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## A Step in the Right Direction: Colorado's First Space Legislation

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# A STEP IN THE RIGHT DIRECTION: COLORADO’S FIRST SPACE LEGISLATION

APRIL GREENE APKING<sup>†</sup>

## ABSTRACT

Over the past several years, private individuals have become increasingly drawn to the thrill of spaceflight. Advancements in spaceflight travel, in large part due to the efforts of private U.S. spaceflight operators, have made standard flights to experience the weightlessness of space more of an everyday reality. As the private spaceflight industry grows, individual states are realizing the benefits of encouraging those businesses to relocate to and operate from within their jurisdiction. One of the ways that a state can entice businesses to operate there is to adopt legislation and regulations that are beneficial to the spaceflight industry. In Colorado private industry and legislators, respectively, have begun its venture into this arena, both by supporting Front Range Airport’s bid to become a spaceport and by adopting its first space-related legislation. By limiting the liability of spaceflight operators that offer space tourists the opportunity to experience the weightlessness of space, Colorado has provided companies a way to better estimate the costs of doing business in the state—as long as the company meets the requirements of the statute, the company’s liability is limited and thus stabilizes the cost of doing business. This Essay looks at the legislation and posits that this limitation on liability will be helpful in Colorado’s attempt to promote the spaceflight industry.

## TABLE OF CONTENTS

ABSTRACT .....	7
INTRODUCTION.....	8
I. THE FEDERAL SHIFT.....	9
II. COLORADO’S UNIQUE SITUATION .....	10
III. AN ACT LIMITING LIABILITY FOR SPACEFLIGHT ACTIVITIES .....	12
A. <i>Operation of the Statute</i> .....	13
B. <i>What Activities Does the Statute Cover?</i> .....	14
CONCLUSION.....	17

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## INTRODUCTION

With the housing of the space shuttles in their new homes,<sup>1</sup> the end of the era of primarily government-funded space travel is here. Although the United States government cannot delegate all operating authority to the private space sector,<sup>2</sup> this sector is taking on a new role in developing space transportation. Although the thrill of being on the cusp of space travel was a driving force in the early phases of the private space sector,<sup>3</sup> as a practical matter, companies in the private spaceflight industry must see a profit in order to continue their development of spaceflight vehicles. A key factor in promoting this development is state legislative policy supporting the private space industry. Whether through state tax credits or legislation that eliminates or minimizes the economic risks that undoubtedly will arise, government-backed rules can make a state attractive to the space industry.<sup>4</sup> In turn, encouraging development of the space industry in the state can boost the local economy by providing high-tech jobs and the ancillary positions that support them.

One aspect of the spaceflight industry that can be regulated by state governments is the liability for injury to those who want to personally enjoy the thrill of spaceflight.<sup>5</sup> In such an inherently dangerous activity, encouraging—even requiring—the contractual limitation of liability of the spaceflight entity would make engaging in business in a state with such regulation more attractive. Part I of this Essay first looks at how federal regulation has moved from hindering to promoting the private spaceflight industry. Part II will look at why Colorado is uniquely situated to play an active role in the spaceflight industry. Part III will consider the first spaceflight regulation Colorado has enacted by examining ways

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1. Mike Schneider, *NASA Announces Which Museums Will Get Space Shuttles*, THE HUFFINGTON POST (Apr. 12, 2011, 10:32 PM ET), [http://www.huffingtonpost.com/2011/04/13/nasa-space-shuttle-museums\\_n\\_848825.html](http://www.huffingtonpost.com/2011/04/13/nasa-space-shuttle-museums_n_848825.html); John Matson, *Space Shuttles Head for Final Destinations*, SCI. AM. (Apr. 9, 2012), <http://www.scientificamerican.com/podcast/episode.cfm?id=space-shuttles-head-for-final-desti-12-04-09>.

