup>59</sup> Each device operates within a specified band, which the FCC regulates.<sup>60</sup> For example, cell phones are within the 824–849 MHz band; a plane’s navigation system is within the 108–118 MHz band; and a plane’s GPS functions are within the 1215–1240 MHz band and the 1565–1590 MHz band.<sup>61</sup> When a device operates outside its designated frequency band, the phenomenon is called electromagnetic interference (EMI).<sup>62</sup> EMI is something people experience daily; one example occurs when a cell phone is placed next to a computer and static occurs.<sup>63</sup> The implementation of designated bands is one type of safeguard put on PEDs to prevent EMI because, usually, devices within different bands do not interfere with one another.<sup>64</sup> Even though bands set aside for airborne

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<sup>55</sup> Albert Helfrick, *Avionics & Portable Electronics: Trouble in the Air?*, AVIONICS NEWS MAG. (Sept. 1996), reprinted by EMBRY RIDDLE AERONAUTICAL UNIVERSITY, available at [http://www.bluecoat.org/reports/Helfrick\\_96\\_PED.pdf](http://www.bluecoat.org/reports/Helfrick_96_PED.pdf); Strauss, *supra* note 7.

<sup>56</sup> See, e.g., Daniel Turner, *Can Cell Phones on Planes Be Dangerous?*, TECH. REV. (Apr. 7, 2006), [http://www.technologyreview.com/printer\\_friendly\\_article.aspx?id=16675](http://www.technologyreview.com/printer_friendly_article.aspx?id=16675).

<sup>57</sup> Strauss, *supra* note 7.

<sup>58</sup> Service Letter, *supra* note 18, at 4.

<sup>59</sup> *Id.*

<sup>60</sup> Helfrick, *supra* note 55.

<sup>61</sup> Strauss, *supra* note 7, chart.

<sup>62</sup> Carolyn Ritchie, Comment, *Potential Liability from Electromagnetic Interference with Aircraft Systems Caused by Passengers’ On-Board Use of Portable Electronic Devices*, 61 J. AIR L. & COM. 683, 689 (1996).

<sup>63</sup> *Why Am I Not Allowed to Use My Cell Phone in Airplanes or Hospitals?*, HOW STUFF WORKS, <http://www.howstuffworks.com/question230.htm> (last visited Apr. 10, 2011).

<sup>64</sup> Ritchie, *supra* note 62, at 688–89.

navigation systems protect avionic systems, interference can still occur and has been reported in conjuncture with cell phone use.<sup>65</sup>

Another safeguard put in place is shielding, which is incorporated into the device's design to "prevent interference from escaping or entering the cable."<sup>66</sup> However, sometimes shielding may not work as it is intended, especially if cabling is old or damaged.<sup>67</sup> Despite the many other design features incorporated into avionic systems to prevent interference, avionic systems cannot be made totally immune from interfering signals because they require the ability to receive weak electromagnetic fields from the ground for normal operation.<sup>68</sup> So, although safeguards are put in place to prevent interference, inevitably, it still happens, and consumers may be increasing the likelihood of interference.

Although all PEDs can affect avionics, this Comment will only address cell phone interference. To understand how a cell phone affects airplane systems, it is important to understand first how a cell phone works on the ground. A cell phone can transmit anywhere from one to five watts of power.<sup>69</sup> The amount of power a cell phone transmits depends on the "quality of the link between the cellphone and the network," specifically, how busy the network is, how far away the phone is from a base station, and how many obstacles are in its path.<sup>70</sup> On the ground, and even on an aircraft waiting at the gate, a cell phone seeks "a free channel in the assigned communication band," and because the phone is in close proximity to a base station, the sufficient output power to maintain a link is low.<sup>71</sup> Because the output power is low, interference levels are low and relatively harmless to aircraft systems.<sup>72</sup> As a cell phone moves further away from the base station, the output power increases.<sup>73</sup>

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<sup>65</sup> Turner, *supra* note 56.

<sup>66</sup> *Cell Phones & Airplanes*, CELLPHONES.ORG, <http://cellphones.org/blog/airplanes/> (last visited Apr. 10, 2011).

<sup>67</sup> *Id.*

<sup>68</sup> Helfrick, *supra* note 55, at 2-3.

<sup>69</sup> JOINT AVIATION AUTH., LEAFLET NO. 29, GUIDANCE CONCERNING THE USE OF PORTABLE ELECTRONIC DEVICES ON BOARD AIRCRAFT § 2.3.1 (2001) [hereinafter LEAFLET NO. 29], available at <http://www.easa.eu.int/certification/flight-standards/doc/oeb-supporting-documents/tgl/TGL%2029.pdf>.

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

This is what happens in flight. As the output power increases, the risk of interference increases; therefore, the higher the plane is, the more likely interference is to occur.<sup>74</sup> Moreover, as the number of cell phones used in flight increases, more interference occurs because cell phones will transmit at different radio frequencies.<sup>75</sup> As simple as this may sound, actually finding conclusive data to support a prohibition on cell phones has proven to be quite difficult. But, one thing is sure: if there is a chance it affects safety, increased connectivity is not worth the risk.

a. Research Conducted, but Inconclusive

Researchers conducted numerous studies over the years trying to assess the effect of PED use in flight. One reason why these studies have been inconclusive is that there are too many PEDs to test.<sup>76</sup> Even if researchers narrow the product range to just cell phone interference, it could take years to test every type of cell phone for potential interference.<sup>77</sup> Additionally, consumers alter their phones, making it close to impossible to know how each phone will influence safety. And, cell phone technology is constantly changing, adding additional challenges. A second shortcoming in this research is that it is difficult to test the exact circumstances that could lead to harmful interferences. First, many of the tests performed occur on grounded planes instead of planes in flight.<sup>78</sup> Also, weather problems, certain combinations of PEDs in use, the number of PEDs in use, and other factors could affect the chances of interference. In sum, too many possibilities exist to test them all, but many institutions have tried their best.

i. Carnegie Mellon Research

In March 2006, researchers for Carnegie Mellon University concluded a study on the dangers posed to electronic systems by

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<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

<sup>76</sup> Panko, *supra* note 11, at 555.

<sup>77</sup> JAY J. ELY ET AL., NASA LANGLEY RESEARCH CTR., WIRELESS PHONE THREAT ASSESSMENT AND NEW WIRELESS TECHNOLOGY CONCERNS FOR AIRCRAFT NAVIGATION RADIOS 28 (2003), available at <http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=OCD742A822ODFDF95348389695511304?doi=10.1.1.75.9432&rep=rep1&type=pdf>.

<sup>78</sup> Panko, *supra* note 11, at 555.

cell phones and other PEDs on airplanes.<sup>79</sup> Their conclusion—“there exists a greater potential for problems than was previously believed.”<sup>80</sup> The researchers placed a device into a carry-on bag stowed in an overhead compartment.<sup>81</sup> This device measured the RF spectrum in the airplane, and a computer logged the data, showing random spikes in emissions.<sup>82</sup> Then, the device associated these spikes to different PEDs in use.<sup>83</sup> After measuring the “RF environment on 37 passenger flights . . . [and] collect[ing] more than 50 hours’ worth of data,” the researchers saw that not only are people making calls in flight and leaving their cell phones on, but this use can affect GPS instruments.<sup>84</sup> They concluded that under current regulations the aviation industry could expect one accident in every twelve years to be associated with PED interference; this ratio, however, will decrease if regulatory agencies permit cell phone use onboard because the amount of in-use phones will increase.<sup>85</sup> With the findings from the study, the Carnegie Mellon researchers warned the aviation industry—“[i]n an industry that has eliminated or is effectively managing most large and obvious sources of danger, such small but persistent risks warrant serious attention.”<sup>86</sup>

*ii. NASA Research*

In addition, NASA Langley Research Center conducted a study in 2003 to evaluate the “EMI issues related to portable wireless transmitter use onboard airplanes.”<sup>87</sup> The study looked specifically at Code Division Multiple Access (CDMA) and Global System for Mobile Communication (GSM) phones and their potential interference with aircraft navigational aids.<sup>88</sup> The researchers found that none of the phones tested “would individually be likely to interfere with aircraft” navigational systems, but “[i]f a CDMA or GSM wireless handset radiates spuri-

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<sup>79</sup> Press Release, Carnegie Mellon, Carnegie Mellon Researchers Find Cell Phones Pose Greater Risk to Airplane Navigation Than Previously Believed (Feb. 28, 2006), [http://www.cmu.edu/PR/releases06/060228\\_cellphone.html](http://www.cmu.edu/PR/releases06/060228_cellphone.html).