2. Rachel A. Yates, *State Law Limitations on the Liability of Spaceflight Operators*, SCITECH LAW., Summer 2012, at 14, 14 (“In light of international obligations under the Outer Space Treaty (1967) and its companion treaties, the United States government cannot cede all operating authority to private industry, but can provide a well-defined regulatory framework that allows private industry to move into areas historically reserved to the government, such as private launch and re-entry.”).

3. As a primary motivator, the Ansari X Prize was a \$10 million prize to “the first private venture to finance and launch a manned vehicle.” J. Lynn Lunsford, *A Private Space Race—Columbia’s End Doesn’t Deter Teams Vying for \$10 Million; Helium Balloons, Parachutes*, WALL ST. J., Feb. 5, 2003, at B1. The winning flights of SpaceShipOne helped lead the way for private companies to undertake the daunting task of continuing to launch both payloads and passengers into space. John Schwartz, *Private Rocket Ship Earns \$10 Million in New Space Race*, N.Y. TIMES, Oct. 5, 2004, at A1.

4. As noted by one commentator, state legislatures hoping to attract the aerospace companies into the state “have enacted liability laws as an added incentive to draw [these] companies into the state.” Yates, *supra* note 2.

5. While state legislatures can control other aspects of the spaceflight industry, this Article is limited to the effect of specific Colorado legislation on spaceflight tourists.

in which similar regulation has succeeded in Colorado and analyzing the effects such legislation would have on litigation in the state.

### I. THE FEDERAL SHIFT

It has been argued that, because the space industry was heavily regulated from the start, “space law limited the development of space markets by over-regulating an unsustainable industry.”<sup>6</sup> This is in contrast to the aviation industry, which had a period of growth before regulation and much of “[a]viation law passed with the support of industry at a time when it would not threaten the market.”<sup>7</sup> However, the initial regulation of the space industry diminished over the years, most notably with the Commercial Space Act of 1998,<sup>8</sup> which “attempted to remove barriers imposed on private companies in the space market.”<sup>9</sup> For various reasons beyond the scope of this Essay, the U.S. space industry is moving from one that is primarily government-controlled and government-owned to one that is privately implemented. Importantly, “[t]wo recent changes in the U.S. space industry pave the way for sustainable space markets: 1) Entrepreneurs and pioneers broke the governmental monopoly on space, demonstrating that private innovations increase safety and decrease price; and 2) [the Commercial Space Law Amendments Act (CSLAA)] removed many significant domestic regulatory barriers, which increased available capital, lowered entry barriers into the market, and limited liability.”<sup>10</sup> Recognizing the benefits of private spaceflight,<sup>11</sup> the CSLAA states that “the goal of safely opening space to the American people and their private commercial, scientific, and cultural enterprises should guide Federal space investments, policies, and regulations.”<sup>12</sup>

Thus, the current federal regulatory scheme has shifted from limiting to helping the development of private commercial spaceflight. Federal regulation requires operators to provide limited information to spaceflight participants. For example, the CSLAA requires an operator, before it can obtain a license or permit to launch or reenter a spaceflight vehicle,

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6. Spencer H. Bromberg, Comment, *Public Space Travel—2005: A Legal Odyssey into the Current Regulatory Environment for United States Space Adventurers Pioneering the Final Frontier*, 70 J. AIR L. & COM. 639, 650 (2005).

7. *Id.* at 649.

8. Pub. L. No. 105-303, 112 Stat. 2843 (codified as amended in scattered sections of 51 U.S.C.A. (2012)).

9. Bromberg, *supra* note 6 (citing Commercial Space Act of 1998).

10. *Id.* at 656.

11. The findings of the CSLAA include: noting the level of and potential for growth of private applications of space technology, recognizing the capabilities of the private sector in the United States for providing spaceflight applications, acknowledging the global competitive advantage of encouraging the private spaceflight industry in the United States, and recognizing that “the participation of State governments in encouraging and facilitating private sector involvement in space-related activity, particularly through the establishment of a space transportation-related infrastructure, including launch sites, reentry sites, complementary facilities, and launch site and reentry site support facilities, is in the national interest and is of significant public benefit.” 51 U.S.C.A. § 50901(a)(2), (4), (5), (9) (2012).

12. *Id.* § 50901(a)(10).

to certify that it informed spaceflight participants of the risks of launch and reentry; that the U.S. government has not certified the launch vehicle as safe for carrying humans; that spaceflight participants were provided written, informed consent to participate; and that the spaceflight operator complied with regulations promulgated under the CSLAA.<sup>13</sup> In addition, spaceflight participants must execute reciprocal waiver of claims with the Federal Aviation Administration and the Department of Transportation.<sup>14</sup>

The federal system currently leaves a gap in protection for spaceflight operators and “state laws are attempting to fill that gap by providing the spaceflight operator protection from liability.”<sup>15</sup> Five states currently have legislation limiting liability for spaceflight operators: Virginia, Texas, Colorado, New Mexico, and Florida.<sup>16</sup> These laws have many similarities, such as limiting a spaceflight operator’s liability if it gives the spaceflight participant certain warnings, but there are also distinctions, including the scope of the limitation, the type of warning required, to which operators the liability limitation extends, and the exceptions to limited liability.<sup>17</sup> Ultimately, these states are attempting to attract spaceflight operators to come do business in their states. Colorado, in addition to its fledgling legislation, has other features that would make it attractive to the spaceflight industry.

## II. COLORADO’S UNIQUE SITUATION

Whether strictly for commercial reasons, such as carrying satellites into orbit, or for recreational reasons, such as carrying space tourists, a spaceflight vehicle requires a spaceport for the actual launch and reentry. Essentially, spaceports provide the facilities and support services required to launch a spaceflight vehicle and subsequently provide for its reentry and landing.<sup>18</sup> Key to the continuing success of a private commercial spaceflight industry are re-usable craft that can take off and land like a conventional aircraft—relying on jet propulsion engines—but can maneuver at suborbital and orbital altitudes using rocket-type motors. These types of launches make areas such as metropolitan Denver, with its open spaces yet close proximity to an urban center, particularly suited for a spaceport.

With the motto “Colorado—A mile closer to space,” the Colorado Space Coalition (CSC) “is a group of industry stakeholders working to

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13. *Id.* § 50905(b)(5).

14. 14 C.F.R. § 460.49 (2012).

15. Yates, *supra* note 2, at 15.

16. *Id.*

17. *Id.* Ms. Yates’s article provides more in-depth analysis of the legislation in the five states and compares and contrasts what each state incorporates into its respective laws. *Id.*

18. Michael C. Mineiro, *Law and Regulation Governing U.S. Commercial Spaceports: Licensing, Liability, and Legal Challenges*, 73 J. AIR L. & COM. 759, 760–65 (2008) (providing an excellent description of the functions of a spaceport).

make Colorado a center of excellence for aerospace.”<sup>19</sup> The CSC notes that Colorado has the nation’s second largest aerospace industry.<sup>20</sup> In addition to the significant industry presence, specialized departments at the universities,<sup>21</sup> and key military commands,<sup>22</sup> “Colorado’s strategic location in the center of the country provides one-bounce satellite communications to Europe and Asia in the same business day.”<sup>23</sup> With these advantages, it should come as no surprise that Denver’s Front Range Airport recently began the process for approval to be a spaceport.<sup>24</sup> On September 25, 2012, Colorado’s U.S. Senators Michael Bennet and Mark Udall announced “the approval of \$200,000 in grant funding from the Federal Aviation [Administration] (FAA) to conduct a feasibility study on locating a spaceport in Denver.”<sup>25</sup> Front Range Airport is an attractive site for a spaceport because of its proximity to Denver International Airport, Denver’s aerospace companies, and the surrounding undeveloped land, “making it a location that’s isolated but conveniently close to the metro area.”<sup>26</sup> Front Range Airport also has many features that would be attractive to companies hoping to utilize it as a spaceport, including full service fixed base operations, major engine and airframe repair services, aircraft maintenance and flight schools, paint shop, and services for spaceflight participants such as a restaurant.<sup>27</sup> It is important that Colorado utilizes its advantages and develops its spaceflight facilities and support systems because other states are pushing to do the same.