<sup>80</sup> Strauss, *supra* note 7.

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

<sup>87</sup> ELY, *supra* note 77, at v.

<sup>88</sup> *Id.* at vi.

ous signals equal to the maximum allowable . . . limits, it would result in *large NEGATIVE safety margins*.”<sup>89</sup> The researchers tested each wireless device at multiple power output levels, and, as can be expected, different modes “resulted in discernable differences in the spurious radiated spectrum.”<sup>90</sup> Lastly, the data indicated that when multiple wireless devices were simultaneously in use, the potential for interference increased.<sup>91</sup>

In 2004, NASA Langley Research Center conducted another study to measure emissions in the GPS RF band from a specific Samsung cell phone model, laptops, and PDAs.<sup>92</sup> The research, conducted by Truong X. Nguyen, tested three phone modes—airplane mode, “Phone-Active with GPS on[,] and Phone-Active with GPS off.”<sup>93</sup> The data showed not only that laptops and PDAs “can have strong emissions in the GPS band,” but that the tested cell phone also has comparable interference risks.<sup>94</sup> Nguyen concluded “that the threat of interference . . . to aircraft GPS receivers is real,” but further study is necessary “to determine if other GPS-enabled mobile handsets provide similar emissions,” and, therefore, pose similar risks.<sup>95</sup>

### *iii. RTCA Research*

Since 1935, the FAA has relied on the RTCA for help with many policy, regulatory, and safety issues, and in March 2003, the FAA went to the RTCA for specific help on the use of PEDs.<sup>96</sup> The RTCA formed Special Committee 202 (SC-202) “to address compatibility issues between intentionally transmitting . . . [PEDs] and aircraft systems.”<sup>97</sup> Their goals were threefold: “to assess the impacts that transmitting portable electronic devices can have on aircraft operation; to develop strategies to mitigate identified potential interference; and to work with the regulatory authorities to approve the safe use of transmitting

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<sup>89</sup> *Id.* at vii.

<sup>90</sup> *Id.* at viii.

<sup>91</sup> *Id.* at ix.

<sup>92</sup> See generally TRUONG X. NGUYEN, NASA LANGLEY RESEARCH CENTER, EVALUATION OF A MOBILE PHONE FOR AIRCRAFT GPS INTERFERENCE (2004), available at [http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20040040193\\_2004035943.pdf](http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20040040193_2004035943.pdf).

<sup>93</sup> *Id.* at 4.

<sup>94</sup> *Id.* at 6.

<sup>95</sup> *Id.*

<sup>96</sup> *Id.* at 1; RTCA, Inc., *supra* note 20.

<sup>97</sup> NGUYEN, *supra* note 92, at 1.

portable electronic devices.”<sup>98</sup> SC-202 completed its work in 2008.<sup>99</sup> DO-294C, Guidance on Allowing Transmitting Portable Electronic Devices, which was the final report of SC-202, provides guidance to aircraft carriers on how to assess potential interference from PEDs.<sup>100</sup>

Experts come down on both sides of the argument, making it difficult to assess whether interference presents any real threat.<sup>101</sup> But, with the potential of interference looming over the FAA’s head, its decision to wait for more conclusive research is noble.

## B. THE FCC, ITS BAN, AND ITS RATIONALE

The FCC, established by the Communications Act of 1934, is a regulatory agency in charge of interstate and international communications.<sup>102</sup> Specifically, Congress created the FCC “[f]or the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available . . . to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service.”<sup>103</sup> Today, the FCC has seven operating bureaus, one of which is the Wireless Telecommunications Bureau (WTB), which “oversees cellular . . . phones . . . [and] regulates the use of radio spectrum to fulfill the communications needs of . . . aircraft.”<sup>104</sup>

### 1. The FCC’s Ban on In-Flight Cell Phone Use

The FCC’s ban on in-flight cell phone use began in 1991.<sup>105</sup> Specifically, § 22.925 prohibits “[c]ellular telephones . . . carried

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<sup>98</sup> *Cell Phones on Aircraft: Nuisance or Necessity?: Hearing Before the Subcomm. on Aviation of the Comm. on Transp. & Infrastructure*, 109th Cong. 28 (2005) (statement of David Watrous, President, RTCA) [hereinafter *Nuisance or Necessity?*], available at <http://www.gpo.gov/fdsys/pkg/CHRG-109hhr25908/html/CHRG-109hhr25908.htm>.

<sup>99</sup> *RTCA Online Store: Portable Electronic Devices*, RTCA, <http://www.rtca.org/onlinecart/product.cfm?id=448> (last visited Apr. 10, 2011).

<sup>100</sup> U.S. DEP’T OF TRANSP., FED. AVIATION ADMIN., ADVISORY CIRCULAR: DESIGNING AND DEMONSTRATING AIRCRAFT TOLERANCE TO PORTABLE ELECTRONIC DEVICES ¶ 4 (2010), available at [http://www.faa.gov/documentLibrary/media/Advisory\\_Circular/AC%2020-164.pdf](http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC%2020-164.pdf).

<sup>101</sup> See Josh Noel, *The Fable About In-Flight Cell Use*, CHI. TRIB., Nov. 28, 2010, at 2, available at 2010 WL 23651210.

<sup>102</sup> *About the FCC*, FED. COMM. COMMISSION, <http://www.fcc.gov/aboutus.html> (last visited Apr. 10, 2011).

<sup>103</sup> 47 U.S.C. § 151 (2006).

<sup>104</sup> *About the FCC*, *supra* note 102.

<sup>105</sup> FACT SHEET, *supra* note 48.



aboard airplanes . . . or any other type of aircraft . . . [to] be operated while such aircraft are airborne (not touching the ground). When any aircraft leaves the ground, all cellular telephones onboard that aircraft must be turned off.”<sup>106</sup> Furthermore, it provides that a notice of this rule must be posted in every aircraft, violators are subject to “suspension of service and/or a fine,” and it delegates cell phone use while the aircraft is on the ground to the FAA.<sup>107</sup> Contrary to the FAA, whose regulation of cell phone use is based on the fear of cell phone interference with critical flight instruments, the FCC’s purpose for banning cell phone use in flight is to eliminate the “potential interference to wireless networks on the ground.”<sup>108</sup> When a passenger uses a cell phone on an airplane, it overwhelms phone towers, or at least it did when the FCC first banned cell phone use in 1991.<sup>109</sup> However, since then, technological advancements may have completely eliminated these concerns.

To accommodate for industry changes, the FCC is given the qualified duty to reform “[i]n every even-numbered year” regulations “that apply to the operations or activities of any provider of telecommunications service.”<sup>110</sup> If a “regulation is no longer necessary in the public interest as the result of meaningful economic competition between providers of such service,” then the Commission “shall repeal or modify” such regulation.<sup>111</sup> In accordance with this duty, the FCC can reevaluate the ban on cell phones in flight, which is commonly referred to as a Part 22 review.<sup>112</sup> In 2003, the FCC proposed a relaxation of the ban, stating that the existing regulations “may be impeding the efficient, competitive provision of services to the public.”<sup>113</sup>

In 2004, the FCC opened a proceeding to discuss allowing cell phones on airplanes.<sup>114</sup> After the technical information submitted to the FCC was insufficient to prove whether harmful interferences would occur, the FCC terminated its proceeding in 2007, showing that the proposed relaxation in 2003 was prema-

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<sup>106</sup> 47 C.F.R. § 22.925 (2010).

<sup>107</sup> *Id.*

<sup>108</sup> *FCC Consumer Advisory: Using Wireless Devices on Airplanes*, FCC CONSUMER & GOVERNMENTAL AFF. BUREAU (May 9, 2007), <http://www.fcc.gov/cgb/consumerfacts/cellonplanes.html>.

<sup>109</sup> Noel, *supra* note 101.