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19. *About the CSC*, COLO. SPACE COALITION, <http://www.spacecolorado.org/about-us> (last visited Feb. 4, 2013). *See generally* COLO. SPACE COALITION, COLORADO AEROSPACE 2012–2013 (2012) [hereinafter COLORADO AEROSPACE 2012–2013], *available at* [http://www.spacecolorado.org/files/\\_Aerospace2012\\_.pdf](http://www.spacecolorado.org/files/_Aerospace2012_.pdf) (promoting space-industry development in Colorado).

20. *Colorado— A Mile Closer to Space*, COLO. SPACE COALITION, <http://www.spacecolorado.org/colorado-space/industry-overview.html> [hereinafter *Industry Overview*] (last visited Feb. 7, 2013); *see also* COLORADO AEROSPACE 2012–2013, *supra* note 19, at 2. There are many factors that go into making this determination. For a more complete look at and comparison of the aerospace and defense industries in the fifty states, see DELOITTE LLP, THE AEROSPACE AND DEFENSE INDUSTRY IN THE U.S. (2012), *available at* [http://www.aia-aerospace.org/assets/deloitte\\_study\\_2012.pdf](http://www.aia-aerospace.org/assets/deloitte_study_2012.pdf).

21. The University of Colorado system, Colorado State University, the Colorado School of Mines, and the United States Air Force Academy all have various space-related programs. COLORADO AEROSPACE 2012–2013, *supra* note 19, at 5–6.

22. The United State Air Force Space Command is headquartered at Peterson Air Force Base in Colorado Springs and there are several ancillary bases around Denver and Colorado Springs. *The Center for Military Space, Period*, COLO. SPACE COALITION, <http://www.spacecolorado.org/colorado-space/military-assets.html> (last visited Feb. 7, 2013).

23. *Industry Overview*, *supra* note 20.

24. For continuing updates on the progress of Front Range Airport’s efforts, refer to *Front Range Spaceport*, FRONT RANGE AIRPORT, <http://www.ftg-airport.com/spaceport.php> (last visited Feb. 7, 2013).

25. *Bennet, Udall Announce Grant for Spaceport*, COLO. SPACE COALITION, <http://www.spacecolorado.org/news/bennet--udall-announce-grant-for-spaceport.html> (last visited Feb. 7, 2013).

26. Greg Avery, *FAA gives Colorado money for spaceport study*, DENVER BUS. J. (Sept. 25, 2012, 11:58 AM MDT), [http://www.bizjournals.com/denver/news/2012/09/25/faa-gives-colorado-money-for-spaceport.html?surround=etf&ana=e\\_article](http://www.bizjournals.com/denver/news/2012/09/25/faa-gives-colorado-money-for-spaceport.html?surround=etf&ana=e_article).

27. *Frequently Asked Questions*, FRONT RANGE AIRPORT, <http://www.ftg-airport.com/faqs.php> (last visited Feb. 7, 2013).

For example, Colorado's nearest competitor, New Mexico's Spaceport America, located in Sierra County, is already "nearing completion of the first phase of construction, which includes basic operational infrastructure such as an airfield, launch pads, terminal/hangar facility, emergency response capabilities, utilities and roadways."<sup>28</sup> Virgin Galactic plans to use the New Mexico facility for its headquarters and as an operations center for its spaceflights.<sup>29</sup> An advantage that the Front Range Airport location has over the current Spaceport America site is, as noted above, Front Range Airport's proximity to a major metropolitan city (Denver) and international airport (Denver International Airport). In contrast, Spaceport America is so remotely located that the Sierra County Tourism website has the following warning for those people interested in touring the spaceport facility: "We strongly recommend that you do not drive out on your own! Due to the remote location of Spaceport America, there are no service stations, restrooms or other amenities along the way, and cellphone service is limited at best."<sup>30</sup>

No matter how attractive Colorado may be logistically, without supporting legislation and regulation that will entice corporations to launch from Front Range Airport, businesses will turn to states that are more likely to protect their high-investment, high-risk ventures into this area.