<sup>110</sup> 47 U.S.C. § 161 (2006).

<sup>111</sup> *Id.*

<sup>112</sup> Panko, *supra* note 11, at 536.

<sup>113</sup> 18 FCC Rcd. 8380, 8383 (2003).

<sup>114</sup> *FCC Consumer Advisory: Using Wireless Devices on Airplanes*, *supra* note 108.

ture.<sup>115</sup> The FCC decided that, without conclusive evidence, no changes would be made to the existing regulation.<sup>116</sup> In addition to the technical submissions, thousands of air passengers wrote to the FCC expressing their disgust toward allowing cell phones on airplanes.<sup>117</sup> This public opposition was another reason for terminating the proceeding.<sup>118</sup>

## 2. *The FCC's Rationale for Banning Cell Phones*

The FCC ban on in-flight cell phone use is based on its fear that use would interfere with ground networks.<sup>119</sup> In the air, a cell phone is able to access too many cell towers because “signals radiate widely” and calls will have to switch between towers quickly because of the airplane’s speed.<sup>120</sup> Additionally, when a phone is in the air, a number of towers may be equidistant from the plane causing “[m]ultiple towers . . . [to] assume that the phone is under their control.”<sup>121</sup> Multiple towers competing for one call causes interference with existing calls, which could clog the network or even cause a software crash.<sup>122</sup> Furthermore, the network cannot handle the rapid transfers between towers, which is necessary for a person to stay connected while traveling over 500 miles per hour.<sup>123</sup> Together, the frequent transfers and tower confusion cause network jamming—a result the FCC wants to avoid.

Despite the fact that the FCC’s and the FAA’s fears are very real, new technology may be capable of eliminating network confusion and safety risks.<sup>124</sup> Although the technology is new, its use overseas is promising, and its excellent track record may pave the way for in-flight cell phone use in U.S. skies.

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<sup>115</sup> *Id.*

<sup>116</sup> *Id.*

<sup>117</sup> Matthew L. Wald, *Chief Says F.C.C. Is Against Cellphone Use on Airlines*, N.Y. TIMES, (Mar. 23, 2007), <http://query.nytimes.com/gst/fullpage.html?res=9506E7DE1530F930A15750C0A9619C8B63>.

<sup>118</sup> Noel, *supra* note 101.

<sup>119</sup> Heussner, *supra* note 53.

<sup>120</sup> Joe Sharkey, *Foreign Airline Rush Ahead of U.S. on Cell Phone Use*, VA. PILOT & LEDGER-STAR, Oct. 4, 2009, at 6 [hereinafter Sharkey, VA. PILOT], available at 2009 WL 19555377; see Heussner, *supra* note 53.

<sup>121</sup> *Cell Phones & Airplanes*, *supra* note 66.

<sup>122</sup> *Id.*

<sup>123</sup> Panko, *supra* note 11, at 538.

<sup>124</sup> Heussner, *supra* note 53.

### III. IS THERE A SOLUTION?

#### A. PICOCELL TECHNOLOGY

With the advancement of picocells, many of the problems posed by in-flight cell phone use may be resolved.<sup>125</sup> Picocells, which are small cellular base stations, are commonly used in small indoor areas to extend cell coverage; for example, they have been used in offices and shopping malls where signals are difficult to receive and in areas like train stations where there is high-density phone usage.<sup>126</sup> More recently, they have been used and tested in airplanes.<sup>127</sup> To make a call in flight, the cell phone connects to an antenna and a network, which together make up the picocell, that is installed onboard the aircraft.<sup>128</sup> The signal passes from the picocell to a satellite link and then to the ground network.<sup>129</sup> The technology also “prevents transmissions from . . . reaching the ground,” which eliminates ground network interference.<sup>130</sup>

This technology simultaneously resolves the FAA’s and the FCC’s issues with in-flight cell phone use. First, because the picocell is basically a miniature cell tower, the cell phone is in close proximity to a base station, meaning that the requisite amount of power required to maintain a connection decreases.<sup>131</sup> This decreased amount of power in turn decreases the chance of interference with aircraft instruments.<sup>132</sup> Thus, this new technology and accompanying benefits help mitigate the FAA’s safety concerns. Additionally, because cell phones now connect to the base station onboard the plane, leaving ground networks to function normally, picocells also eliminate the FCC’s concern for ground network jamming.<sup>133</sup>

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<sup>125</sup> LEAFLET NO. 29, *supra* note 69, § 2.3.1; Heussner, *supra* note 53.

<sup>126</sup> *Picocell: Improves Capacity and Coverage for Mobile Communication*, OPEN-TUBE (June 24, 2009), <http://open-tube.com/picocell-improves-capacity-and-coverage-for-mobile-communication>.

<sup>127</sup> See, e.g., Press Release, Qualcomm, American Airlines and Qualcomm Complete Test Flight to Evaluate In-Cabin Mobile Phone Use (July 15, 2004), available at <http://www.qualcomm.com/news/releases/2004/07/15/american-airlines-and-qualcomm-complete-test-flight-evaluate-cabin-mobile-p>.

<sup>128</sup> *Frequently Asked Questions*, AEROMOBILE, <http://www.aeromobile.net/faq.asp> (last visited Feb. 15, 2011); *How It Works*, ONAIR, [http://www.onair.aero/how\\_it\\_works](http://www.onair.aero/how_it_works) (last visited Feb. 15, 2011).

<sup>129</sup> *Frequently Asked Questions*, *supra* note 128; *How It Works*, *supra* note 128.

<sup>130</sup> *Frequently Asked Questions*, *supra* note 128.

<sup>131</sup> Heussner, *supra* note 53; see LEAFLET NO. 29, *supra* note 69, § 2.3.1.

<sup>132</sup> See LEAFLET NO. 29, *supra* note 69, § 2.3.1.

<sup>133</sup> *Frequently Asked Questions*, *supra* note 128; Heussner, *supra* note 53.

This invites the question, is this device as good as it sounds? In 2004, American Airlines and Qualcomm installed the device in an airplane and tested it during a short flight over Texas.<sup>134</sup> The test was a success.<sup>135</sup> Furthermore, airlines abroad are using this technology very successfully.<sup>136</sup> As a clever editorialist said in the Pittsburgh Post-Gazette, “planes in Europe seem to find their destinations when passengers talk on phones in-flight.”<sup>137</sup> In fact, a leading article cited that supports a ban on cell phone use admits that the technology employed by airlines abroad can safeguard against possible interference.<sup>138</sup> With the success of flights abroad using the technology for air-to-ground communication, the FAA and FCC may not be able to hide behind their former worries and might be forced to reevaluate the current legal framework.<sup>139</sup>

#### B. THE PICOCELL PERSUADES EUROPE TO LIFT ITS PROHIBITION

Although Europe was not the first to allow in-flight cell phone use, its new regulation represents a dramatic regulatory shift, which will act as a signal throughout the world for reevaluation of regulatory bans. In April 2008, the EU announced new guidelines for cell phone use over the twenty-seven-nation bloc, which the European Commission (Commission) says is in response to air passenger and industry demand.<sup>140</sup> Cell phones will be permitted for in-flight use over all EU nations<sup>141</sup> once the plane reaches an altitude of 3,000 meters, but are prohibited

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<sup>134</sup> Press Release, Qualcomm, *supra* note 127.

<sup>135</sup> *Id.*

<sup>136</sup> Editorial, *Why Is a Law Needed to Ban Phones in Planes?*, PITTSBURGH POST-GAZETTE, Sept. 4, 2009, at B6 [hereinafter *Ban Phones in Planes*], available at 2009 WLNR 17358000.

<sup>137</sup> *Id.*

<sup>138</sup> Turner, *supra* note 56.

<sup>139</sup> See Noel, *supra* note 101.

<sup>140</sup> Press Release, EUROPA, Commission Paves the Way for In-Flight Mobile Phone Use Across Europe (Apr. 7, 2008) [hereinafter IP/08/537], available at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/08/537&format=HTML&aged=1&language=EN&guiLanguage=fr>.

<sup>141</sup> If an airplane is in international airspace, “the rules and regulations of the country where the airline is registered apply.” Memorandum from EUROPA, Commission Decisions on Mobile Communication Services on Aircraft—Frequently Asked Questions (Apr. 7, 2008) [hereinafter MEMO/08/220], available at <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/08/220&format=HTML&aged=0&language=EN&guiLanguage=fr>.

during takeoff and landing.<sup>142</sup> As a result, now the “90%<sup>143</sup> of European air passengers that already carry mobile phones on-board aircraft can remain contactable during flights.”<sup>144</sup> Passengers can make phone calls, send emails, and send data or picture messages while in flight from their own personal cell phones, made capable by the GSM standard.<sup>145</sup> In making this decision, EU officials “insisted” that this change would not reduce passenger safety; they believe neither risks of terrorism nor risks to avionics will be heightened.<sup>146</sup> The Commission set out “harmonised technical parameters” for onboard equipment and airworthiness certification procedures issued by the European Aviation Safety Agency (EASA)<sup>147</sup> “to ensure the safe use of technology in the aircraft cabin.”<sup>148</sup> With regard to air safety, the EASA believes picocell technology addresses the problems feared by the FCC and the FAA.<sup>149</sup> Also, security issues, which may arise out of in-flight cell phone use, are being addressed by “national justice and home affairs authorities.”<sup>150</sup>

The Commission expressed strong opinions about the future of in-flight cell phone use to back its new rules. The Commission’s role “is to create the legal and technical” framework to permit in-flight cell phone use; the social aspects of the changes are left to the airlines.<sup>151</sup> This framework is similar to the one in the United States. EU Telecoms Commissioner, Viviane Reding, challenged airlines “to create the right conditions on board aircraft to ensure” neighboring chatterboxes do not disturb passengers.<sup>152</sup> Reding also challenged in-flight mobile phone

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<sup>142</sup> *Id.*; *EU to Allow Cell-Phone Use on Airplanes*, FOXNEWS.COM (Apr. 7, 2008), [http://www.foxnews.com/printer\\_friendly\\_story/0,3566,347508,00.html](http://www.foxnews.com/printer_friendly_story/0,3566,347508,00.html) [hereinafter *EU to Allow*].

<sup>143</sup> Statistic was taken in 2008. IP/08/537, *supra* note 140.

<sup>144</sup> *Id.*

<sup>145</sup> MEMO/08/220, *supra* note 141; Press Release, EUROPA, First European Airlines Offering In-Flight Use of Mobile Phones Thanks to EU-Wide Ground Rules (Apr. 2, 2009) [hereinafter IP/09/526], available at <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/526&format=HTML&aged=1&language=EN&guiLanguage=fr>.

<sup>146</sup> *EU to Allow*, *supra* note 142.

<sup>147</sup> The EASA is Europe’s equivalent to the FAA. *Generic—Frequently Asked Questions (FAQ)*, EASA, <http://www.easa.eu.int/frequently-asked-questions.php> (last visited Feb. 16, 2011).

<sup>148</sup> IP/08/537, *supra* note 140.

<sup>149</sup> *Id.*

<sup>150</sup> *Id.*

<sup>151</sup> MEMO/08/220, *supra* note 141.

<sup>152</sup> IP/08/537, *supra* note 140.

service providers to provide transparent pricing, otherwise “the service will not take-off.”<sup>153</sup> Because a passenger’s mobile service provider sets the rates and charges for in-flight use, this service will have trouble leaving the ground if passengers receive “shock phone bills.”<sup>154</sup>

The announcement in 2008 provided two in-flight mobile communications service providers, AeroMobile and OnAir, with a greater population of passengers and a larger fleet of aircraft to serve.<sup>155</sup> One year after the EU’s announcement, twenty-seven European aircraft operated by Ryanair (Ireland), TAP (Portugal), and British Midland Airways (bmi) (United Kingdom) were already equipped with the devices to allow in-flight cell phone use.<sup>156</sup> Lufthansa, however, refused to implement the new technology because their customers did not want the service.<sup>157</sup> With Europe opening its skies to in-flight cell phone use, four continents now provide the service.<sup>158</sup>

### C. CURRENT SERVICE PROVIDERS

The dominant in-flight telephony<sup>159</sup> providers are AeroMobile and OnAir. The EASA approved both services, which use the same picocell technology, “confirming that [the technology] can be operated safely on aircraft.”<sup>160</sup> OnAir, established in 2005, is the product of a joint venture between SITA, a “provider of IT solutions and communications services to the air transport industry, and Airbus.”<sup>161</sup> Although not all of OnAir’s customers use the telephony technology, its customers include British Airways, Qatar Airways, Egypt Air, Oman Air, Royal Jordanian, Wataniya Airways, and TAP.<sup>162</sup> AeroMobile, provided

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<sup>153</sup> *Id.*

<sup>154</sup> *Id.*; MEMO/08/220, *supra* note 141.

<sup>155</sup> IP/09/526, *supra* note 145.

<sup>156</sup> *Id.*

<sup>157</sup> *EU to Allow*, *supra* note 142.

<sup>158</sup> Joe Sharkey, *Foreign Airlines Ahead of U.S. on Cellphone Use*, N.Y. TIMES (Sept. 28, 2009), <http://www.nytimes.com/2009/09/29/technology/29phones.html> [hereinafter Sharkey, N.Y. TIMES].

<sup>159</sup> Telephony is “[t]he electrical transmission of sound between distant stations, esp[ecially] by radio or telephone.” THE AMERICAN HERITAGE DICTIONARY 1250 (2d ed. 1982).

<sup>160</sup> *Health and Safety*, ONAIR, [http://www.onair.aero/health\\_safety](http://www.onair.aero/health_safety) (last visited Apr. 8, 2011); see *Frequently Asked Questions*, *supra* note 128; *How It Works*, *supra* note 128.

<sup>161</sup> *Why OnAir?*, ONAIR, [http://www.onair.aero/why\\_onair](http://www.onair.aero/why_onair) (last visited Apr. 10, 2011).

<sup>162</sup> *Id.*

by the Telenor Group,<sup>163</sup> which is “the seventh largest telecommunication company in the world,”<sup>164</sup> launched its first flight in 2007.<sup>165</sup> AeroMobile charges approximately \$250,000 to install the picocell-based system.<sup>166</sup> Its customers include Emirates, Qantas, Malaysia Airlines, Lufthansa, and V Australia.<sup>167</sup>

The services provided by each airline are relatively similar. Both allow passengers to use their cell phones, including smart phones, to text, talk, chat, email, browse, and check voicemail—in other words, anything a cell phone can do on the ground, it can do at cruising altitude.<sup>168</sup> A safety feature included in the service is a control panel, which helps to control and monitor cell phone use.<sup>169</sup> With this panel, crewmembers can control which services are available, for example by prohibiting phone service during quiet times while text messaging remains enabled; sending messages to phones, such as estimated arrival times or emergency information; and managing the number of calls made at any time of day.<sup>170</sup>

Logistically speaking, these service providers actually do very little. Once the technology is installed within an aircraft, the service provider’s role is small.<sup>171</sup> Neither company regulates in-flight use; the task of social management falls to the individual airlines and to the crewmembers.<sup>172</sup> Furthermore, neither company charges or regulates fees; the passengers pay for the service through their ordinary cell phone bill, and the charges are generally equivalent to international roaming rates.<sup>173</sup>

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<sup>163</sup> *Airborne Mobile Connectivity*, AEROMOBILE, <http://www.aeromobile.net/aeromobile.asp> (last visited Apr. 10, 2011).

<sup>164</sup> Abe, *supra* note 51.

<sup>165</sup> *Aeromobile for Passengers*, AEROMOBILE, <http://www.aeromobile.net/passengers.asp> (last visited Apr. 10, 2011).

<sup>166</sup> *Id.*

<sup>167</sup> *Coverage*, AEROMOBILE, <http://www.aeromobile.net/coverage.asp> (last visited Apr. 10, 2011).

<sup>168</sup> *Aeromobile for Passengers*, *supra* note 165; *Solutions*, ONAIR, <http://www.onair.aero/solutions> (last visited Apr. 8, 2011).

<sup>169</sup> *Airborne Mobile Connectivity*, *supra* note 163; *Connectivity*, ONAIR, <http://www.onair.aero/connectivity> (last visited Apr. 8, 2011).