### III. AN ACT LIMITING LIABILITY FOR SPACEFLIGHT ACTIVITIES

In 2012, Colorado took the first step in reforming its regulatory scheme to welcome space travel. Anticipating the approval of Front Range Airport's spaceport license, and acknowledging the advantages to Colorado of such a venture, various state senators and representatives introduced Senate Bill 12-035, An Act Concerning Limited Liability for Spaceflight Activities (the Act).<sup>31</sup> The Act's legislative declaration recognized several of the characteristics that make Colorado a desirable location for a spaceport: Colorado has the second-largest aerospace workforce in the United States; the mile-high altitude provides several operational advantages for launches; eight of the nation's top aerospace contractors have significant operations in Colorado; metropolitan Denver

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28. SPACEPORT AM., <http://spaceportamerica.com/> (last visited Feb. 7, 2013).

29. *Overview—Spaceport*, VIRGIN GALACTIC, <http://www.virinalgalactic.com/overview/spaceport/> (last visited Feb. 7, 2013).

30. *Home of Spaceport America*, SIERRA COUNTY TOURISM, <http://www.sierracountynewmexico.info/home-of-spaceport-america/> (last visited Feb. 7, 2013).

31. The Act was introduced by Senators Hodge, Aguilar, Boyd, Cadman, Giron, Guzman, Heath, Hudak, Jahn, Johnston, King K., King S., Lambert, Lundberg, Morse, Neville, Newell, Roberts, Scheffel, Schwartz, Spence, Tochtrop, White, Williams S., Shaffer B.; and also by Representatives Gardner B., Barker, Baumgardner, Brown, Gerou, Kerr J., Peniston, Priola, Ryden, Summers, Waller. S. 12-035, 68th Gen. Assemb., 1st Reg. Sess., (Colo. 2012). The Act was introduced in the senate on January 11, 2012. S. Journal, 68th Gen. Assemb., 1st Reg. Sess. (Colo. 2012). It was signed into law on April 19, 2012. Colo. S. 12-035. It amended the statutory scheme on aircrafts and pilots—limitation of actions, and is codified at § 41-6-101. COLO. REV. STAT. § 41-6-101 (2012).

has the highest concentration of private-sector aerospace employment in the country; and regional academic institutions and universities have highly successful training programs and research facilities.<sup>32</sup> To support the growth and development of the private spaceflight industry, the Act also declared:

The general assembly hereby expresses its support of horizontal spaceflight activities in Colorado by recognizing that companies and individuals engaged in creating and retaining these space-related employment opportunities should reasonably expect some degree of protection in the event of an accident that might occur as a result of the inherent dangers of spaceflight.<sup>33</sup>

Through this declaration, the General Assembly recognized the importance of protecting private spaceflight entrepreneurs and the resulting burgeoning industry.

#### *A. Operation of the Statute*

The Colorado Act, as its title suggests, allows private spaceflight entities in Colorado to limit their liability by having participants sign waivers acknowledging the risks of spaceflight activities. Contractually limiting liability is not unfamiliar in Colorado. The recreational industry in Colorado “has come to rely on waivers of liability to stay in business” and “Colorado law generally supports waivers of liability in connection with recreational activities.”<sup>34</sup> Disfavored are contracts that attempt to waive liability even where the recreational provider is negligent.<sup>35</sup> Recreational businesses that engage in skiing, equine activities, and rafting, to name a few, are regular users of exculpatory agreements.

The pertinent language of the Act triggering limitation of liability is found in subsection 2:

Except as otherwise provided in paragraph (b) of this subsection (2), a spaceflight entity is not liable for injury to or death of a spaceflight participant resulting from the inherent risks of spaceflight activities so long as the agreement and warning contained in paragraph (b) of subsection (3) of this section is distributed and signed as required. Except as provided for in paragraph (b) of this subsection (2), a spaceflight participant or his or her representative may not maintain

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32. Colo. S. 12-035 § 1(1)(a)–(d).

33. Colo. S. 12-035 § 1(2).

34. William R. Rapson & Stephen A. Bain, *Recreational Waivers in Colorado: Playing at Your Own Risk*, COLO. LAW., Aug. 2003, at 77, 77–78.

35. *Id.* at 78 (citing *Heil Valley Ranch, Inc. v. Simkin*, 784 P.2d 781, 783 (Colo. 1989)). Testing the validity of exculpatory agreements in Colorado requires a four-part test: “(1) the existence of a duty to the public; (2) the nature of the service performed; (3) whether the contract was fairly entered into; and (4) whether the intention of the parties is expressed in clear and unambiguous language.” *Hamill v. Cheley Colo. Camps*, 262 P.3d 945, 949 (Colo. App. 2011) (citing *B & B Livery, Inc. v. Riehl*, 960 P.2d 134, 136 (Colo.1998)).



an action against or recover from a spaceflight entity for any loss, damage, injury, or death of the spaceflight participant resulting exclusively from any of the inherent risks of spaceflight activities.<sup>36</sup>

Liability is not waived in circumstances of the spaceflight entity's "gross negligence or willful or wanton disregard for the safety of . . . spaceflight participant[s]"<sup>37</sup> where the spaceflight entity knew or "should have known of a dangerous condition"<sup>38</sup> or if the spaceflight entity intentionally injures a participant.<sup>39</sup>

Given the nature of the spaceflight industry, it is likely that any suit brought would be heard in federal court under diversity of citizenship.<sup>40</sup> This is due to the potentially varied citizenship of the private companies that would be considered spaceflight entities and the actual spaceflight participant, or passenger, on the spaceflight vehicle. The United States District Court for the District of Colorado would apply Colorado law to the contractual relationship, much as in the cases involving recreational exculpatory agreements.<sup>41</sup>

Importantly, the Act is not in conflict with existing federal regulation. Under the CSLAA, "parties may execute a reciprocal waiver of claims, allowing space enterprises and space flight participants to negotiate their own liability arrangements."<sup>42</sup>

#### *B. What Activities Does the Statute Cover?*

Although the Act is designed to protect private spaceflight entities, it does not protect against all sources of liability. The Act, when applied, will protect a spaceflight operator against liabilities that arise during space tourism operations and while carrying passengers on commercial point-to-point flights. Importantly, it neither protects spaceflight entities from liability to third parties nor indemnifies manufacturers for failures during spaceflight operations. Of particular note, it is not meant to protect spaceflight operators from commercial liability, such as failure to deliver a satellite into orbit.

The Act is specifically designed with private spaceflight in mind. Although there is an argument that "space tourism" may be the more appropriate term for the activities that the Act encompasses, space tourism is a subset of general private spaceflight. One commentator references the definition of "space tourism" as "any commercial activity of-

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36. § 41-6-101(2)(a).

37. § 41-6-101(2)(b)(I).

38. § 41-6-101(2)(b)(II).

39. § 41-6-101(2)(b)(III).

40. 28 U.S.C.A. § 1332(a)(1), (2) (2012).

41. *See, e.g.,* *Mincin v. Vail Holdings, Inc.*, 308 F.3d 1105, 1108–09 (10th Cir. 2002).