<sup>170</sup> *Airborne Mobile Connectivity*, *supra* note 163; *Connectivity*, *supra* note 169.

<sup>171</sup> See *Aeromobile for Airlines*, AEROMOBILE, <http://www.aeromobile.net/airlines.asp> (last visited Apr. 8, 2011); *Commercial Airlines*, ONAIR, [http://www.onair.aero/commercial\\_airlines](http://www.onair.aero/commercial_airlines) (last visited Apr. 8, 2011).

<sup>172</sup> *Airborne Mobile Connectivity*, *supra* note 163; *Connectivity*, *supra* note 169.

<sup>173</sup> *Connectivity*, *supra* note 169; *Frequently Asked Questions*, *supra* note 128; *Passenger Information*, ONAIR, [http://www.onair.aero/passenger\\_information](http://www.onair.aero/passenger_information) (last visited Apr. 8, 2011).

### 1. *Are These Services Catching On?*

With the technology and the service providers in place, how is the picocell faring in the market place? Emirates Airlines was the first to offer the service in 2008.<sup>174</sup> Within four months of the launch, 40–60% of passengers were connecting to the ground via cell phone.<sup>175</sup> And, almost a year after its launch, the 100,000th user made a call from 36,000 feet.<sup>176</sup> Emirates' Vice President Patrick Brannelly said "[t]he feedback has been excellent," and popularity among passengers who are becoming more accustomed to using their cell phones in flight is increasing "day by day."<sup>177</sup> In fact, Brannelly said they "have been very surprised by the lack of negative comments" from passengers aboard planes using the service.<sup>178</sup> Emirates allows phones to be turned on once the plane has reached 20,000 feet; at which point, a video plays and an announcement is made that phones may be turned on.<sup>179</sup> A text message is sent to all phones switched-on telling them to turn their phones to silent mode.<sup>180</sup> Currently, the airline limits the number of calls to five or six at a time and limits when calls can be made.<sup>181</sup> Many passengers, such as Nakhle el Hajj, who frequently flies on Emirates, said the service is great for long-haul flights and he recognizes the need for courtesy—he says he speaks softly "to make sure I am not bothering people around me."<sup>182</sup>

In May 2008, Malaysia Airlines launched AeroMobile's service,<sup>183</sup> and V Australia plans to launch the service soon.<sup>184</sup> Al-

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<sup>174</sup> *Emirates Installs Inflight Mobile Phone Services on Boeing 777-300*, EMIRATES (July 30, 2008), [http://www.emirates.com/us/english/about/news/news\\_detail.aspx?article=354408](http://www.emirates.com/us/english/about/news/news_detail.aspx?article=354408).

<sup>175</sup> *Id.*

<sup>176</sup> *Emirates Rings Up 100,000th Passenger In-Flight*, EMIRATES (Feb. 19, 2009), [http://www.emirates.com/us/english/about/news/news\\_detail.aspx?article=411509](http://www.emirates.com/us/english/about/news/news_detail.aspx?article=411509).

<sup>177</sup> *Id.*

<sup>178</sup> Sharkey, VA. PILOT, *supra* note 120.

<sup>179</sup> *Emirates Calls a World First*, EMIRATES AIRLINES (Mar. 21, 2008), [http://www.emirates.com/us/english/about/news/news\\_detail.aspx?article=309736](http://www.emirates.com/us/english/about/news/news_detail.aspx?article=309736).

<sup>180</sup> *Id.*

<sup>181</sup> *Id.*

<sup>182</sup> Sharkey, VA. PILOT, *supra* note 120.

<sup>183</sup> Press Release, Malaysia Airlines, Malaysia Airlines Partners with Aeromobile for Asia's First Inflight Mobile Phone Service (Nov. 4, 2008), *available at* <http://www.aeromobile.net/press/59/>.

<sup>184</sup> *Mobile Device Connectivity—Coming Soon*, V AUSTL., <http://www.vaustralia.com/in-flight-services/in-flight-connectivity/EmailandSMS/index.htm> (last visited Apr. 8, 2011).



though there have been rumors of future launches and expressed interest by airlines like Virgin America, TAP, Qantas, Air France, AirAsia, and Kingfisher, cell phones are still prohibited in flight on these airlines.<sup>185</sup> Some airlines, however, have found a middle ground. Singapore Airlines announced in October 2005 that it would allow text messaging from passenger phones on some flights.<sup>186</sup> James Boyd, a Singapore Airlines spokesperson, said that before in-flight calling is allowed, they want “feedback from . . . [their] customers on how the system should be managed.”<sup>187</sup> With Europe’s implementation of in-flight telephony, the service is gaining momentum. Although the United States has been able to hold off on changing the regulations, the success of these services abroad may force its hand. If airlines abroad are able to prove that cell phone use does not threaten safety and cell tower efficiency, then the FAA’s and the FCC’s justifications for prohibiting use are eliminated. With these concerns gone, the only real stopgap is public disapproval, which is not a regulatory concern for either agency.

#### IV. AN ANALYSIS OF U.S. FEEDBACK

Despite safety and network concerns, the actual problem with in-flight cell phone use might be getting passengers onboard with the idea.<sup>188</sup> Unions, government agencies, airlines, consumers and many other organizations all have had strong reactions to the possibility of cell phone use in flight over the United States. Much of the feedback comes from the FCC’s 2004 No-

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<sup>185</sup> *Can I Use Gogo to Place a Call with My Cellular or VoIP Phone?*, VIRGIN AM., [http://virginamerica.custhelp.com/app/answers/detail/a\\_id/277/kw/VoIP%20phone](http://virginamerica.custhelp.com/app/answers/detail/a_id/277/kw/VoIP%20phone) (last updated Apr. 1, 2010, 10:01 AM); *FAQ: What Can I Bring in My Hand Baggage?*, AIR FR., <http://faq.airfrance.fr/b2c/ShowAnswer.do?quId=692&ansId=757 &quMa=KEY&quToken=2194061&srhMo> (last visited Feb. 16, 2011); *FAQs*, FLY KINGFISHER, <http://www.flykingfisher.com/faqs.aspx> (last visited Apr. 8, 2011); *Frequently Asked Questions*, AIRASIA, <http://www.airasia.com/ask> (search “electronic items”; then click on “Am I Permitted to Use Any Electronic Items Onboard the Flight?”) (last visited Apr. 17, 2011); *Inflight Communication*, QANTAS SPIRIT OF AUSTL., <http://www.qantas.com.au/travel/airlines/inflight-communications/global/en> (last visited Apr. 8, 2011); *Portable Electronic Devices (PEDs)*, TAP PORT., <http://www.flytap.com/Portugal/en/FlyWithUs/OnBoard/ElectronicEquipment/> (last visited Apr. 8, 2011).

<sup>186</sup> Scott Mayerowitz, *Airline to Make Cell Phone Calls Possible on Flights*, ABC NEWS (Oct. 5, 2010), <http://abcnews.go.com/Travel/Technology/singapore-airlines-cell-phones-flights/story?id=11804611>.

<sup>187</sup> *Id.*

<sup>188</sup> Noel, *supra* note 101.

tice of Proposed Rulemaking,<sup>189</sup> which opened up the floor for new regulation, and the FAA's Reauthorization Act of 2009.<sup>190</sup> In response to the 2004 FCC proceeding, the FCC received almost 8,000 comments.<sup>191</sup> Much of the contention over cell phone use in flight originates from the hassle of air travel—no one wants to make an already crowded, difficult, and hurried situation worse by adding noisy phone conversations made from only inches away.<sup>192</sup> However, there are many annoying aspects of air travel that passengers would also love to get rid of, like babies with dirty diapers and strangers who accidentally fall asleep on your shoulder, but that does not justify a ban.<sup>193</sup> In fact, I remember a story from my childhood:

My family and I were flying from Houston to New York one holiday season, and my parents accidentally packed my baby brother's blanket—you know the kind, the one kids will not leave the house without and has been washed 1,000 times—in his checked suitcase. My dad, who was holding my brother, fell asleep. And my brother had this habit of poking his fingers through all of the holes in the knit blanket, which he managed to do to the man's sweater sitting next to my dad. My dad was woken up to a kind gentleman saying, "Sir, can you please get your son's fingers out of my sweater."