42. Bromberg, *supra* note 6, at 661 (citing Commercial Space Launch Amendments Act of 2004, Pub. L. No. 108-492, 118 Stat. 3974 (codified as amended in scattered sections of 51 U.S.C.A. (2012))).

fering customers direct or indirect experience with space travel.”<sup>43</sup> The commentator further explains that “space tourism” refers to activities undertaken “for the sake of enjoying a few seconds of weightlessness.”<sup>44</sup> This definition, however, ignores those potential passengers on a spaceflight that need to go from one place to another for business purposes, even though “legally speaking, all passengers on such a flight are equal in terms of aviation law.”<sup>45</sup> The commentator sums up that “‘private spaceflight’ is the more precise and more helpful term for the purpose of legal analysis. The level of private participation in these new types of space activities requires analysis and, likely, adaptation of the current legal environment for undertaking space activities, whether national or international.”<sup>46</sup>

The more expansive term “private spaceflight” is encompassed in the definition section of the Act. The term “spaceflight participant” is limited to “any spaceflight participant as that term is defined in 51 U.S.C. sec. 50902.”<sup>47</sup> In turn, “spaceflight participant” in the federal regulation is defined as “an individual, who is not crew, carried within a launch vehicle or reentry vehicle.”<sup>48</sup> This clearly subsumes all possible passengers, both tourists and those using the spaceflight for other purposes.

Of course, recreational waivers already in use in Colorado serve as an example for the stage of the flight that would be considered the recreational or “tourism” part of the spaceflight. But what about that aspect might be considered the movement of passengers? This part of the flight, the lower level, suborbital flight that is more akin to a flight on an airplane, may arguably be governed by existing liability rules.<sup>49</sup> For example, the Warsaw Convention, which regulates liability for international air carriers, states “[t]he carrier is liable for damage sustained in case of death or bodily injury of a passenger upon condition only that the acci-

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43. Frans G. von der Dunk, *Passing the Buck to Rogers: International Liability Issues in Private Spaceflight*, 86 NEB. L. REV. 400, 402 (2007) (quoting Stephan Hobe & Jürgen Cloppenburg, *Towards a New Aerospace Convention?: Selected Legal Issues of “Space Tourism,”* in PROCEEDINGS OF THE FORTY-SEVENTH COLLOQUIUM ON THE LAW OF OUTER SPACE 377, 377 (2005)) (internal quotation marks omitted).

44. *Id.*

45. *Id.* at 403.

46. *Id.* Dr. von der Dunk continues on to discuss five categories of private spaceflight, all of which could be affected by legislation such as the Act: orbital space tourism, sub-orbital space tourism, sub-orbital private spaceflight, hotels in orbit, and private flights to the moon. *Id.* at 403–10.

47. COLO. REV. STAT. § 41-6-101(1)(c) (2012) (internal quotation marks omitted).

48. 51 U.S.C.A. § 50902(17) (2012) (internal quotation marks omitted). In contrast, “crew” is defined as “any employee of a licensee or transferee, or of a contractor or subcontractor of a licensee or transferee, who performs activities in the course of that employment directly relating to the launch, reentry, or other operation of or in a launch vehicle or reentry vehicle that carries human beings.” *Id.* § 50902(2) (internal quotation marks omitted). On-the-job injuries most likely would be governed by existing employment law, workers compensation regulations, and private contracts between the employee and the employer.

49. See von der Dunk, *supra* note 43, at 431–35 (noting that spaceflight passengers may be subject to the terms of current aviation law, no matter what their status).

dent which caused the death or injury took place on board the aircraft or in the course of any of the operations of embarking or disembarking.”<sup>50</sup> Based on this language, the liability of a spaceflight entity would be implicated if considered an international carrier because of its movement of passengers from one country to another.<sup>51</sup> Thus, at least two questions must be answered: (1) would spaceflight that begins and ends at the same spaceport be considered international passage? and if so, (2) is it possible to limit a carrier’s liability despite the language of the Warsaw Convention?