Most people probably would not ban my brother, but where should the line be drawn? Most Americans would draw a line that excludes voice communication in flight.

## A. INDUSTRY FEEDBACK

### 1. *The Association of Flight Attendants*

The Association of Flight Attendants (AFA) is a labor union for flight attendants that "represents nearly 50,000 flight attendants at 21 airlines."<sup>194</sup> In 2005, the AFA testified before the United States House Aviation Subcommittee regarding cell phone use on commercial aircraft in response to the FCC's pro-

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<sup>189</sup> See generally 18 FCC Rcd. 8380.

<sup>190</sup> See *supra* text accompanying notes 43–47.

<sup>191</sup> Press Release, Ass'n of Flight Attendants, AFA Testifies Before U.S. House Committee on Maintaining Cell Phone Ban on Airplanes (July 14, 2005) [hereinafter Flight Attendant Press Release], available at <http://www.afanet.org/default.asp?id=625>.

<sup>192</sup> *Dealt a Setback*, *supra* note 46.

<sup>193</sup> *Id.*

<sup>194</sup> *About the Association of Flight Attendants*, ASS'N OF FLIGHT ATTENDANTS, <http://www.afanet.org/default.asp?id=2> (last visited Apr. 8, 2011).

ceeding reconsidering the ban on cell phones.<sup>195</sup> The AFA's stance—"[i]t could have catastrophic effects on aviation safety and security."<sup>196</sup> The AFA's concern with in-flight cell phone use arises out of an anticipated inability to maintain order or take appropriate emergency action.<sup>197</sup> Janet Spencer, a flight attendant who co-authored the memoir "Betty in the Sky with a Suitcase!" describes the attitude of air travel perfectly.<sup>198</sup> By the time a passenger sits in their seat, they have been at the airport for at least an hour, paid to check a bag, waited in security lines, removed all of their liquid items, walked barefoot through a metal detector, and had a full body scan. Not exactly a picture of relaxation. When passengers finally sit down in their seat, they are irritated, and flight attendants do not want to have to get in between passengers and their addictions to their phones.<sup>199</sup> Flight attendants do not want to have to rip a cell phone out of a passenger's hands or tell a particularly loud passenger to keep his volume down. Also, flight attendants do not want to add "referee" to their job descriptions either.<sup>200</sup> Someone who is talking too loudly can cause major disruption. And, fights between passengers are an obvious side effect of cell phone use. In sum, flight attendants support the ban proposed in the FAA Reauthorization Act and are against any relaxation of existing regulations.

## 2. *The Department of Justice and the Department of Homeland Security*

The Department of Justice (DOJ) and the Department of Homeland Security (DHS) are worried about what cell phone use in flight will do to national security and law enforcement.<sup>201</sup> Specifically, these departments worry "that criminals . . . [and] terrorists could use cell phones . . . to coordinate an attack or . . . detonate remote controlled improvised explosive devices on an aircraft."<sup>202</sup> Especially in light of the October 2010 printer cartridge bomb scare, the fear of phone-activated bombs is very

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<sup>195</sup> Flight Attendant Press Release, *supra* note 191.

<sup>196</sup> *Id.*

<sup>197</sup> Sharkey, VA. PILOT, *supra* note 120.

<sup>198</sup> Christopher Elliott, *Cellphones and Electronic Devices on Airplanes: Time to Re-think the Policy?*, WASH. POST (May 23, 2010), <http://www.washingtonpost.com/wp-dyn/content/article/2010/05/17/AR201005170326.html>.

<sup>199</sup> *Id.*

<sup>200</sup> *Dealt a Setback*, *supra* note 46.

<sup>201</sup> *Nuisance or Necessity?*, *supra* note 98, at 3.

<sup>202</sup> *Id.*

real.<sup>203</sup> One man—Roland Alford, a British explosives consultant—said that in-flight connectivity, including Wi-Fi, “is a ‘Pandora’s box’ for terrorists and . . . ‘gives a bomber lots of options for contacting a device on an aircraft.’”<sup>204</sup> However, these departments also believe that cell phone use could have a number of benefits if the departments were permitted to conduct electronic surveillance of cell phone transmissions.<sup>205</sup> Although this would “raise[ ] a number of concerns,” the departments believe that cell phone use could provide invaluable information.<sup>206</sup> For example, in investigations like the 9/11 investigations, phone calls, photos, and videos taken by passengers provided excellent sources of identification, timelines, and evidence.<sup>207</sup> If this and other operational capabilities are addressed, the Departments of Justice and Homeland Security might support lifting the ban.<sup>208</sup>

### 3. *The Airline Industry*

In response to consumer demand, airlines have rushed in the past few years to implement in-flight Wi-Fi connectivity, but there is no indication that airlines are interested in allowing passengers to make phone calls from the sky yet.<sup>209</sup> Without approval from passengers, airlines are hesitant to implement the technology, which means very little research and testing will be conducted.<sup>210</sup> If airlines fail to see consumer support for in-flight cell phone use, they will be reluctant to invest in the research to show it is safe and in the infrastructure to support it, as required by the FAA’s current regulations. Remember, if the FAA and FCC were to allow cell phone use, airlines may not choose to offer the service. The decision to allow cell phones is left to the marketplace, which some argue is the preferred method.<sup>211</sup> If consumers want the service, they will demand it

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<sup>203</sup> Rob Margetta, *Phone-Activated Bombs Remain a Concern*, CQ HOMELAND SECURITY, Nov. 4, 2010, available at 2010 WL 22410052.

<sup>204</sup> Christine Negroni, *Wi-Fi Seen as Potential Security Threat*, ATLANTA J. & CONSTIT., Nov. 17, 2010, at A1, available at 2010 WLNR 22893214.

<sup>205</sup> *Nuisance or Necessity?*, *supra* note 98, at 3.

<sup>206</sup> *Id.*

<sup>207</sup> *Id.*

<sup>208</sup> *Id.* at 13.

<sup>209</sup> Sharkey, VA. PILOT, *supra* note 120.

<sup>210</sup> See, e.g., Hugo Martin, *Forbidding Cellphone Calls on Airplanes Might Protect Sanity More Than Safety*, L.A. TIMES (Oct. 11, 2010), <http://articles.latimes.com/print/2010/oct/11/business/la-fi-travel-briefcase-20101011>.

<sup>211</sup> *Ban Phones in Planes*, *supra* note 136.

from airlines, and airlines will implement the feature in an attempt to capture or maintain a competitive advantage. This is what Europe did. The European Commission simply provided the legal framework, and the airlines were left to implement the technology and regulate and monitor cell phone use on the plane.<sup>212</sup> In this way, in-flight cell phone use would become just another one of an airline's product offerings, like "bags fly free" from Southwest. Passengers then can choose whether or not this is a service they want and make their travel accommodations accordingly.<sup>213</sup> In an article by MSNBC, Gregg Stebben said, "If I was booking a flight and it was going to cost me \$50 extra to be on an airline that *didn't* allow cell phone calls, I may be willing to pay that extra fee."<sup>214</sup>

Furthermore, even if airlines implement the service, it does not mean it will be around forever. If airlines find that passengers are as annoyed as some people predict they will be, then airlines should stop offering the service; in fact, "what airline would want to allow it" if customers were so against it?<sup>215</sup>

#### 4. *Other Associations and Organizations*

Since 2009, when the Reauthorization Act began pending, many industry leaders and interested organizations gave their opinions about cell phone use. It seems that people either love the proposed ban or hate it. Although many analysts are saying business people have the most to gain from lifting the ban,<sup>216</sup> the National Business Travel Association "lauded the provision [in the Reauthorization Act] to ban cell phone voice communication on aircraft."<sup>217</sup> On the contrary, FlyerRights.org, the nation's largest non-profit airline consumer organization, held the exact opposite opinion.<sup>218</sup> Executive Director Katie Hanni says "[i]t is essential that airline passengers are empowered with the latest . . . in-flight technology."<sup>219</sup> She continued,

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<sup>212</sup> IP/08/537, *supra* note 140.

<sup>213</sup> *Dealt a Setback*, *supra* note 46.

<sup>214</sup> *Id.*

<sup>215</sup> *Ban Phones in Planes*, *supra* note 136.

<sup>216</sup> *Dealt a Setback*, *supra* note 46.

<sup>217</sup> Press Release, Global Bus. Travel Ass'n, 8th Annual NBTA Legislative Summit Breaks Attendance Record (June 10, 2010), *available at* <http://www2.nbta.org/usa/pressreleases/pages/rls061010.aspx>.

<sup>218</sup> *See generally* *FlyerRights.org*, *supra* note 40.

<sup>219</sup> *Id.*

[r]ather than ban it outright, Congress should allow the FAA and the FCC to evaluate the use of in-flight voice service and connectivity as a valuable tool for passengers in the U.S. taking into account potential benefits to consumers and the real world experience of its deployment throughout the rest of the world.<sup>220</sup>

Similarly, the Inflight Passenger Communications Coalition says, “HOLD UP on the HANG UP ACT!”<sup>221</sup> And, the Small Business and Entrepreneurship Council’s president Karen Kerrigan said, “[b]efore banning the use of wireless telecommunications on flights, Congress should evaluate the data from the experience and the effectiveness of the applicable protocols currently in use overseas.”<sup>222</sup> As it is clear to see, there is a great division, and it does not seem like a compromise is in sight.

## B. PASSENGER FEEDBACK

As you have been reading this comment, you have probably made your own assessment to whether cell phones should be allowed on airplanes. There are obvious examples of when you might find a phone call from the air beneficial: during flight delays, in case of emergency, or booking last minute hotels, rental cars, or restaurants. But just because you want to be able to use your phone does not mean you want the person next to you to be able to use his phone. Do other passengers feel the same way?

According to a 2005 national poll, 63% of airline passengers are against in-flight cell phone use.<sup>223</sup> This statistic, however, does not necessarily reflect today’s attitude. Since 2005, the number of cell phone users has risen from 69% of the U.S. population to over 90%.<sup>224</sup> At the end of 2009, cell phone users were sending around 5 billion text messages a day and talking 6.1 billion minutes a day. So, has consumer preference changed since 2005?

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<sup>220</sup> *Id.*

<sup>221</sup> *Inflight Communication Technology Facts*, INFLIGHT PASSENGER COMMUNICATIONS COALITION, [http://www.passengercommunications.com/dont\\_let\\_america\\_fall\\_behind.shtml](http://www.passengercommunications.com/dont_let_america_fall_behind.shtml) (last visited Apr. 8, 2011).

<sup>222</sup> COMMUNICATIONS DAILY, *supra* note 41.

<sup>223</sup> Flight Attendant Press Release, *supra* note 191.

<sup>224</sup> *Dealt a Setback*, *supra* note 46; Chris Foresman, *Wireless Survey: 91% of Americans Use Cell Phones*, ARS TECHNICA, <http://arstechnica.com/telecom/news/2010/03/wireless-survey-91-of-americans-have-cell-phones.ars> (last visited Apr. 8, 2011).

Today, cell phones are a physical extension of their owners.<sup>225</sup> Denying a passenger the opportunity to stay connected might not be an option in the future. And, some are saying the desire for connectivity will eventually spread to in-flight use—a desire some think is unlikely to go away.<sup>226</sup> Rich Ling, a sociologist and professor, says that at first people did not want cell phones on buses, on trains, or in airports, but technology led people worldwide in a different direction.<sup>227</sup> Just as people in those environments learned to cope with cell phone use, air passengers will too; eventually they will work out the social etiquette and rules necessary for civilized interaction.<sup>228</sup> Is this easier said than done? Just recently I ran a general search on Google about violence caused by cell phone use on airplanes. That morning, AOL News posted an article about a fifteen year-old who was punched by a sixty-eight year-old passenger because he would not turn off his cell phone.<sup>229</sup> Imagine the reaction if the boy had been shouting on his cell phone, “Can you hear me now?” With this in mind, passengers likely still have a way to go before achieving civilized interaction and tolerance.

In other research by Rich Ling, he describes why cell phone use in restaurants disgusts so many people.<sup>230</sup> Although the research deals with restaurants, his article has interesting insights into why passengers might find cell phones on airplanes equally as repulsive. A restaurant, like an airplane, has both public and private aspects.<sup>231</sup> For the amount of time you occupy a seat, it is yours; we establish “symbolic fences” to claim our territory.<sup>232</sup> This helps a person to identify where he belongs and where others do not have a right to intrude.<sup>233</sup> Also, in a restaurant environment, much like in an airplane, there is an expected etiquette.<sup>234</sup> “There is a well prescribed set of rules and

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<sup>225</sup> Elliott, *supra* note 198.

<sup>226</sup> *Dealt a Setback*, *supra* note 46.

<sup>227</sup> *Id.*

<sup>228</sup> *See id.*

<sup>229</sup> Kim Foley MacKinnon, *Man Punches Teen Over Cell Phone Use on Plane*, AOL TRAVEL NEWS (Dec. 29, 2010, 10:30 AM), <http://news.travel.aol.com/2010/12/29/man-punches-teen-over-cell-phone-use-on-plane/>.

<sup>230</sup> *See generally* RICH LING, “ONE CAN TALK ABOUT COMMON MANNERS!”: THE USE OF MOBILE TELEPHONES IN INAPPROPRIATE SITUATIONS (L. Haddon ed., 2007).

<sup>231</sup> *Id.* at 6.

<sup>232</sup> *Id.* at 7.

<sup>233</sup> *Id.*

<sup>234</sup> *Id.* at 8.

rituals that must be observed;<sup>235</sup> for example, on a plane some rules and rituals might be how to maneuver out of your row to use the restroom, how to speak to flight attendants, appropriate topics of conversation, and appropriate volume levels.

When people talk on cell phones in restaurants, other patrons have to deal with “‘sound interference,’” in which case a cell phone conversation or ring fills up the talker’s space and then intrudes on others’ space.<sup>236</sup> When this happens, the expected boundaries and social norms are not maintained, and a patron trying to enjoy his meal or a businessman trying to catch some sleep on a flight home would justifiably be angry.<sup>237</sup> The annoyances are just as unwelcome as a belch at the dinner table—a behavior most would not find in accordance with social norms.<sup>238</sup> This study provides insight into why so many passengers would be opposed to in-flight cell phone use—it is an invasion of personal space.

If noise is the issue, as Ling suggests it is, are cell phone calls in flight actually noisy? OnAir chief executive Benoit Debains says that the anxiety about noise is “overblown.”<sup>239</sup> He, and other industry executives, found that callers are not speaking loudly and “standard cabin noise covers up much conversational noise.”<sup>240</sup> In fact, Debains asked a passenger on the inaugural flight for in-flight cell phone service what he thought about the service; the passenger was against in-flight cell phone use, but had not even noticed that the man across from him was using his phone.<sup>241</sup> Similarly, Emirates executives informed pilots and flight attendants who believed the system was on but not being used that in fact many calls and messages were sent and received—in one case, twenty-two phone calls and sixty-eight messages were transmitted without their knowledge.<sup>242</sup>

It seems Americans are steadfast in their objections. Nonetheless, in this technological age where smart phones are as essential as water and oxygen, the next progression is in-flight cell phone use. It might take years for Americans to hop onboard, but as technology improves and eliminates the FAA’s and the

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<sup>235</sup> *Id.*

<sup>236</sup> *Id.* at 9.

<sup>237</sup> *Id.*

<sup>238</sup> *Id.*

<sup>239</sup> Sharkey, VA. PILOT, *supra* note 120.

<sup>240</sup> *Id.*

<sup>241</sup> *Id.*

<sup>242</sup> *Id.*



FCC's obstacles, will consumer opinion be enough to maintain a ban? My guess—probably not, especially as more nations start allowing in-flight cell phone use.

## V. PREDICTIONS AND RECOMMENDATIONS

Based on the prior discussion, this part attempts to make predictions about the possible changes regulations may face in the upcoming years. It also discusses what I believe would be a great start to increasing connectivity in flight without the problem of too much noise.