The language of the treaty may be applicable if a spaceflight entity is considered to be engaging in the international carriage of passengers.<sup>52</sup> However, “liability for damages to passengers may be established by contract . . . according to national laws.”<sup>53</sup> Thus, because the Act encourages a specific contractual relationship limiting liability between two private parties, the spaceflight participant and the spaceflight entity, this contractual relationship would be recognized even on an international level. The international regime establishing the liability of spaceflight entities between nation-states would not be affected by legislation such as the Act. However, as noted, such legislation would help to address the contractual relationship between the private parties involved and would be “the appropriate mechanism[]” to deal with these liability issues.<sup>54</sup>

The Act provides important protection to foster the development of private spaceflight in the context of carrying spaceflight participants.

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50. Convention for the Unification of Certain Rules for International Carriage by Air, May 28, 1999, T.I.A.S. 13038, ch. III, art. 17 [hereinafter Warsaw Convention].

51. Tory A. Weigand, *The Modernization of the Warsaw Convention and the New Liability Scheme for Claims Arising out of International Flight*, 84 MASS. L. REV. 175, 176 (2000) (explaining that liability of international air carriers for personal injury is governed by the Warsaw Convention, which sets out both presumed, although rebuttable, and limited liability of the carrier and established monetary limits on the carrier’s limited liability).

52. The Warsaw Convention considers flights that are initiated in one country and terminate in a second. Warsaw Convention, *supra* note 50, ch. I, art. 2. Because private spaceflights, especially those for tourism, could launch and reenter at the same spaceport within the same country, these flights would not meet the current definition of an international flight.

53. Stephan Hobe, *Legal Aspects of Space Tourism*, 86 NEB. L. REV. 439, 454 (2007). Professor Hobe also notes, “Generally, the states exercising jurisdiction over a person have the authority to determine the rights and duties of passengers.” *Id.* Although speaking of states on an international level, and continuing on to address the international treaty regimes that could control space tourism flights, the idea that the individual government, in this case a state such as Colorado as given authority to contract via federal regulations, can regulate the activities of spaceflight entities within its borders is worthy of note. It is this recognition of authority that allows for legislation such as the Act and subsequently puts the control of whether or not a state government wishes to encourage the development of the spaceflight industry within its borders in its own hands. This is so because putting in place regulations such as the Act places the spaceflight entity on surer footing when deciding to use the spaceport in an area. One of the costs of doing business, if not entirely deleted, is at least diminished—the litigation of injury.

54. von der Dunk, *supra* note 43, at 438. Specifically, Dr. von der Dunk posits: “For instance, intricate liability issues arise when private operators are transporting or hosting private passengers (i.e., when no state actor is directly involved). . . . National law, with its broad experience with contractual liabilities and judicial systems, would offer the appropriate mechanisms to deal with those issues, at least for the time being.” *Id.* at 437–38.

Existing federal legislation, international obligations, and commercial law may need to be re-evaluated at some point to determine if there are sufficient protections in place to allow US companies to compete on an international level and encourage the growth of the spaceflight industry. However, as far as carriage of private spaceflight participants, the Act is a positive step in developing Colorado's spaceflight industry.

#### CONCLUSION

An emerging private spaceflight industry “no doubt calls for a legal regime to better regulate the market as well as to offer clear guidance and expected outcomes.”<sup>55</sup> The declaration of the Colorado legislature in supporting the Act is a step in the right direction of providing such guidance to spaceflight entities. Although the Act is not a panacea to the possible range of personal injury litigation that may arise, it places private spaceflight entities providing the thrill of space travel to private individuals on surer ground in estimating the costs of doing business. What will happen under the international law regime is still of concern. Nonetheless, in terms of encouraging the development of the private spaceflight industry, and the space industry generally, legislation and regulation that are supportive of the business operator are essential. The Act is the Colorado legislature's first foray into this area, and it hopefully will not be the last, as we see Colorado's space industry grow.

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55. Zhao Yun, *A Legal Regime for Space Tourism: Creating Legal Certainty in Outer Space*, 74 J. AIR L. & COM. 959, 961 (2009).