### A. WILL THE FAA'S REAUTHORIZATION ACT INCLUDE A BAN ON CELL PHONE USE?

Although the House passed a version of the Reauthorization Act that includes the ban, the ban will likely not end up in the final version of the bill. In light of the two obstacles to cell phone use already in place, namely the FCC's outright prohibition and that no airline has been able to show cell phone use is safe, the proposed FAA ban is unnecessary. Put quite simply, there is not enough information, data, or research that conclusively states whether it is safe to use cell phones on airplanes. Without this knowledge, signing a ban into law would be premature. Additionally, the proposed ban has no safety or regulatory function—it is simply an attempt to “legislate courtesy,”<sup>243</sup> which is not the FAA's role, but the airlines' role. The FAA's job is to keep passengers safe, not to worry about their happiness. If its goal were happiness, air travel would be a completely different experience. The FAA should not be used as a means to regulate the social aspects of air travel and the ban would be going one step too far.

Although a ban is uncalled-for, it is similarly unlikely the FAA will approve in-flight cell phone use, at least in the next few years. Until airlines can prove that cell phone use is not dangerous to passenger safety, allowing cell phones is too great a gamble. As of now, there is not enough conclusive evidence that cell phones will not affect avionics. Furthermore, the attractive picocell technology solution is in its infancy. It is just too young.

What will the landscape of in-flight communication look like in ten years? My best guess—airlines will have tested the technology enough to prove dangerous interference is no longer a

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<sup>243</sup> *Id.*

risk, and cell phones will fall under the approved PED list. This is not to say that airlines will actually implement the technology, but only that the legal framework will exist for airlines. As airlines abroad continue to test and use picocell technology safely, their results will help fill the evidentiary gap the FAA has been trying to fill. If (1) the feedback from customers is positive, which airlines are already reporting; (2) the number of incidents is extremely low; and (3) the foreign airlines are profiting from the service, airlines at home will be encouraged to research and test the product, hoping to be the first airline to offer the value-adding service. There is, however, one major problem—if the FCC ban remains, it does not matter how safe cell phone use is. Without a relaxation of the FCC ban, airlines will have no incentive to test and implement the technology. For there to be any investment made by airlines, it will require the cooperation of both agencies.

#### B. WILL THE FCC RELAX ITS BAN?

If either agency had a better reason to relax its prohibition, it would be the FCC. In light of the picocell, the FCC does not have a technological reason to maintain the current ban. Similar to how use abroad helps clarify the FAA's safety concerns, the use abroad will help show the lack of ground network interference. Furthermore, if consumer preference changes, the FCC's hand may be forced as long as picocells eliminate the cell tower issues. The FCC is required to review regulations biennially in conjuncture with public interest.<sup>244</sup> If consumers begin to demand the service or at least become more open to the service, it is likely the FCC will reevaluate its ban. As it approaches ten years since the first cell phone use proceeding, the FCC may want to begin a new proceeding to gauge consumer sentiments in a different decade. Also, the new proceeding might specifically address text messaging to determine if consumers are against all cell phone use or just voice communication. Although technology, which rids the FCC of its concerns, might alone be sufficient to relax the ban, proof of consumer support would only add to their likelihood of reassessment. Lastly, the FCC is interested in protecting and encouraging competition in the wireless market. As more service providers begin to pop up overseas, the FCC may be willing to relax its prohibition to allow new entrants into the U.S. market. This interest in competition

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<sup>244</sup> 47 U.S.C. § 161 (2006).

is what led the FCC to restructure its broadband spectrum, and it could happen for cell phone use too.

The FCC, however, may be hesitant to make this regulatory change if the FAA is not onboard and air safety remains an issue. The FCC acts as the muscle—it contains the provision that allows for fines and penalties for passengers who violate cell phone rules.<sup>245</sup> In recent years, passengers are increasingly ignoring these rules, and if the FCC pulls out of its prohibition, the FAA may have little power to actually enforce their ban. If the FAA's fears about safety are justified, a relaxation of the FCC ban could have catastrophic ramifications. In my opinion, the two agencies must work together. If they work in tandem, it will ensure consumer acceptance, advance public welfare, and prevent unnecessary risks to passengers.

### C. WHAT WILL AIRLINES DO IF REGULATIONS ARE RELAXED?

In my opinion, the implementation of in-flight cell phone service should be left to the marketplace. Eventually, technology, experience, and better research will foreclose the FAA and the FCC from hiding behind interference fears and force them to provide the legal framework for in-flight cell phone use. Once this is done, the airlines are left with the responsibility of making the decision whether to implement and to manage the social framework. The best way to decide whether to allow cell phone use is to do what passengers want—the airlines would be foolish not to.

Many airlines that currently implement the service and commentators and experts on the subject have provided some guidelines, which will help consumers tolerate in-flight cell phone use.<sup>246</sup> For example, airlines that implement the service require phones to be on silent.<sup>247</sup> Other ideas are: (1) only allowing a few phone calls to be made at any given time; (2) designating talk times and silent times; (3) designating a conversation time length; (4) requiring people to use headsets; (5) designating areas of the plane where cell phone use is permitted;<sup>248</sup> and (6) charging enough money that people will not want to make long

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<sup>245</sup> 47 C.F.R. § 22.925 (2010).

<sup>246</sup> See, e.g., Sharkey, N.Y. TIMES, *supra* note 158.

<sup>247</sup> *Id.*

<sup>248</sup> *Dealt a Setback*, *supra* note 46.

phone calls.<sup>249</sup> Although some of these solutions will help assuage passenger fears, I think others will be too hard to implement. For example, how can airlines afford to designate talking sections? Will airlines add another class designated “chatty class”? And, what about airlines that currently do not use classes, like Southwest, where everyone chooses their seat instead of being assigned one? The idea sounds good on paper, but in reality it may just cause more problems. Also, if cell phone service providers charge too much, the success rate of the service will be low. It would doom these new in-flight service providers to the fate the seatback phones experienced. In spite of these clever tolerance mechanisms, the fact remains that if consumers are not ready to accept in-flight cell phone use, no combination of measures taken will be successful. In other words, passengers are the gatekeepers—without their support these services will never take flight.

As feedback from passengers traveling abroad reaches Americans, the chance of Americans changing their minds increases. If, however, the statistics are accurate and nearly 90% of American travelers are against in-flight cell phone use, use abroad may have no, or at least very little, effect on passenger preference. Increasing the percentage of people who support in-flight cell phone use to a number attractive enough for airlines to invest the resources necessary may take years.

Although the feedback from abroad may have no noticeable effect on passenger opinion, the option for text messaging in flight may. In my opinion, text messaging is a great middle ground approach—it does not cause “cell yell” problems, but it does increase connectivity—and it is the perfect way to introduce Americans to in-flight cell phone use. You may be wondering if it is technologically feasible to allow text messaging while prohibiting voice communication. With the new technology, the service providers have included the feature to turn off talk service while keeping text messaging on. If text messaging poses no dangers, it is a great solution because people cannot overhear conversations, privacy and personal space remain intact, and cell phones, which are required to be on silent, will be quiet. The only noise might be the sound of keys ticking, but it is no worse than a laptop, which passengers seem to tolerate.

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<sup>249</sup> Harriet Baskas, *Shut Up and Fly! Debate over Cell Phones on Flights Continues*, MSNBC.COM (Jan. 13, 2011, 9:49 AM), [http://www.msnbc.msn.com/id/41029348/ns/travel-business\\_travel/](http://www.msnbc.msn.com/id/41029348/ns/travel-business_travel/).

In sum, if the FAA and the FCC come together to relax the ban on cell phones, airlines should work to give customers what they want—increased connectivity without all the noise. In-flight voice communication is too great a leap for Americans, but text messaging is not. Once technology eliminates the concerns of the FAA and the FCC and the two agencies work together to relax the current regulations, I predict airlines will begin to allow in-flight text messaging—an idea “ready for takeoff.”

## VI. CONCLUSION

Because of inconclusive data regarding the true effects of cell phone use in flight, changing current regulations is premature. And, it is unlikely that sweeping legislative modifications will occur in the next few years. Although, with the advent of new technology and its likely wide-spread use in the future, the way Americans fly may change, especially if passengers demand increased in-flight connectivity. A word of advice: now might be an excellent time to invest in a pair of noise cancelling headphones.